

REMARKS OF FCC CHAIRMAN JULIUS GENACHOWSKI
U.S. CHAMBER OF COMMERCE
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Thank you for welcoming me.

Last week, the world lost a giant and our country lost a hero – Steve Jobs. I had the opportunity to watch and learn from Steve Jobs, through his products and up close. He is irreplaceable, but his spirit will inspire people for generations – to innovate, to invent the future, to tackle great challenges, to make the impossible inevitable.

Steve Jobs is being lauded as a visionary, and of course that’s right. Here’s one quote: “The most compelling reason for most people to buy a computer for the home will be to link it to a nationwide communications network. We’re just in the beginning stages of what will be a truly remarkable breakthrough for most people—as remarkable as the telephone.” That’s Steve Jobs, twenty-six years ago, in 1985.

As we see every day, at the FCC and in our daily lives, this vision has become a reality, and more. It’s hard to believe that just a few years ago, there was no iPhone. As one commentator put it, five years ago “Twitter was a sound; the cloud was in the sky; 4G was a parking place; LinkedIn was a prison; applications were what you sent to college; and Skype for most people was a typo.”

Today, I’ll speak about how the broadband innovation we see in an around these new services – wired and wireless – is creating real opportunities for our economic recovery and long-term competitiveness. I’ll talk about the challenges our country faces in realizing those opportunities, and about what we need to do together to address those challenges.

In thinking about these opportunities and challenges I’ve tried to learn lessons from my background and experiences. My parents are immigrants. As a child, my father and his parents fled the Nazi terror and my father ultimately came to the United States. My mother joined him, and together – always committed to family and community – they raised three sons, sent us all to college, and gave us a chance to succeed.

From my parents I learned the meaning of the American Dream. I learned something else too.

My father came to the U.S. to study engineering. I’ll never forget the day—I was in high school, a bit younger than my oldest son is now—my dad and I were on a college trip to Boston. I remember him leading me into the dusty stacks of the MIT library, and showing me engineering plans he had drafted as a graduate student. They were for a device designed to someday help blind people “read” words on paper by translating text into physical signals. The formulas and drawings didn’t make much sense to me then, but the core lesson has remained with me: Communications technology has the power to transform lives for the better.

Although my parents hoped I’d become a doctor, maybe it was inevitable that I’d go into communications and technology. Before becoming Chairman of the Federal Communications Commission, I spent more than a decade in the private sector as an executive and as an investor with both newer communications technology businesses – Internet companies – and with more traditional communications technology businesses – media companies. I saw first-hand how

communications technologies and networks can serve as foundations for innovation and for creating jobs and expanding our economy.

My experience reinforced my deep respect for private enterprise, the indispensable engine of economic growth and job creation. It also taught me that government has a limited but important role to play in providing a climate and platform for economic growth.

Tom Friedman and Michael Mandelbaum capture this in their new book, describing the pillars of American prosperity: World-leading education; immigration policies that invite the world's best and brightest; investment in basic scientific research and development; laws that encourage entrepreneurship while safeguarding consumers; and the building and continual modernizing of our infrastructure. These pillars are interrelated. Improving infrastructure supports education and entrepreneurship, and vice versa.

Infrastructure, innovation and economic success have always been tied together in the United States. Railroads and highways connected people to each other, facilitating commerce, unleashing ingenuity, and fueling economic growth. Telephones did the same. In their time, those elements of infrastructure formed the connective tissue of a modernizing economy.

Today it's broadband Internet. Our broadband infrastructure consists of the fiber, cables, cell towers, and airwaves that enable digital Internet traffic to travel anywhere in the world in a fraction of a second.

And the U.S. broadband economy that's being built around that infrastructure is a bright light in our struggling economy. Private investment in Internet infrastructure and applications is on the rise. Broadband providers invested tens of billions of dollars in wired and wireless networks in the first half of 2011, a double-digit increase from 2010. Capital investment at large tech companies is also robust, in the tens of billions of dollars, and experiencing very healthy increases. Venture capital investment in Internet start-ups has returned to its highest levels since 2001 – attracting more than \$2 billion in the second quarter of 2011.

The U.S. leads in broadband innovation overall, and we've regained the lead in mobile, a fast-growing and critically important sector. We have the world's highest number of 3G subscribers, and thanks to successful FCC auctions and a digital TV transition completed successfully in 2009, we're ahead of the world in deploying next-generation 4G networks that will offer the high speeds and low latency we're accustomed to on wireline networks.

Our "apps economy" is the envy of the world. With U.S. software developers leading the way, there are now more than 500,000 mobile applications available, and apps sales are projected to approach \$38 billion by 2015. It wasn't long ago when the mobile apps economy didn't exist at all.

Mobile, local, and real-time are each big trends, creating jobs and opportunity here now and with huge potential for the future. As are machine-to-machine technologies, connecting appliances, cars, heart-rate monitors and more into what some call the "Internet of Things."

And on these new wireless and wired high-speed Internet platforms, new broadband-enabled industries are growing and also creating and sustaining large numbers of jobs. A new Deloitte study estimates that investment in 4G mobile broadband networks, which is already underway, will not only add up to \$151 billion in GDP growth over the next four years; it will also create 771,000 new jobs.

A recent study by University of Maryland researchers put some numbers around the job-creation leverage of Internet companies and the “apps economy.” Facebook employs 2,600 people – a big number standing alone. The researchers concluded that counting the developers building applications for the Facebook platform, Facebook has been responsible for the creation of 182,000 jobs.

Broadband is creating many high-skilled engineering jobs in our country’s tech centers. That’s great, because we won’t succeed in the hyperconnected, hypercompetitive 21st century economy if we’re not educating, attracting, and employing world-class engineers.

But broadband is also creating large numbers of jobs at different skill levels, and all over the country. In just the past three years LivingSocial, Groupon and other daily deal sites have created thousands of street-level sales jobs in the U.S. in more than 200 different local markets, and growing.

Broadband Internet is a catalyst for small business growth all over the country. More than 1 million entrepreneurs – many of them small business owners – are selling products on now-established platforms like eBay and Amazon, and newer ones like Etsy, a platform, in its words, for “very very small businesses” that’s already generating \$400 million in annual sales.

Earlier this week, I joined the American Teleservices Association, which announced new commitments from several companies to on-shore or create tens of thousands of call center jobs here in the U.S. Many of these jobs can – and will – be performed from home, thanks to broadband. This is part of an effort the FCC helped initiate, called Jobs4America, which last month announced the creation of 100,000 new call center jobs in the U.S. within two years.

Now, the disruptive impact of high-speed Internet is as undeniable as the lost jobs at video stores, newspapers or the yellow pages. But the key fact is that the broadband economy is creating more jobs than it’s eliminating. McKinsey recently concluded that broadband Internet creates 2.6 new jobs for every one lost.

And while disruptive innovation is no doubt posing major challenges for existing businesses, I agree with what the noted economist Chris Freeman observed in assessing the impact of technological innovation historically: “Very big changes in technology entailed not just the extraordinarily rapid growth of a few new industries but over a more prolonged period the rejuvenation of many old industries which found ways to use the new technology and to make changes in their organization and management, influenced by the new industries.”

\$8 trillion are exchanged over wired and wireless networks each year. If you shut down the Internet, you’d shut down the economy. Broadband allows innovation to come from anyone, anywhere – from the tinkerer in the garage to the sales rep who’s been at a company 20 years. Broadband empowers individual innovators, and promotes previously unimaginable collaboration, which is the way many breakthrough inventions actually come about.

And broadband substantially boosts productivity, a key driver of sustainable economic growth. Cloud computing is about to take the productivity benefits of broadband Internet to a whole new level.

There is opportunity. There is good reason for optimism. But there are things we have to do.

To make sure that the U.S. is getting a full and growing share of broadband-enabled jobs, we've got to get our broadband infrastructure right. In the digital age, broadband is our innovation infrastructure – our platform for economic growth and job creation.

It's reassuring to know that the Internet is creating jobs at a faster rate than it is displacing them, but there are no guarantees about where those new jobs will be created in the global economy. The world is connected. Capital can flow anywhere, and jobs will follow. Let's not kid ourselves. I hear this directly from my counterparts overseas: Our global competitors want to be centers of broadband innovation and job creation.

To make sure that the U.S. is getting a full and growing share of broadband-enabled jobs, we've got to get our broadband infrastructure right. If we don't, we'll still have job losses here, but the new jobs will increasingly be created in other parts of the world. As IBM CEO Sam Palmisano wrote, "Fix the bridges, but don't forget broadband."

Since I became Chairman, the FCC hasn't forgotten broadband, to say the least. Indeed, we've focused the FCC on the broadband opportunity, and have taken a number of significant steps to promote innovation and investment in our broadband economy.

We started by developing America's first National Broadband Plan, an ambitious strategic agenda for seizing the opportunities of high-speed Internet and ensuring U.S. leadership in the global broadband economy. The Plan received widespread praise, including from the Chamber of Commerce.

We've been moving nonstop to implement the plan. We've freed up spectrum for mobile broadband, both licensed and unlicensed, primarily by removing unnecessary restrictions on spectrum use.

We've removed barriers to broadband infrastructure deployment – speeding build-out and reducing costs. As recommended by the Chamber and others, we adopted a shot clock to speed local review of tower and antenna applications. We streamlined the process and substantially reduced the cost of attaching wired and wireless equipment to utility poles.

I know that when I talk about tower siting and pole attachments, people's eyes glaze over. But this is the blood and guts work that is moving private investment from the sidelines to the streets, and enabling companies to put people to work – and to do so by building out our broadband infrastructure, which in turn drives more economic growth and job creation.

We've taken steps to promote competition, and last year we also adopted a strong and balanced framework to preserve Internet freedom and openness. I know that the net neutrality topic makes some people's blood boil, but tackling this difficult issue was the right thing to do. Last year, after an open and inclusive process, we adopted widely supported rules of the road. Our goal was to increase certainty and predictability in the broadband marketplace, unleashing investment and innovation across the broadband economy. And that's what the framework has done. Investment up, innovation up, the broadband economy thriving.

Also last year, we launched a comprehensive review of FCC regulations, with the goal of eliminating unnecessary rules. So far, we've removed more than 180 regulations, and are working toward eliminating 25 unneeded data collections. We were also the first agency to announce that it would abide by the President's request that independent agencies employ cost-benefit analysis. It is a routine part of our decision-making.

We've gotten a lot done. But there is more to do.

We need to close four broadband gaps.

First, we need to close the spectrum gap. Spectrum is the invisible infrastructure on which mobile communications run.

Demand for spectrum is rapidly outstripping supply. Earlier this week, new data showed that, for the first time, the number of active mobile phones in the U.S. now tops the number of people – 328 million subscriptions. Smartphones are now the majority of phones being purchased, and that percentage is increasing at a rapid rate. Tablets are taking off, too. And people are using them, a lot, putting a tremendous strain on our invisible infrastructure – our spectrum.

Compared to the standard phones we upgraded from, the demand smartphones place on spectrum isn't double; it's not triple. It's 24 times more. For tablets, it's 120 times as much.

Failure to free up more spectrum for mobile broadband will stifle mobile innovation and result in growing network congestion. The spectrum crunch is the single biggest threat to one of the most promising parts of our economy. There's much we need to do to free up spectrum for mobile broadband, but the single biggest step is voluntary incentive auctions.

Under this proposal from our National Broadband Plan, spectrum licensees like broadcasters could voluntarily contribute underused spectrum to an auction, in exchange for a share of the proceeds from the auction. It's an incentive-based approach, grounded in strong free-market principles, that would free up large blocks of beachfront spectrum for mobile broadband while preserving a strong and healthy TV business, and generating \$25 billion in potential deficit reduction, plus at least ten times that in economic benefits.

This proposal enjoys broad and bipartisan support. Companies representing a trillion dollars in revenue have supported it, from mobile to tech to consumer electronics. More than 110 of the nation's leading economists have endorsed it, including Nobel Prize winners and former members of both Republican and Democratic administrations. It's also won the support of a number of major TV networks and station owners that recognize that these auctions would be a win-win.

It's exactly the kind of step Congress can take to help unleash investment, create jobs, and raise billions of dollars that could go both to deficit reduction and to fund the mobile broadband public safety network recommended by the 9/11 Commission.

There's a rule of thumb that has served us well when it comes to spectrum allocation: let the market decide. That's why Congress should authorize voluntary incentive auctions, which will rely on market forces to make spectrum allocations.

Thanks to the commitment of Senators Rockefeller and Hutchison, the legislation to do just that was approved by the Senate Commerce Committee on a 21-4 bipartisan vote. Representatives Upton and Waxman of the House Commerce Committee support the concept. And last week, the three Commerce Committee representatives on the supercommittee sent a letter to the President reiterating their support for voluntary incentive auctions.

I'm encouraged that the supercommittee is giving voluntary incentive auctions a hard look and I urge Congress to give the Commission the authority it needs to make incentive auctions a reality, because the costs of delay are massive and increase every day.

The second broadband gap we need to close is the deployment gap. Right now, about 18 million Americans couldn't get broadband at home if they wanted to. Broadband infrastructure simply isn't available in their communities.

That's why my fellow Commissioners and I have been working hard to reform and modernize the Universal Service Fund—a program that enables private companies to provide affordable telephone service in rural America—and the related intercarrier compensation system—a system of payments between carriers for exchanging telephone traffic.

In the 20th century, America made a bold commitment to achieve universal access to vital communications technology. For decades, the FCC and the states have implemented a complex system of explicit and implicit subsidies to bring basic telephone service to areas where the population is too scattered, the geography too vast, or the terrain too difficult for private companies to profitably build out network infrastructure.

The Universal Service Fund worked in the 20th century, but it isn't working for the 21st. USF is outdated, wasteful, inefficient, unfair, and not sufficiently accountable.

Last week, based on an open and fact-based process and a great deal of productive input from my fellow Commissioners and many stakeholders, I circulated to my colleagues a comprehensive set of reforms to modernize USF and the intercarrier compensation system, and placed it on the agenda for a vote later this month.

If adopted, our plan will transition USF into a Connect America Fund, which directly supports broadband – wired and wireless – and will ensure that support isn't used to supplant private investment.

Fiscal responsibility has been a key pillar of our reform effort. Our plan will constrain the size of the Fund, and put the fund on a firm budget.

In pursuing these goals, we will for the first time introduce competitive processes among providers for obtaining support, and transition over time toward a fully competitive system for distributing Connect America Fund dollars.

If adopted, our plan would spur broadband buildout to hundreds of thousands of homes, businesses, and anchor institutions beginning in 2012, and millions more in the five years after that. It would finally put our nation on the path to universal broadband deployment, bringing enormous benefits to individual consumers, our national economy, and our global competitiveness. It will spur billions in private investment and very significant job creation, starting with construction workers who would build out this new infrastructure. It will provide a platform for entrepreneurs in rural America to compete, and increase the size of America's online marketplace, benefitting businesses and consumers nationwide.

Third, we need to close the broadband adoption gap.

Nearly 100 million Americans – almost one-third of our population – aren't signed up for broadband at home. That's about a 68 percent adoption rate, which compares to a 90 percent adoption rate in, for example, South Korea or Singapore.

Broadband adoption is increasingly necessary for participation in our economy. More than 80 percent of Fortune 500 companies now do all of their job postings online, and require online applications.

And we need to close not only the adoption gap, but the related broadband skills gap. Many tech positions – entry-level and more advanced – are staying open for months on end; even in this down economy, 63 percent of hiring managers say a talent shortage is the primary reason. According to data from the jobs-posting business Indeed.com, there are twelve large metropolitan areas in which the ratio of job postings to unemployed people is one to one. That's one job posting for every person looking for a job.

These jobs aren't getting filled because too many job seekers don't have the right skills. While some unfilled jobs require engineering or extensive computer software expertise, many open positions require only basic digital skills – knowing how to use a computer, how to search, how to process a basic Internet transaction. Basic digital literacy.

This past May, I challenged all players in the broadband ecosystem to step up and help close the adoption and digital skills gaps. I'm pleased that the private sector and nonprofit communities have begun to meet this challenge.

Just two days ago, I announced the formation of "Connect to Compete", a first-of-its-kind national effort to address the barriers to broadband adoption, digital literacy and the employment skills gap. As part of this effort, many major companies have made significant commitments to tackle digital literacy and promote adoption.

For example, Best Buy announced it will put its 20,000 Geek Squad Agents to work beginning in 20 cities to train Americans in basic digital literacy. And Microsoft announced it will build a state-of-the-art online digital literacy training center, with videos and other easy-to-follow content.

To close the adoption gap, government has work to do as well. We need to accelerate the move to e-government. If we move more services from paper to the Internet in smart and creative ways showing citizens the value of Internet access, we can both incentivize broadband adoption and make government more efficient, ultimately generating significant savings that we can reinvest in knocking down barriers to adoption.

Save money, invest in e-government, and incentivize adoption. That's an action plan that will pay real dividends for our country.

I also announced the FCC plans to launch a proceeding to explore how the E-Rate program can promote job creation by expanding access to digital literacy training to more public libraries and schools across the country and, ultimately, forming a Digital Literacy Corps. We need to empower more Americans, as quickly as we can, to be able to search for jobs online, prepare and upload a resume, and have the basic skills to participate in today's economy.

I began my remarks today with some examples of what I've learned from my background and experiences. Let me close with one more.

While working for many years at “new economy” and “old economy” companies, I learned about what Harvard Business School Professor Clayton Christensen famously termed the Innovator’s Dilemma. Christensen describes how market-leading companies often face a real dilemma as new disruptive technologies and competitors emerge. Established practices and dependencies make it difficult, especially for large, leading companies, to make necessary strategic changes in light of new innovative technologies. That’s true even though those established practices are precisely what contributed to the companies’ success. But if the companies don’t make those strategic changes, their new competitors will pass them by.

This is a strong frame for many of the challenges our country faces. The U.S. as a nation faces an innovator’s dilemma. The U.S. concluded the 20th century as the world’s undisputed economic leader. But disruptive technologies and disruptive competitors have changed the landscape.

In many areas, we know what we need to do to win in the 21st century. But existing practices and dependencies threaten to slow us down or even stop us – and to do so at a time when the costs of delay are staggering.

We know what we need to do on spectrum policy – incentive auctions that will use market forces to free up spectrum for mobile broadband.

We know what we need to do on universal service and intercarrier compensation – finally transition from a system based on analog circuit-switched networks to one based on digital IP-based broadband networks, and to do so in a way that eliminates waste and inefficiency and maximizes reliance on market forces.

These steps will bring massive benefits for our economy and for consumers.

I want to commend the Chamber of Commerce for your support of smart investments in infrastructure as a means to boost our short-term recovery and long-term prosperity. I look forward to working with the Chamber to unleash the benefits of the broadband economy.

Thank you.