

PREPARED REMARKS OF FCC CHAIRMAN JULIUS GENACHOWSKI
“THE INTERNET AT A GLOBAL CROSSROADS:
PRESERVING INTERNET FREEDOM AND OPENNESS”
FUTURECOM
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It's great to be in Brazil, where we can all see the enormous potential of broadband to fuel innovation and economic growth.

Back in 1995, my predecessor and boss at the time, Reed Hundt, came to Brazil as Chairman of the FCC. It was a turning point in the history of telecommunications, around the world – and in Brazil. Telebras was a state-owned monopoly. Anatel did not yet exist. A residential telephone line cost nearly \$1,100 and could take weeks or more to activate. Less than four percent of the population had mobile phones.

Today, Brazil's telecommunications market is driven by private companies and open to competition. A residential phone line costs \$25 and there are more mobile phones than people in Brazil, well over 200 million. Brazil accounts for one third of all mobile phone users in Latin America, and by 2015 forecasts predict at least half of Brazil's population will have mobile broadband service.

I began speaking about this four years ago when I left the private sector to take this job. Broadband – wired and wireless – is the 21st century innovation infrastructure, creating jobs, fueling economic growth, and raising quality of life around the world. Broadband-powered innovation and investment has the potential to lift up our economies, our schools, our healthcare, and our future.

Broadband growth is already staggering, especially in mobile. Global mobile penetration is going through the roof, topping 80% now. It's over 100% in both the United States and Brazil. Already, more people have mobile phones than electricity or running water, making it arguably the most widely adopted technology in human history.

Broadband is an engine for innovation, fueling sustainable economic development.

The Inter-American Development Bank recently estimated that a 10-percentage-point increase in broadband penetration corresponds to a 3.2% increase in GDP and a 2.6% boost in productivity in Latin American markets.

In the U.S., mobile innovation is estimated to have created 1.6 million jobs over the past five years. The nascent 'apps economy' – enabled by mobile broadband – has already created over 500,000 U.S. jobs, and the rate of job creation continues to accelerate.

In the U.S., annual investment in wired and wireless networks increased approximately 30% over the past three years to more than \$60 billion, even in this challenging economy. The very substantial investment in broadband infrastructure is part of a virtuous cycle of private innovation and investment, involving both content and applications as well as networks. In 2011, U.S. venture capital investment in Internet start-ups returned to its highest levels since 2001.

Meanwhile, the world is moving forward on the next generation of mobile service, 4G LTE, and I'm pleased that the U.S. is the first country reaching scale in 4G deployment, with already 70% of the world's LTE subscribers, an enormous test bed for innovation.

With the emergence of cloud computing, our mobile devices are becoming more powerful than anyone imagined even just a few years ago.

Investments in cloud computing helped create 80,000 new jobs in the U.S. in 2010. And according to one estimate, information technology innovation enabled by cloud computing is likely to create 14 million jobs worldwide from 2011 to 2015, with 386% cloud-related job growth in Brazil.

The benefits of broadband extend beyond jobs and GDP.

And we're focused on this in the United States, developing and implementing broadband initiatives not only to fuel economic growth, but also to transform education and health care, energy and public safety.

The U.S. is not alone in doing so. Rio now has a new Integrated Operations Center, created by IBM Research in collaboration with the city, to provide a single dashboard of the city's critical systems. The center can alert citizens about weather or traffic issues and help plan for major events like the upcoming World Cup and Olympic Games.

Education programs are aiding literacy, expanding on programs like Brazil's One Child One Laptop where access to laptops and broadband is increasing reading and writing skills.

Mobile health initiatives in Latin America are collecting data from indigenous communities in order to identify health information bottlenecks and improve healthcare outcomes.

And mobile applications can improve public safety as well, where first responders can be connected by mobile and citizens can gather information during disasters. In Haiti, mobile providers developed applications to target emergency and public health messages to mobile phones after the earthquake.

Broadband can help connect people living in rural areas to education, healthcare, and vital information that was previously only available in urban centers.

So the opportunities are huge. But so are the challenges. Demand is exploding, creating a new generation of challenges. The spectrum crunch is getting more severe, with the trajectories placing demand well ahead of spectrum supply. Every country faces the difficult fact that universal service has not yet been achieved. Unleashing both spectrum and infrastructure investment is a challenge, and so is competition.

So how can we tackle the challenges and harness the opportunities of broadband?

We need massive private sector innovation and investment, and we need government to play a limited but vital role in enabling that innovation and investment through smart policies.

Our experience in the U.S. makes one thing clear: Ensuring a vibrant free market must be a core objective of broadband policies.

Government must recognize that broadband is an ecosystem, comprised both of broadband networks and the applications that run over those networks.

Policies should be designed to drive massive private investment and innovation in both networks and applications – a virtuous circle where broadband networks spur innovative applications, those applications drive growing user demand for bandwidth, which generates returns and incentives for network operators to invest in improving and expanding broadband networks, sparking more innovation, more demand, more network investment, and on we go.

And policies should promote broadband speed, capacity, and ubiquity – three vital elements of broadband networks that are critical to unleashing new waves of innovation.

There are a number of ways government can promote a robust broadband ecosystem and foster this virtuous cycle of innovation and investment.

These are strategies that we have been deploying in the U.S. to drive broadband speed, capacity and ubiquity:

First, we are driving improvements in broadband infrastructure and accessibility.

In 2010, the FCC released a National Broadband Plan for the U.S. This was the culmination of an open, inclusive, and data-driven process. It set goals for the country, setting out not only opportunities and challenges but also practical solutions, and it focused the FCC on broadband.

Since then, we have been systematically implementing our Broadband Plan. Last year we adopted landmark reforms to the U.S. universal service programs, including creating the new Connect America Fund, which will deliver broadband to the 19 million Americans that were being left behind under the old system. Similar to Brazil and other countries, the United States has to address the economic realities of rural areas with low population density. The Connect America Fund will provide \$45 billion over the next 10 years in funds that will be at least partially matched by private capital, to extend broadband deployment throughout the country.

And as part of the Connect America Fund, we also created the Mobility Fund – a program that for the first time directly supports deployment of mobile broadband to unserved areas, including by unleashing matching private investment.

Learning from ideas pursued in Peru and Chile, we designed and have now implemented a reverse-auction process that uses market forces to allocate Mobility Fund support as effectively as possible. The first auction, held a few weeks ago, was a major success, and will provide \$300 million to extend mobile broadband to up to 83,000 road miles where Americans live, work, and travel in 31 states.

A second critical ingredient of a smart strategy to spur rapid and widespread deployment of broadband is removing unnecessary regulatory barriers.

Cutting red tape at all levels of government can speed infrastructure deployment and lower the costs of broadband build out. That’s why, as part of our Broadband Acceleration Initiative, we created a 90-day shot clock for the local approval process of tower siting and streamlined the process for attaching broadband lines and wireless antennas to utility poles.

And our National Broadband Plan proposed a “Dig Once” policy, designed to help deploy broadband infrastructure by encouraging fiber deployment when a road goes under construction. President Obama recently signed an Executive Order implementing this policy for all federal construction.

We must also address the challenges of our invisible infrastructure – spectrum.

The sobering fact is that based on today’s technologies and projections for continually increasing use, demand threatens to outpace the supply of spectrum available for mobile broadband in the coming years. We call this the spectrum crunch.

Today's smartphones generate 35-times more traffic than standard cell phones. Driven by the rapid adoption of powerful devices, U.S. mobile data traffic grew almost 300% last year, and mobile traffic is projected to grow an additional 16-fold by 2016.

Now consider that tablets consume 121-times more data than a traditional cell phone. Cisco projects that mobile-connected tablets will generate as much traffic in 2016 as the entire global mobile network in 2012.

The spectrum crunch is not just an American challenge. Exploding demand for broadband is raising challenges in Brazil and throughout Latin America. The challenges we face in, for example, New York and Miami, are the same that will be faced in Sao Paulo, Rio, Mexico City, Buenos Aires and more.

Driven by a young population and a rapidly growing middle class, Brazil is forecasted to have 51% Internet traffic growth and 98% mobile data traffic growth each year for the next five years. Globally, mobile data traffic has more than doubled each of the past 4 years, and is projected to increase 18-fold between 2011 and 2016, faster than the rate in the U.S.

Demand for spectrum – the airwaves that sustain wireless communications – is on pace to exceed supply. If we don’t address this spectrum crunch, we’re going to run into a wall that will stifle mobile innovation, hurting consumers and slowing economic growth.

In the United States, we’ve set out and are now executing on a multi-pronged strategy to free up spectrum for wireless broadband.

In the past the FCC has pioneered innovations in spectrum policy that have unleashed tremendous benefits, including spectrum auctions for flexible licensed use (think cellular networks) and freeing up spectrum for unlicensed use (think Wi-Fi).

We're continuing to deploy our traditional tools, and are now also moving forward with a new generation of spectrum policy innovations.

For example, the FCC is now implementing incentive auctions.

Signed into law earlier this year, this is a new way to reallocate commercial spectrum for flexible use. Under these auctions, which were developed and proposed in the FCC's National Broadband Plan, market forces will be used to repurpose beachfront spectrum used by TV broadcasters.

We expect to be the first country to conduct incentive auctions, and we hope we are developing a model that will address spectrum challenges around the world.

Another big new idea is spectrum sharing. New technologies increasingly allow use of spectrum even where incumbent users – including government users – remain in the band. So we are moving forward on testing spectrum sharing to bring new spectrum online for broadband quickly without expensive, time-consuming, and risky clearing processes, a strategy that we think will be especially valuable when combined with the rapid development of emerging small cell technologies.

Another next-generation spectrum policy idea is next-generation Wi-Fi.

In 2010, the FCC created a new spectrum paradigm by allowing unlicensed devices to access valuable unused low-band spectrum in between broadcast TV channels – known as “white spaces,” which is enabling Super Wi-Fi and accelerating machine-to-machine innovations.

In moving forward on incentive auctions, the FCC proposed building on this by ensuring that a significant amount of unlicensed spectrum will be available, for the first time, on a consistent, nationwide basis. This proposal could create an extraordinary new platform for next-generation Wi-Fi and other innovations.

What else should policymakers value and promote as they seek to unleash the benefits of broadband Internet? Competition, free and open markets, and the free and open Internet.

Competition is the lifeblood of our free-market economy. Competition is the strongest and most effective tool to drive private investment, innovation, and consumer value. The more competition, the less the need for regulation.

In the U.S. and around the world the Internet has grown and thrived thanks to competition among infrastructure providers investing in ever-faster networks, and among innovators and entrepreneurs competing to create new products and services online. The Internet's openness and freedom – the ability to speak, innovate, and engage in commerce without having to ask anyone's permission – have fueled this competition and enabled the Internet's unparalleled growth.

The power of open markets and competition extends, of course, beyond the Internet. Brazil has used open markets and competition to grow into the 8th largest economy in the world and lift an astounding 40 million people into the middle class since 2003. Brazil has a vibrant and successful ecosystem of technology innovators, many of whom I've met over the last several days. And prudent government policies have helped Brazil weather the global financial crisis better than most economies.

I do see some policies, in Brazil and elsewhere, including local tech manufacturing restrictions, that move in a different direction and that I believe will reduce innovation in-country and have further unintended consequences in the coming years.

Competition and vibrant free markets are especially vital when it comes to the fast-moving world of the Internet. Innovation is borderless. We live in a flat, interconnected world. Entrepreneurs and innovators need

to be able to access the most advanced technologies around the world in order to compete globally. And restrictions will hinder innovation and stifle growth.

We have a path that led to the extraordinary growth of broadband and the Internet – the path of open markets, competition, and the free flow of information - and we should stay on that path.

We're all going to face a serious choice in this regard in the coming months.

The upcoming World Conference of International Telecommunications convening in Dubai in December will be a crossroads for the Internet.

The conference will review the International Telecommunications Regulations, or ITRs, which were designed for a telephone - indeed, monopoly telephone world. They were last negotiated in 1988 and a lot is at stake.

Some proposals put forward for the WCIT fundamentally threaten the Internet as we know it.

There are proposals that seek to impose on the Internet a new layer of outdated, heavy-handed regulatory structures and to alter how Internet traffic is exchanged – calling for a so-called “sender pays” approach. Other proposals would involve the International Telecommunication Union in regulating cybersecurity, or could be used by countries to support monitoring and restrictions on online communications.

These types of proposals would replace market forces with international regulations – ignoring the successes of the past two decades.

Some of these proposals seek to protect companies from competition by giving international bodies authority to determine market outcomes.

In policy circles, it's not uncommon to see companies pursue in regulation what they're unable to achieve in the market. It certainly can't be the answer to such a proposal to adopt a new layer of global Internet regulation, and fundamentally change the Internet as we know it.

Proposals like these will harm broadband-related innovation and investment throughout the world, and particularly in less developed countries. They will increase uncertainty and raise costs for online innovators everywhere, and could significantly limit access to Internet content and applications for consumers in developing countries, which will in turn suppress demand for broadband. That would threaten to replace the last two decades' virtuous cycle of innovation and investment with a vicious cycle of lower broadband demand and less infrastructure investment.

In short, these changes would stifle the dynamism of the Internet and hamstring the unprecedented growth and innovation it has fueled.

So that's one path.

The alternative is the proven path.

As U.S. Ambassador William Kennard, my friend and a predecessor as FCC Chairman, said it well last week. In the past “[g]overnment had the good sense to exercise restraint [and] the humility to know that government cannot predict or presume to understand how business models would evolve.”

We must exercise the same restraint and avoid detailed regulations and a new regulatory layer that will impede innovation and be outdated in no time. Instead, we should adopt the proven course, do what we already know what to do, and what has worked – embrace commercial arrangements, remove barriers to private investment, vigorously promote competition, and protect unfettered access to information.

We need to preserve the longstanding multi-stakeholder governance model that has enabled the Internet to flourish as an open platform for communication and innovation.

We need to reject calls to involve the ITU in cybersecurity or to endorse content controls by governments.

That's why, from the start, the FCC has been engaged with the rest of the U.S. government in the WCIT process, and why the dedicated U.S. team has been travelling nonstop for the last several months across the Americas, Africa, Europe, and Asia to promote competition and protect a free and open Internet.

Changes to Internet governance that suppress innovation will not drive broadband deployment. The opposite is true.

Balkanizing the Internet will not grow any country's economy. The opposite is true.

We are in the midst of a broadband revolution. It has the power to grow our global economy, creating jobs, fostering innovation, and speeding game-changing improvements in health care, education, and public safety. Let's ensure that we are doing everything we can to harness, and not hinder, that opportunity.

Together, let's work to ensure the Internet's vibrancy and prosperity, that we see at least as much Internet-fueled innovation and investment in the next two decades as we've had in the last two. Let's choose this path because it is the path of prosperity within nations, and across all nations. It is the path, I firmly believe to prosperity, peace and human dignity throughout the world.

Thank you.