

**FCC Chairman Julius Genachowski  
Remarks as Prepared for Delivery**

**“The Cloud: Unleashing Global Opportunities”**

**Aspen IDEA Project  
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It is a pleasure to be here with all of you -- my colleagues in the American government, our counterparts from the E.U. and Canada, and this excellent group from the private sector and civil society.

Thank you to the Aspen Institute, to my distinguished predecessor Ambassador Bill Kennard for hosting this event and for driving international cooperation, and to another distinguished predecessor, Reed Hundt, for his vision and leadership.

We're here this morning because of our shared commitment to promoting and protecting the global free flow of information.

As U.S. Secretary of State Hillary Clinton pointed out in her speech last year on Internet freedom, “In many respects, information has never been so free.”

Or so fast. The time it takes to send a message across the Atlantic has fallen from two weeks in the early 19<sup>th</sup> century to less than two-tenths of a second in the early 21<sup>st</sup>.

This revolution in the fast and free flow of information is having a profound effect on world history, as we see in the Middle East and North Africa. And I believe a positive effect -- as people around the world are empowered with information, the ability to connect, and the opportunity to have a voice in their own governance.

But it will no doubt take vigilance to preserve this freedom.

And while there remains uncertainty regarding what the weeks and months ahead will hold for the Middle East and North Africa, there's at least one thing we can be sure of:

When autocracies want to shut down a common communications medium in order to preserve their power, then that common medium is important; and so it is very important that we debate and agree upon principles for ensuring it remains free and open.

That is one important reason we're here today.

But not the only one. We're here not only because free flows of information promote democracy and human rights. We're also here because free flows of information promote economic growth and prosperity.

When the government shut down the Internet and mobile service in Egypt on January 27, many people asked: How were they able to do that, and what does it mean that they could do that?

Important questions.

Fewer people asked another important question: How did Egypt come to have an Internet and mobile service worth shutting down in the first place?

The answer is that a decade ago some in Egypt saw the *economic* benefits of deploying open communications networks allowing information exchange. That followed a global embrace of basic principles supporting the opening of communications markets, basic principles which developed in meetings like this one – involving some of the same leaders and thinkers here today -- and which were ultimately codified in the 1997 World Trade Organization Agreement on Basic Telecommunications.

Since then, economic history has shown that free flows of information and data can enable unprecedented economic opportunity – productivity gains, contributions to GDP, and job creation.

And as Minister Bildt pointed out this morning, healthy, job-creating economies will be key to the long-term success of Internet-facilitated freedom movements in developing countries.

The advent of cloud computing, with its ability to enable collaboration in ways no other technology has before, can *multiply* the benefits of a free and open Internet.

Consider that in the United States, the number of ads for full-time IT jobs focused on cloud computing grew more than 300 percent last year.

And the benefits of cloud computing and a widely available Internet extend as well to health care, education, and energy – improving quality of life, while also generating new markets and new businesses in each of those categories.

This can be true all over the world. Cloud computing is already a \$68 billion global industry, and worldwide cloud adoption is expanding at roughly 17 percent per year, according to Gartner. European companies like Flexiant and Mvine in the U.K. and GreenQloud in Iceland are offering innovative cloud computing solutions.

The opportunities and benefits of cloud computing are not limited by geography.

Nor are the challenges to unleashing its opportunities.

Information is a form of capital. As barriers to accessing funding prevent entrepreneurs, wherever they are, from starting the next great cloud computing company, barriers to

accessing information prevent innovators, wherever they are, from growing cloud computing companies, improving productivity, growing GDP, and creating new industries, jobs, and opportunity.

How do we begin to address these barriers? One way is to identify the inputs that make communications networks with freely flowing information possible.

As a start, I'd point to five key inputs:

- Robust backbone and middle-mile networks that can handle heavy data backhaul loads;
- Last-mile broadband—wired or wireless—that reaches every citizen;
- Spectrum for mobile broadband, so people can access the cloud wherever they are;
- Interconnection among networks; and
- Public policies that don't inhibit—and indeed facilitate—data flows across international borders.

Unfortunately, we face common challenges worldwide in the provision of each of those inputs.

First, we have a **global broadband availability gap**. In the U.S., about 20 million Americans live in areas where they simply can't access broadband. Virtually every country has deployment challenges, and in many countries the challenges are dramatic. These challenges extend to both last-mile and middle-mile networks.

And somewhat ironically, although wireless presents new solutions for last-mile connectivity, it exacerbates middle-mile challenges, as much more fiber backhaul will be needed to accommodate growing mobile traffic.

Second, we have a **global broadband adoption gap**. About one-third of Americans don't subscribe to broadband today, either because they can't afford it, they lack the skills to use it effectively, or they don't see its relevance. In some other developed countries, the comparable figure is over two-thirds. The E.U.'s Digital Agenda focuses on these and related challenges, as we in the U.S. have done with the FCC's National Broadband Plan.

Third, we face a **looming global spectrum crunch**. In the U.S., multiple experts expect that by 2014, demand for mobile broadband and the spectrum to fuel it will be 35 times greater than last year. Globally, Cisco has projected a nearly 60-fold increase in demand for spectrum between 2009 and 2015.

Without more spectrum for mobile broadband, the "cloud" will remain stubbornly stuck over the world's homes and businesses, leaving consumers unable to tap its full potential when they are away from their wireline connections, if they have them.

Fourth, we face a **privacy and security gap** – issues on which there is now focus on both sides of the Atlantic. Trust has always been necessary for commerce, and that's no less true for e-commerce and cloud computing. Adoption of broadband and the cloud – by both consumers and businesses -- will be inhibited to the extent there is a lack of trust; it's reasonable to expect that consumers and businesses will require a high level of confidence before they place sensitive financial or medical information in the cloud. And it is an unfortunate fact that the information economy enhances both the motive and the means for thieves to steal identities and intellectual property.

The good news is that the information economy also creates real incentives for cloud services providers to provide security and ensure privacy. And our collective challenge is to ensure that the ability and incentives to protect information outweigh the ability and incentives to pilfer it.

And fifth, we face a **regulatory gap** – the gap between inconsistent laws and policies in different countries, as well as legal uncertainty, preventing cloud computing from scaling up and driving down costs for consumers and businesses.

Of course, there will be some circumstances in which policies differ for good reason across geographic boundaries.

But the principles I believe we agree upon are more significant, and numerous, than the issues on which our perspectives may differ. Consider, to offer just one example, the OECD's declaration in its Innovation Strategy published last year that "Governments should promote information and communication technologies . . . as general-purpose platforms for innovation and knowledge sharing by upholding the open, free, decentralised and dynamic nature of the Internet."

We can unlock tremendous economic and social value by uniting around core principles to protect and encourage free flows of information and data.

I believe there's also broad agreement on this: The private sector, which owns and operates the vast majority of our global Internet infrastructure, will be indispensable to addressing many of these gaps and challenges, as well as investing massive sums to deliver robust networks. There's also an important but limited role for government to play in facilitating global information flows, including by cooperating on baseline policies and reducing barriers to the full deployment of cloud computing.

In the U.S., we are focused on a series of actions to tackle these challenges.

President Obama has provided important leadership – embracing broadband as key to innovation and economic growth, and setting ambitious goals for 4G wireless deployment.

Last year, as many of you know, the FCC released our National Broadband Plan -- a comprehensive, data-driven strategy to maximize broadband deployment, adoption, and use, and unleash the benefits of high-speed Internet.

The Plan also includes initiatives to tackle key national challenges like promoting e-health, fostering broadband-enabled educational technologies, developing a nationwide Smart Grid, and encouraging e-government.

And it focuses attention on the importance of incorporating broadband into public safety communications. We've seen in Japan, Haiti and elsewhere how modern communications networks can save lives and speed relief.

Since the Plan's release last year, we have actively been putting its recommendations into action. We have, for example, worked with our Congress to lay the groundwork for an innovative policy proposal -- voluntary incentive auctions for spectrum.

I've been asked about this by several of you, as mobile congestion becomes a more and more common concern. So let me spend a quick minute on it.

Under our proposal, Congress would give the FCC the authority to run two-sided spectrum auctions.

We would auction spectrum for flexible wireless broadband services, and the spectrum in the auction would be voluntarily contributed by current licensees like TV broadcasters or mobile satellite operators, who would in return receive a portion of the proceeds of the auction.

These auctions provide an incentive-based, market-driven path to move spectrum to its highest-valued use, bringing market forces to bear on spectrum licenses that have been shielded from competitive dynamics for decades. As spectrum congestion becomes a larger issue worldwide, we anticipate that incentive auctions can become a key element of policymakers' toolkits in many countries.

We have also released the largest amount of spectrum devoted to unlicensed use in 25 years. We expect this to lead to services like "super WiFi" and to spur experimentation with new, innovative technologies and services.

We are modernizing our universal service programs to shift from supporting the essential technology of the 20<sup>th</sup> century -- telephone service -- to the essential technology of the 21<sup>st</sup> century -- broadband that can deliver voice, video and data. Two of these universal service programs are particularly important for enabling cloud-based health and education services: our E-Rate program, which supports connectivity for schools and libraries; and our health care connectivity program, which does the same for rural hospitals and health care clinics.

We are working to overcome barriers to broadband adoption, pursuing multiple initiatives targeted at both consumers and small businesses.

And we are working to reduce barriers to broadband deployment like lengthy waits for tower siting approvals. We set a shot-clock last year to accelerate this process. And in two weeks the FCC will be voting on an order to facilitate better access to utility poles.

Consistent with the Plan, we continue to promote the use of cloud-based computing in government; in fact, in November, the U.S. administration instituted a “cloud first” policy for information technology contracts, which could allow federal agencies to cut their IT per-unit costs in half.

And we’ve adopted basic rules of the road to preserve Internet freedom and openness, a key element of promoting and protecting the cloud and global information flows.

The rules are simple, fit on less than a page, and preserve free markets and free expression online, by ensuring:

- Transparency;
- The freedom of consumers to go where they want, use the services they want, and read and say what they want online; and
- The freedom of innovators, including broadband providers and entrepreneurs, to launch new products, reach new markets, and continue driving the innovation economy.

Our framework recognizes the need for return on investment, including by allowing usage-based pricing, explicitly accepting the legitimacy of reasonable network management, and recognizing differences between fixed and mobile services.

This framework does not regulate the Internet, but rather preserves the Internet's freedom and openness by ensuring that no central authority, public or private, can act as a gatekeeper to the Internet.

It is consistent with the U.S.’s long-standing light-touch approach to Internet policy, which has always included basic protections for network openness at the national level while emphasizing the importance of voluntary, multi-stakeholder, technical institutions.

These have been some of our steps so far to meet the challenges we face in common. We know the E.U. has been active in tackling these same challenges.

I applaud the development of the E.U. Digital Agenda.

As I said earlier, in a number of respects, our broad policy frameworks and histories differ, so it’s no surprise that some policy specifics differ.

What are more important are the common values the E.U. and U.S. share in our approaches to Internet freedom – and the benefits we can reap by promoting the adoption of principles that embody those values around the world.

Because our efforts in the U.S. and Europe will be necessarily incomplete unless we can embrace a new transatlantic dialogue, and craft the principles with which to tackle our challenges at a global level.

That's how the 1997 WTO agreement gave investors and entrepreneurs the regulatory stability needed to unleash a global telecom revolution. I believe that's how we'll help the Internet and cloud computing become the next great global telecom breakthrough.

And that's why the work of the IDEA project – bringing together policymakers from multiple countries, private companies, and civil society – is so important.

In that spirit, let me pose one overarching question that may help guide the discussion today, and some specific questions. The umbrella question: How can governments increase regulatory predictability related to the cloud?

Agreement on three types of policy principles can help us achieve that goal:

- Principles for avoiding unduly restrictive and protectionist policies that limit market entry, directly or indirectly;
- Principles for harmonizing international spectrum and communications device approval policies; and
- Principles for promoting trust on the Internet.

First, avoiding restrictive, protectionist policies. To what degree do rigid, in-country data center requirements undercut the efficiency and cost savings offered by cloud computing? What international norms should exist with regard to the placement of data centers? How can governments ensure that data can flow more freely across state borders?

Second, policy harmonization. How can we best promote harmonization of spectrum for mobile broadband? How can and should spectrum harmonization lead to harmonized rules for wireless access to the cloud? What can policymakers do to expedite the approval of communications devices that are increasingly essential to data flows?

And third, promoting trust. How can policymakers ensure that consumers are empowered to control their personal information and protect their privacy? How can we foster private agreements to combat piracy while preserving Internet openness?

The IDEA Project is an excellent vehicle to explore these questions, which I also look forward to addressing in other bilateral and multilateral forums.

A goal that I believe will benefit all of our countries: To develop over the next several months, as a group of policymakers with participation from firms and NGOs, a common paradigm that enables good governance and prudent restraint from unnecessary regulation.

One hundred fifty years ago, most people relied on power they produced themselves to run their farms and small businesses. But widespread electrification, combined with common practices for energy transmission and distribution, allowed companies to bear the burden of producing power instead, generating economic growth and lifting millions out of poverty.

A thriving global cloud computing industry, built on ubiquitous broadband, can be as beneficial for economic growth in the 21<sup>st</sup> century as electricity was in the 20<sup>th</sup>.

I strongly believe we're at a crossroads when it comes to the future of the internet.

Down one path is a free, open and common global medium, generating ongoing innovation and massive economic and social benefits worldwide.

Down another is a balkanized Internet that stunts innovation and slows economic growth.

Inaction and misguided action will give us the latter, not the former.

But it's not an understatement to say that wise action on the part of this group and others can help deliver a bright future for billions of people around the world.

I'm glad to be here, and I look forward to participating actively in this effort.