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POLICIES AFFECTING HIGH-TECH GROWTH AND FEDERAL ADOPTION OF INDUSTRY BEST PRACTICES

HEARING

BEFORE THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

HOUSE OF REPRESENTATIVES

ONE HUNDRED TWELFTH CONGRESS

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CONTENTS

	Page
Hearing held on April 18, 2011	1
Statement of:	
Quinlan, Patrick, chief executive officer, Rivet Software; Milo Medin, vice president for access services, Google, Inc.; and Stuart McKee, national technology officer, U.S. Public Sector, Microsoft Corp.	7
McKee, Stuart	24
Medin, Milo	16
Quinlan, Patrick	7
Letters, statements, etc., submitted for the record by:	
Issa, Chairman Darrell E., a Representative in Congress from the State of California, prepared statement of	3
McKee, Stuart, national technology officer, U.S. Public Sector, Microsoft Corp., prepared statement of	27
Medin, Milo, vice president for access services, Google, Inc., prepared statement of	18
Quinlan, Patrick, chief executive officer, Rivet Software, prepared statement of	9

POLICIES AFFECTING HIGH-TECH GROWTH AND FEDERAL ADOPTION OF INDUSTRY BEST PRACTICES

MONDAY, APRIL 18, 2011

HOUSE OF REPRESENTATIVES,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
San Jose, CA.

The committee met, pursuant to notice, at 9 a.m., at the San Jose City Hall and Mexican Heritage Plaza, 200 E. Santa Clara Street, Suite T116a, San Jose, CA, Hon. Darrell E. Issa (chairman of the committee) presiding.

Present: Representatives Issa and Chaffetz.

Staff present: John Cuaderes, deputy staff director; Linda Good, chief clerk; Hudson T. Hollister, counsel; Seamus Kraft, director of digital strategy/press secretary; Mark D. Marin, senior professional staff member; and Brian Quinn, minority counsel.

Chairman ISSA. The committee will come to order.

The Oversight and Government Reform Committee's mission, we exist to secure two fundamental principles. First, Americans have a right to know that money Washington takes from them is well spent. And second, Americans deserve an efficient, effective government that works for them. Our duty on the Oversight and Government Reform Committee is to protect these rights.

Our solemn responsibility is to hold government accountable to taxpayers, because taxpayers have a right to know that they get from their government, work that is tirelessly in partner—I'm doing well. They have a right to know that they get from their—what they get from their government. We will work tirelessly in partnership with citizen watchdogs to deliver the facts to the American people and bring general reform to the bureaucracy.

I'd like to begin by apologizing for that opening statement.

No. I would like to thank the city council for making this wonderful room available to us. I also appreciate the witnesses for being here. Field hearings are a way to allow us to come to you in a setting of your choosing. Additionally, I think back in Washington we often talk about the Silicon Valley; we don't think about it. So for the Members and staff that will be here in the next few days, touring here and the rest of California as part of a series of field hearings, we hope that we will see Members get informed, both by your testimony and by being in a community where innovation is not marked by the size of your handbag, your Gucci shoes, your lobby effort, but, in fact, by your willingness to innovate, to

bring people together to find new and exciting products often intangible and unthought of before they were invented here.

It wasn't long ago that the nation's research innovation and high-tech industries were unequaled. That is no more. As the debate shifts to how to repatriate dollars from around the world, every day we're reminded that revenues outside the United States are continuing to pile up looking for opportunities and often finding them to invest in foreign lands.

Who are we to blame? Five years ago Bill Gates and many others warned of the negative impact of strict caps on H–1B visas for technology workers in the United States with the competitive environment around the world, if you can't get your worker here, you'll go to where your worker is. Just last August, former HP CEO Carly Fiorina said that it's time to start acknowledging the reality that companies go where they're welcome, explaining that U.S. Federal policies such as high corporate tax rates and the broken immigration system, the failure to have a permanent R&D tax credit for many years pushed jobs overseas instead of making U.S. companies competitive against their international rivals.

At Intel, Paul Otellini said, I can tell you definitely that it cost one billion dollars more to build a factory here and equipment than it cost outside the United States, and I can tell you my stockholders are not going to ask or order me to spend one billion more before attributing higher labor cost.

America's cost of energy continues to be a concern to Intel and other companies, along with other burdens and delays. I've heard these concerns personally here in December and on other trips to the Valley, and in my home in San Diego, the same is true. Telecommunications jobs once thought to be based out of San Diego as a home of innovation, little by little are finding homes in other countries with smart and innovative equal—innovating the next generation, many of those new jobs, of course, will be in China.

On top of that, Federal agencies continue to have inoperable data bases, data bases that cannot, in fact, be easily searched. It's not that we don't spend money on them; we spend a fortune on them. The real question is, will the Federal bureaucracy come to Silicon Valley, ask what it can get from them, so that it can start acting more like a cloud based Google search than, in fact, the often pretty Web site that deliver little or no information, have broken links and seldom are searchable in a mass way.

This committee continues to—to explore waste, fraud and abuse in government, but we also believe that the greatest waste is, in fact, the job that does not get created in America, the opportunity does not occur. That would be a bigger impact on America than the undeniable waste in the Federal bureaucracy. With that, I recognize the gentleman from Utah for his opening statement.

[The prepared statement of Chairman Darrell E. Issa follows:]

Opening Statement
Chairman Darrell Issa
"Policies Affecting High Tech Growth and Federal Adoption of Industry Best Practices"
April 18, 2011

- I would like to begin my statement by thanking the City Council and the City Manager's office for allowing us to use these chambers for this morning's hearing. The Committee greatly appreciates the opportunity to hear from today's high tech sector witnesses here in the heart of Silicon Valley.

- Today's hearing allows us to discuss two areas that are critical to the Committee's oversight and reform agenda and to which the Committee has devoted much of its time and effort: first, federal regulations and policies that impede the growth of U.S. jobs; and second, technologies and business practices developed in the high tech sector that could be implemented by the federal government to increase transparency, create greater efficiencies, and reduce waste, fraud, abuse and mismanagement at federal agencies.

- It wasn't that long ago that the nation's research, innovation, and high tech industries were unequaled; there was no more attractive country than the United States for technology start-up capital.

- More recently, however, the shine has started to come off the apple, and there seems little doubt that federal policies and regulations have played a large role in hampering growth.

- Five years ago, Bill Gates and many others warned of the negative impact of strict caps on H-1B visas for technology workers on U.S. technology companies, with a commensurate positive effect on the high tech industries in other countries like China and India.

- Just last August, former HP CEO Carly Fiorina said that it's time to start "acknowledging the reality that companies go where they're welcome," explaining that many U.S. federal policies, such as the high corporate tax rate, the lack of a permanent R&D tax credit, and a broken immigration system push jobs overseas instead of making U.S. companies competitive against international rivals.

- And Intel's Paul Otellini said, "I can tell you definitively that it costs $1 billion more per factory for me to build, equip, and operate a semiconductor manufacturing facility in the United States" than in other nations. Otellini said that 90 percent of that additional $1 billion is not attributable to higher labor costs but rather to tax and regulatory compliance. I heard about these concerns personally in December during a visit here to Silicon Valley.

- I also look forward to hearing about technological solutions and business practices that can help the federal government spend less but get more. The Government Accountability Office's annual review of the federal government's consolidated financial statements has never produced a clean audit opinion. Dozens of separate federal agencies use incompatible software systems and inconsistent accounting methods to report their financial results. Since the government cannot track its own finances, it cannot accurately report them to the public.

- Americans know that their government spends too much on a complex, unmanageable bureaucracy. What they don't know – because much of the raw data about government spending and performance is not accessible to them – is exactly how much waste, fraud, and abuse goes on every day. That has to change.

- Information technologies already in use throughout the private sector can make it possible for Americans to track federal spending, regulation, and legislation in ways that are currently do not exist at the federal level.

- I look forward to discussing these issues with our witnesses.

Mr. CHAFFETZ. Thank you, Chairman, and thank you for being here. It's a pleasure and honor for me to be here. I was actually born in Los Gatos. I grew up in part in Saratoga. I remember when Norman Mineta was the mayor, for goodness sakes. So I only lived here until I was about 7 years old, but nevertheless, this is home. This is where it all started for me. And following my dad, if he kept that home in Saratoga and those rolling hills overlooking the vineyard, which are now scattered with these multimillion dollar homes, but nevertheless, and that beach house in Santa Cruz, but that's another discussion.

Listen, I——

Mr. ISSA. By the way, there are plenty of opportunities to run right here in this district.

Mr. CHAFFETZ. I kind of like the conservative voting power of Utah's Third Congressional District, but nevertheless, I fundamentally believe that our Federal Government right now is borrowing, taxing and spending too much money. It's startling to me that 25 cents out of every dollar spent in this economy is spent by the Federal Government. That is unsustainable, it is unacceptable and it is far too much.

We need to recognize that it is the private sector that creates jobs. The Federal Government doesn't create jobs. The Federal Government is there to—there's a proper role for the Federal Government. It is there to provide safety and security and do things that are uniquely government. But if we're going to grow our economy, if we're going to continue to be the world's military and economic superpower into the future, we're going to have to change the way we do business, and we're going to have to recognize that until we create an atmosphere that is conducive to the growth of jobs, we will continue to struggle. And the tech sector has obviously been wildly successful, particularly in this—in this area.

We need that to expand. We need that to grow. We need to remember that manufacturing is good. That we actually have to make and develop things. And the United States is unique in that it has such a talent and pension for creativity and for developing things, and there's nothing more proud than some of the companies that are represented here that have become global brand names in a very short amount time.

Nevertheless, I am worried about the Federal Government and its policies moving forward. How do we propel and make sure that these companies grow in their strength in everything from patent reform, to cloud computing, to cyber security, to standardizing of data, to shared services. These are all things that not only affect how the Federal Government will operate, but will also have a dramatic affect on how business around the globe will operate.

And so I think one of the—one of the core challenges and I hope we have a discussion today, Chairman, about is this—this idea of the Federal Government and its unilateral rulemaking authority through the executive branch, as opposed to going through the congressional—through the process of the U.S. Congress.

Mr. Chairman, if you recall, when the House Republicans are gathered, George Will, one of my favorites, he came and spoke to us. And he said his—his perception was the challenge before the 112th Congress was whether or not Congress was going to stand

up for itself. Were we going to allow the president and the executive branch—and I'm not trying to be overly partisan here, it certainly was true in other administrations, is the executive branch going to unilaterally be able to—to use its rulemaking authority to have the effective law, or, is it going to be the Congressional Record that will be most pertinent. We have to go through a deliberative process of openness and transparency, bipartisan in the nature—the way Congress is configurated to actually develop those rules and put them into law. And there is a difference between rules and the law. And yet, I feel like in sometimes not only in the tech sector, but also in everything from the ag sector, to the EPA, to the FDA, as we were talking about earlier, this is obviously—all Americans are affected by what is done through this unilateral rulemaking authority without the public's input.

So nevertheless, a long-winded way of saying, the tech sector is one of the things this country can be proud of. It is providing real, tangible jobs. It will provide the income that is needed not only for the Federal Government so it can offer its services, but provide the type of growth that will allow us to continue to be the world's economic and military superpower.

And so that's the notion of the hearing today is to understand how we can help by getting out of the way. What are the impediments that the Federal Government is putting up so that you can continue to grow and expand in the tech sector.

And then, how do we learn in the Federal Government, you have one department that just got off DOS, for goodness sake. And so we're——

Mr. ISSA. Which version is it?

Mr. CHAFFETZ. 3.3, an all green screen.

And so nevertheless, we appreciate your participation today and look forward to a healthy dialog.

Mr. ISSA. I thank the gentleman.

All Members will have 7 days to submit opening statements and extraneous material for the record.

The chair now recognizes our panel of witnesses. Mr. Patrick Quinlan is chief executive officer of Rivet Software. Mr. Milo Medin is vice president for access services at Google. And Mr. Stuart McKee is the national technology officer for Microsoft's U.S. public sector organization.

Pursuant to the rules of the committee, all witnesses will be sworn in. Would you please rise to take the oath.

Please raise your right hands.

[Witnesses sworn.]

Mr. ISSA. Let the record should reflect that all witnesses answered in the affirmative and please be seated.

Now, the next part of the script, I actually get to go off of.

Although your time is limited and we want to be respectful of it, and we have other appointments for the day, these are comparatively informal opportunities to express back and forth a dialog. So I'd—I'd like to have each of you make an opening statement, approximately 5 minutes. No one's going to cut you off, particularly if you're speaking rather than reading from a script, that will be placed in the record in its entirety, and then we'll begin alternating with a group of questions.

And, Brian, if you have specific questions on behalf of the minority, we're certainly going to include you in the questioning, again, allowed by the rules but not often done back in Washington.

And with that, Mr. Quinlan.

STATEMENTS OF PATRICK QUINLAN, CHIEF EXECUTIVE OFFICER, RIVET SOFTWARE; MILO MEDIN, VICE PRESIDENT FOR ACCESS SERVICES, GOOGLE, INC.; AND STUART MCKEE, NATIONAL TECHNOLOGY OFFICER, U.S. PUBLIC SECTOR, MICROSOFT CORP

STATEMENT OF PATRICK QUINLAN

Mr. QUINLAN. Thank you very much, Congressman Issa, Congressman Chaffetz, and distinguished members of the committee.

Mr. ISSA. OK, when I botch all of the names, and I do it all the time, I apologize, but Mr. Chaffetz.

Mr. QUINLAN. Mr. Chaffetz, I apologize.

Mr. ISSA. He has a record for the fact that the previous chairman actually never got it right once. Thank you.

Mr. QUINLAN. Well, Mr. Chaffetz, as a resident of Colorado, I certainly don't mean to demean my neighbor in Utah, much less point out that we actually have better snow than the fine state of Utah.

Mr. CHAFFETZ. Reclaiming my time.

Mr. QUINLAN. My name is Patrick Quinlan. I'm the CEO of Rivet Software. We have 570 talented members of our team, which has been a tremendous growth. A year ago we had less than 50.

We currently serve over 1,250 of the top public companies in the United States, including Microsoft, sitting here to my left.

We are very passionate about data transparency, and what the power of information can do in allowing Main Street to get the same access to information as Wall Street gets today.

You asked how Federal regulations and policies impede the creation of high-tech jobs and how government agencies can instead leverage new technology to achieve greater efficiencies, reduce waste, fraud, abuse and mismanagement of Federal agencies. Today the Federal Government is constraining innovation, wasting funds and obscuring information all in the name of data transparency.

Data transparency initiatives such as data.gov, recovery.org and USAspending.gov gives the impression that the government has made data available and accessible.

The U.S. Government has funded these tools to provide answers to the public questions, but they don't suffice. In fact, they've created a guise that constrains innovation, wastes money and resources, and actually reduces transparency. Until data reporting standards are set and the public has access to the underlying data, the data that really matters, it remains nearly impossible to provide answers to the public's questions.

But we don't have to rely on these government programs. Private companies can compete to provide data in a standardized format delivering increasingly high value to the public. A new self-funded industry will be formed, high-tech jobs will be created and true transparency and accountability will be achieved.

Setting standards leads to lower cost, increased sharing and enhanced communication. Sometimes standards evolve gradually. Let's think about Betamax and VHS. But this takes times and increases cost and waste. Mandated standards can be more effective and efficient. Take, for example, the recent SEC mandate around XBRL. XBRL is eXtensible Business Reporting Language. A language that makes document contact machine readable and, therefore, instantly available for research. The FCC's visionary mandate for XBRL has so far created at least 15 companies and 1,500 jobs.

At an average salary of $68,000 a year, that means over $100 million in salaries and approximately $30 million in taxes per year.

What can the Federal Government do to create true transparency? First, take a look at the SEC for best practices. They have set and enforced a standard that developed a self-funding industry. Our government must find more opportunities to mandate data standards.

Use of standardized data will let the government manage by exception, focusing on the outliers. Imagine asking for every purchase order exceeding budget by 20 percent and having the answer instantly. With this kind of data, we'll no longer attempt to predict questions. Instead, we can enable innovation and let the entrepreneurial spirit that drives Rivet, as well as so many of the other companies in my industry, through their growth.

Let's consider GPS for a second, which was originally created for military use. And look at the—and look at the many applications that have been created by leveraging this data. How many businesses have been created? How many jobs? How much revenue? How many tax dollars have been returned to the government as a result of industry's access to GPS? In this time of massive deficits, let's stop dealing with fuzzy numbers and start tracking where and how our money is being spent.

With access to standardized and structured data, we can use facts, not spin, to make decisions and determine if our money is being wasted.

In conclusion, please trust us to work with you and the Commission to bring the benefits of true data transparency to the American people. If we do it right, we will start a whole new industry, creating tens of thousands of high-quality, high-paying jobs, while answering the need to reduce spending and waste in our government at the same time.

On behalf of my company in Denver, the thousands employed by our industry and the millions of Americans we serve, I thank you for the opportunity to be a part of this discussion.

[The prepared statement of Mr. Quinlan follows:]

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Transforming Transparency

by

Patrick Quinlan

Testimony before
House Oversight and Government Reform Committee
April 18, 2011

PATRICK QUINLAN HAS NOT RECEIVED ANY FEDERAL GOVERNMENT GRANTS OR CONTRACTS RELEVANT TO THE SUBJECT MATTER OF THIS TESTIMONY

Transforming Transparency

The role of standards-based reporting

We all love to spend money - especially when it isn't our own. When we spend our spouse's or our company's money we do it knowing that it will be accounted for. Generally, all it takes is a review of a bank statement or the approval of an expense report. The results of the spending are tangible – new clothes, a new PC on a desk, or a new car in the lot. In essence, spending at this level is largely transparent.

Governments also love to spend money. That's how they achieve their manifesto objectives and repay the trust of the electorate. It's a big part of the job: spending taxpayer money – our money – on our behalf. The challenge is that the sums are so huge and the effects so unpredictable that the potential for waste and even abuse is unavoidable. And that's why Governments, above all, must be paragons of transparency.

The Start Point

As technology continues to evolve, as more local events have global consequences, and as data becomes a commodity just as important as money, transparency is crucial in order to keep up, let alone to make things better. A new generation of information consumers is coming to demand and expect it. But to deliver true transparency, specifically transparency people can trust, the concept itself needs transforming – especially at the Government level.

Transforming the idea of transparency requires an understanding of three important questions:

- ☐ Why transparency matters
- ☐ How to communicate transparency
- ☐ How to ensure that transparency engenders trust

With these three questions providing the framework, the briefing concludes with some recommendations as to how transparency can be transformed using standards-based reporting.

Transparency Matters

In 2009, the government of the United Kingdom (UK) suffered a constitutional crisis. When the media began leaking Member of Parliament (MP) expenses, taxpayers suddenly became aware that some of their elected officials were spending taxpayer money on duck ponds, trips they never took and refurbishment of homes they didn't live in. This incident directly contributed to the incumbent Government losing the next election and prison sentences for the worst offenders.

The real loser was a venerable democratic system that was shown to have been 'hiding' these misdeeds and, behind closed doors, revelling in the opacity of the system. Trust in UK politicians hit an all time low (Park, Clery, and Bryson 185). Political pundits had a field day. If not for the 'stiff upper lip', we might have seen events in the UK like those we see daily from the Middle East. Yet if transparency of MPs expenses had been in place, as it is now, all of this could have been avoided.

On the opposite side of the spectrum from the negative impact of lack of transparency in Western democracies is the positive impact of access to transparency in more restrictive political systems. The recent events in the Middle East have shown just how positive an impact transparency can have in helping to bring about changes that have the potential to directly transform the lives of millions of people for the good (Isaacson, "From Samizdat to Twitter"). This is the kind of impact that is at the heart of the democratic system.

The 'data revolutionaries' in these countries realized that communicating just small snippets of data through a standard channel-- Tweets on Twitter - could help their cause by drumming up global support and funding.

The transparency that was enabled by a standard, global communications mechanism directly impacted the revolutionaries' ability to transform their countries, their own lives, and the world's perspective on what was possible.

Make no mistake: Transparency matters to all of us.

Communicating Transparency: Collect, Connect, Communicate

The mere existence of transparency is meaningless if it's undiscovered. That's why the Internet has such a key role to play in transparency – it is a primary communication channel and the natural enemy of opacity. Without the Internet, the data revolutionaries of the Middle East would never have been able to use Twitter. We witnessed that the positive potential of transparency was literally shut down when some governments 'switched off' access to the Internet.

Making information available on the Internet is nothing new but it's an essential part of the DNA of transparency. It's obvious that the Internet enables both the automated collection and the automated communication of data. What's often forgotten is that the Internet facilitates the automated connecting of data, which is where the most powerful, intelligent information usually comes from.

For example, the S.E.C. already collects financial information in an automated way (via XBRL) and communicates that data in an automated way (via an RSS feed). But the real value of the S.E.C. data to information consumers is in connecting it with other relevant data, *especially if it all uses the same standardized format*, to derive new and interesting information ("Interactive Data to Improve Financial Reporting").

Imagine what might have happened if regulation existed to enable the connection of specific aspects of British Petroleum's (BP) financial data on their Gulf of Mexico rigs with data about the potential impact of oil spills in the region, adding data about tax breaks given to oil and gas companies and other relevant sector data (Rogoff). Someone, out there in the 'cloud crowd', would have been able to compare BP's data 'position' to that of other drillers. And maybe as a result of the discovery, BP's license to drill would have been suspended or at least questioned, avoiding or mitigating a major man made environmental catastrophe,

However, using the Internet to communicate transparency is not just about setting up yet another 'silo' website, populated with 'silo' reports and 'silo' charts. Yes, these sites can collect and communicate specific, isolated data but they often can't help information

consumers easily connect data and derive optimum value from this basic level of 'collect and communicate' transparency.

For that you need another level of trust that depends on reassurance about the data itself.

Trusting Transparency

Transparency engenders trust. If you understand more about what a person, business or Government is doing, you are likely to trust them more than if you don't. But how do you trust the data that transparency delivers?

Websites like *Recovery.gov* collect and then communicate data in the form of exception and comparison reports, charts and mobile apps. They were created as proposed beacons of transparency - yet they continue to operate as transparency siloes.

Without standardizing the format of the data available from the vast range of initiatives that *Recovery.gov* tracks, it's cumbersome enough for the organization itself to make data connections- let alone for the street information consumer. And how do we know the data they are using to compile these reports and charts actually means what we think it means? In other words, can we really trust even this level of transparency?

The only way to trust readily available data is for there to be a level of veracity below the surface of the report or chart: data-centric trust rather than document-centric trust. You can always visually present information any way you want in a document. A document acts as a medium, but it does not necessarily make the data it communicates trustworthy. Using an agreed global standard as the basis for the data presented in a document means you can drill down from a report or chart number to find the definition behind the scenes.

Reports and charts that leverage a data-standard, like XBRL, add another level of reassurance to transparency. If you know that a piece of data tagged using XBRL is being used in report A and in report B, you can also ascertain that it means the same thing in both regardless of how it is actually presented in the report, chart or narrative ("Enhance Comparability"). And you can quickly verify your assumption because the 'definition' of the data – the tag - travels with the data itself, wherever it is used. That's the real value-add of standards-based reporting from a transparency perspective.

Using XBRL to standardize transparency at the data level is one way to engender even greater trust. In the USA, and in many other jurisdictions around the world, regulators like the S.E.C. have taken the first steps to kick start not only greater transparency but also greater trust in the data by mandating the use of an agreed data standard based on XBRL.

So How Do We Transform Transparency?

Transparency is not just about bringing data to the surface – by collecting and communicating it – it's also about connecting the dots. It's about providing the technology and tools to allow the 'wisdom of crowds' to be given the opportunity to function. It's about technology and tools that depend on the use of standardized data to function effectively and efficiently.

But technology and tools can't deliver everything on their own. The vision of 'intentional transparency' also depends on new ways of operating and approaching transparency at lower levels of granularity.

Today, a typical modus operandi for a Government would be to support some new spending initiative with an Internet 'microsite,' a site to inform the electorate and help them track the progress of the initiative. This is laudable in intention but in practice simply creates yet another brick in the silo wall.

Intentional transparency requires the process to change so that every initiative launches with its own mini XBRL taxonomy to underpin the new microsite. The purpose of the site is not just to present data but to actively encourage the sharing of data – social media style.

Data collected *at the initiative level* leverages this taxonomy to standardize the input; Data communicated by the initiative is output to the world in 'tagged' format. Ready for consumption by the online technology tools that know how to collect, combine, connect and compare this standardized data either automatically or semi-automatically.

Initiative-level data standardization means there's no need for massive, time-consuming global committees to decide what the standardized data should look like and define the taxonomy. It's not that big a task. By attacking the problem at the initiative level, we can apply 'agile' principles to data standardization, climb the problem alpine style, manage the miniature and let the big picture surface from it.

This approach on its own would make *Recovery.gov*, and many sites like it, much more powerful information generation tools. These silo websites become dramatically more useful in playing their role in connecting the dots when the data is no longer proprietary. Data itself is democratized so everyone from mom and pop to industry analysts can apply their needs and skills to the data, to combine and connect it in ways that makes sense to them.

We've seen some of this in the UK where data.gov.uk offers over 6000 datasets for information consumers to collect, connect and communicate data. An ecosystem of apps is developing around these datasets as individuals and companies take advantage of the transparency and data availability that the site offers (Shadbolt, "A year of data.gov.uk"). The media has also latched on to this data transparency. Quality daily newspapers such as *The Guardian* are regularly tapping the data to provide stories and charts that help to communicate how democracy is working in the UK.

Over in Australia, the Standard Business Reporting (SBR) initiative is delivering on the promise of standards-based reporting to offer businesses, *a streamlined approach to meeting the various reporting requirements of different government agencies throughout Australia* (Foo, "SBR Goes Live").

Over time, this effort to collect business data in a standardized way across multiple agencies will allow the Australian Government to communicate information based on trustworthy data. Australian information consumers and business will benefit from the analysis tools built to leverage a new kind of information infrastructure based on standardized data.

Call to Action

The U.S. Government operates one of the world's largest, if not the largest, data warehouses in the world. It's a warehouse that grows dramatically every year but the inventory is stuffed full of raw materials (*data*) rather than finished goods and products (*information*). In reality, no business could operate this way.

The lack of information products means that consumers get no value from the raw material data being hoarded: You can't generate productivity and profit from products you can't use. Innovation is being stifled and knowledge economy jobs restricted.

The US knowledge economy in the post-manufacturing age is literally missing one of its most important players. It's as if all the major utilities simply hoarded their electricity cutting off power from millions of homes, rendering all kinds of electronic devices useless and leaving the occupants to wander around in the dark.

And just how long will this be allowed to continue?

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Mr. ISSA. Thank you, sir.
Mr. Medin.

STATEMENT OF MILO MEDIN

Mr. MEDIN. "Medin" is right. Thank you, Chairman Issa and Chaffetz, for this opportunity to discuss the ways in which government regulation can sometimes hold back innovation and investment.

My name is Milo Medin. I'm Google's vice president for access services. In that role, one of the things I'm responsible for is leading the Google Fiber team in the build-out of an ultra high-speed network in Kansas City, Kansas.

Prior to joining Google, I cofounded M2Z Networks in 2005, and served as its chairman and chief technology officer. Before then, I cofounded At Home Corp. in 1995, and served in a number of senior positions there.

In my view, there's a demonstrated need for the Federal Government to revisit some of its foundational processes and procedures to ensure that we are creating an environment that is friendly to both investment and innovation, and the corresponding economic growth and job creation. At Google we also see a need to modernize government by updating our patent system and by taking other steps to ensure that companies continue to invest and create jobs.

I'll start, though, with some of the experiences I've had and the interplay between business investment and regulation. Google Fiber recently announced that we will work with Kansas City, Kansas to deploy a large-scale, ultra high-speed network at speeds up to one gigabit a second. Our goal in Kansas City is to provide, at a competitive price, Internet access that is more than 100 times faster than what most Americans have available to them today. But my experience deciding where to make our investment highlighted for me just how regulation can sometimes get in the way of innovation. My written testimony discusses a number of areas, but in my statement today I'll talk about rights of way.

Governments across the country control access to rights of way that private companies need in order to lay fiber, and government regulation of these rights of way often resulted in unreasonable fees, anti-investment terms and conditions, and long and unpredictable build-out timeframes. The expense and complexity of obtaining access to public rights of way in many jurisdictions increases the cost and slows the pace of broadband network investment and deployment.

Reducing red tape, overly restrictive regulations and delay associated with access to rights of way would make a big difference. Luckily, some local governments get it right, and are good examples for others to follow. In fact, part of the reason we selected Kansas City for the Google Fiber project was because of the City's leadership and the—and their utility move with efficiency and creativity in working with us to create an agreement.

I'll step back a little bit from Google Fiber to discuss my views on the impact of regulation innovating more broadly. Specifically, I'll touch about some regulatory issues that concern me personally, that relate to the FCC and government in general.

First off, the government generally must strive to be more efficient in its decisionmaking processes and recognize that time is in many ways the most valuable thing we invest here—we invest in Silicon Valley.

Starting a regulatory process that may affect specific sectors in a market, either in a positive or negative way, creates ambiguity that can often freeze investment. It's important that such processes are optimized for speed and not—so that the ambiguity involved can be removed as quickly as possible.

I once heard Colin Powell say that all good decisions are made between 40 percent and 70 percent of information. He said if you have less than 40 percent, you really don't know what you're doing. But if you have more than 70 percent, you've waited too long.

If—Silicon Valley companies like Google fully embrace this sort of thinking, and it's essential to our ability to deliver innovative products that compete worldwide. But investment disincentives are created when we have to wait on government processes that are not time bound, and materially impact what products we can develop.

Agencies like the FCC all too often open up rulemaking dockets soliciting formal comments, receive a flood of documents from interested parties and then fail to act for months or years, if they act at all.

The result is uncertainty, which is bad for business, bad for innovation and bad for investment.

Fixing the patent system is critical to the technology industry. And while I have not had as many patents issued to me as you have, Pat, issued to you, I do have a few.

And probably like you, I have seen the patent process work well, and have seen it work not so well.

Simply stated, the American technology industry success depends on a functioning patent system that produces and protects quality of patents. In recent years the system's become difficult to navigate, frivolous lawsuits built around patents of dubious validity and targeting the profits of true invention. Companies often settle rather than risk losing millions of dollars in front of a jury, and consumers' innovation and the economy suffer for it.

I know that you understand this, Mr. Chairman, and want to thank you for your support in—of a supplemental examination amendment issued by Chairman Goodlatte during the markup last week.

I'll close with this, if regulations create disincentives for large, well-established companies like Google, just imagine the impact on small- and medium-sized companies who include the next generation of entrepreneurs who are just getting starting.

Thank you, and I look forward to working with you.

[The prepared statement of Mr. Medin follows:]

Google

Testimony of Milo Medin, Vice President of Access Services, Google Inc.
Committee on Oversight and Government Reform
Field Hearing On Innovation and Regulation
April 18, 2011

Thank you Chairman Issa and members of the Committee for this opportunity to discuss the ways in which government regulation can sometimes hold back innovation and investment. Google shares your vision of the importance of creating a modern regulatory environment that fosters economic growth and helps make American companies competitive globally.

I'm Milo Medin, and I'm Google's Vice President of Access Services. In that capacity I manage the Google Fiber team and am overseeing the build-out of an ultra high-speed network in Kansas City, Kansas, as well as at a testbed that we're deploying at Stanford University, as well as a number of wireless initiatives.

Prior to joining Google I co-founded M2Z Networks Inc. in 2005 and served as its Chief Technology Officer. Before then I co-founded At Home Corporation in 1995 and served in a number of senior positions there. I'll note too that I have worked in government. For a decade beginning in 1985 I worked as both a contractor and civil servant on several NASA Internet initiatives, including the NASA Science Internet, which was a core Federal network that connected 200 sites in 16 countries and six continents including Antarctica, as well as managing the Internet's primary west coast interconnect, FIX-West and MAE-West.

I joined Google last year because I was incredibly impressed by the vision of the Fiber project, and because I thought we could be the vehicle for delivering on the promise of what broadband really could be like. I'm proud of the work we've done so far with the Fiber team and to be working for a company that has contributed so much to our economy. For example, in 2009 alone we generated $54 billion in economic activity for American businesses, website publishers, and non-profits. In a time of tighter budgets and a slow economic recovery, we're glad to support so many small businesses and entrepreneurs across the country by helping them find new customers more efficiently and monetize their websites through targeted advertising.

To contribute to your exploration of how to improve the regulatory environment, I'll first discuss three types of regulation that have had a significant impact on the Google Fiber project.

Following this, I'll draw on my past experiences and my view of the larger innovation economy to discuss other regulatory issues that present a more generalized threat to innovation and investment. In my view there is a demonstrated need for the Federal government to revisit some foundational processes and procedures to ensure that we are creating an environment that is friendly to both investment and innovation that will lead to economic growth and job creation. We also need to update our patent system and take other steps to ensure that companies continue to invest and create jobs.

Regulation and the Google Fiber Project

I'll start with regulation and the Google Fiber Project, which is one of my main responsibilities at Google. Google Fiber recently announced that it will work with Kansas City, Kansas to deploy a large-scale ultra high-speed network, at speeds up to one gigabit per second, in that community. In addition, over the coming months we will be talking to other interested cities about the possibility of bringing ultra high-speed broadband to their residents.

But the recent experience of picking the community in which Google would make this significant new investment highlighted for me exactly how regulation can get in the way of innovation and drive companies to seek out or avoid certain locales.

At Google, we believe that innovation on the web is only in its beginning phases, and a key ingredient for fueling that innovation is to deliver a step function increase in speeds. Our goal in Kansas City is to provide at a competitive price Internet access that is more than 100 times faster than what most Americans have access to today. As the initial broadband network deployments a decade-and-a-half ago took us from the kilobit web to the megabit web, Google is hoping our efforts here can take the U.S. from the megabit web to the gigabit web.

Over the past 15 years, the jump from dial-up to broadband connections has led to streaming online video, digital music sales, video conferencing over the web, and countless other innovations that have transformed communication and commerce. We at Google cannot wait to see what new products and services will emerge as Kansas City moves from traditional broadband to ultra high-speed fiber optic connections.

Google wants to be able to build strong relationships and partnerships with local government and communities so that we can work together to use technology to help make communities better places to live, work, and learn. But my recent experience deciding where to make the investment that the Google Fiber project represents highlighted for me just how regulation can sometimes get in the way of innovation. I'll focus on three types of regulation that make this investment harder and interfere with our ability to enable access to next-generation network connectivity.

Rights-of-Way

First, I'll discuss regulations related to physical infrastructure that deter investment. Infrastructure such as rights-of-way, utility poles, conduit, and ducts plays an important role in the economics of broadband networks. All broadband service providers need access to this infrastructure.

Let's start with rights-of-way. Governments across the country control access to the rights-of-way that private companies need in order to lay fiber. And government regulation of these rights-of-way often results in unreasonable fees, anti-investment terms and conditions, and long and unpredictable build-out timeframes. The expense and complexity of obtaining access to public rights-of-way in many jurisdictions increase the cost and slow the pace of broadband network investment and deployment.

Reducing the red tape, overly-restrictive regulations, and delay associated with government rights-of-way would make a big difference. Luckily, some local governments get it right and are good examples for others to follow. In fact, part of the reason we selected Kansas City for the Google Fiber project was because the

city's leadership and utility moved with efficiency and creativity in working with us to craft a real partnership.

There are also some common sense ways of leveraging new infrastructure projects through "dig once" policies. Anytime a roadway is opened up for any purpose, conduit is installed, which cuts the cost for later deployment of fiber by 90 percent or more in some cases. The conduit itself costs almost nothing; it's the labor cost to open up the street and then close it up later that is the bulk of the cost. By installing conduit any time construction is going on, the cost of that construction is amortized over all projects that later utilize the conduit, reducing costs dramatically and minimizing disruption to drivers.

Pole Attachments

Now let's move to regulation of so-called pole attachments. Another key part of building new fiber infrastructure is the ability to hang this fiber on existing utility poles. Where we can do this, we don't need to tear up a street. Theoretically this should result in our being able to move faster to make the investments that foster innovation and lead to more consumer choice among providers.

But regulation gets in the way. Outdated pole attachment regulations create huge delays and can result in blocked-to-access utility poles. The Federal Communications Commission itself has recognized that the lack of reliable, timely, and affordable access to physical infrastructure – particularly utility poles – is a significant barrier to deploying broadband services.

To its credit, the FCC issued a new order just over a week ago that clarifies the rights of several types of companies to attach equipment to poles at reasonable rates. But the order doesn't appear to help those of us who want to offer pure broadband Internet access service. Because broadband Internet access services don't fit into the right regulatory box in the Communications Act, we do not have automatic attachment rights. Pure broadband providers are exactly the group you wouldn't want to leave out, so the existing requirements need to be clarified or changed if we want to get more dollars, jobs, and broadband into our communities and enable competition from non-traditional operators.

Municipal Broadband

Finally, I'll discuss the regulation of municipal broadband. The Google Fiber project has shown me great local communities around the country that want to harness the power of the Internet to build jobs, better educate their kids, and save money through greater efficiency. Localities know more about what works for their communities than state governments or the federal government do. In the end, we feel that while this is probably not the right choice in many cases, it is something that should not be prohibited.

During my tenure on the California Broadband Task Force, the panel concluded that allowing communities to form special service districts to construct broadband network facilities was an option that needed to be available, and would be most helpful in rural areas that tend to have fewer service offerings than those in larger cities.

As you have observed, Mr. Chairman, a free market with numerous competitors and distinct technologies leads to efficiencies, productivity, and innovation. And that is the goal of what we are doing in Kansas City, Kansas.

Regulation, Innovation, and Investment

With the time I have left, I'll step back from the Google Fiber Project to discuss my views on the impact of regulation on innovating more broadly. Specifically, I'll briefly touch on five other regulatory issues that concern me personally that relate to the government in general, and that I care about deeply as a technologist, a business executive, and an American.

First off, the government generally must strive to be more efficient in its decision-making processes, and recognize that time is in many ways the most valuable thing we invest with in Silicon Valley. Starting a regulatory process that may affect specific sectors in a market, in either a positive or negative way, creates ambiguity that can often freeze investment. It is important that such processes are optimized for speed, so the ambiguity involved can be removed as quickly as possible. By taking a lot of time to make the "best" decision, oftentimes companies invest in a few lawyers as opposed to many engineers. Once a decision is made, the market reacts quickly and companies move on to deal with whatever the consequences are. But too often, time to decide is not considered one of the metrics of how successful a process is. This needs to change.

I once heard General Colin Powell say that all good decisions are made with between 40 percent and 70 percent of information. If you have less than 40 percent of information, you really don't know what you are doing. If you have more than 70 percent, you have waited too long. Silicon Valley companies like Google fully embrace this sort of thinking, and it is essential to our ability to deliver innovative products that compete worldwide. But investment disincentives are created when we have to wait on government processes that are not time-bound and materially impact what products we can develop.

Agencies like the FCC all too often open up rulemaking dockets soliciting formal comments, receive a flood of documents from interested parties, and then fail to act for months or years – if they even act at all. The result is uncertainty, which is bad for business, bad for innovation, and bad for investment.

There is a specific issue on which I would ask the government to act more quickly: clear policies on spectrum. Right now, the FCC is looking into holding incentive auctions for spectrum in the broadcast bands. This has the potential to make more licensed spectrum available for broadband use. However, this initiative has the potential to kill White Spaces, an unlicensed use of the broadcast TV bands that can be used to deliver broadband.

The White Spaces rulemaking has been going on for many years, and just this year operation was finally authorized. But with repacking the UHF spectrum through incentive auctions now the priority, the uncertainty over the future of this technology has resulted in diminished investment in chipsets and radios that just last year was getting ready to take off. This uncertainty needs to be resolved soon, and, if the UHF spectrum is repacked, a sizable allocation of that repurposed spectrum should be made available for unlicensed use. This is the same kind unlicensed allocation that made Wi-Fi possible, and has empowered whole new classes of devices and services that would not have been possible without it, as well as offloading traffic from cellular networks that has allowed them to scale in ways that would have been far more expensive without it.

A second area of regulatory reform that is critical to the technology industry is fixing the patent system. While I have not had as many patents issued to me as you have, I do have a few, and probably like you I have seen the patent process work well and not so well. Simply stated, the American technology industry's success depends on a functioning patent system that produces and protects quality patents. In recent years, this system has become increasingly difficult to navigate.

The number of annual patent grants has risen from fewer than 80,000 in the early 1980s to more than 240,000 in 2010. Consequently, our products are surrounded by "patent thickets" – densely overlapping patent rights held by multiple patent owners. Far too many of these patents never should have been granted. This thicket of poor-quality patents has spawned an entire litigation industry and impeded innovation. Frivolous lawsuits built around patents of dubious validity are targeting the profits of true invention. Companies often settle rather than risk losing millions of dollars in front of a jury, and consumers, innovation, and the economy all suffer for it. A better funded and more efficient Patent and Trademark Office will be able to better analyze patent applications and conduct reexaminations, thus improving patent quality. A more effective reevaluation process after patents are issued would greatly reduce expensive, time-wasting litigation. I know you understand this Mr. Chairman, and I want to thank you for your comments in support of the supplemental examination amendment offered by Congressman Goodlatte during the House Judiciary Committee's markup of the America Invents Act last week.

Getting good patents issued quickly is very important. But if it means more frivolous patents are also issued and create a drag on real innovation, that is a major problem too, and should be recognized as such. It is possible to get one without the other, but lawmakers will have to work hard to avoid unintended consequences that result in more harm than help. Ensuring the right balance for intervening rights and protecting the confidentiality of settlement documents is critical to the future success of the PTO.

Finally, I'll make a brief note on environmental regulations. Google is a big believer in protecting the environment for future generations, but certain types of state and local environmental rules make investment very difficult. Laws like the California Environmental Quality Act can make it prohibitively expensive for companies to invest in new projects, such as our fiber project, within California. Many fine California city proposals for the Google Fiber project were ultimately passed over in part because of the regulatory complexity here brought about by CEQA and other rules. Other states have equivalent processes in place to protect the environment without causing such harm to business processes, and therefore create incentives for new services to be deployed there instead. When companies face a bevy of different and overlapping regulation, especially in relation to Internet services, they simply invest less.

Conclusion

To sum up, regulations – at the federal, state, and local levels – can be central factors in company decisions on investment and innovation. These decisions are the ones that hold the promise of creating jobs and growth. They should be made on the basis of economics and technical expertise.

Well-defined and unambiguous regulations can establish clear rules of the road that may be necessary in some cases. However, unclear and ambiguous regulations push companies to invest less or operate less efficiently. Less capital for innovation and the sub-optimal strategies forced by poor regulation represent a real loss for the country. Silicon Valley loves to invest in engineers building new products that create U.S. leadership in technology. Investing instead in lawyers to address the unintended consequences of poorly defined

regulations doesn't increase our gross domestic product like real innovation can.

I'll close with this: If regulations create disincentives for a large, well-established companies like Google, just imagine the impact on small and medium-sized enterprises, including the next generation of entrepreneurs who are just getting started. We have a great mix of both large and small entrepreneurial businesses here in Silicon Valley, and it's clear that investment flows into areas that are less affected by regulation than areas that are dominated by it. I know you are eager to understand this trend better, and I hope your colleagues on Capitol Hill will take these lessons to heart as legislation is debated and passed.

Thank you for the opportunity to participate and I look forward to our discussion.

Chairman ISSA. Thank you. You're more up-to-date probably than most of my colleagues in Congress. Let's just hope that becomes law this time.

Interesting that you quoted Colin Powell and not Michael Powell. Hopefully he lived up to his father's 40/70 during his time this year.

Mr. MEDIN. Indeed.

Chairman ISSA. Mr. McKee.

STATEMENT OF STUART MCKEE

Mr. MCKEE. Thank you so much. Thank you, Congressman Chaffetz and the distinguished members of the panel. I appreciate the opportunity to testify today on behalf of Microsoft Corp.

My name is Stuart McKee, and I'm the national technology officer for the U.S. Public Sector business at Microsoft and it's a position I've held since 2004. In this role, I do work with governments across the country of all sizes on the—on working on effective technology policy. We thank the committee for convening today's hearing, and at a time when our country is facing significant economic challenges, it is essential that our government take advantage of information technology best practices. And it is imperative that we pursue policies that support innovation and growth.

In my testimony I'll focus on four areas in which government and industry each has a role to play in driving progress for its policies that can promote IT innovation: One, information security in the new FedRAMP program. Two, a policy framework facilitated responsible move to cloud computing. Three, international trade and respect for intellectual property. And four, the H–1B visa program.

Let me begin with the important topic of information security and share our experience.

Microsoft is proud to be a world leader in information technology security. At Microsoft, trustworthy computing is a core value, and the Microsoft security development life cycle, which the company originated and follows, has been widely praised, published and practiced by governments and companies around the world.

It is noteworthy Microsoft has security programs and trusted partnerships in place specifically for governments, including the government security program, which provides national governments with information to help evaluate the security of Microsoft products.

Two, the security cooperation program, which focuses on computer incident response, attack mitigation and citizen outreach. And the U.S. Government configuration baseline, which continues to be one of the most successful IT programs in the Federal Government to help increase security, reduce cost and accelerate the adoption of new technologies.

Technology continues to advance rapidly and it's no surprise that stagnant information security standards and protocols are not acceptable. The Office of Management and Budget and the General Services Administration are driving a new effort known as the Federal Risk and Authorization Management Program [FedRAMP], that aims to streamline, strengthen and secure cloud implementations across the Federal Government. Microsoft welcomes this effort, but we urge Congress to oversee the process to ensure that it

meets the policy objectives established by the Congress in the Federal Information Security Management Act of 2002.

In particular, FedRAMP must be consistent and fair, with a process that is repeatable, adaptable and immune from preferences or bias for particular vendors or technology. There are challenges posed by the program that's proposed that warrant deeper discussion. We look forward to working with OMB, GSA, Federal agencies and other stakeholders, as related issues are considered.

Moving to my next topic, looking beyond government use of cloud computing services and to facilitate a responsible transition for all customers. Policy makers should examine emerging issues related to privacy and security, including those arising outside the United States with regard to information that crosses national borders.

In this context, we urge Congress to consider legislation that would, one, require cloud service providers to make their privacy and security practices transparent to customers.

Two, insure rigor and Federal Government procurement of cloud services by requiring agencies to evaluate provider security practices.

Three, enhance criminal enforcement of computer crimes, such as malicious hacking, and allow cloud providers to bring suit against violators directly.

And four, encourage the Federal Government to engage in international efforts to promote consistency and national laws governing access to and security of cloud data.

A comprehensive approach to cloud policy will help ensure that consumers and enterprises fully realize the exciting benefits of new computing technology.

That brings me to international trade.

While IT technology is evolving rapidly, so is the global marketplace for U.S. IT products and services. With 95 percent of the world's consumers living outside U.S. borders, international trade is becoming an increasingly important element of a U.S. pro-growth economic and trade strategy. Microsoft advocates using existing trade agreements, including the World Trade Organization and free trade agreements to enforce intellectual property rights, expand trade and ensure that the U.S. IT industry remains competitive. Looking to the future, we urge one swift passage of the U.S.-Korea, U.S.-Colombia and U.S.-Panama Free Trade Agreements.

Two, negotiation of the Trans-Pacific Partnership.

And three, maintaining a strong focus on stemming IT theft outside our borders.

Microsoft faces a significant challenge in the rampant piracy we face in China and emerging markets. In spite of these challenges, we strongly believe the best option is to continue to advocate for the opening of new markets, and strengthening the rules of disciplines of trade, particularly with regard to intellectual property rights.

Finally, I would like to turn briefly to the ongoing debate regarding the H–1B visa program that is critical to our success.

Throughout its history, our country has operated on the principle that the more brain power we can attract from around the world, the more creativity, invention and growth we can achieve here at home. There seems to be a reemerging and bipartisan consensus

that we need to stick to this principle, and we welcome it. We strongly support efforts that will facilitate the ability of information technology companies like Microsoft to attract, hire and retain the best and brightest innovators from around the world. If we are not allowed to do so, our international competitors will.

Again, many thanks to you, Chairman Issa, Congressman Chaffetz and the committee for the opportunity to testify before you today. We look forward to working with you to address these issues and confronting the IT industry, and I look forward to your questions.

[The prepared statement of Mr. McKee follows:]

Statement of Stuart McKee

National Technology Officer, U.S. Public Sector

Microsoft Corporation

United States House of Representatives

Committee on Oversight and Government Reform

"Policies Affecting High Tech Growth and Federal Adoption of Industry Best Practices"

San Jose, California

April 18, 2011

Thank you, Chairman Issa and distinguished members of the Committee. I appreciate the opportunity to testify today on behalf of Microsoft Corporation. My name is Stuart McKee, and I am the National Technology Officer for the US Public Sector at Microsoft, a position I have held since 2004. In this role, I work with governments of all sizes across the country and around the world on effective technology policy. Prior to joining Microsoft, I had the privilege to serve as the Chief Information Officer and an Executive Director for the State of Washington with responsibility for a $150 million central IT operation, direct oversight authority for $1 billion in technology spend, and overall accountability for statewide technology policy. I have also held technology leadership positions with large and small private sector organizations, including The Walt Disney Company and Starwave.

We thank the Committee for focusing on policies affecting high tech growth and federal adoption of industry best practices. At a time when our country is facing significant economic challenges, it is essential that government take advantage of the very best practices and innovations that the information technology community has to offer and that it pursue policies that support innovation and growth. In my testimony today, I will focus on four areas in which government and industry each has a role to play in driving progress toward policies that can promote IT innovation:

1. Information security and the new FedRAMP program;
2. An updated policy framework to facilitate a responsible move to cloud computing;
3. Efforts to drive growth through international trade and respect for intellectual property; and
4. The importance of the H-1B visa program.

Information Security and FedRAMP

Let me begin with a topic of utmost importance -- information security. As background, allow me share some of our experience. Microsoft is a world leader in information technology security. The company opened its first datacenter in September 1989, and today our globally-distributed, high-availability datacenters are managed by our Global Foundation Services (GFS) group. GFS's Online Services Security and Compliance team has built upon Microsoft's existing capabilities, including being one of the first major online service providers to achieve ISO/IEC 27001:2005 certification and SAS 70 Type II attestation, which also met Federal Information Security Management Act (FISMA) requirements.

Microsoft has also gone beyond the ISO standard, which includes approximately 150 security controls, and developed more than 300 security controls to account for and mitigate unique challenges and risks of cloud infrastructure[1]. The additional rigorous testing and continuous monitoring required by FISMA have been incorporated into Microsoft's overall information

[1] http://blogs.technet.com/b/gfs/archive/2010/12/02/microsoft-s-cloud-infrastructure-receives-fisma-approval.aspx

security program, which is described in several white papers located on Microsoft's Global Foundation Services web site[2].

At Microsoft, **Trustworthy Computing**[3] is a core value. We have been recognized for the development of the Microsoft Security Development Lifecycle[4] (SDL) which we follow internally and share with governments and other companies. SDL is a security assurance process that is focused on software development. It is a collection of mandatory security activities, grouped by the phases of the traditional software development life cycle. Many of these security activities would provide some degree of security benefit if implemented on a stand-alone basis. However, practical experience at Microsoft has shown that security activities executed in established order and as part of a repeatable process can result in greater security gains than those resulting from ad-hoc implementation. Combining a holistic and practical approach, the SDL introduces security and privacy throughout all phases of the development process with the goal of protecting customers.

For government specifically, Microsoft has several programs and trusted partnerships in place, including:

- The **Government Security Program**[5] which provides national governments with information to help evaluate the security of Microsoft products. The Government Security Program is a collaborative partnership to design and build more secure computing infrastructures, and in many cases involves working with and providing governments with access to Microsoft source code. The National Institute of Standards and Technology (NIST) is a Government Security Program partner of Microsoft.

- The **Security Cooperation Program**[6] focuses on computer incident response, attack mitigation, and citizen outreach. The Multi-State ISAC[7] is a direct signatory whose membership includes every state in the country. In addition to coordination with state level entities, related state and local government entities benefit directly from this security information sharing program.

- The **US Government Configuration Baseline** (USGCB)[8] continues to be one of the most successful IT programs in the federal government to help increase security, reduce costs, and accelerate the adoption of new technologies, while creating a more managed desktop environment. The USGCB was initially developed as the Federal Desktop Core Configuration (FDCC) in conjunction with many agencies including the Office of Management and Budget (OMB), the Department of Homeland Security, the Department of

[2] http://www.globalfoundationservices.com/security/documents/InformationSecurityMangSysforMSCloudInfrastructure.pdf
[3] http://www.microsoft.com/about/twc/en/us/default.aspx
[4] http://www.microsoft.com/security/sdl/default.aspx
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[8] http://usgcb.nist.gov/

Defense and NIST. The security-focused standard is maintained by NIST and recommended by the Federal CIO Council.

To date, the federal government's focus on information security has been on enterprise systems located on-premises at the various federal agencies and data centers. However, much like the telegraph and telephone systems that grew across the country and around the world throughout the 20th century, our technology systems today are increasingly connected. Although it is often positioned as something new, "cloud computing" can be simply understood as a natural evolution and expansion of "network enabled" systems. While the federal government has already recognized the enormous opportunity for efficiency in standardization, consolidation, and centralization of core technology infrastructure (such as networks, data centers and purchase aggregation), there will also be opportunities to take advantage of shared infrastructure not located and/or operated directly by government entities. While cloud computing represents an evolution in technology, it is not a surprise that the standards and protocols established in the past are not a perfect match for a future in the cloud. They provide a base from which to work, but they must be adapted to recognize the new cloud computing environment.

The OMB, in concert with the General Services Administration (GSA), has embarked on a new effort known as the Federal Risk and Authorization Management Program or "FedRAMP." Microsoft appreciates the efforts underway, but we urge Congress to oversee this process to ensure that it meets the policy objectives established by Congress in the Federal Information Security Management Act of 2002.

In particular, FedRAMP must be consistent and fair with a process that is repeatable across platforms and immune from preferences for particular vendors or technology. While government and cloud service providers will benefit from a process that allows multiple federal agencies to rely on reviewed and accepted information security procedures, it is essential that the process itself must be transparent, consistent and fair to all.

FedRAMP has a great deal of potential to streamline, strengthen, and secure cloud implementations across the federal government. However, while FedRAMP offers these potential benefits, Microsoft has identified a few challenges posed by the program as proposed that warrant deeper discussion. For example, the single review process, new controls and control enhancements, and continuous monitoring are areas which, if not addressed, may delay implementation, limit adoption, and reduce effectiveness. We look forward to working with OMB, GSA, federal agencies and other stakeholders as related issues are addressed.

Cloud Computing

Beyond issues related to information security and government, Congress has a role to play in facilitating a responsible move to the cloud for all customers, including commercial enterprises and consumers. Cloud computing promises to promote new efficiencies and foster innovation, but there are significant questions related to privacy and security that need to be addressed before

the potential of cloud computing can be fully realized. Microsoft is committed to doing its part to achieve these goals, but new government action is also needed to allow the cloud to deliver on its promise.

Security. Although the cloud is being built with powerful and unprecedented security safeguards, the aggregation of data in cloud datacenters presents new and rich targets for hackers and thieves. All stakeholders must work together to protect the security of the cloud. At the same time, Congress should ensure that the penalties for launching an attack on cloud computing infrastructure are sufficiently severe to help deter would-be criminals.

Transparency. It should not be enough for cloud service providers simply to claim that their services are private and secure. Customers should be provided with information about why this is the case so that cloud computing users can make informed decisions about the services that best fit their needs.

National Sovereignty. Recent years have seen the emergence of a global thicket of competing and sometimes conflicting laws impacting cloud computing. These laws can place cloud service providers in a Catch-22, where the decision to comply with the lawful demand for data in one jurisdiction can risk violating the data privacy laws of another jurisdiction. This situation needs to be remedied.

Microsoft believes that these issues are interrelated and thus are best addressed in concert. That is why we have advocated for consideration of legislation that would:

- require transparency around cloud service providers' security and privacy practices, including by requiring that cloud service providers maintain a comprehensive written information security program with safeguards appropriate to the use of their services, provide a summary of that program to potential customers, and disclose their privacy practices to any customer from whom covered personal information is collected;

- ensure rigor in the federal government's procurement of cloud services by requiring federal agencies to evaluate and select providers based in part on an assessment of their information security programs;

- enhance criminal enforcement of computer crimes targeting cloud computing data centers, and allow cloud service providers to bring suit against violators directly to augment deterrence of such crimes; and

- encourage the federal government to engage in international efforts to promote consistency in national laws governing privacy, security and government access to cloud data.

With the benefit of a modernized regulatory framework, industry will have the solid grounding to deliver on the promise of cloud computing for both individuals and organizations.

International Trade

With 95 percent of the world's consumers living outside the US borders, international trade is becoming an increasingly important element of a US pro-growth economic and trade strategy. And for the United States, information communications technology — "ICT" — will help to drive recovery by creating more than a million jobs in the next four years. In Washington State, one in every three jobs depends on trade. Microsoft is the largest employer headquartered in the state, and a recent study has found that one Microsoft job accounts for five additional jobs elsewhere in the state economy, accounting for a total of 270,000 jobs in the state of Washington — more than 8 percent of the workforce.

In his 2010 State of the Union Address, President Obama recognized the importance of trade when he announced his goal of doubling exports of goods and services in five years – from $1.5 trillion in 2009 to $3 trillion in 2014. Expanding opportunity, adjusting to competition, and leading on innovation as a means to promote the creation of better jobs and economic growth are all part of a robust trade agenda. Global competition in information technology is fierce. The IT industry depends on the rule of law, due process, intellectual property rights protection, transparency, and non-discriminatory policies — at home and abroad.

Microsoft advocates using existing trade agreements —including the World Trade Organization (WTO) and Free Trade Agreements (FTAs) -- to enforce intellectual property rights, expand trade, and ensure that the US IT industry remains competitive. Looking to the future, Microsoft and other American IT companies must seek new markets, expand opportunities, and ensure fair market access to compete. To accomplish these essential goals, we recommend the following:

Swift passage of pending FTAs. The swift passage of the pending US-Korea, US-Colombia, and US-Panama FTAs must be part of the strategy to double exports of goods and services. Microsoft strongly supports passage of these agreements. Without them, America will continue to lose out to trading partners who are already benefiting from their own free trade deals.

The US-Korea FTA, the most economically significant of the agreements, contains world-class provisions that set the standard for future US trade agreements. In addition to strong IP provisions, the Korea FTA, like other FTAs negotiated by America, makes important strides in government procurement. Beyond requiring that there be no mandates that favor one technology over another, the FTAs require countries to ensure that their government agencies only purchase and use legitimate software, a provision that originated in the United States and now is embraced by key trading partners.

Negotiating important new agreements. In addition, we must look to the negotiation of new market opening agreements, such as the Trans-Pacific Partnership (TPP). With partners in the Asia-Pacific region (Australia, Brunei, Chile, Malaysia, New Zealand, Peru, Singapore, Vietnam) and others such as Japan and Canada in the wings, the United

States has embarked on the creation of a 21st century trade agreement that includes rules and disciplines to address emerging trade and services issues. A strong TPP agreement, with state-of-the-art intellectual property rules that build on the US-Korea FTA, is essential. Similarly, strong rules in the areas of competition policy and regulatory due process, particularly with state-owned enterprises (SOEs), must be part of any agreement going forward. Trade agreements already deal with many Internet-related issues, such as the provision of cloud services like email, but further work is needed on emerging services issues to ensure that IT can be an enabler for economic progress.

Maintaining a focus on stemming IP theft. A top priority for Microsoft is to counter the problem of IP theft around the world, including emerging markets such as China where the piracy rate for the business software industry stands at approximately 80 percent and is even often higher for popular Microsoft products. The US government is engaged in a series of exchanges with China, including the Joint Commission on Commerce and Trade, the Strategic and Economic Dialogue and most recently, the visit of President Hu to the United States. Although we are pleased with the commitment and hard work China is demonstrating in addressing piracy, we need to continue to strive for more progress and tangible results.

Software piracy in China (or any location) translates into fewer jobs and less economic growth both in the United States and in local economies. For example, the piracy in China of Microsoft products alone costs the US economy up to 60,000 jobs, when the multiplier effect is taken into account. China and the United States have a common interest in promoting strong intellectual property rights protection because technology holds the key to solving so many pressing global issues.

China's continued strong economic growth throughout the most recent economic crisis, means that its market has changed dramatically. And China's new consumers are both "connected" and tech-savvy. In 2010, China surpassed 420 million Internet users, broadband reached 363 million, and mobile Internet users totaled 277 million. Perhaps more significantly, China's middle class is now roughly equal in size to the entire population of the US.

China will soon be the largest PC market in the world. Microsoft's products are tremendously popular with Chinese users, with more than 95 percent of Chinese PCs today running Microsoft Windows and well over 80 percent of enterprise PCs running Microsoft Office. However, rampant software piracy remains a major problem. Microsoft's revenue per PC in China is far below other large emerging markets, such as India, Russia, and even Vietnam. To make progress, we need a comprehensive strategy that sets objective, measurable benchmarks and a timeline for securing results. One such benchmark would be seeing an increase in software sales and the emergence of an eco-system that rejects trade in pirated software.

As a company, Microsoft faces a significant challenge in the rampant piracy we face in China and emerging markets. Even with these challenges, we believe the only option is to continue to advocate for the opening of new markets and strengthening the rules and disciplines of trade – particularly with regard to intellectual property rights protection.

H-1B Visa Program

Finally, I would like to turn to the ongoing debate concerning the H-1B visa program that is critical to our success. As the Microsoft experience has proven, job supply in the United States is not a zero sum game. The fact that Microsoft and its IT partners and competitors seek to hire foreign nationals does not result in job losses for American workers. Quite the contrary is true. Throughout the history of the United States, we have generated jobs through creativity and invention that is dependent on attracting the best and the brightest. Our country has operated on the principle that the more brain power we can attract from around the world, the more creativity, invention, and growth we can achieve here at home.

There seems to be a reemerging consensus that we need to stick to this principle, and we welcome it. President Obama, in his State of the Union address, noted that to build America's future, we have "to out-innovate, out-educate, and out-build the rest of the world. We have to make America the best place on Earth to do business." We could not agree more. The President went on to emphasize that we cannot continue our current path of welcoming students from abroad to come study at our colleges and universities, but sending them back to their native countries to compete against us once they complete their degrees.

Similarly, in a speech on strategies for economic growth at Stanford University, Majority Leader Cantor sounded the same theme: "As a country we have always invited the best and brightest from around the world – many of whom are educated in our universities – to contribute to our economic growth. Yet our visa system has failed to keep pace with the demands of our economy. If bringing in high-skilled workers from abroad helps us keep thousands of jobs here in America, our antiquated laws should not be a barrier."

These statements recognize that the H-1B program is an indispensible part of America's technology innovation. Without a robust, fully functioning H-1B program, our ability to out-innovate the rest of the world, to keep jobs here, and to grow new jobs in this country will collapse. The H-1B is often the only way to get highly skilled foreign professionals on the job quickly when the economy needs them. The H-1B is often the only way to bring in a person with pinpointed skills to perform a crucial temporary assignment. And it is overwhelmingly the only way to bring bright foreign talent across the bridge to permanent residence and a permanent role as a contributor to the US economy.

There are many suggestions for improvement of the H-1B program which deserve full consideration by Congress. We strongly support efforts that will facilitate the ability of

information technology companies like Microsoft to attract, hire, and retain the best and the brightest innovators. If we are not allowed to do so, our international competitors will.

Conclusion

We look forward to working with you, Chairman Issa, members of your Committee, and other Members of Congress as we move forward to:

- shape a FedRAMP program that is effective, efficient, and fair;
- establish a modern policy framework that promotes a responsible move to the cloud;
- advance a 21st century trade policy that allows the IT sector to compete and gain fair access to markets around the world;
- facilitate the ability of information technology companies to attract, hire, and retain the best and the brightest innovators.

At Microsoft, we are proud of the role we play in leading technology innovation and adoption by enterprise business systems. The federal government is a valued customer, and by adopting policies commercial practices it can take advantage of the proven strengths and efficiencies present in the marketplace. Effective use of information technology will help achieve the ultimate goal – maximizing the use of scarce resources for the benefit of all Americans.

Again, thank you for the opportunity to testify today.

Chairman ISSA. Thank you. As promised, we'll be a little less formal, but I'm going to start in reverse order. Isn't the H–1B program essentially a failed program because it—it brings people in on a temporary nonimmigration status, and the truth is, that if these people work out, we really need them to be able to remain permanently.

Mr. MCKEE. Yes. I assume you're directing the question at me in reverse order.

Chairman ISSA. Yes.

Mr. MCKEE. Yeah. I can speak specifically for my own personal experience in some small startup companies as well as the Walt Disney Co. and Microsoft. Attracting the best and brightest from around the world has been incredibly important to us. And the ability for those individuals to come to the United States and create businesses and stay here, to be clear, these are people that show up and pay taxes and help us fund roads and schools and the other things that contribute to our economy significantly.

So I would agree with that statement, that having people stay here is very important.

Chairman ISSA. Mr. Medin, would you say that realistically we should be giving a green card application to every graduate with a master's or Ph.D. from our major universities, and particularly in science and math.

Mr. MEDIN. It's funny you ask me that question, I talked to——

Chairman ISSA. I didn't invent it. I actually took it from Thomas Freedman.

Mr. MEDIN. It's a—it's a great idea. I brought it up with the House leadership when I was back in Washington in March for TechNet Day.

I think if you—if we are really serious about competition, the last thing we want to do is encourage people to come from all over the world, learn at the beat of the best—the best—the best innovation apparatus in the world and then send them back to their countries to form companies that compete with ours. It is just ridiculous. And coupling it to the boiling the ocean problem of comprehensive immigration reform is a big problem in our mind.

Chairman ISSA. It's what I came to Congress for 11 years ago, but I have to stay until we solve it or until I die.

Mr. Quinlan, when you talked about XBRL, you're trying to put it—quantify it, is XBRL really the success or is it, in fact, that you have metadata that is—that allows for data to be searched and compared no matter how different it is if it uses that format? And I guess my follow-on question is, shouldn't this committee look at mandating the kind of—of searchable, verifiable, this cell equals this cell, this information equals this information, across the government, in some cases XBRL is appropriate, in some cases other types of tagging would be appropriate. Isn't that fundamentally what the SEC is now doing that up until now you had to be basically able to take diversion data bases and compare them, and it was an inexact science?

Mr. QUINLAN. That is correct. And actually, the example I'd like to give on that is the difference between data availability and data transparency. They seem very similar, but it's a pretty tremendous gulf between the two. Data availability, I'll use the past SEC man-

date which requires all companies to submit their financials in HTML. HTML brings the smallest element down to the page. So it essentially makes it so that when computers came out and became wildly available 20 years ago, that individual investors could turn on a computer and read their financials by the page online. So that was a—a progressive, intelligent mandate 20 years ago.

What XBRL—and that's data availability, now it's there. What data transparency is, is when you allow individual numbers and items to be compared across multiple companies, multiple industries, and you do that utilizing an open standard that is nonproprietary, such as XBRL.

What the SEC mandate requiring in XBRL now makes it possible for individual investors, grandma in Dubuque, Iowa to instantaneously access the filings of companies and compare that information across industries much the same as the largest companies in the United States do today.

So we fully support the expansion of XBRL into MDNA and AKs and all forms of public submissions into the SEC, as well as as progressive as HTML was in its original version 20 years ago, we actually think that the HTML mandate inhibits the growth of XBRL, because there's still this lingering connection to this document-based system rather than a data-based system.

So we encourage, A, the expansion of XBRL throughout both the SEC and the Federal Government, as well as the elimination of the now obsolete HTML.

Chairman ISSA. Were you disappointed when—when you saw Dodd-Frank basically have no data standards at all.

Mr. QUINLAN. Yes, sir.

Chairman ISSA. I was outright disturbed.

Mr. QUINLAN. First of all, we would like to thank you for your constantly pushing this issue. You know, I was actually given an example on data transparency just this morning. So imagine if you have 100,000 buttons and those buttons are in a big drawer full of cabinets, and they're all different shapes and sizes, what data availability does is it says, here's 26 questions you can ask about the buttons, which is what data is—which is what the recovery.org Web site does today. It says, here are the 26 questions you're allowed to ask and here are the specific answers to those 26 questions. That's data availability. And trust us, all the information is correct and it's all about these 100,000 buttons.

Data transparency is giving everybody full access to those buttons, and allowing them to ask the questions that they want. And so the disappointment we felt over that being stripped out of the Dodd-Frank bill is we were going back to what we got with—with recovery.org, where the government gets to ask the questions and provide the answers that they think we want, rather than our ability as citizens to be able to go in and ask those questions.

So it was a disappointment. And we look forward to your leadership in being able to push that forward in the 112th Congress.

Chairman ISSA. Thank you. We will continue to push that in a bipartisan basis.

And last question for this round, Mr. Medin, now, Google is pretty famous for the Google search. And if I—if I search on my name or on Jason Chaffetz's name, I first get a default of a whole bunch

of stories about him and a whole bunch of Web sites, but if I click over on the side and I do image, I get mostly Jason's pretty face. Not always, because it appears as though that the data tagged to his face is taken out of the data of the articles in which it appeared.

How long before the private sector, Google and Microsoft and other innovative companies have the face recognition which already exists, tagged so that they can find Jason when he occurs in so many different places, tag it and apply metadata that not only is who he is, but who he was with, what the setting was, so that instead of looking at an article 50 times, 50 different articles from the same appearance, if I tag—and I want that information, I can find out who was at the forum with him, what—what occurred, maybe who was there at the committee that day and what votes they made.

And the reason I ask that is, when you have that data, if we embrace it, suddenly what we have is the ability to—and I'm using face, even though sometimes that will worry people, government doesn't know who is cheating us. We don't know that a vendor is the same vendor that cheated us twice before. We don't know that a—a U-Store-it in Des Moines, Iowa is, in fact, not a major hospital that suddenly started billing us millions of dollars.

How long before the industry on its own is going to be able to collect, analyze and apply metadata to an awful lot of different occurrences that could be leveraged to, quite frankly, root out the hundreds of billions of dollars in losses to the government?

Mr. MEDIN. That's a really fascinating question.

Chairman ISSA. You can expand for the record.

Mr. MEDIN. No, I—I think that's a great idea. I am—that's a part of Google that I actually can't give you real good answers to. But I think we will take that——

Chairman ISSA. Just an Internet quarters is all I wanted to ask you.

Mr. MEDIN. Yeah, exactly.

We will—I will have folks come back and give you an answer to that question in a couple weeks. We are pretty good at being able to put the—put the smart people in front of problems and come up with innovative solutions. I'm not—I'm not an expert to it—expert on the metadata stuff.

Chairman ISSA. Excellent. Well—and we'll continue to ask Google and Microsoft and all the other—and Rivet those kinds of questions, because we don't know how, today, to stop wasting your money, because if we knew how, obviously we'd already be doing it, right?

OK, we do—we do know some of the ways we're not doing it.

Mr. Chaffetz.

Mr. CHAFFETZ. Thank you.

Back in 2009 the Obama administration put forth the Open Government Initiative, which the result was the development of this data.gov, and one of the comments that Google had made is that it wasn't as scrollable as it should be. Can you give me your perspective on what's happening or not happening with data.gov?

Mr. MEDIN. I—again, that's an area where I'm not—I'm not really familiar with the core data, so we will—we will come back.

Mr. CHAFFETZ. Do either of you want to comment on what's happening or not happening there.

Mr. MCKEE. Sure, Congressman, I'd be happy to comment. I've actually been somewhat prolific in blogs in my personal appearances talking about data transparency, public records, and I've actually been a big proponent of public records in the digital age for quite some time. The interesting issue is I think all too often we focus on technology and we focus on shiny objects and technical solutions to problems, where unfortunately, some of the old adages are still true today, garbage in, garbage out. All too often we don't take time thinking about the data or the information when it's collected, and it's really important that we do that.

I'll speak specifically to the stimulus process. I helped to develop and put together a system that we gave away to local governments primarily called Stimulus 360, which was understanding my own personal experience as a state CIO during the Homeland Security cycle, how difficult it is for governments to try and deal with Federal money coming down the pike quickly.

And Stimulus 360 was just about putting tools in place so governments can collect data efficiently, then the reporting process on the other side becomes much, much easier.

In the case of data.gov, the interesting thing for me personally and I've written a lot about, data's nice but if you organize it and create information, it becomes meaningful. And all too often more data, it's my opinion, is not the answer. In fact, more data reminds me of why we created the Paper Reduction Act, because we realized the government was producing more and more reports and producing more and more paper that nobody was reading. I think unfortunately in some cases we're producing more and more data for the sake of data, and producing less information.

And I think it would be really important for Congress to take——

Mr. CHAFFETZ. Is that in contrast or compatible with what Mr. Quinlan is saying.

Mr. MCKEE. I think it's very much compatible, very compatible with what he said. His argument was really about our ability to actually organize information and produce it in a way that it's meaningful so that it can be organized into information. I don't want to put words in his mouth, but I would——

Mr. QUINLAN. It is also important to understand and I think where we are in strong agreement is that we believe the user should be given access to the data so that they can formulate the question that they have. So this is building KPIs around information, this is building business rules, whether that's on government data, on—on—or on company GL data, if you give the user the ability to formulate the question, we believe they'll get the answer that they want.

But that only works if all the information is in an open standard, so that everybody can access that information equally.

Mr. CHAFFETZ. Now, how difficult is it to make that sort of transition? Because every time we try to, you know, talk to some Federal agency it's, oh, we're going to need billions of dollars to—how difficult in terms of time and dollars is it to make such a transition?

Mr. MCKEE. You know, that's a very broad question, how high is up. It kind of depends. I think the reality is this is less a technical question and more about a process and procedure and demeanor of an organization. I think where everybody agrees that we're quickly transitioning from a, you know, produced paper reports kind of environment to capturing data and producing data and allowing people with tools at their disposal to organize that data into meaningful information.

Mr. CHAFFETZ. So is data.gov, is it worthless.

Mr. MCKEE. No.

Mr. CHAFFETZ. Is it moving in that direction?

Mr. MCKEE. Yes.

Mr. CHAFFETZ. It's fast or as rapid or as——

Mr. MCKEE. Well, you know what, candidly, Congressman, you know, I'm a taxpayer, I'm out here, I'm a private sector citizen. It never moves as fast as I would like it to. And I think there's opportunities for us to improve, and we have a lot of incredibly—my personal experience in government——

Mr. CHAFFETZ. What is it not doing right? Let me ask it in the negative, then.

Mr. MCKEE. For me, I think we're too focused on producing data. Part of the—part of the agenda is let's produce more data and it's less about producing quality information.

Mr. QUINLAN. I agree to that. Actually, specifically answer your question, Congressman Chaffetz, is in the 2000 largest publicly traded companies in the United States have converted their HTML document based 10-Qs and 10-Ks into a data driven XBRL methodology for a subtotal of about $40 million. 2000 companies now provide that information for about $40 million, is the aggregate value of that industry in its current life cycle, and that's on an annualized basis.

So if we can take 2000 disparate companies with many disparate accounting systems, all have different accounting codes, create a common taxonomy, and ask those companies to report against that taxonomy, we have evidence of that cost.

Now, I am certain I was just handed a—a spreadsheet of apparently the reporting system within the U.S. Government and——

Chairman ISSA. Yeah, that was for my next round of questions.

Mr. QUINLAN. Right. And it's potential to——

Chairman ISSA. It is not complete. I just—it's a small page.

Mr. QUINLAN. But if you look at—and—and I think that's what's important, these are 2000 separate companies that have done that for that cost. So I think that to assume that the cost is even close to equal to the benefit is a very short-sided view of this.

The amount of money we could save by providing correct information greatly outweighs the cost.

Mr. CHAFFETZ. In either of your—in any of your perceptions and experiences, any Federal agency—we talked a lot about the SEC, but above and beyond that, anyone doing it right? Anybody who's just the most frustrating Federal agency you can possibly imagine? Your own personal experiences.

Mr. MCKEE. I would speak out loud——

Chairman ISSA. Name names.

Mr. CHAFFETZ. We need targets.

Mr. MCKEE. You know, actually, I would like to say that, you know, there is a lot of incredibly good work happening, and I—you know, that—the move toward transparency I think is incredibly important. I think citizens expect it. You know, we have access to our investments, our 401(k)'s information. Maybe too much information coming at us every day people would argue. But I think the Federal Government has made a lot of progress moving to a more kind of transparent environment. And I would like to see, for me personally, the—the pressure, if you will, continue, that the expectations that this is a journey, not a destination, continue, and, you know, continuing to see that progress move forward.

How about that for an answer.

Mr. QUINLAN. Right. And I think to specifically answer is data.gov, is it the correct solution. I think when you look at—the Pony Express was a dramatic increase in the ability for people to communicate over what came before it. You know, FedEx is a bit better. So I think that we could view data.gov as kind of the Pony Express. It's good, it's a start. But there is probably a better way to do it.

Mr. MEDIN. Understanding that we're still back in the Pony Express days, I go back to this round.

Chairman ISSA. Pony Express, you know, that was a ill-conceived way of delivering mail quickly that only lasted a couple of years and killed a lot of ponies.

Mr. QUINLAN. Again, the reason I chose the analogy.

Chairman ISSA. That's the problem is we glorify things sometimes that don't work out, but they seemed like a really great idea at the time.

That—that chart I gave you, I gave you for a reason. We're—we're looking—obviously a big part of the reason we're out here today is to talk about impediments to job creation, and I want to get to a couple of them. But when I look inward at the government, that reporting matrix, which looked actually like healthcare reform, it was so complicated, it—it's a small part of what we've analyzed along with Earl Devaney, the chairman of the Recovery Board, for how reporting presently happens. And then there were three charts that on the other page, that are three visions, and they're really the only choices government has, other than the one of doing nothing.

We can try to tie together these various divergent bases and reporting and—and hopefully not spend too much money asking people nicely from OMB and others to deliver information more and more in a—in a usable format. And they'll all tell us, as you can imagine, that they have these legacy issues and they can't do it.

The other two are either to simply start taking the data today and saying, going forward we're going to do this differently, which is a single-point reporting concept, or obviously say, look, give us your basis and we're going to put them together.

The reason I put those in front of you is we can have data or, if you will, metadata tagging that allows disparate data bases to be moved together in some sort of a legitimate way where the data can be compiled, but in the day of the cloud, shouldn't we look at our 2,500 plus—and what's the actual number, guys? Oh, I'm sorry, 2,094 different data centers and ask the question of, if they're not—

if they're not designed to be interoperable, and if we're looking at reporting as not designed to be interoperable from the moment that it begins, aren't we inevitably going to be having this discussion 10 years from now?

Mr. QUINLAN. Yes.

Chairman ISSA. And I'll take any nos, if you can figure out how we would get there, except by essentially coming up with single—a concept of single-point reporting. And when I say single-point reporting, they can go to dozens of data bases, but one standard setting element so that what—what is put into the flow of government reporting is, in fact, thought of from the get-go to be interoperable.

Mr. QUINLAN. And I think—so what you just brought up is a key and that's creating—the starting point of that is actually not technology, but it's creating a governmentwide taxonomy that takes those disparate 2,094 technology systems and forces them into a single reporting structure.

That taxonomy just as we've seen in the public sphere will inevitably have a certain amount of extensions, some companies have extended up to 30 or 40 percent of all the numbers inside their financials. What you're going to start to see, though, is a group thing that pulls that back, because the last thing that a company wants to be is an outlier. And I think that would happen in the government as well. You're going to have some departments that will play by the rules very well, they will fit their reporting structure into that common taxonomy. You're going to have other organizations that tend to think that what we do is so incredibly special that we have to extend a lot of things.

And when every extension begets 26 questions, you're going to start to see those extensions come down. So step one is a common taxonomy.

Then using an open standard to—to meta—to tag with metadata against that transparent—against that taxonomy is going to allow this—you don't have to go all the way back to the data source to correct this if you can get it into that open standard.

Chairman ISSA. Other comments.

Mr. MCKEE. Yeah. I think I would just add that I really appreciate you bringing up the idea of interoperability and understanding. I mean, the reality is 20 years ago we made the best decisions we could, right, and the reason we implemented the technology we could. And the reality is we built large bureaucracies and operations around those systems. And the real challenging part is less about ripping out a water wheel and putting in an electric engine or a new technology, and more about reshaping that organization.

If I could also belabor the Pony Express analogy, the other interesting thing that I think you'll find that we're faced with, a great example is our data networks. You talked about cloud computing. You know, in the Federal Government, in particular, we have very often redundant networks. We have data and voice networks. And one of them happens to be incredibly expensive and—and somewhat dated, and there's a significant opportunity for the Federal Government to improve with the unified communications and—and things like this, and understanding that, you know, what we traditionally bought this infrastructure for we've surpassed that ability.

And what that does for us, ultimately, is allows us to share information and data quickly and more efficiently.

So to your question, you said are we going to have this conversation in 10 or 20 years, the answer is yes because we're increasingly creating more and more information, and more and more data, and certainly will have new challenges to face in the future.

But much like the conversation we had 10 years ago, we talked about data dictionaries. And when we created these data bases you used the word "taxonomy." I'm a data base guy by my engineering background, we talked about data dictionaries and using things like FASB and GAAP and other accounting standards to create uniform, you know—you know, vocabulary for how we described the data information. That problem is going to be with us in 10 or 20 years because we're going to have more and more data. But we need to continue and we want to ask Congress to continue to put the pressure on the Federal Government to adopting some of these new technologies, taking redundancies out, like my, you know, data and voice networks and looking at, you know, how do the new technologies allow us to take and create some more efficiencies to remove friction, if you will, moving information around the government.

Chairman ISSA. I'll followup with a question to your comment. Is there any reason that when we look at GAAP accounting and other accounting, that government truly has to continue having its own separate accounting system that does not port back and forth? Is it a worthwhile goal to say that a good accounting core information provided that can be remanipulated a hundred different ways is really the goal, so that—and my point is this, the SEC does not report its operation in the way in which the corporations that it oversees report their operations. The only thing we know for sure, though, is that the SEC actually does not have the internal controls because they failed their own audit and have now farmed it out.

So sort of along that line, when we're looking at source information, if you will, reporting that Mr. Quinlan can compile three different ways, he can compile it in a typical FASB type, you know, OK, we're going to expense everything, we're not going to depreciate, we're—we're going to continue—we're going to recognize revenue differently and so on.

Or, by simply saying, giving me the other way, couldn't you and shouldn't you be able to say, well, where is the Federal Government if, in fact, you used GAAP accounting and you say, well, wait a second here, what is the asset purchase? What is the useful life?

Obviously in government accounting, they don't even need that information. But isn't—isn't it, in a sense, all accounting simply rolling up source material and shouldn't we go to common source material?

Mr. MCKEE. Yeah. So now I'm reaching way back in my history, which isn't in my oral testimony and I don't think it's on my—my bio, my undergraduate degree's in management accounting, before I realized that, you know, running a 10 key during tax season was not—was not my future.

Chairman ISSA. You're showing your age talking 10 key.

Mr. MCKEE. Well, you know, I was incredibly fortunate as well, I could show more of my age that, you know, computers and PCs were happening and I spent a lot of time in the computer lab and I'm a geek and was exposed to computers and realized, you know what, I would rather apply principles to computing and some of the business knowledge I have. But anyway, it's neither here nor there.

Chairman ISSA. So in other words, you don't have a Friden adding machine with all those rows of buttons in your office.

Mr. MCKEE. No. And 10 keys are great, you know, and calculators are great, but the computing technology, you know, clearly here is infinitely more powerful than anything I could have imagined.

But to your question, you know, business principles that have been true for thousands of years are still true today. Technologies evolve and change, but some of these core principles still matter today. And I think your question was specifically, shouldn't we have consistent and common ways to report and account, and I would say, yes.

And very often in my own experience as a government CIO and a public official, we complicate things significantly through the budgeting process. And very often we say things like, well, that's how we do it, that's how we do it, government's different.

In many cases there are things that are unique about the government. Let's be honest, sometimes the government is in businesses that nobody else in their right mind would be in, right? People's lives depend very often on what we do and that's understandable, so, you know, issues, privacy, security, whatever are incredibly important. But when it comes down to basic fiscal accounting, I think there's a lot of improvement that could happen and a lot of consistency that could be created.

Chairman ISSA. And my last question—my last comment's going to be, candidly, if government needs to learn the difference between spending and investment, they seem to be interchangeable in most of the dialog that you hear. Mr. Medin, you—you did hit a point that I want to hit one more time. The Federal Government ultimately has huge jurisdiction over right-of-way and can probably clear an awful lot of right-of-way directly and through persuasion, you know, because we regulate so much. But if the Federal Government did all it could do within the Federal powers, what would you suggest for the states and the local, in order to clear what's left? You know, we—we do not historically take on purely private property, you know, the railroads, some of these other areas, we could help with a lot, but assuming we do A, and answer what you think we should do from a Federal standpoint, and then what would we be asked to encourage our brethren at the state and local level to do.

Mr. MEDIN. Well, Mr. Chairman, as you know, the—the rules that the government imposes on Federal projects have all kinds of requirements. Congresswoman Eshoo and Senator Klobuchar had sponsored a conduit bill, which would have required on all Federal highway projects that conduit be in place in those projects so that at a later time, fiber could be pulled through those at substantially lower cost, 95 percent lower cost.

Things like that, that basically create holes in infrastructure when you're building it, it costs almost nothing to install the conduit, and greatly removes the—reduces the price for actually installing telecom infrastructure in that later on.

Also, things like siding, all wireless base stations on Federal office buildings, how a GSA negotiates with commercial leaseholders, right, so that when the GSA is leasing a space in a building, does it also have the ability to put—allow third parties to put wireless base stations, telecom infrastructure on those properties.

The U.S. Postal Service, right, has a lot of land, a lot of various buildings.

Chairman ISSA. 35,000 of them.

Mr. MEDIN. Indeed. It would be nice if you could get easy ability to put wireless base stations for cellular coverage in all of those installations. On the state and—and also, the SEC, in particular, controls access for the rules for pole attachment and a whole set of other criteria for telecom operators.

They did a recent—their recent preceding was a step in a good direction, but it didn't address, really, what it means for pure broadband providers who don't fit into narrow Title VI or Title II labels to gain access to those poles.

And in terms of state and local, I sat on the California State Broadband Task Force as well as a number of TechNet initiatives on broadband and right-of-way. There's a whole host of things that you can do. Conduit everywhere is—so that when a municipality rips open a road for a project, that they put conduit in at that point. That when a telecom operator wants to open a road to lay new fiber or new infrastructure, that be publicized so that others could actually gain access to that same project so you don't have to rip the ground open multiple times.

Streamline processes so that you don't have overlapping jurisdictions. The chart that you showed here in terms of the Federal day reporting looks a lot like the flow chart for CEQA here in California, which is not a good thing.

Chairman ISSA. Actually, this one doesn't have dead end so it is different in that sense.

Mr. MEDIN. It is different in that way.

So there's a whole set of things with regards to streamlining, putting, you know, limits on timeframe for procedures, making clear what the criteria are, and removing overlapping jurisdictions that are really important to lower the cost of—of right-of-way access, and that improves the operators to get access—to make better business cases for deployment and investment.

I would say one other thing on the data part, my experience when I was at NASA is that NASA is an interesting agency because we take data, in some cases, science data, very seriously, and we make that available to scientists, in an engineered product. The business operations of the Federal agencies have never been thought of as some—something that is kind of a main point and not a side point. And if you have difficulty in getting good reporting data at your level, what are—how—how opaque is that data inside the agency itself? Because if you don't have transparency inside the agency, how can people propose to improve processes?

You know, inside Google, we do a lot in terms of making our business metrics widely accessed inside of the company so that we can get suggestions about how to improve those processes.

If those—if data sets of business processes where expenses are—are being allocated, etc., are not transparent inside an agency, how can that agency make its own process better?

You as a business owner, certainly, how would you like it, be able to make decisions on where to invest, where to distribute if you couldn't get—if people inside your company didn't have good access to the GL, and know where people were stiffing you, where sales were going? The government doesn't think of these processes in a strategic way, and that's the real problem, in my opinion.

Chairman ISSA. I said it was the last comment but I will followup one for the record. My—my old company sold to Circuit City and Best Buy and Walmart too, but the difference between Circuit City and Best Buy—and now that Circuit City is gone it's pretty easy to tell the story. At Circuit City, it was against the rules to show actually the vendor what the inventory on hand was. We would get our orders and they would be added and subtracted and held and expedited, but you'd have to go into Richmond and you'd have to say, can you kind of show me on a piece—on a printout, a paper printout, and they would kind of show you where the inventories were by warehouse and region and you'd write it down feverishly, and sometimes they'd give you a little more information but that was about it.

At Best Buy, and for that matter, Walmart, I could tell, or people working for me daily could tell at any time how many units were in each store, how many were in the warehouses, where they were in the shipping process, and, you know, literally we could figure out whether one store was selling and the store next to it wasn't selling. We could deploy people in to find out why they weren't selling, perhaps they were sitting in the warehouse and never been put out on the shelves. Best Buy's here today, Circuit City's gone.

Mr. Chaffetz.

Mr. CHAFFETZ. Just to followup on what Chairman Issa was saying. I concur, we have this challenge, governmentwide, because I think there are a lot of agencies that don't want to be held accountable, they don't want somebody looking over their shoulder, they won't provide the very basic data.

You would think you could go to certain agencies and just be able to extract data. You go to USAID and ask them, tell me the projects where we spent these billions of dollars. They can't even give you an Excel spreadsheet to even show you what—what projects they're even working on.

And then you compound that, you look at, for instance, at the Patent Office and the lack of data and information that they have there, and it's—it's stunning, because this is what becomes a competitive advantage for the United States of America.

Let me go a little bit further, because I just—I need to understand the—the limitations on the technology itself. Because it strikes me that Google's going to great lengths to try to work on broadband and even lay fiber and whatnot, but what are the limitations on wireless and satellite and those types of communication?

Why so much effort on actually laying actual cable as opposed to——

Mr. MEDIN. Sure.

Mr. CHAFFETZ.—expanding it? I mean, wireless is—what are the limitations there.

Mr. MEDIN. Sure.

It's important to recognize that the wireless networks provide connectivity to an underlying infrastructure that connects—that trunks all these systems together. Today fiber can carry enormous amounts of data, far more than wireless can. So basically wireless is an extension of the fiber footprint, and so you think about it as an integrated system.

In some cases, you know, it's a cost benefit ratio. If I can get spectrum at a low enough price or a wide enough amount, I can generate an access capacity of, say, 20 megabits or 40 megabits, etc. But the fiber itself can carry terabytes of data. So the issue is, fundamentally, how—how—how close can you get to the fiber? Because the fiber is the thing that drives it.

Mr. CHAFFETZ. What are the limits in the bandwidth? I mean, do you see us bumping up against these—what has been allocated out in the public?

Mr. MEDIN. Well, this is a long complex story. You know, in the United States, there's government spectrum and there's commercial spectrum. Two different agencies regulate these. They have very different policies.

Spectrum has been allocated in a number of ways by user, by type of use, so you have PMRS versus CMRS——

Mr. CHAFFETZ. I guess I'm trying to get to the bottom line.

Mr. MEDIN. I'm sorry.

Mr. CHAFFETZ. Are we not allocating enough spectrum space, I guess is part of my question.

Mr. MEDIN. I think in general—sorry, simple answer is yes, more commercial spectrum needs to be out there, more unlicensed spectrum needs to be out there. There is a ton of spectrum that is assigned but not been used.

Mr. CHAFFETZ. Can you quantify that? Can you—we have this much—I'm looking for some numbers——

Mr. MEDIN. Sure.

Mr. CHAFFETZ.—ratios and percentages to help me understand.

Mr. MEDIN. Sure.

I think total amount of commercial allocated spectrum, ballpark, is something in the order of 270 megahertz has been allocated for commercial mobile radio service. If you compare that to the amount of spectrum allocated for—for broadcast, TV, which is, you know, a current discussion, it's about the same, right? That is to say, the total amount of broadcast spectrum is about the same amount that we have allocated to CMRS.

And so there's large pockets of this. Government is probably the largest sector in terms of the total amount of spectrum it holds in its inventory. A lot of that is important, right? You have radars, you have air to ground communications, you have military requirements, so it's not to say that, well, you can reclaim spectrum that's in use of this radar, right?

But I think if you look at the nature of the spectrum allocation process, we have speculators, we have people who hold spectrum but don't build on it, we have—all of this spectrum is tied up in ways that doesn't allow it to be used by carriers and consumers unlicensed——

Mr. CHAFFETZ. Do you see us now at the current usage rates across the—across the country that we're bumping up against these ceilings? Are you—are you advocating that we expand those ceilings and look at reallocating the different channels by which we use it.

Mr. MEDIN. I believe that if you look at the timeframe it takes for the government to take action on spectrum, it's usually on the order of a decade or so, right?

So if—if I basically—if you're going to force me to say we can't make decisions on spectrum quicker than a decade, which goes back to the earlier point I made, that, yeah, we're in a—in a big problem, right? Because——

Mr. CHAFFETZ. So you think we're running out of spectrum in the next 10 years, is that it.

Mr. MEDIN. I think—I think if you look at growth rates and data, we need more spectrum, we need the ability to—to build more base stations easily, because spectrum is not—you can actually get more capacity out of spectrum by taking the spectrum that's used by one base station and actually splitting that into several base stations.

Also, the issue about offloading spectrum through—offloading wireless traffic through femtocells and unlicensed communications, today, right, if you look at how much data is offloaded on WiFi from the commercial networks, right, our—the costs that consumers would have to bear by—by having all of that traffic be carried on commercial license spectrum would—would—it would just not be in—in a reasonable way.

So it turns out it's a combination of things that you need. There's no silver bullet, right? And one of the challenges is, how do you look at how spectrum is used, what requirements? You know, spectrum is chopped up into different use rules. I can use broadcast spectrum for one thing, I can use commercial mobile spectrum for another set of uses. Private spectrum PMRS cannot be used for—for mobile, so there's all these rules that apply to different kinds of spectrum that prevents it from being used from one purpose or another.

Mr. CHAFFETZ. Thank you.

Do either of you others want to comment on that?

Mr. QUINLAN. I'm good on spectrum.

Mr. MCKEE. I'll just briefly say we've been doing a lot of work around white spaces and other things. We'd be happy to followup with you and staff on some kind of innovative things. I'm an optimist and believe that our technologies will advance fairly rapidly.

But one of the points that I would say is—is hard line and wireless both matter, it's not an answer of one or the other. I am very confident that indeed we will be bumping up against capacity issues. We currently are and will continue to be, because our desire for data and information is continuing to grow. Moore's law, Metcalfe's law is still happening, so I think I would answer your question that way, that we need to continue to be very, very ag-

gressive about capacity issues in our ability to move information. Our future competitiveness depends upon it.

Mr. CHAFFETZ. And then maybe if each of you could just very quickly touch on cloud computing because obviously the private sector is still starting to come to grips with what this means, and the Federal Government is trying to come to grips with what it means. We—the Federal Government seems to operate in silos. Everybody has to have their own network, their own security, their own—and I think there's a great reluctance and a human nature reluctance to want to move toward the cloud.

Can you touch on the positives and negatives on what the—what the challenges that you see, not only from the government, but for the private sector? And we'll just go swiftly down the road, maybe we can start with you, Mr. McKee.

Mr. MCKEE. Sure.

I mean, I'll go back to I think some of the chairman's opening statements. He didn't use the words "shiny object," but I think we do a big job in the computing industry of developing new technologies and often framing them. I'm very pragmatic. Cloud computing isn't something that happened and fell from the sky recently. It's been much more of an evolution than a revolution. In fact, cloud computing, I would just frame as network enabled services.

What has changed is the depth of our networks and the quality of the software and the reliability that's allowed us to continue to spread out and move the edge farther and farther out. I think that will continue to happen. And we'll urge Congress, there's a lot of data in my written testimony, about specific policies and issues we think Congress should continue to look at, to accelerate an adoption of cloud computing technologies.

Mr. MEDIN. I would agree with—with that. I would also say that if you look at the marketplace, entrepreneurs are some of the—sorry, entrepreneurs are some of the early adopters of cloud computing technology, because it allows them to scale really rapidly, and without a large scale investment initially. So if you look at here in the Valley how many startups are using cloud computing as their platform simply because their business model would not work without it. And I think one of the interesting questions is, are there opportunities where the traditional model in the government for solving data processing elements, you wouldn't even bother trying to do it in the old way, but would be empowered with this new way. That allows government to move faster, quicker, with more transparency, because the cloud also has at least the ability to break down some of these silos in—in ways that these vertically integrated platforms do not.

Mr. QUINLAN. So as an entrepreneur that does gain great benefit from the cloud, we are a stat model that allows our 1,250 clients to keep their prerelease earnings information on a very secure network. So we live, eat and breathe this every day, and I feel that certainly that the government should explore the opportunity and benefits that come from cloud computing.

These gentlemen are in the world to provide the service that we use, for which I thank you very much. What we believe, though, is cloud computing is important, so is the information that resides

on that cloud computing. And we will constantly push to ensure that data is accessible to each and all. And one of the things that we live by is that we believe that data is—is—needs to be democratic to all users. And especially that is why we want to continue to push the SEC to ensure that all public filings, not just Qs and Ks are available in an XBRL format, so that all investors have the ability to access that information.

Mr. CHAFFETZ. Thank you.

One last thing I have, Chairman, and I'll be done with my questions, maybe we can go back in reverse order here.

All of this comes back and one of the integrated questions here is obviously cyber security. I don't know if you're able to quantify this, but one of the challenges we have in the Federal Government, everybody operating on these different silos, there tends to be all these different operating entities and every time you go to—you know, hear about an appropriation and massive money for cyber security, nobody quite knows exactly what that means. We also looked at which agencies should be engaged and involved in the enforcement and the international nature of the cyber security and how we fight back against that.

I don't know if you have any comments or any perspective on how bad and how difficult this situation is, because the access to that data, surreptitious access to this data is obviously a massive issue for the Federal Government.

Mr. QUINLAN. It is a very real threat. It is something that as we look at the future of conflict in the world, traditionally has been armies marching across fields, and there will be battles over I think water and over cyber security in the future that make—that will be new when you look at past history.

You know, as a company, it is incredibly important to us because of the information that we maintain. And so I'm going to leave my comment at that, because I don't want to raise any flags.

Mr. MEDIN. I would say one of the challenges is if the agency's business processes have really not been thought of in a strategic way, it is very complicated to retrofit security in these kind of models. Security is really best thought of as when you're building a system, right? And the problem is there are—the value of that information to enemies of the United States has gone up over time, but the architecture of the system may not have recognized that.

And I think that's a real challenge, because it goes back to it's not about, well, spend X dollars on this project and it will fix your problem, right? It's really about thinking about information in a strategic way, thinking about systems in a strategic way.

And as long as an agency does not think about it that way, you're going to have vulnerabilities. The same way, in fact, some of this—if you can't get reporting data out of the system, one of the interesting questions is, does that mean that the—that the access to that information is so esoteric, right, that nobody can protect it effectively either, or can you say it's protected.

I mean, these are really interesting challenges when you architect IT systems that I think need to be thought of.

Mr. MCKEE. I'll just say briefly that you're absolutely right, in today's world that the reality is with the growth of networks and information, that the attack vectors have increased significantly,

and there are a whole new level. I would encourage you and Congress to continue to look at ways to encourage public, private partnerships and the ways for different entities to work together to share information. The government security programs is a great example. There's a really great example out in New York, a gentleman named Will Pelgrin did the Multi-State ISAC where they were sharing computer incident and response.

Part of the challenge with cyber security is our ability to respond quickly, and when we see issues happening and being able to share information.

So I would encourage Congress, and there's quite a bit of detail in my written testimony, and we'd be happy to followup with additional information on how we can ensure that we secure these absolutely critical assets.

Mr. CHAFFETZ. Thank you.

Chairman ISSA. Thank you.

I'm going to do one quick followup as a member of Energy and Commerce on leave. I can't help but—and I know you'll followup for the record, but are you proposing obviously freeing up bandwidth, but one thing that I've always been worried about is that if we give more bandwidth—let me rephrase that. If we sell more bandwidth, as we so often do, what we essentially do is we—we get hooked on it as a revenue source and we lose track of—first of all, the real goal is—is the public good. It's not the temporary return on—on some asset that is only intangibly belonging to the Federal Government.

But the whole idea of going to microcell technology, the—and just quickly, you all know that most of the major carriers all have microcells that basically exist so that you could take your—your Internet wired backbone and when you're in a place that doesn't have a cell and you're dissatisfied, you can have your—your den have one of these units. And they're in their infancy and they're—they're one of the most crippled product I've ever seen.

They make them so they don't work for your whole house or even for your whole den, if you have a 24-by-24 den, and yet it would seem like this is ultimately one of the things that we probably ought to have is, if you will, a universal microcell-type concept that is small, can be smaller if you come into signal so that it—it, in fact, is a smart microcell, but that, in fact, if I go out to Wyoming and there's a signal, or I go out to Wyoming and there isn't a signal, why wouldn't I want to take this already allocated bandwidth that exists for the purpose of cellular data and—and voice and get it on to the land as soon as possible? If you will, isn't it a public service if we make sure that the FCC promotes these products so that consumers get off of everyone else's air waves, even though it's leased air waves as soon as possible.

And if you take that kind of concept and you spread it throughout a lot of technology, wouldn't—wouldn't we very quickly make the same amount of bandwidth go further?

Mr. Medin.

Mr. MEDIN. You're right. Physics, in fact, is on your side. If you look at many of the analysis, they say data growth will go up by a factor of 30, right? Well, no one is proposing that spectrum can grow by a factor of 30. So you have to do this kind of

cellularization, taking cells and offloading traffic, you know, at—in smaller and finer areas. That's the only way to grow the total capacity of the system.

So you're exactly right about femtocells and microcell devices. That, by the way, is another reason why unlicensed is really important. One of the things Google as a company is very concerned about is in this move to reallocate spectrum, it's being propelled almost with a giddiness about revenue that makes policy a second fiddle, which the law actually says—the statutes actually say, you're not allowed to use revenue considerations in how you set spectrum policy.

But yet——

Chairman ISSA. If Congress should just obey its own laws.

Mr. MEDIN. Well, there is that.

But I think that's part of the issue. If you look at what WiFi has done in terms of offloading traffic, your smart phone when you go into your house, it's now using the WiFi network for its data and not the cellular system. If that wasn't there, the kind of innovation that we would see in terms of smart phones and the Internet and access would really be dwarfed. So you have to—the physics drives you. We cannot solve this problem just by allocating more spectrum. It is fundamentally about creating smaller and smaller pockets of wireless, and unlicensed is a huge driver of that, so I think that's exactly right.

And I just want to say, optimizing for revenue is not optimizing for public interest benefit to consumers. And that's a big challenge in the way the spectrum process is run today.

Chairman ISSA. Thank you.

You know, we came here really as part of the committee's activities on Americanjobcreators.com. We're going to have—staff has a couple of questions, I believe, for you, but you've been helpful here today. Very clearly, we're looking for places in which government is in the way of the American job creator and getting the job done, and you've given us some wonderful starting points.

One of the challenges is that Jason and I are going to have to take this back, report it to the Members, who sit on a lot of other committees, because as you can imagine, a lot of what needs to be done needs to be done by ENC, the tax committees and so on, and particularly the comments on H–1B and where we need to go on—on real technology innovators, making sure we gather as many as we can.

And with that, do you have some questions?

Mr. HOLLISTER. Thank you, sir.

Mr. ISSA. Go—go ahead and introduce yourself.

Mr. HOLLISTER. Hudson Hollister, counsel to the majority staff where I've worked on data.

Chairman ISSA. XBRL.

Mr. HOLLISTER. XBRL is my job. I have a couple of followup questions just for the record about data transparency.

Mr. Quinlan, you pointed out in your testimony that the SEC's XBRL mandate is for now the best example we have of imposing data structure on a really complex and diverse set of financial data, in this case, corporate financial statements in the U.S. GAAP.

What has the SEC's XBRL mandate done for the quality of the market's analysis of corporate financial statements so far? And if the mandate matures, what can we expect it will do for the quality of the market's analysis, financial statements in the future?

Mr. QUINLAN. Great. So we—we break the XBRL mandate into essentially two macro segments, creation and consumption. On the creation side, it is taking all of the information provided in Qs and Ks today and turning that into an open standard or XBRL data. That is the 1,250 clients that we have today. That's what we're doing, we're creating that information. The mandate has been out now for about 18 months. You have about one-third of all publicly traded companies providing information.

Just recently we were getting into the actual notes, rather than just the front facing financial, so the data is extremely new.

The amount of data available is going to increase about five fold from now to Q3 of this year. When that happens, as you get two things, much more data, and then much mature data from the initial Fortune 500 companies, we expect the consumption side of the business—now that the creation side of the business has had an opportunity to mature, the consumption side, we believe, will take off dramatically. There have been some of the largest data gathering companies in the world have been reaching out to Rivet recently, to understand how to take this metadata and start to incorporate it directly into their systems. So there is an increased inertia, and when I say increased inertia, maybe we got one phone call a quarter three-quarters ago, now we're getting many a week.

So this—I believe within the next 12 months the consumption business will go through a dramatic revolution and how people consume this data. It is just at the forefront today.

Mr. HOLLISTER. There's a bit of a philosophical difference about how the government should collect financial information and how the government should seek to prevent a future financial crisis.

What impact on the market's ability to avoid a future financial crisis do you think broad based collection of standardized financial data might have if it were mandated?

Mr. QUINLAN. So there was a—a fairly well-read book out right now called The Big Short, and in The Big Short there was a story about a—and I apologize because I can't remember his name, a trader based here in Silicon Valley, actually, who did the ridiculous thing of sitting down and reading the prospectuses of these CEOs, and literally these things had been written—you know, this information had been created and these things have been written by people, but nobody actually sat down and read it.

So what this individual did is he sat down and he read it and he realized when he read it that there was really not a—that these CEOs were junk. And the information, by the way, was available to everybody. It was just this one individual that sat down and read these pages upon pages upon pages of endless information, to realize what was inside these.

What we believe is if you take what one exceptional human being did and provide that information in a way where one doesn't need to be quite that exceptional or patient, to sit down and read these endless prospectuses, that information will make—it will never eliminate the ability of human beings to destroy a good system, but

it will certainly make it at least more visible, and, therefore, less likely that the damage is as widespread.

So if you were able to go in and tag everything inside the CDO with metadata to show exactly what types of mortgages—if you could within a click of a button open up a CDO and see exactly the credit scores of every individual inside that, when it's parsed up in many given forms and fashions, I think that the pricing of that would be much more accurate to its future marketability rather than hope.

So hope is not a good strategy, and I think that transparency takes hope out of the equation.

Mr. HOLLISTER. Thanks.

And one other question for the whole panel. We've talked a little bit about the impact for the quality of analysis on data structure of financial statements, can we extrapolate that to what might happen if Congress were to mandate data structure for Federal spending?

Mr. QUINLAN. Absolutely.

To—and I want to, again, agree that data is—more data is not just a solution, it's data in a way that people can actually use it. You know, if we think back to the 1980's, I remember there was—wasn't it an $800 toilet seat or $800 wrench, there was some big——

Chairman ISSA. I do believe it was a coffee pot.

Mr. QUINLAN. Was it a coffee pot? I apologize.

Chairman ISSA. There also was a wrench, yes, government accounting at work.

Mr. QUINLAN. Right. And so when you—when that information—when that information starts to come out, it creates embarrassments, and embarrassments create people—I don't think that—nobody was intentionally buying an $800 wrench. I think people just weren't paying attention to the invoices because they didn't have the information until after-the-fact. So I think that we can at the Federal level create a standard that allows that information to be accessible so that decisionmakers, before they make the decision, understand what they're deciding. I think by and large, the nature of those in the Federal Government is to do the best that they can, but here comes the important part, with the information that they have.

And so I think we need to provide them the information prior to making decisions. I was actually informed today of a process in the Federal Government where there is a performance indicator that is required by Congress 8 months before cabinets actually put together their budget, but the results aren't released until 8 months after the budget cycle for that previous year is complete. So, again, it's not that the performance metrics are a bad idea, but getting the report card after you've already thrown your birthday party based on what your grades were is not a good idea.

So——

Chairman ISSA. Thank you.

Mr. Quinn.

Mr. QUINN. Thank you, Chairman Issa, for this unique courtesy. I really appreciate it.

My name is Brian Quinn. I'm counsel to the Democratic staff of the Committee on Oversight and Government Reform. Unfortunately our Democratic members of the committee could not make it today, but on behalf of those members I'd like to thank the witnesses for appearing. Thank you, Chairman Issa, for holding this important field hearing.

We believe this is a very important issue and look forward to a continuing dialog with the high-tech industry on how Federal policies and regulations can support job growth and global competitiveness.

We are also interested in seeing how the emerging technologies can enhance the transparency and the accountability of the Federal Government.

I have no questions at this time. But again, thank you for this courtesy and for appearing today at this field hearing.

Chairman ISSA. Thank you.

And as we close, I—I will tell the story, since—Senator Boxer was one of the people who was very big on the coffee pot, the wrench, the mug and so on. The interesting thing is that it was government accounting in some cases, because if you only want 10 coffee pots for 10 aircraft, and you want it designed to work on that aircraft and you want it to meet FAA requirements, and you certainly don't want it to explode in decompression, it could cost a few nonrecurring costs. And when you burden the nonrecurring costs into 10 devices, even if the device was free, you now have $8,000 worth of burden.

And it's one of the challenges that—Mr. McKee, I really appreciated your response. We need to have a level of transparency so that we can determine whether something is a reasonable value based on the nature of the beast.

If every product that the government bought or didn't buy, and particularly when we look at a Cox product versus the development of our own products, if we really looked at what the true cost was, we would obviously get to a very different analysis, time and time again.

So I want to thank all of you for helping not only talk to us about where impediments of job creation lie, but also some of the necessary reforms in the government that will prevent the next global meltdown by simply having those imperfections—unreported imperfections in the market, be well reported and well understood, well before somebody who assures the market is proven right.

So with that, I want to thank you for your participation. The record will remain open so that if you have thoughts and you want to revise or extend in some of the items that you said you'd provide for the record, would be made available.

And in this case we'll make it 2 weeks, since we're on district work period and that will work very well with the end of these—these hearings.

Thank you, we stand adjourned.

Thank you.

[Whereupon, at 10:34 a.m., the committee was adjourned.]

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