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EXAMINING THE PRESIDENT'S PLAN FOR ELIMINATING WASTEFUL SPENDING IN INFORMATION TECHNOLOGY

HEARING

BEFORE THE

FEDERAL FINANCIAL MANAGEMENT, GOVERNMENT INFORMATION, FEDERAL SERVICES, AND INTERNATIONAL SECURITY SUBCOMMITTEE

OF THE

COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS UNITED STATES SENATE

ONE HUNDRED TWELFTH CONGRESS

FIRST SESSION

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TUESDAY, APRIL 12, 2011

U.S. SENATE,
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GOVERNMENT INFORMATION, FEDERAL SERVICES,
AND INTERNATIONAL SECURITY,
OF THE COMMITTEE ON HOMELAND SECURITY
AND GOVERNMENTAL AFFAIRS,
Washington, DC.

The Subcommittee met, pursuant to notice, at 10:35 a.m., in room SD–342, Dirksen Senate Office Building, Hon. Thomas R. Carper, Chairman of the Subcommittee, presiding.

Present: Senators Carper and Brown.

OPENING STATEMENT OF SENATOR CARPER

Senator CARPER. The hearing will come to order. Welcome one and all, especially to our witnesses today. Thank you for your preparation. Thank you for your presence. We look forward to your testimony and the opportunity to have a good conversation.

We will be joined by some of our colleagues as we get into today's hearing, but sort of as a precursor to today's hearing, I was driving in to the train station this morning and flipping back and forth between radio stations, and I happened to come across a song where the Rolling Stones were singing, "Hey, You, Get Off Of My Cloud." [Laughter.]

How appropriate. We usually do not have theme songs for our hearings, but if we did, that actually might work. We actually want to get people on the cloud, as I understand it, and hopefully when we leave here today I will understand better what all that is about.

But our hearing today will examine the President's plan to fundamentally transform the management of our Federal information technology (IT) assets. The message of the plan is clear: We need to cut what we cannot afford and nurture an environment in which innovative and more cost effective technologies can be employed throughout our government.

As I have said time and again in this room and other places, we need to look in every nook and cranny of our Federal Government—domestic, defense, entitlements, tax expenditures—and ask this question: Is it possible to get better results for less money? Or is it possible to get better results for the same amount of money?

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The hard truth is that many programs' funding levels will need to be reduced. Even some of the most popular and necessary programs out there will likely be asked to do more with less or more for the same amount of many.

Many Americans believe that those of us here in Washington are not capable of doing the hard work we were hired to do, and that is, to effectively manage the tax dollars they entrust us with. They look at the spending decisions that we have made in recent years and question whether the culture here is broken. They question whether we are capable of making the kind of tough decisions that they and their families make with their own budgets. And I do not blame them for being skeptical.

I am afraid that their skepticism has proved well founded when you look at the kind of avoidable management failures that we have incurred in Federal information technology over the past decade or so. The past mismanagement of our Nation's $80 billion annual Federal information technology is not only intolerable, it is unsustainable.

Late last year, then the Office of Management and Budget (OMB) Director Peter Orszag said that fixing the broken management of our Federal Government's information technology was—and this is a quote—"the single most important step we can take in creating a more efficient and productive government."

I am going to say that again, "the single most important step we can take in creating a more efficient and productive government."

Based on the information that OMB has released as a part of its review, I believe he may be correct. The failures of information technology management in the Federal Government have in some cases been spectacular. For example, the Government Accountability Office (GAO) found in January of this year that those running the National Archives electronic records investment had not been able to identify potential costs and schedule problems early and, as a result, failed to take any action to address them.

GAO estimates that because of these failures in one troubled project—one troubled project—taxpayers will lose somewhere between $205 million and $405 million. That is real money where I come from.

Today we will look at the President's 25-point plan to turn this ship around. The goals are ambitious, and so are the timelines. That is a good thing.

Under the direction of our first Federal Chief Information Officer (CIO), Vivek Kundra, the plan is to be fully implemented within 18 months of its introduction. That is May 2012, if you are keeping score at home. But the various goals are broken down into 6-, 12-, and 18-month increments. Today I am particularly interested in hearing how we are progressing toward those 6-month goals.

The President's plan centers around three main initiatives:

First, the plan fosters a cultural shift aimed at making the management and implementation of large Federal IT projects more effective and more efficient;

Second, the plan pushes the Federal Government to adopt cheaper, better, and faster technologies;

And, third, the plan demands that we shed or consolidate the duplicative and wasteful Federal data centers in our inventory.

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The plan is a positive first step in tackling the institutional and systemic problems that have plagued Federal information technology management for years. It may not be perfect, but the President and Mr. Kundra should be commended for taking on this challenge, and I commend you today.

We look forward to hearing from our witnesses today, about how we are progressing toward these goals, how agencies are responding, and what those of us here in Congress can do to help make this a successful venture.

Today I am also happy to say that my colleagues, as they come along, will be asking their questions, and if they really want to give a statement, we will let them, but my guess is they will probably just want to get right into the flow with questions and answers.

But my colleagues Scott Brown, Senator Joe Lieberman, and Senator Collins have joined me in introducing legislation called "The Information Technology Investment Management Act of 2011." This legislation calls for greater transparency when it comes to the cost and performance of our Nation's information technology investments so that American taxpayers can see how their money is being spent.

It also demands that agencies and the Office of Management and Budget be held accountable for a project's failure and work either to fix them or end them. The time for lazy or wasteful management of these expensive investments is over. We are going to demand that projects be on time, on budget, and deliver on their promises. If they do not, we are going to bring them to a halt. We are going to end the pattern of throwing good money after bad.

I hope that our witnesses will include in their testimony today some brief thoughts and comments about our legislation. We always welcome constructive criticism.

And with that said, I want to introduce just very briefly the first panel of witnesses. A couple of you have been before us more times than you want to remember. If we had to pay David Powner for every time he has been before us, the budget deficit would be a lot bigger, so we appreciate especially your being here.

Our first witness today is Vivek Kundra, who serves as our Nation's first Federal Chief Information Officer. Mr. Kundra is responsible for directing the policy and strategic planning of Federal information technology investments as well as for oversight of Federal technology spending. Previously, Mr. Kundra worked as Chief Technology Officer for the District of Columbia and as Assistant Secretary of Commerce in Virginia under Governor Tim Kaine.

Our next witness is David McClure—Mr. McClure, good to see you—who is the Associate Administrator in the Office of Citizen Services and Innovative Technologies for the U.S. General Services Administration (GSA). Mr. McClure works to advance GSA's responsibilities in serving the American people through open and transparent government initiatives and by identifying new technologies to improve government operations and service delivery.

Our final witness for this panel is Mr. David Powner, who is the Director of IT Management Issues in the U.S. Government Accountability Office. As Director, Mr. Powner is in charge of GAO's analysis of Federal IT investments, health IT, and cybersecurity initiatives. Again, we welcome you.

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I am going to recognize Mr. Kundra to proceed first, and you are welcome to summarize your testimony. All of it will be made part of the record, and then once the three of you have concluded, we will start with some questions. Again, welcome. Thank you so much. And thank you for your leadership.

STATEMENT OF VIVEK KUNDRA,[1] FEDERAL CHIEF INFORMATION OFFICER AND ADMINISTRATOR FOR ELECTRONIC GOVERNMENT AND INFORMATION TECHNOLOGY, OFFICE OF MANAGEMENT AND BUDGET

Mr. KUNDRA. Good morning, Chairman Carper and Members of the Subcommittee. Thank you for the opportunity to testify on our efforts to eliminate wasteful information technology.

Effective management of IT is essential in serving the American people, protecting our national security interests, and keeping America competitive in the global economy. That is why for the past 26 months we have focused on reforming Federal IT to crack down on wasteful spending and boost performance.

Through relentless oversight, we have delivered $3 billion in life cycle cost reductions. We are eliminating duplicative infrastructure and have saved millions of dollars through game-changing technologies and approaches such as cloud computing.

On December 9, 2010, we published the "25-Point Implementation Plan to Reform Federal IT Management," our blueprint to address the structural barriers that get in the way of consistent execution. We have segmented the reforms into 6-month increments with concrete deliverables. I would like to highlight our progress over the past 124 days in each of the five key reform areas.

First, we are applying light technologies and shared solutions to allow agencies to optimize spending and invest in their mission-critical needs rather than duplicative infrastructure.

Since 1998, the Federal Government has seen the number of data centers grow from 432 to more than 2,000. To reverse this unsustainable growth, we are actively shutting down 800 data centers by 2015. Additionally, we have shifted to a Cloud First policy that allows agencies to pay only for the resources that they are actually using.

Second, we are strengthening program management because no matter how effective our technologies and policies, the success of our most complicated, high-profile, and expensive programs rests on the shoulders of effective program managers. Yet too often these programs are managed by individuals randomly pulled across the government who lack the training to successfully deliver. That is why we have created the IT Program Manager Career Series to attract the best talent and to make sure that we are cultivating the top performers.

We have also seen universities like George Mason University (GMU) and the National Defense University (NDU) stand up programs that focus on case studies so we do not repeat historical failures.

Third, we are aligning the budget and acquisition process with the technology cycle to make sure that programs are not out of date

[1] The prepared statement of Mr. Kundra appears in the appendix on page 47.

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the moment that they are launched. The budget process forces agencies to specify in great detail what they are going to be building out 24 months before they can even start a project. The acquisition process routinely adds another 12 to 18 months. We have analyzed funding models across the Federal Government to identify the necessary changes to the legal framework for IT funding that enables successful modular development and to help contain the rise in infrastructure costs. We look forward to working with Congress to consolidate commodity IT funding under agency CIOs and to develop budget models that align with modular development.

Fourth, we are strengthening governance and improving accountability because for too long we have witnessed runaway projects that waste billions of dollars that are years behind schedule. That is why we have scaled the same model that reduced project life cycle costs by $3 billion and turned it around poorly performing projects. Already 129 agency employees have been trained and 23 agencies have implemented the TechStat model to tap into the ingenuity of the American people and the collective talent of State and local governments. We have open-sourced the very software code that the IT Dashboard was built upon and the TechStat model. Thirty-eight States, including Delaware and Massachusetts, and multiple countries have reached out to express interest in adopting these tools to improve transparency and accountability.

And, fifth, we are increasing engagement with the industry to demystify the procurement process and dispel common misconceptions regarding the acquisition regulations. We debunk the top 10 myths in IT procurement, and we are building a pre-Request for Proposal (RFP) platform to help overcome the ties that may occur between agencies and certain vendors. The platform will give agencies access to the most innovative solutions and provide a small business the same opportunities that an industry titan has.

Over the past 124 days, we have focused on execution rather than just policy development. We must continue to buildupon the progress to date and scaled practices that we know work to make Federal IT perform at the level the American people expect. The Federal Government must be able to provision services more like a nimble startup and leverage smaller technologies that require lower capital outlays.

I would like to thank the Members of this Subcommittee and their staff for putting IT management front and center and helping transform the landscape of Federal IT.

Thank you for the opportunity to testify. I look forward to any questions you may have.

Senator CARPER. Great. Thank you for that testimony and for the work that it represents. Thanks so much. Mr. McClure, welcome.

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STATEMENT OF DAVID MCCLURE,[1] ASSOCIATE ADMINISTRATOR, OFFICE OF CITIZEN SERVICES AND INNOVATIVE TECHNOLOGIES, U.S. GENERAL SERVICES ADMINISTRATION

Mr. MCCLURE. Good morning, Chairman Carper and Senator Brown. Let me introduce myself. I am Dave McClure from the GSA. I would like to talk about the GSA role in the IT reform agenda this morning.

I really want to summarize three main points that I make in my written statement.

Point No. 1 is that the 25-point IT reform plan and the Federal Cloud Computing Strategy issued by Vivek are very constructive, and they are sorely needed steps forward in improving the way IT is acquired and managed. GSA's role in this agenda is very clear. We focus on shared, lightweight technologies, and simplifying the provisioning of IT services on demand so that we can accelerate agencies' access to modern technology, get solutions in the hands of users faster, and lower costs.

Cloud computing is at the forefront of these innovative technologies today. As Vivek has noted, it offers compelling advantages when, like any other technology implementation, it is done well.

Cloud computing is already here in the Federal Government, and it is an inevitable trend from a technology marketplace perspective. Many agencies have started implementing cloud solutions and found significant savings. We have documented many on our public web page, Info.Apps.gov.

The return on investment has been lower IT operating costs, improved operational performance, better service delivery, and increased agility in provisioning changes to computing needs.

Point No. 2, GSA plays a strong governmentwide leadership in supporting the adoption of cloud computing in the Federal Government. The Federal Cloud or Project Management Office (PMO), is housed in my office at GSA, and we have the lead in facilitating new innovative cloud computing procurement options, ensuring effective cloud security and standards are in place, and identifying potential multi-agency or governmentwide use of cloud computing solutions.

Our cloud computing PMO is active, engaging, and productive. My written statement outlines six cloud-related activities. I just want to focus on three of them briefly.

Let us start with the Federal Risk and Authorization Management Program (FedRAMP) is being established to provide a standard security approach for assessing and authorizing cloud computing services and products. Currently this process in the government is expensive, it is time-consuming, it is a heavy paper-driven process exercised inconsistently across the government. An average Assessing and Authorizing (A&A) costs up to $180,000 and requires up to 6 months to complete. FedRAMP will allow joint authorizations and increased use of continuous security monitoring services for government and commercial cloud computing systems.

Because we can achieve a more consistent security baseline and a common interpretation, we can leverage the work of one agency for another, or as we say, approve once and use often. This should

[1] The prepared statement of Mr. McClure appears in the appendix on page 53.

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help reduce cost, it should enable rapid acquisitions, and it should reduce the overall effort of the government in this area.

I might add that we have developed this with broad consensus in the government, involving that National Standards and Technology (NIST), the Department of Homeland Security (DHS), the Department of Defense (DOD), the National Security Agency (NSA), and various commercial industry consortia.

Another important governmentwide initiative is infrastructure as a service. Each year the government spends tens of thousands and millions of dollars on IT products and services, heavy focus on maintaining the current computing infrastructure needs and demands. We have established a Blanket Purchase Agreement (BPA) with 12 companies, many with multiple partners who offer storage, computing power, and Web site hosting as commodities. The benefits include commodity type pricing for services, allowing customer to easily compare prices across vendors. It also offers standardized technical and security requirements that companies are required to meet across the entire government.

The third area is cloud-based e-mail. We chose to tackle perhaps one of the most ubiquitous business technologies in use by all Federal agencies: e-mail. Using a governmentwide working group, we again took a collaborative approach to building a procurement vehicle. Once it is released and concluded, services will be offered to Federal customers via a Blanket Purchase Agreement. I think it will accommodate a range of robust, feature-rich e-mail services in public, private, and highly secured clouds.

So my final point is this: GSA is also walking the talk. A lot of what we are doing internally within GSA is also very robust in the cloud space. We are putting in one of the first cloud-based e-mail systems in the government. We expect a savings of over $15 million in 5 years. We are reducing our own data centers from 15 to 3 by 2015. We estimate a $2 million annual reduction in data center costs as a result. And we host perhaps some of the most visible Web sites, public Web sites in government, including USA.gov, which is the Nation's portal or front door into the Federal Government, as well as Data.gov, which is one of the first public-facing government Web sites to be successfully deployed in a cloud environment.

We also host a lot of open-source sharable code solutions that lower the cost and help implementations in areas like Challenge.gov, where challenges and contests are being run by Federal agencies.

So I hope this offers you a brief flavor of what we are doing at GSA to improve the IT outcomes in the government. Again, thanks for having me here for testifying.

Senator CARPER. Mr. McClure, thank you for testifying.

Mr. Powner, welcome. Thank you.

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STATEMENT OF DAVID POWNER,[1] DIRECTOR OF INFORMATION TECHNOLOGY MANAGEMENT ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE

Mr. POWNER. Chairman Carper, Senator Brown, we appreciate the opportunity to testify this morning on IT acquisitions. Chairman Carper, I would like to thank you for your oversight of Federal IT acquisitions. Your many hearings highlighting the wasteful spending in this area has led to many improvements in Federal agencies and at the Office of Management and Budget.

Senator CARPER. Very nice of you to say that. Thanks very much for being a big part of that.

Mr. POWNER. OMB plays a key role in this oversight process. In fact, OMB has been required by the Clinger-Cohen Act of 1996 to track, analyze, and report to the Congress on IT expenditures, which now total almost $80 billion.

To help carry out this role, OMB established several oversight mechanisms, including lists of troubled projects, starting in 2003, that clearly were not as useful or accurate enough to perform the appropriate level of oversight. Under Vivek Kundra's leadership, OMB has improved its oversight of and management of IT acquisitions by: one, creating the IT Dashboard; two, using this information on the Dashboard to hold agencies and CIOs accountable; and, three, introducing comprehensive IT reform. I would like to highlight each of these efforts and what additional actions are needed.

First, the Dashboard. In June 2009, OMB deployed a public Web site, known as the IT Dashboard, to improve the transparency and oversight of approximately 800 major Federal investments totaling about $40 billion. The Dashboard presents information on costs and schedule and a CIO assessment, among others. Today, the Dashboard shows that nearly 40 percent of the 800 investments are in need of management attention due to their red or yellow status. More simply put, this equates to over 300 investments totaling $20 billion that are at risk.

I would like to repeat those numbers. We have 300 investments totaling $20 billion that are at risk.

In addition to identifying troubled IT projects, the Dashboard is an excellent tool to identify duplicative investments, which could result in significant savings. We have ongoing work for this Subcommittee looking at this duplicative spending.

Despite the improved transparency, data reliability remains an issue, as our work has shown that Dashboard information is not always accurate and consistent with agency records. OMB and agencies acknowledge this and have a number of activities under way to improve the Dashboard and the accuracy of what is being reported.

OMB has also improved the management of IT investments needing attention by holding TechStat meetings. These meetings started in January 2010 and are led by Mr. Kundra and agency leadership. Well over 50 of these meetings have been held, and the results are impressive. Four projects have been canceled and 11 restructured. OMB has claimed that this has resulted in a $3 billion reduction in costs. OMB has also identified 26 additional high-pri-

[1] The prepared statement of Mr. Powner appears in the appendix on page 62.

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ority projects that have undergone extensive review, which resulted in corrective action plans.

One of the high-priority projects is the National Archives electronic records acquisition that you mentioned, Mr. Chairman. Our work for this Subcommittee has highlighted the mismanagement and major cost and schedule issues associated with this acquisition. It is one of the projects that OMB is in the process of restructuring. Although OMB has had significant results with its TechStat meetings and its high-priority projects, many more projects are in need of OMB and agency oversight.

In addition to the Dashboard and TechStat sessions, OMB issued a comprehensive IT reform plan that includes replicating these TechStat sessions throughout the government to improve governance and to strengthen program management. Many of the reform initiatives are consistent with your many years of oversight in this arena and our body of work on IT acquisition. And to its credit, OMB has issued aggressive milestones that span the next 18 months. Now the challenge lies in implementation.

In summary, OMB's efforts to improve the transparency of the IT Dashboard, to improve IT acquisition execution through its TechStat sessions, and its IT reform initiatives are encouraging. But the accuracy of the Dashboard information needs to greatly improve. Even more focus needs to be put on the $20 billion at risk, and the major IT reform initiatives now need to be implemented.

I would like to conclude by commending your leadership, as well as Mr. Kundra's in this area, Mr. Chairman, and I am pleased to answer any questions you have.

Senator CARPER. Mr. Powner, thank you so much, and thanks again for being a big partner with us in these efforts.

Senator Brown has another hearing that is going on, and he is going to be coming in and out. But I just want to recognize him for any comments that he wants to make, and he can go right into questions whenever he is ready.

Senator BROWN. Thank you, Mr. Chairman. I am going to stay as long as I can. I enjoy this very much, and I appreciate you pushing forward on this.

I have a statement that I am just going to submit for the record.

Senator CARPER. Without objection.

Senator BROWN. Thank you.

I might as well start. Mr. Kundra, according to your testimony, your high-priority IT project and financial system reviews have led to over $3 billion in life cycle cost reductions. How many investments were actually reviewed?

Mr. KUNDRA. We actually overall looked at over 50 investments.

Senator BROWN. Five-zero?

Mr. KUNDRA. Fifty, yes. So these 50 investments, and one of the things we focused on was the most troubled investments out of the IT portfolio. And the reason we introduced the IT reform plan, the 25-point plan, was to actually now multiply the same processes across every single department and agency within the U.S. Government because the challenges at the end of the day, despite OMB's oversight capabilities, what we want to do is we want to prevent these investments from getting to the point where they are years

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behind schedule or hundreds of millions of dollars over budget. And that is what we are focused on.

Senator BROWN. By then isn't the technology obsolete in many instances?

Mr. KUNDRA. Absolutely. The way that the acquisition processes actually work right now and the budgeting process, unfortunately we plan out years in advance and end up locking a specific technology. And by the time you actually implement some of these technologies, they are way out of date.

Senator BROWN. I know in New York City, for example, they hired a company, VMware, to come in and actually go and review all their IT specifications because there were so many individual fiefdoms and they were not connected. They were not efficient. They were wasting money. They have apparently saved a tremendous amount of money through, obviously, the cloud technology and that whole new way of doing things.

Out of the 50 that you did—how many actually are there total in terms of the actual investments? You said you looked at—how many actually are there? What is the big picture?

Mr. KUNDRA. So where we need attention, as Dave Powner pointed out, is about 300 or so investments, and what we are trying to do now is to scale the same exact model we used to turn around or terminate these poorly performing investments. So the process we used was coupling the IT Dashboard where we are shining light on what was going on with these investments with what we call our TechStat accountability sessions to really drill down on each of these investments to make sure that if, for example, you do not have a dedicated project manager, if you do not actually have a clearer understanding of what the business objectives or goals are, or you are in the process of implementing outdated technologies, these are huge investments that have a major effect on how agencies are actually being transformed.

One of the problems we have seen throughout these sessions is that people are looking at these projects at IT projects. But at the end of the day, they are about transforming how an agency fundamentally operates.

Senator BROWN. So when you are looking at the—when you say $3 billion is or may be saved in part, this is being done by canceling some projects, I am presuming. But how much did we already lose with what was already spent on those investments?

Mr. KUNDRA. Well, so that is a little more difficult number to come up with. To give you an example, with financial systems what we did is we looked at the entire life cycle cost of financial systems across the Federal Government, and that was about $20 billion in life cycle costs.

The Department of Defense, for example, had a project called Defense Integrated Military Human Resources System (DIMHRS). It was their integrated human resource planning system. They spent 12 years and approximately $1 billion, and we ended up killing that project.

Unfortunately, what we do not want to do is be in a position where we are just killing IT projects because at the end of the day there is still a business need. They are not just implementing

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projects because they felt it was a fun thing to do. There is actually a business problem.

So the four that we killed, the real victory in my mind is actually the projects, the 11-plus projects that we looked at where we de-scoped them. And what I mean by de-scoping is we said instead of trying to boil the ocean, where people have bought into this fallacy that these enterprise resource planning systems are going to balance your books, they are going to track your assets, they are going to make you coffee, that you have to actually break these projects down into 6-month increments. If within 6 months you cannot prove that you have delivered something of value to your customers, then you need to either halt that project or you need to fundamentally rethink it or terminate it. And what we are seeing with these large enterprise projects is that people are spending years, in some cases decades, implementing a project that is not working.

Senator BROWN. So did we actually save $3 billion, or did we just not lose more money to cost overruns on these actual projects?

Mr. KUNDRA. Well, it is a combination of both because where we de-scoped the projects in the cases of financial management systems like the Environmental Protection Agency (EPA), we actually took that project down and cut it significantly lower. And also the way we were saving that money in terms of both cost avoidance and the original life cycle costs is that there are game-changing technologies, new technologies that have emerged since the project was originally conceived.

Senator BROWN. It always seems like we are a couple of steps behind. It seems like the government is an easy mark: Hey, we have this new technology, go buy it. And then we invest billions of dollars in some instances, or at least hundreds of millions, and then by the time it actually gets through the process, it gets implemented, it gets up and running, and it is obsolete. Then we have to get the updates and upgrades, and it just seems like we are an easy mark.

I am wondering, in the next 50 investments, is there the potential for significant cost savings in the future? Or were these initial reviews just kind of picking off the low-hanging fruit?

Mr. KUNDRA. I think there are significant opportunities for cost savings, in the billions, and here is why. So to your point, one of the big problems we see is this huge gap between the public sector and the private sector, and the reason this gap exists is because the culture in government historically has been that the government must build its own infrastructure, it must own the software development. And one of the reasons we are shifting to the Cloud First policy essentially is to move away from this philosophy of asset ownership to service provisioning.

So in the same way that a small startup company would go out there, and if they are standing up a business, they are not going to go out there and build their own e-mail system or their own accounting system. They are going to go to a company like Quicken Books and fire up an accounting system or go to Microsoft or Google or any of these other providers and fire up an e-mail system.

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What we need to do is government needs to operate much more like a nimble startup than it does today, where we are engaging in these multi-year, multi-billion-dollar IT projects. That is what we are doing with GSA, putting in place these governmentwide procurements that actually will allow us to provision the services.

Senator BROWN. Just in closing, and then I will turn it back to the Chairman in Massachusetts we have amazing companies that deal with this stuff every day, and it is second nature. We have the technology leaders in the world. And we are in the government, and it is like we are sometimes in the Dark Ages. I am sure this is not the first time we have had a hearing on this stuff. It is my first experience on it. But I know you have been working on it for years.

At what point do we actually start to realize these billions of savings, I mean, real dollars that can be used in other areas, especially now?

So that was more of a statement than a question, but I would like to come back. Thanks, Mr. Chairman.

Senator CARPER. Thanks very much.

Senator Brown and I hold a lot of hearings in here, and what we focus on is how do we get better results for less money. That is really what we do. That is our bumper sticker—how to get better results for less money. And when you think about IT projects, sometimes we do not really focus on what we are trying to do is get better service, better results for less money.

Give us a couple of examples, and I do not care who leads off, but give us a couple of examples where you actually can say these are some projects where we actually got a whole lot better results for less money, or a little better results for—better service, maybe, for not a lot more money. Can you give us a couple good examples?

Mr. MCCLURE. Yes, I would be happy to start. In my case, we have been one of the first to move into the cloud computing environment, for example, and I mentioned USA.gov, which is the public portal for the Federal Government. By moving it into a cloud environment, we are able to save an estimated $1.7 million a year in computing costs because we moved into a more agile computing environment. We were able to provision changes to that system in hours as opposed to months, which means I could change the Web site and its features very quickly. And, third, it allowed me to use people in a different way. Rather than monitoring and running the infrastructure that we owned, I actually could turn them over to doing more mission-based and I think more value-added types of services.

So for us it was a cost savings, it was an agility to move faster, and I was able to free people up to do more value-added work. And I think that is a common occurrence across many of the implementations right now.

Senator CARPER. All right. Good. Some other examples, please.

Mr. KUNDRA. On something as simple as e-mail services, the U.S. Department of Agriculture (USDA), with 120,000 employees, and the General Services Administration (GSA), with 17,000 employees, moving e-mail over to the cloud, what they were able to save is over $40 million. Something as simple as a Web site, what the Re-

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covery Board did is they saved $750,000 by just moving to the Amazon cloud.

Health and Human Services (HHS), by looking at electronic health record grants, moving over to a sales force implementation, they cut their costs by 60 percent.

So we are seeing huge savings, and it is not just in dollars. Part of what is happening is we keep building duplicative infrastructures, so the numbers you look at in terms of data centers, we went from 432 to more than 2,000, and part of the reason is because people have been so focused on building duplicative, redundant infrastructure rather than lifting up and saying how do we make sure that in the same way the American people, when they go and book a ticket, whether it is for a flight or a concert or making a reservation at a local restaurant, that experience is so much better than when they are dealing with the government. And the reason is because the government is so focused on the duplicative infrastructure, and we are trying to abstract all of that so we can get the government to focus actually on the customer experience rather than investing billions of dollars in this duplicative infrastructure.

Senator CARPER. I have not counted the number of times that "cloud" has been used in our testimony or our responses to questions, but there are a lot of people who are following the hearing today have no idea what you are talking about. Why don't you just step back—actually somebody had it in their testimony, a little definition at the bottom of the page, what we are talking about, which I do not know if it would be all that helpful to too many people. Just make it real simple and easy for folks to understand.

Mr. KUNDRA. Sure. So the most basic way to think about cloud computing is if you look at the progress that was made throughout this Nation, it used to be that every house had its own well and had its own electrical generation system. But as technology evolved, we ended up with an electrical grid, we ended up with a water distribution system. So now what happens is, when you are at home, whether you are plugging in a mixer or a TV, you consume the electricity that you are actually using rather than to have to pay for all that infrastructure.

In the same way, cloud computing from a technology perspective, the simplest way to think of it is that the government is going to be able to pool its demand and actually dynamically allocate resources or use resources so that we are not paying for resources that we are actually not using.

Senator CARPER. A friend of mine tried to explain it to me not long ago, and he said, "Do you have kids that are old enough to drive?" I said, "Yes, we have a boy 21 and one 22." And he said, "Are they away at college?" I said, "One is, and one is actually in another country." He said, "Do they ever come home?" I said, "Well, they do." And he said, "How many vehicles do you have?" I told him, and he said, "Do you need more vehicles when they come home?" And I said, "Yes, we do." And he said, "What do you do, go out and buy a new vehicle so that when they come 2 or 3 weeks out of the year their car is there for them to use?" And I said, "No. We actually rent a car." He said, "Well, that is kind of like what this is." So that helps me understand it.

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I want to try to draw an analogy here and use this analogy as a way to get to sort of get why do we have this problem. It has been pervasive throughout the Federal Government. We spend so much money for these projects. Some of them work quite well, and too often they do not.

We held a hearing here 2 weeks ago, and the focus of our hearing was major weapons systems cost overruns. And as it turns out, GAO told us 10 years ago, in the year 2000, that our major weapons systems cost overruns was $42 billion. And GAO testified 2 weeks ago that our major weapons systems cost overruns is $402 billion. It went from $42 billion in 2000 to $402 billion last year.

And as we drilled down on why that was happening, we got a couple of answers. One of those is that sometimes the technologies that are being proposed to use on these weapons systems are what they call immature, meaning they have not really been fully developed.

Second is the agency, the military branch, or service may not have fully figured out what they want, and they continue to do modifications to the projects. We call it "project creep."

The third thing is we do not necessarily do the best job of making sure the acquisition folks with experience are bird-dogging these projects and that they have the kind of clout that they need in order to blow the whistle when things are going wrong.

We had an example from a fellow named John Young, who was the top person in the Bush Administration, the second term, for acquisition, and we had one of his deputies, his top deputy for acquisition. He is an Assistant Secretary for Defense. We said, "Talk to us. How long have you been in your position?" He said, so many months. And we said, "What kind of turnover did you get from your predecessor?" And he said, "Well, I did not get any turnover. My predecessor left 18 months before I did." We said, "No kidding."

"Tell us about your direct reports. How many direct reports do you have?" And he said he was supposed to have six, and only two were filled.

So here is like the top person really in the Department of Defense whose job it is to make sure we are getting our money's worth. There is an 18-month lapse between when he comes in and the guy before him left, and only two out of six direct reports were there. So it turns out the guy who is in that position today in this Administration, his nomination was held up for 15 months—15 months before he was actually allowed to go to work. So those are the kinds of problems that have led to $402 billion cost overruns.

When you drill down on it, how have we gotten into the situation that we are in where we have $80 billion worth of projects and maybe a quarter or so are at risk? I do not know, maybe, David, this is good one for you, Mr. Powner.

Mr. POWNER. Yes, well, a couple things. One is—and I think a lot of this is tied to Mr. Kundra's IT reform plan. You could start with program management. There clearly needs to be strengthened program management across the government where, to your point, we define what we want well up front; we have a way to manage risks.

But on top of that program management level, what happens many times—and it has been the subject of many hearings that

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you have held, for instance, like what happened at the Census Bureau—we have a lack of executive accountability. Many times when a project gets in trouble, they blame the program manager instead of a key executive who should be overseeing that, including the CIO. And I think when you look at Vivek's reform plan, one of the five major areas is governance. There needs to be better governance over these projects from an executive point of view. In fact, that is what Vivek is attempting to implement through his TechStat sessions.

So, Senator Brown, to your point, yes, we have held over 50 meetings, and we have saved $3 billion. But your chart up there shows that there are 300 that need attention right now, and if we projected that, I mean, there could be $20 billion of savings if there is any success like he has had on those first 50.

Senator CARPER. All right. Anybody else want to take a shot? What I want to make sure is that we figure out what the problems are, the major problems are, and to make sure through executive action and through legislative action that we are actually going after the root problems. Mr. McClure.

Mr. MCCLURE. Yes, I think Dave hit it on the head. It is governance and program management, but those have been the same problems that we have been pointing to for the last two or three decades in Federal IT.

I think what this Administration is doing is trying to focus program management and governance on transparency. You have to get this stuff out in the open in terms of the status of projects. It cannot be buried in an agency. It has to be a fact-based assessment, not an emotional appeal. And it has to be near real time. We cannot do this reporting months after something has already occurred.

And, finally—and I think Vivek is doing this with TechStat—these things have to be focused on problem solving, not reporting. We can report, but we still miss what do we do to fix it. So I think we have to change the agenda to problem solving.

Senator CARPER. Good. That is a good point.

Mr. Kundra, before I yield back to Mr. Brown, Senator Brown, go ahead.

Mr. KUNDRA. Chairman Carper, I still recall my very first meeting with you when I started, and one of the things you pointed out——

Senator CARPER. Was it that bad?

Mr. KUNDRA. It was great. You actually highlighted the need for reforms, and one of the things I did after I met with you is studied history, went back to 40 years of challenges in Federal IT management. And I do not think contractors wake up every morning and say, "Hey, how are we going to make sure we mess up Federal IT this morning?" And I do not think government employees wake up every day and say, "How are we going to go out there and make sure these projects fail?"

Part of what we saw was that the efforts over the last 40 years, a lot of it was very much around policy, and there has been great policy historically in place. But the challenge was a lack of a focus on execution. And the hearings that you have had have been tremendously helpful, and the fact that you have reached out to agen-

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cies to get them to improve the data quality, as Dave mentioned, the first thing we wanted to do is just shine light. And what we did when we launched the IT Dashboard is we actually put up a picture of every CIO right next to the project they were responsible for.

Senator CARPER. No kidding.

Mr. KUNDRA. With how they were doing in costs——

Senator CARPER. I always joke about when you look up in the dictionary, you look up a particular word, you have somebody's picture.

Mr. KUNDRA. Absolutely. And I was Public Enemy No. 1 for a couple of weeks, but I think very quickly we realized by shining light all of a sudden we were exposing some of the major issues around IT projects.

And in the 25-point plan, we highlight some of the challenges and areas that we need to focus, but I would point to one significant area where I think improving or moving the ball from would make a tremendous difference, which is around program management, as both David Powner and David McClure have mentioned. If you think about multi-million-and multi-billion-dollar IT projects and government officials that are charged with managing them, and if you compare that to other industries such as aviation, medicine, and firefighting, you do not set foot on a 777 unless you have gone through a simulator and hundreds if not thousands of hours of training. You do not get to operate on your first patient unless you have gone through medical school, a residency program with attendings. Or if you are a firefighter, you actually practice fire drills on actual fires before you go out there and put out your first fire.

We have not done that historically when it comes to program management, and I think that is a key area of our reform agenda.

Senator CARPER. Great. Thank you. Senator Brown.

Senator BROWN. Thank you.

So, Mr. Powner, just touching base, Mr. Kundra says $3 billion in estimated saving, and GAO says $3 billion in estimated cost overruns. So does that mean we are basically at square one or are we actually realizing real savings that we can actually put back into the Treasury and use in other areas?

Mr. POWNER. Well, I think it is probably a mixed bag, as Mr. Kundra mentioned. I think when we eliminated some of those projects—there were four that were terminated—I think those are real savings. The restructuring, that is a little uncertain about how much real savings there are there. But, again, it probably—the use of that money moving forward is—we are familiar with some of those projects that are restructured, like the National Archives project. That is a good move.

So a couple points here, though, in terms of savings. If we are really after savings, I think looking at those troubled projects is one way to go. There is probably another way if you look at—I am going to shift gears just real quickly here, Senator Brown. When you look at the Dashboard—and we are doing this work for this Subcommittee right now. You could look at duplicative spending associated with that Dashboard, so there are over 5,000 systems that we are investing in. I can tell you right now that there are

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over—in Fiscal Year 2011 we are funding over 550 financial management systems at $3 billion. So the question is: Does the Federal Government need over 550 financial management systems?

And I can go right down the line. I could tell you——

Senator BROWN. I think you know that answer.

Mr. POWNER. Right. And I can give you example after example. So not only do we need to improve the performance of what we are spending money on, but there is potential for duplication when you start looking within and across agencies. There are 600 H.R. systems in the Federal Government that we are funding. The Fiscal Year 2011 funding is $2.5 billion on——

Senator BROWN. That is out of control.

Mr. POWNER [continuing]. On 600 H.R. systems. Those are the things that really need further investigation.

Senator BROWN. So noted. Mr. Chairman, that is your next hearing.

Senator CARPER. Our next hearing. [Laughter.]

Senator BROWN. Thank you.

How will GAO be tracking the performance of these initiatives going forward?

Mr. POWNER. Well, in terms of—a couple things. Looking at the performance of these projects, we continue to do work on an every-six-month basis, we report on the Dashboard, how those numbers are changing, and the accuracy and reliability of what is being reported. And then on those duplication numbers, we are doing work for the Subcommittee where we will be laying out, by functional area, how many investments there are and what the total dollars are. And it will raise questions about what is being done to manage that more effectively.

Senator BROWN. So you can certainly make recommendations, but you do not have any teeth at all to really drop a hammer down and say, hey, listen, you have to stop this. You are making the recommendations to us, and then we are going to take it up the food chain. Is that a fair statement?

Mr. POWNER. Yes, clearly, most of our recommendations go to departments and agencies, and right now Mr. Kundra and I work very closely together on some of these governmentwide issues, and I will say that there is a lot going on in his shop right now. But clearly your oversight hearings help with action on those items.

Senator BROWN. And I know, obviously, with any type of projects, it takes leadership. And, Mr. Kundra, what is your plan? Do you plan on staying on as the Federal CIO until the plan is seen through?

Mr. KUNDRA. Well, we are focused on executing the plan, obviously, and I am committed to making sure we are executing. As a matter of fact, at the end of this month we are going to be celebrating the accomplishments at each of the agencies where they have delivered. But what is important here is I can stay on as long as it is necessary, but what is really, really important in my mind is that this plan, the way we have engineered it, it is not dependent on any single individual. Because at the end of the day, as you correctly point out, those 300-plus investments, every CIO in every major department needs to be as focused on execution as we are within the White House.

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Senator BROWN. And when you are looking—I know the IT Investment Management Act that Senators Carper, Collins, Lieberman, and I are introducing today takes some steps to codify some of your office's successful initiatives, such as the IT Dashboard and TechStat sessions. What else can we do, any other suggestions, to ensure the success of this plan moving forward?

Mr. KUNDRA. I think, Senator, one of the areas that will be really, really helpful, as Dave points out, some of the duplication, is how we look at funding across the Federal Government. And what I mean by that is the way Congress appropriates funding is bureau by bureau, department by department. I see a huge opportunity here in terms of being able to look horizontally across the Federal Government, and whether it comes to the 2,000-plus data centers or hundreds of whether it is financial systems or H.R. systems, and to take a step back and fundamentally rethinking how we are funding IT across the Federal Government. And second would be to actually empower departmental CIOs by consolidating at least commodity IT. And when I say commodity IT, what I mean by that is these financial systems, H.R. systems, e-mail, data centers, desktops, putting that authority under the departmental CIO, I think we will see huge results. And we have case studies such as the Veterans Administration (VA) where we are beginning to see a much better outcome in terms of the commodity assets.

Senator BROWN. How do you maintain a robust security of the Federal computer networks when you are moving to the cloud system? How do you make sure that we maintain that high level of security?

Mr. KUNDRA. Part of what we are doing actually is looking at how we contract when we begin to move a lot of these systems over to the cloud. And what I mean by that is already today, if you look at 4,700-plus systems, they are outsourced. And we specifically specified in terms of contracting language how the systems are managed and what the security requirements are.

Second, one of the things we are doing with cloud computing is we are trying to make sure that we get real-time data feeds on the security posture of these providers so that the Department of Homeland Security and Chief Information Security Officers can analyze the data and make sure that we are very aware of what is going on as far as the security posture of those systems are concerned.

And, third, we are making sure that we come up with a common set of controls, which is going to be the floor, the minimum set of controls that are technical in nature, that we can constantly monitor to make sure that if we are being attacked in any way or if those systems are being compromised, that we have that information on a real-time basis.

Senator BROWN. Mr. McClure, you have been kind of shy today, so I figured I would ask you a question. [Laughter.]

GSA has taken a lead role in the Cloud First rollout. How is GSA assisting agencies in this effort?

Mr. MCCLURE. Well, through a couple of mechanisms. One, as I think Vivek pointed out, we are putting in contractual arrangements through our Blanket Purchase Agreements (BPAs) on things like infrastructure as a service and e-mail that are cloud based. It

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allows really the agencies to purchase or provision these services in a very cost competitive way and much quicker than going through a full and open competition process. So we have done all the vetting. We have looked at the vendors. We have qualified them as being competent in space. We have done the security reviews. The agencies can purchase what they need from a mission perspective.

The second thing, I think, that we do is actually put together the FedRAMP program that Vivek is referring to, working across government, not just GSA, but we are trying to put a simpler, more effective, more complete security review for the government that is consistent across government and then leverage that once it is done rather than repeating them over and over and over again.

So I think that will tremendously increase the speed by which we can get some of the technology solutions in place.

Senator BROWN. Mr. Powner, one final. What are the biggest security risks moving forward toward cloud-based IT services?

Mr. POWNER. Well, clearly, security is a great concern. I would add that, like any project moving forward, you need to define your security. One option, moving to the cloud, if a commercial cloud is not adequate, there are private clouds you could move toward also with greater security.

Senator BROWN. Thank you Mr. Chairman.

Senator CARPER. Good questions.

Maybe a question for Mr. McClure and for Mr. Kundra. The President's plan contains, I believe, 25 action items, and 14 of them are set to be completed within, I believe, 6 months of the plan's issuance. There are about 2 months left on the first crucial timeline that has been set.

I guess my first question to both of you would be: Do you think we are on schedule for those 14 items? And if not, which ones do you think we will not accomplish and why?

Mr. KUNDRA. Sure, as I think with 124 days behind us and I believe about 58 days to go, part of what we are really focused on is three areas:

One, in terms of making sure we are working with Congress on the budget flexibilities, I think that is an area given that Congress has been very focused on the 2011 budget and now the 2012, we have not made as much progress as I would have liked on moving forward in that direction.

The second area that we are very, very focused on right now is actually on the program manager path, the career track. I think we are in good shape there. We are very focused in terms of shutting down the 800 data centers. We have already identified over 100 data centers that agencies have zeroed in on that could be shut down this calendar year. We are making a lot of good progress on——

Senator CARPER. What do you do? Do you ask the agencies to help identify them? Is that the way it is working?

Mr. KUNDRA. So we have actually put together a Data Center Consolidation Task Force, and that task force is zeroing in on each of the departments, and we are looking for opportunities to consolidate, not just within departments but across the Federal Government. And so those are the data centers that we want to shut

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down, but we want to move forward very, very aggressively to make sure that assets that are not being utilized, there is no need to waste taxpayer money on them.

Senator CARPER. As the Postal Service struggles with trying to figure out how to be vibrant and play a critical role in the 21st century, they are looking to close down not just post offices but also distribution centers. And there is a pushback. Are you getting pushback on these efforts to close the data centers? Or is it pretty much a fait accompli?

Mr. KUNDRA. I think once we release the locations and the names, I am sure there is going to be a lot of robust discussion back and forth.

Senator CARPER. OK.

Mr. KUNDRA. But I definitely expect that we will be before this Subcommittee talking about this.

Senator CARPER. All right. Good enough.

Mr. McClure, any thoughts on that question?

Mr. MCCLURE. Yes, I think some of the things that I discussed in the statement today are helping the Cloud First strategy. The infrastructure as a service offering, the cloud e-mail offering, the ability for agencies to get software in the cloud off of our apps.gov Web site—these are all helping the agencies meet, I think, the Cloud First deadlines that the Administration has set.

We also are helping create a pre-RFP collaboration platform so that industry and government can actually talk about solutions before we enter into the laborious contracting and procurement process. I think that will be very helpful.

The final area I think we are helping is in data consolidation in that we do a lot of the leg work for Vivek and collecting a lot of the information. And we can step back with Vivek and look, similar to what Dave is doing, on where we see real opportunities for cloud and consolidation across government, not just within a single agency but across government, and that is really where I think a lot of progress can be made as well.

Senator CARPER. OK. I think you have spoken to this. I am going to drill down on it just a little bit more. Each agency is supposed to identify three must-move systems to the cloud within the first 3 months of 2011, and let me just ask again. Have all the agencies met this goal? I think you may have responded, but have all the agencies met this goal?

Mr. KUNDRA. Yes, they have submitted—I think we have about 75 systems that have been identified that will move to the cloud, and part of what agencies are doing right now is making sure that they are looking at their security requirements, procurement strategies, to actually begin migrating over to the cloud.

Senator CARPER. All right. Thank you.

Again, another question for Mr. Kundra and Mr. McClure. I am sure you are both aware of news over the past couple of days concerning Google's claim that their Apps for government cloud product received Federal Information Security Management Act (FISMA) certification and accreditation from GSA. According to press reports, the Department of Justice (DOJ) notified Google in December 2010 that its Apps for government was, in fact, not FISMA compliant. To help provide some greater clarity on this

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issue, I would just like to ask both of you, if you would, to comment on the recent reports and discuss how OMB and GSA are addressing the concerns that are raised by them.

Mr. MCCLURE. Sure, I would be glad to bring some clarity to it. In July 2010, GSA did a FISMA security accreditation for Google Apps Premier. That is what the Google product was called, and it passed our FISMA accreditation process. We actually did that so that other agencies could use the Google product, and we do one accreditation, and it is leveraged, again, across many agencies.

Since that time, Google has introduced what they are calling Google Apps for government. It is a subset of Google Apps Premier. And as soon as we found out about that, as with all the other agencies, we have—what you would normally do when a product changes, you have to recertify it. So that is what we are doing right now. We are actually going through a recertification based upon those changes that Google has announced with the Apps for government product offering.

Senator CARPER. Mr. Kundra, any comment, please?

Mr. KUNDRA. Well, from an OMB perspective, we do not actually get involved in individual procurements. We are more focused on the broader policy around this shift to cloud computing.

Senator CARPER. All right. I appreciate what you both have said here today, but given the potentially serious nature of the news, I have asked my staff to followup with your offices today on this issue so we can try just to get to the bottom of it. And I would also like—I am going to ask that you respond to any questions for the record that the Members of the Subcommittee may have on this same issue.

Another one for Mr. Kundra and Mr. McClure and then I will close it with a short question for Mr. Powner.

Today the continuing resolution (CR) introduced in the House, H.R. 1473, gives, I believe, $8 million to the Electronic Government Fund. This fund, which is often referred to as the E-Government Fund around here, pays to operate the IT Dashboard, USAspending.gov, among other things. And I understand that your original request was for around $34 million.

Given this steep cut, will the E-Gov Fund continue to operate as it has in the past? Or can we expect some of these Web sites to go dark?

Mr. KUNDRA. Well, I think given the original request versus where we are right now, we are still evaluating the implications, but we are going to have to make some tough decisions around which systems are going to have to go offline versus what can be supported with the $8 million fund. Since this is very recent news, we have not had a chance to actually sit down and prioritize systems.

Senator CARPER. All right. Senator Brown has already asked a question about what further can we do to be helpful, supportive, and constructive, and I am going to come back to that and ask you what will be really the last question I ask of you. But before I ask that—and you have given us some thoughts already, but I want to just ask you to reinforce and re-emphasize some of your points.

In each of your minds, what are the metrics for success for the President's plan? What are the leading indicators that the Con-

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gress and the American people can look to in, say the next 14 or so months to tell us if we are successful or not? Mr. Powner, do you want to go with that first?

Mr. POWNER. In terms of the IT reform plan, I would say getting more of those projects into the green would be one large area, and also in the data center arena, the goal to reduce 800 data centers by 2015, that in the next year or 18 months, to Mr. Kundra's point that we are making progress on that, that is a stretch goal, but the stretch goals are very good.

Senator CARPER. Good. All right. Mr. McClure.

Mr. MCCLURE. Well, I think the IT reform plan covers so many different things that there are a lot of different ways to look at the measurement of its success. For example, we know we need to, as Dave has mentioned, and Vivek, that we need to improve program management in the government. That is not something you solve overnight. So some of these will have longer-term success measures than others. But I think the real things for us to focus on and we are focused on is looking at real cost savings, No. 1. No. 2, making sure as Vivek goes through the TechStat that poorly performing projects cease or at least they are repaired or fixed before they proceed. And then, last, I think the measures for IT that are really golden are whether it is improving the business, the operations of government.

So we really ought to be looking at the operational metrics of government and the service delivery of our programs. That is what IT is supposed to be helping do.

Senator CARPER. All right. Good. Mr. Kundra.

Mr. KUNDRA. I would say three quick things.

No. 1 would be to improve the yield on the $24-plus billion we spent on infrastructure, whether that is through shutting down the 800 data centers or shifting to cloud.

Second would be to make sure that the money we are spending on large-scale IT projects that we actually terminate, turn around, or halt poorly performing projects that could yield billions in savings.

And third, I think creating an ecosystem where we introduce Darwinian pressure as far as startup companies and innovative technology companies that can come and compete for Federal business.

Senator CARPER. All right. Thanks.

Senator Brown, while you were out of the room, I told the panel that the last question I had for them is really one that you have already asked, but it is a real good question, and I just want to come back to it again. It is one I often ask panels in discussions of this nature.

Again, just re-emphasize for us, underline for us the things that we need to continue doing on our side as one of the three branches of government to get to, in this arena, better results for less money. Mr. Powner.

Mr. POWNER. Well, a couple points here. Mr. Chairman, we have been at this for many years, but right now we have the best transparency we have ever had with the IT Dashboard. So I think your bill that would codify some type of—where that transparency continues, that is clearly needed. And also, each year that we are up

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here, we are always talking about hundreds of projects totaling near $20, sometimes $25 billion at risk—that has not changed over the years. We now have probably the best reform plan we have ever had, so in terms of the best transparency and the best plan, now is the time to execute to those plans. So I think your oversight hearings focused on those areas, along with your legislation, is very helpful.

Senator CARPER. All right. Thank you. Mr. McClure.

Mr. MCCLURE. I would agree totally. I think the role of the Committee in shining transparency on exactly what is happening in the government is a change lever that the Congress needs to utilize as much as it possibly can.

Second, I think the budget process is a difficult one in the technology area because we assume that technology projects magically begin and end within a budget cycle, and many can but not all do. And yet we restart or recalibrate the discussion through the budget process. So aligning some of the budget needs with the technology cycles I think is something that the Congress should look at as well.

Senator CARPER. All right. Thank you. Mr. Kundra.

Mr. KUNDRA. I think, Mr. Chairman, you are commended to really bringing a focus on Federal IT, which is not necessarily the sexiest subject in government. So I really appreciate the focus that you have brought over the many years.

The areas that I think would be really, really helpful, I think the bill that you focused on and what I have seen working with your teams, seems to be transformational.

Second would be the focus on the budget authorities; especially consolidating commodity IT under departmental CIOs would be extremely helpful in moving this conversation forward.

Senator CARPER. Great. All right. That is very helpful. Thank you.

Senator Brown, any last questions before we excuse this panel? All right. Gentlemen, thank you so much for joining us today and for the good work that is going on, and let us just not relent. Let us keep it going. Thanks so much.

All right. Panel No. 2. I like to say we were saving the best for last, but those first guys were pretty good. We will see.

The first witness on our second panel is Steve O'Keeffe, Founder of MeriTalk Online, a Government IT network that focuses on driving the Government IT dialog. A 20-year veteran of the Government IT community, Mr. O'Keeffe has worked in both government and industry. In addition to MeriTalk, Mr. O'Keeffe has founded Telework Exchange, GovMark Council, and O'Keeffe & Company. Nice to see you. Welcome.

Rishi Sood—is that correct?

Mr. SOOD. Yes.

Senator CARPER. Has your name ever been mispronounced?

Mr. SOOD. Every day.

Senator CARPER. OK. All right. Hopefully not here. Mr. Sood is Vice President of Gartner Incorporated, a major information technology research and advisory company. Mr. Sood has spent the past 17 years at Gartner, but his recent focus has been dedicated to cloud computing and cybersecurity policy in government.

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Our final witness is Mr. Al Grasso, President and Chief Executive Officer of MITRE Corporation. Nice to see you. MITRE Corporation is a leading not-for-profit organization which provides high-level analysis and information related to information technology and modernization.

We welcome you all. Thank you for your preparation and your willingness to spend this time with us, and we look forward to hearing your testimonies. Again, your entire statements will be made part of the record. If you would like to summarize, that would be just fine.

I am told we are going to have a vote at noon, high noon, so that will give us an opportunity to complete each of your testimonies, and then what I will probably do is just run—if we only have one vote, I am just going to go to recess for a few minutes, run and vote, and then come back and we will ask a few questions.

Mr. O'Keeffe, would you like to lead us off? Thank you.

STATEMENT OF STEPHEN W.T. O'KEEFFE,[1] FOUNDER, MERITALK

Mr. O'Keeffe. Thank you, Senator Carper.

Senator CARPER. What did you say?

Mr. O'Keeffe. Thank you.

Senator CARPER. I am just kidding. [Laughter.]

You were not born in Mississippi, were you?

Mr. O'Keeffe. No, I was not born in Mississippi. Just next to it.

Thank you for the opportunity to testify here today. It is great to be back. My name is Steve O'Keeffe, and I am the Founder of MeriTalk, the online Government IT community. We are here today to talk about OMB's 25-point plan to fix Federal IT, and I would like to start with a quick comment about cloud computing, which is central to OMB's plan.

As you mentioned, this is not Mick Jagger's cloud that we are supposed to get off. In fact, many Federal agencies have already jumped on the cloud. This is not pie in the sky, if you will pardon the puns. Cloud——

Senator CARPER. That is pretty good. I think you are on a roll here.

Mr. O'Keeffe. Here we go. Cloud——

Senator CARPER. You are going to be a tough act to follow. I hope you guys are taking notes.

Mr. O'Keeffe. I will be here all day.

So cloud is delivering very real savings and enhancing agility at Federal agencies like National Aeronautics and Space Administration (NASA), Jet Propulsion Laboratory (JPL), Department of Health and Human Services (HHS), and the Securities and Exchange Commission (SEC). This is not experimental stuff. These are very real savings.

So maybe to kick off, why should we modernize Government IT? The Federal Government currently spends north of $80 billion, with a "B," on IT. That is a lot of jingle—33 percent more than the gross state product of Delaware, incidentally.

[1] The prepared statement of Mr. O'Keeffe appears in the appendix on page 80.

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Despite talk about doing more with less, these numbers continue to grow. I have been in the Government IT community for over 20 years, and every year the budget seems to go up.

Agencies are spending nearly half their IT budgets, some $35.7 billion, supporting legacy technologies in need of modernization. And so to the 25-point plan. Like many others, my first review of OMB's 25-point plan ended in confusion. Twenty-five points. Really? When I was a small boy in school, I had profound challenges remembering the Ten Commandments, and, of course, there were only 10 of those.

As we did last year for the Committee's open government hearing, MeriTalk launched a survey of the Federal IT community to get government and industry perspectives on the 25-point plan. We asked respondents to rate each point of the plan based on whether it was, one, desirable and, two, doable. And taking a leaf out of Ross Perot's book—for those people who remember the election—we have charts again, and I think those are in front of you, Senator Carper.

The net up-front is that the community feels that all points are desirable, but there are some serious questions about executability. Interestingly, government employees are less optimistic about doability than their industry counterparts.

We asked the community to rate each point in the 25-point plan, and as you can see from the All Respondents chart, the scattergram, the community does not place equal value on all points. Interestingly, the evolutionary, nurturing and easy-to-understand points score best—Katie doing Vanna White here—with Point 7, design a formal IT program management career path, topping the charts.

The most revolutionary initiative rated lowest. See Point 3, Cloud First.

Other disruptive initiatives did not fare that well either: Point 1, data center consolidation, hit roughly in the middle of the pack. And Point 2, enabling a governmentwide marketplace for data center availability scored poorly as well.

Now, let us look at civil versus defense. As you can see in the charts, civil and defense respondents march very much in lockstep. Point 7, design a formal IT program management career path, and Point 10, launching a best practices collaboration platform, top the charts. Interestingly, civilian agencies are more focused on Point 16, reducing barriers to small innovative technology companies, a point that Vivek hit pretty hard, I think. Due to their dynamic mission, defense agencies have embraced this approach long ago. DOD demonstrates a greater appetite for shared services as well as optimism for executability.

Now to government versus industry. Interestingly, with the exception of government being less optimistic about the ability to deliver, government and industry are almost precisely on the same page. The exceptions include that industry prioritizes Point 8, requirement to scale IT program management career path, as well as Point 15, requirements to issue guidance and templates to support modular development. It is no great surprise that these points are important to contractors that are interested in getting it done.

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Closing out the survey, we asked what one thing would respondents recommend that the government do to improve Federal IT. Both government and industry suggested that we attach accountability to objectives. Other hot recommendations: allow CIOs to retain funds they save, eliminate unfunded mandates, and reduce the number of objectives. Clearly, less is more.

The net take-away from the study: To increase the impact of efforts to fix Federal IT, we need to simplify the message and focus on the three C's—consolidate, connect, and calibrate.

Consolidate: Less is more.

Connect: The Federal Government's senior IT professionals are not equipped for nor experienced at driving change. We need to communicate the why, how, and what it means for your career in order to successfully operationalize desired change.

Calibrate: We need to set goals that we really can and mean to measure, and we need to follow through on measurement and hold executives accountable. We need to recognize that the changes on the table are not easy. We should set realistic timelines, and we need to establish venues and tools to support Federal IT professionals as they move through the profound changes.

If the definition of insanity is doing the same thing and expecting a different outcome, then Mr. Vivek Kundra deserves high praise for introducing much-needed new thinking into Federal IT. Federal IT professionals estimate that data center consolidation and cloud can drive upwards of $14 billion, again with a "B," in efficiency savings.

Mr. Kundra is asking for $25 million to fund the Federal IT fixes. The return on investment on this $25 million is hundreds of dollars for pennies invested. The point here is not that we should focus on the easiest or most popular initiatives. OMB needs to prioritize and focus hardest on the programs that offer the highest return on investment. That means cloud and data center consolidation. We need to listen to feedback from the community, set a clear vision, and build an operational framework to realize the changes that we seek.

Thank you for the opportunity to testify.

Senator CARPER. We thank you. Thank you very much.

Mr. Sood, please proceed.

STATEMENT OF RISHI SOOD,[1] VICE PRESIDENT, GOVERNMENT VERTICAL INDUSTRIES, GARTNER, INCORPORATED

Mr. SOOD. Chairman Carper and distinguished members of the Subcommittee, thank you for the opportunity to speak to you today. My name is Rishi Sood, and I am Vice President of government research at Gartner. Gartner is the world's leading information technology advisory and research firm and is a valuable partner to 60,000 clients and 11,000 distinct organizations, including the Federal Government.

In examining the President's plan, I would like to focus on the growth in Federal IT spending, the elements of the plan that will have an immediate impact, and reform issues that will be important over the long term.

[1] The prepared statement of Mr Sood appears in the appendix on page 93.

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To begin with, Federal IT spending has exploded over the past decade. According to my research at Gartner, traditional IT spending by Federal Government organizations was approximately $32.2 billion in 2001. This year it will reach $80.1 billion. This is an increase of over 248 percent over the past 10 years.

While much of this IT expansion is justified by growing Federal operations, insufficient analysis has been given to the cost effectiveness of IT spending. Additionally, some of the spending increases have not been effectively coordinated, resulting in some cases in technology sprawl across the Federal Government.

Given this dramatic rise in Federal IT spending, there are a number of questions that need to be addressed. What is the value and cost effectiveness of IT spending? To what extent is accountability adequately built into the IT spending? And what steps should be taken to invest the right amount in the right applications while avoiding costly mistakes?

While these questions are always important, they are even more important in light of the current budget battles and fiscal constraints that will affect Federal IT spending. Not only will Federal agencies face slower growth in IT spending over the next decade, but there also may be cutbacks to current levels of IT spending. Urgent action is needed to improve IT spending because reforms will take time to show results.

In the end, however, the value of IT comes from the impact of technology on government operations, increased productivity, lower cost of service delivery, and increased customer service. To succeed in these times, government must harvest the upside potential of IT while limiting the downside risk of implementation failures.

Let us discuss some of the parts of the reform that will have an immediate impact.

President Obama's 25-point reform plan is a strong path forward to align the needs of Federal Government organizations with budget realities. The reform creates guardrails needed to guide technology operations while continuing to promote innovation and accountable technology use. In many respects, the reform plan lays the initial foundation needed to answer the questions raised earlier: value, accountability, application size, and mix.

Several of the areas of the reform plan will likely be most important for Federal technology management practices. These include:

No. 1, the focus on an empowered CIO position. Empowered CIOs are needed to set enterprise goals, push standardization through the organization, and drive more efficient technology use. By strengthening the CIO position, there will be greater accountability for achieving targeted agency goals.

No. 2, move to a data center consolidation plan. The increase in data centers across the Federal Government has been dramatic. The task now is to consolidate these data centers to drive down costs and increase efficiency. Harvesting economies of scale is critical for the effective allocation of information technology investments.

And, No. 3, the focus on shared services. The move to shared services provides an important means for Federal agencies to maximize the value of technology, create a services-led approach to tech-

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nology delivery, and build more efficient IT services across the government enterprise.

Now let us look at some of the longer-term reform issues in front of us. The President's reform plan includes other strategically important goals that will likely require a longer time horizon to implement. These include additional investments in government personnel. The Federal Government will need to invest in Federal contract officers, acquisition officers, and program managers to drive and execute real change in procurement, acquisition, and management of technology projects.

No. 2, technology vendor outreach, partnerships, and buy-in. An effective technology and service provider community is an essential part of Federal success with IT. As larger reforms take root, it will be vital for the Federal Government to increase its outreach to the vendor community, continue to work in partnership approach with this community, and to secure a strong buy-in for the changes ahead.

And then, No. 3, an agile approach to IT. One of the most difficult yet important aspects of the reform plan involves building a modular approach to technology investments. This will span multiple parts of the technology life cycle and will likely require more effective and detailed use of newer methodologies, like EVM and PPM, to support these goals.

In addition to the issues described above, it will be important for Federal officials to recognize the following:

No. 1, timing. The reform plan includes goals for 6-, 12-, and 18-month time periods. While these goals are laudable, they may be overly ambitious. The Federal Government is an enormous enterprise, and it is difficult to achieve significant structural changes in a short time horizon.

No. 2, assisting agencies through the change. While some agencies have embraced the changes proposed, other agencies may be more resistant to change. As the reform plan moves forward, proper incentives and disincentives will be critical in moving agencies in a cohesive fashion.

And then, No. 3, technology as a silver bullet. In the end, it must be recognized that information technology represents the best mechanism to improve government efficiency and lower the cost of service delivery. Consequently, IT must remain an important area of continued aggressive investment. The critical issue now is to protect and incentivize the IT reforms noted here so that Federal IT will maximize results while minimizing mistakes.

Thank you for your time, and I look forward to your questions.

Senator CARPER. Thanks. That was great testimony. Thank you so much.

Mr. Grasso, welcome. Very nice to see you.

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STATEMENT OF ALFRED GRASSO,[1] PRESIDENT AND CHIEF EXECUTIVE OFFICER, THE MITRE CORPORATION

Mr. GRASSO. Thank you. Chairman Carper, Senator Brown, honorable Members of the Subcommittee, thank you for giving me the opportunity to appear in front of you today on this very important topic.

As you mentioned, my name is Alfred Grasso. I am President and CEO of the MITRE Corporation. Our company's 50-plus years of experience, contributions, and accomplishments have given us a perspective that I believe is highly relevant to the topic of information technology planning and management.

Information technology-intensive programs operate in an environment of rapid technology evolution where new generations of technology are introduced in months rather than years. Unfortunately, currently the Federal acquisition processes and budget cycles are not well matched to these timelines. OMB's 25-point plan is a positive step in the IT reform process.

As I observe the state of IT management in the Federal Government, I am struck by the amount of attention paid to the failures versus time analyzing the successes for critically important lessons. There is a strong tendency to impose new policies, processes, and reporting requirements in an effort to avoid future failure. These requirements introduce a burden that reduces agility, imposes costs, and delays the delivery of capability.

In an interesting study conducted at the Defense Acquisition University, students determine that a "null program"—that is, a program that delivers absolutely nothing but satisfies mandatory reporting and process requirements—takes about 3 years to complete under the current rules. A system that requires 3 years to deliver nothing is clearly fundamentally flawed.

The 25-Point Implementation Plan to Reform Federal Information Technology Management is based on practices that work. We applaud OMB, Mr. Kundra, and the Federal CIO Council's leadership on this topic. However, experience leads us to observe that additional steps can be taken both to enable successful implementation of the plan and to expand on some of the important goals defined in it. With that in mind, enduring change will require the following:

First, establish IT governance that includes authorities and flexibilities where they best contribute to the success or failure of these programs, without losing transparency into how these portfolios are performing.

Second, build and empower PMOs by incentivizing and professionalizing key management and technical roles to motivate people to adopt these roles as careers, not simply jobs.

Third, define and build IT capabilities that are both secure and resilient.

The first step is to establish a governance model that combines a comprehensive portfolio management and budgeting approach with close coupling to the end user. The goal from my experience is to provide the authority for CIOs to manage their budgets as a

[1] The prepared statement of Mr. Grasso appears in the appendix on page 98.

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portfolio, with the flexibility to shift resources to address changing needs, changing technology, and increasing agility.

Fundamentally, the problem is this: The investment decision process occurs 12 to 24 months before the budget is actually made available, but the scoping, planning, and foundational technical work necessary to make a sound investment decision cannot be taken that far in advance and without some limited budget authorization. The 25-point plan proposes to work with Congress to realign this process, and we agree that is an important thing to do.

I strongly encourage Congress to take the necessary steps to realign the budgeting model and allow CIOs and portfolio managers to exercise the strategic decisionmaking that their peers in the private sector have had for years.

In addition, the plan raises the need to align the delivery and technology cycles through incremental delivery. Again, I agree. However, it is critical that the increments be defined by sound, upfront architecture and systems engineering and the timing of increments be linked with the operational tempo. Sound systems engineering performed early in a program's life cycle has a strong correlation with improved project cost estimation and schedule planning. Likewise, alignment with the operational tempo ensures that technology drops have clear business value and leverage IT infrastructure to support future cost-effective delivery of capabilities.

The second critical step is to establish strong program management offices by incentivizing and professionalizing the key roles for successful IT program delivery. In my past testimony to this Subcommittee, I emphasized the importance of maintaining strong technical and management capabilities within the PMOs.

It continues to be my experience that successful programs are characterized by a strong government PMO capable of acting as a strong technical peer with contractor counterparts on systems engineering topics. The individuals assigned to these program offices must view their position as a career and not simply a job. Incentives play a key role in attracting and retaining competent program office personnel. Establishing a career progression gives individuals the opportunity to secure greater responsibility and pay commensurate with increased degrees of proficiency.

The third area of extreme importance is securing information systems and ensuring their resilience. This should be a critical aspect of any investment, and it warrants major investments in its own right. All too often security is regarded as an afterthought, and all too frequently concerns about system vulnerabilities are used to justify making less transformational investments and adhering closely to the status quo.

It is critical that the architecture and design of IT systems address both vulnerabilities and the capabilities required to withstand a breach. These factors should be key to the evaluation of any IT investment to avoid additional costs downstream. This is a topic on which the Federal CIO, the CIO Council, and the Congress can provide more leadership. They should send a clear message that government information technology investments must not only be aligned with business needs, deployed incrementally and managed properly within budget and schedule, but also must be architected, developed, and operated with a clear eye on protecting

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public and private data and continuing the critical services government performs for the public.

Achieving the results expected of the 25-point plan requires a major transformation that spans many aspects of the Federal Government's operations. The many elements of the 25-point plan reflect two sets of related priorities: Adopting new technology that enables greater efficiency and establishing an enduring foundation of capabilities to plan, manage, and execute IT programs more successfully. I believe the latter represents both the greatest challenge and the true imperative. Without the opportunity, authority, and resources to accomplish these goals, the success rate in adopting new technology will continue to suffer.

I am supportive of the direction of the 25-point plan as well as other similar action plans developed and being implemented across many agencies today. I am encouraged by this Subcommittee's clear interest in taking steps to codify methods and operating models that we know to be successful and on the increased emphasis on develop foundational capabilities that will endure beyond contemporary solutions.

I believe if these steps are taken, the promise of the 25-point plan can be realized, and the priority it lays out will have lasting value.

I respectfully request that my prepared statement be included in the record, and I would be pleased to answer any questions.

Senator CARPER. And we will be pleased to make your prepared remarks part of the record.

That was an excellent summary.

Thank you for your testimony, all of you. It was just superb.

You may have heard that a vote has started, and I am going to run and vote, and we will just recess for a little bit. When I come back, the first question I will ask you—you can be thinking about this. I am going to ask you to reflect on the testimony of each of the other two witnesses appearing with you and some things that you think that you really agree with or maybe you are not sure about. And if there is anything you would like to look back to the testimony of our first three witnesses, to comment on what you heard there that might be appropriate to raise. We will start with that, and we will probably go for about, 15, 20 minutes and then adjourn.

All right. Thanks very much. I will be back in about 10 minutes. [Recess.]

I am going to ask that we reconvene. Thank you for your patience and for bearing with us, and now let us resume.

Just before I left, I indicated that my first question was going to be to ask you to reflect on what your colleagues here at the table have had to say and for each of you just to do that, and if you have any reflections on some of the testimony and the answers that the first panel provided for us, I would welcome either of those.

Mr. Grasso, would you like to lead us off, please?

Mr. GRASSO. Sure. There were several points that have been made throughout the day here today that I think are especially valuable, and, in fact, one reflects a question that you asked earlier. I think it should be no surprise to anybody that what is presented in the 25-point plan is a significant change agenda. And when it

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comes to change, there is indeed quite a bit of resistance to change because it imposes on people's equities in some cases and threatens others.

So we look at things like data center consolidation and so forth, while we have, I think, admirable objectives, there is no doubt in my mind as we progress in this area that there will be obstacles in achieving those objectives. But I believe, with the proper level of leadership, attention, and perseverance, that we could overcome those obstacles.

What we really do need to do is to ensure that the right incentives are in place for everybody so that we are all moving in the same direction.

Senator CARPER. Talk a little bit more about that, please?

Mr. GRASSO. All too often there are individual incentives. Everybody around the table is incentivized for their own personal career growth for a number of reasons. There are organizational incentives and there are incentives that are given to contractors in supporting the activities.

So if you look at those three different incentives, today many of the individual incentives really are less focused on the outcome of the activity, and they are more focused on what I would call a career track for an individual.

If you take a look specifically in the military, the job rotation and the assignments a person has been in is more important perhaps than staying in an assignment for a long enough period to see an outcome fulfilled. So we are finding folks rotating more often than should be.

Inside industry, if you have a successful program manager on an important program, rest assured that person will be rewarded from a career perspective while on that program and as he or she transitions out of that program. It is often not the case where someone can get rewarded by staying on the same program for a number of years beyond what would be typical for that kind of assignment inside of government. So the incentives need to be properly aligned to ensure that they are indeed pursuing what they believe to be a very strong career track.

And the last point I would make is the topic of accountability. We all need to be accountable for these outcomes, and I think it is important to recognize that the successful outcome is one for which a number of stakeholders are involved. And there needs to be a shared sense of accountability, not just the CIO is accountable and he or she will succeed. All of the stakeholders need to share that level of accountability and need to be incentivized to do so. So I think those are some key points that were made.

One last point that I think Rishi made is the business value. We talk about IT sometimes exclusive of the value that it delivers to transform the business and to deliver new capabilities or perhaps to deliver current capabilities more effectively. So we need to ensure that the IT community and the mission side are very closely connected to ensure that it is delivering the business value that it was intended to deliver.

Senator CARPER. Good. Thank you. Those are very good points. Thank you. Mr. Sood.

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Mr. SOOD. I think there was really valuable testimony by fellow panelist Mr. Grasso here that really focused on sort of the governance issues, that focused on really the program management and career path issues associated with maintaining this course across the Federal Government. I think that is a vital aspect of the reform plan, the amount of investment that we are putting back into the agencies and the personnel within those agencies.

I also think Mr. O'Keeffe has provided some really valuable data straight from governments directly, straight from the agencies and the vendor community directly in really interesting ways, not just what we should be doing and what is appropriate and what they think is appropriate about the reform plan, but also what is doable. And that juxtaposition between what can be done or should be done and what can be done over a short period of time I think is very valuable. It gives you a sense, I think, as Chairman of this Committee, really to look at the level of resistance that might be focused on some of the major reform plan items and the need to really push and lead those issues forward.

I just want to make another comment, though, that was specific to the earlier panel, the government panel directly, because I think they made a number of points which were talking about transparency about this process, about the fact that you have been dedicated to holding these hearings and really shining a light, if you will, on this process.

The combination of the IT Dashboard, the combination of the TechStat strategies, the combination of the hearings you are holding I think truly are making some of those first steps toward reforming the entire process and getting the level of waste and the level of efficiency out of the IT pantheon. So I applaud those efforts.

Senator CARPER. Thanks for saying that. Thank you. Mr. O'Keeffe.

Mr. O'Keeffe. I wish you had told me there was a test beforehand. I would have paid more attention.

Senator CARPER. This is a pass/fail course. [Laughter.]

Mr. O'Keeffe. I think there has been some very valuable testimony, and the perspectives of my fellow panelists here have been terrific.

I think that the incentive point that Mr. Grasso makes is right on the money. We need to look at why people are going to be incented, what we refer to as "What's in it for me" (WIIFM)?

There are programs that have been launched at various Federal agencies where if you uncover savings opportunity, you get to keep 50 percent of that money. And what has the result been? No savings opportunities have been uncovered because they already have 100 percent of the money, so why would they want to identify a program in order to lose half the budget?

If you look at things like data center consolidation—and John Collins has been involved in some of those meetings—we are looking at the ability to consolidate data centers in other agencies' data centers. Well, we had a data center lead from an agency out in Austin, Texas, who said that—he called around to agencies in the area in Austin and San Antonio to identify what other agencies might have space so he could consolidate into them. And what he

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found was nobody had any space. Why would they have space? Because if they allow him to consolidate into their data center, they lose that space and effectively they lose budget.

So I think we need to look at some of the fundamental incentives. What are the carrots? What are the sticks? And, importantly where is the dog bone here? How are agencies like GSA eating their own dog food? Which I think is tremendously important.

I think Rishi's perspective in terms of organizations like Gartner can provide terrific crossover from what has happened in the commercial market so we can identify best practices for government, which are critical.

I also think there were some interesting perspectives shared from GAO saying there are 600 H.R. systems in the Federal Government, $2.9 billion. Clearly there is an opportunity for synergies and shared services.

There are 4,700 systems currently outsourced. Vivek mentioned that. So when we talk about security, clearly there are security issues that exist in the current model. In many circumstances agencies are using security as a way not to move to cloud, and I have participated in testimony myself where we talked about the problems with leaky systems as they exist today on premise.

I think some of the numbers about how many agencies have moved to cloud first are also very interesting. I would be curious to get more transparency into that, and also the discussion about the 14 items on the 25-point plan that are up in 6 months. I think the question about how far we have moved on those is a little unfair inasmuch as we are not sure what funding has been attributed to the 25-point plan.

So I think just overall, as we look at—I am just looking up here at the crest above your head: E Pluribus Unum; From many, one. And so this notion of what we are trying to do as a Federal Government, I think we need to look at it as, how can we all work together in order to move the ball forward? And, critically, as we look at cloud computing, E Pluribus Unum really could be a motto for cloud computing inasmuch as the notion of everyone doing their own thing is not going to solve the problem. We do absolutely need to bring the resources together in order to provide a better, more effective, more efficient solution, not just for IT but for America.

Senator CARPER. That is great. Believe it or not, your reference to those Latin words behind me is giving me an idea for my closing thought. So that is good.

This is really a question for all three of you, if I could, and let me just start with Mr. O'Keeffe. First, we want to thank you and your team at MeriTalk for the information you were able to provide today regarding the agency officials' feelings about the 25-point plan. Very interesting. You find in this detail that both government and industry want accountability attached to the objectives of the plan, and they also suggest CIOs be able to retain funds that they save.

I want to ask each of you on the panel to discuss these two ideas. How do you propose we insert stronger accountability and stronger financial incentives into the management of Federal IT? And I will ask, Mr. Grasso, for you to lead off, and then I will just say I studied as an undergraduate—at Ohio State, I studied some economics,

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my professors would say not nearly enough, But I got an MBA at Delaware and studied a little more economics. But I have always been fascinated by how do we harness market forces to drive good public policy behavior. I have always been fascinated with that.

So, Mr. Grasso, when you said in your remarks—I think you talked about aligning the incentives. I look at almost everything, almost every issue that comes before us here. How do we have the incentives aligned? But would you want to take a shot at that? How do you propose that we insert stronger accountability and stronger financial incentives into the management of Federal IT? You have already commented on this a little bit, but you might want to add to it.

Mr. GRASSO. Mr. Chairman, this is obviously a very tough topic. If we had the answers, we would probably be employing them as we speak today. But from an accountability perspective, all too often we measure accountability by activity and not necessarily by outcome, partly because activity is measurable We could measure that you did something and how well you did that something. But did all of those activities lead to the outcome that you had desired.

Senator CARPER. I like to say we measure progress—or we incentivize progress.

Mr. GRASSO. That is exactly right. So I would say it would be a good first step to really develop a set of shared outcomes that are defined well enough and not so far into the future that it will be several careers before you could achieve those outcomes, but outcomes that are indeed measurable, as is in this plan, where you have 6-month increments. You are not just measuring progress, but there is a very specific, tangible outcome which connects the entire community together and would be a shared success for the community. So that means that it is an outcome that has responsibility of the developer to deliver something, the user to accept it and to start using it, and the test community to ensure that they have a program that is in place in the right time sequence.

If we become more outcome focused than activity focused, I think attention to accountability will increase significantly.

Senator CARPER. Good. Thank you. Mr. Sood.

Mr. SOOD. Yes, just to dovetail on Mr. Grasso's points there, I will go back to my written testimony that really focused on the business value of IT. I think too often in the reform or in the discussions about the reform plan, there has been focus on whether Project X or Project Y should be canceled or not and what are the cost savings associated with that.

I think in many respects CIO Kundra made a very important point, that when he did the first pass of the at-risk project list and took a look at the four that were terminated and the 11 that were reformed, if you will, the more important side of that was the 11 that were reformed because at the end of the day the business need is still going to be there for whatever the technology initiative initially was there.

So being able to tie back incentives and being able to tie back that process to what is really the impact on the agency's specific business process or the outcome that they are trying to achieve I think is a fundamental part of how we look at reform. It is not simply about taking the 2,000 data centers and moving them down to

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a manageable 1,000 or what have you. It is really about how efficient those data centers are and how much are we leveraging the economies of scale in running those data centers so that they are impacting real business issues.

Senator CARPER. All right. Thank you. Mr. O'Keeffe.

Mr. O'Keeffe. I think to accountability, transparency is the answer. We need better data. The IT Dashboard is a great move. There are still some significant fidelity issues in terms of the quality of that data. But the best way to drive accountability is transparency, and I think that has been talked about. We need to continue to invest in those resources.

We need to make sure that we do not make claims about what is out there that is not out there. And so if you look at things like the subcontractor database that was announced in the Washington Post 6 to 8 months ago, the quality of that data still is not particularly good. So we need to make sure that people are rewarded, which goes back to incentives.

I think that when you look at IT people—and we are hiring them right now—they are very difficult—very good quality IT people are very difficult to hire, especially if you look at people, for example, who are building mobile applications, some of the more progressive disciplines. And so the public sector needs to work out how to incent these people to work in the government and to stay in the government. There are many, many excellent IT people in the Federal Government. But if you have a culture where you cannot afford to hire the best and, candidly, you have significant challenges getting rid of people that do not perform, then what kind of culture does that breed?

I think there are many opportunities for the government to incent and motivate these IT executives and professionals and practitioners. This should not be about the beatings will continue until morale improves. And if there are too many unfunded mandates, it is very difficult to get out of bed in the morning and feel good about what you are doing.

So we do not have the ability to open up the pocketbook and just lavish money on these people, as many private sector organizations are. But we can look at things like telework where we can give people the flexibility to work from home. We can look at some of the prizes that are out there right now where we can reward innovation coming from the government. And I think we also need to look at what we are outsourcing. So maybe some of these more interesting, more engaging projects, instead of outsourcing those to contractors, we could be looking at providing those exciting projects for government employees to work on.

Senator CARPER. All right. All good ideas. Thank you.

A question for Mr. Sood and Mr. Grasso. In your testimony today, you both noted how the President's plan incorporates a number of commercial best practices and attempts to bring them to government. One example of this is a move to segmented or modular development of IT projects.

What concerns do each of you have about the ability of government to embrace this approach, how we can make sure that agencies have what they need to make this particular piece of the President's plan successful?

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Mr. Grasso, do you want to lead us off?

Mr. GRASSO. Sure. If we take a look at the technology that we are accustomed to in our everyday lives today, whether it be the cell phone maybe in your pocket, whether it be the iPad in your briefcase, or the laptop, those have become commodities to us. We are turning those around anywhere from every 9 months to every 3 years. But we are able to do so because they are built on a very strong foundation and platform that evolves over time, and we do not necessarily have to retrain ourselves, nor do we have to restructure our own internal home infrastructure to accommodate these things.

The platform itself is evolving to allow forward interoperability of new technologies. It is done because the interfaces are very clearly defined. The modularity of components are very clearly defined, and a marketplace has been created where you have many contributors and innovators that are working inside this platform and this framework that allow it to evolve. So we believe, I believe that it is critical that we are able to do this going forward on the government side of the house.

On the government side of the house we have progressed quite a bit, but I come from a world where we buy everything all together. If you need to buy a new software system, you buy the hardware that goes with it and the infrastructure that goes with it then you are evolving the entire thing. You are not building on top of a platform. So we need to change that thinking that exists today for which fundamentally we need to be interdependent. We need to allow service providers to provide that platform, that infrastructure, and build the value-added applications on top of it, allow that infrastructure to, in fact, evolve on its own and feel confident that those interfaces that evolve will allow my future applications to also evolve so that I do not necessarily have to design the underlying infrastructure each and every time I upgrade.

Senator CARPER. All right. Good. Thanks. Mr. Sood.

Mr. SOOD. Yes, I would just say that agility with respect to IT is going to be the fundamentally most important way by which we really reform Federal Government IT spending over the longer term. But in many respects, it represents sort of the antithesis of the way the Federal Government has historically really looked at IT spending. We have looked at these wholesale, big-bang approaches typically that last over a 2-year procurement cycle, and the items or the requirements that you set up front might be obsolete by the time that procurement cycle is over and done with.

Having a more agile approach really will change that flexible nature, that foundational nature of Government IT spending, but the problems or the concerns I guess I would have is: How is Congress going to adapt the budgeting part to coincide with this agile approach to IT? How are we going to invest in the next group of contract officers, acquisition officers, and program managers that are really trained and seasoned to apply some of those techniques to their projects? How do we take detailed methodologies like earned value management or product portfolio management and really apply that to the agile structure so that, to CIO Kundra's point earlier, we do not get into this road where we are finally assessing these projects 3 or 4 years later and they have spent $20, $50, $100

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million without proven results? We need results or at least a review of results over a much more manageable timeframe.

Senator CARPER. All right. Thanks.

The last question is, and this would be for everybody: I want, if you would, to just think sort of the big-picture here again as we close out, and I just wanted you to think outside of what you already talked about and ask could you go beyond what you submitted in your testimony or even said orally, but are there any other final areas of concern in Federal IT reform that are not getting enough air time? What are the things that might be flying under the radar, if any, that could come back to bite us later on down the road? We will just close with that one.

Mr. O'Keeffe, any last thought there on that?

Mr. O'Keeffe. Well, I think a couple points. Cybersecurity is not in the 25-point plan, and the comment from Mr. Kundra is that it is baked into everything. Teri Takai, the CIO for the Department of Defense, asked that question when the 25-point plan was revealed, so I think we need to make sure that we are mindful of what is going on in security.

I think the feedback to date on FedRAMP has not been terrific, and so there is an opportunity to do better.

I think it is great that GSA is listening to the feedback from its colleagues in government.

I think the biggest thing to fear is fear itself and that we need to recognize this is changing very quickly. This whole community is changing very quickly. We need to be mindful of what can be a Luddite mentality. The people who oppose some of these changes are often referred to as "box huggers," people that want their PC wherever it may be and they want to be able to go touch it.

If you look at what has happened in the automotive industry, there is going to be significant change in industry. At one point there were Packards and there were Bugattis and there were a whole series of different cars, Tuckers and what you will. And ultimately we are going to consolidate that in the IT market to a number of players that we cannot subsist.

And I think in closing if we do not change—here was a superpower at one time that——

Senator CARPER. There was a what?

Mr. O'Keeffe. There was a superpower at one time that was structured under a monarchy and did not really recognize the value of democracy. And there was a revolution that you are probably aware of, which established a new superpower. And I think what we need to do is to recognize that the world is changing, and if we try to hang onto the way of the past in our society and also specifically in the IT changes that will enable that, then it will not be good for our future.

Senator CARPER. All right. Thank you. Mr. Sood.

Mr. SOOD. That is an excellent question, and I appreciate the opportunity to address it.

I think in many respects we in the Beltway get really focused on federally specific issues, and we are very insular in that nature. I think in many respects we need to take a step back and see what we can learn from others, see what we can learn in the 50 labs of innovation that take place across State and local government and

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see what we can learn from global public sector central governments like the United Kingdom or Australia and what they are doing with their technology innovation. Or even take some of the lessons, as I mentioned in my written testimony, of commercial best practices and really not adopt them in government but adapt them for the best practices within government. I think that is sort of a fundamental issue that we could use more enlightenment on, shine more of a spotlight on, as to what are really the innovations that are taking place outside of the Federal Government here that we could be learning from.

Senator CARPER. OK. Good. Thanks.

Mr. Grasso, you get the last word.

Mr. GRASSO. Throughout this discussion, I have heard the term "compliance" used quite a bit, and I would offer that compliance is necessary but it is not sufficient. We need to do things right, but we need to also do the right thing.

So earlier in this discussion we talked about FISMA compliance with Google. What I would tell you is when it comes to compliance, compliance is often based on a number of experiences and best practices and, thus, a set of processes to avoid issues that were seen in the past.

When you look at topics like cybersecurity, if you comply, you will avoid past problems. But it is not sufficient because we are learning new things each and every day. So we need to do business differently. So we need to go beyond simply compliance. We need to create an environment where we empower individuals to take the initiative, to assume that change, if you are doing the right thing, is actually a good thing.

We talked about incentives earlier. Many individuals are incentivized to strictly comply to all of the rules. It puts them inside of a box, if you will, and sometimes while they are doing things right per the process, they are not necessarily doing the right thing.

So I think we just need to be very, very careful. We talk about this plan being really a plan of change. We need to create an environment and a culture where change is acceptable and that we learn from our failures so that, in fact, we can succeed with the changes that we plan in the future.

Senator CARPER. Well, my thanks, our thanks really to each of you for coming back and testifying before us today and in a number of cases and for really giving us a lot to think about and, frankly, a lot to help us.

You mentioned in your last comment there, you mentioned the word "culture," and one of the things that I am endeavoring to do and this Subcommittee is actually endeavoring to do, is to try to change-bit-by-bit the culture in our government. And I said earlier in my opening remarks, I believe I mentioned, a lot of people think we operate under a culture of spendthrift, and what we are trying to do is to move away from that toward a culture of thrift where we really ask the question, "Is possible to get better results for less money or for not much more money." And I think in most cases it is.

One of the ways it has dawned on me is that one of the ways to get better results for less money is just by doing a better job in

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the way we develop and build these IT projects. That can really help us a lot. That is sort of a basic concept to understand, but it is really true.

So thank you all. I am going to followup with a few more questions in writing. One of the questions I will probably followup in writing is: Some of the witnesses said very complementary things about our legislation, which Senators Brown, Collins, Lieberman, and I have introduced. I really would welcome your thoughts if there are some things that are missing or some things that ought to be taken out. So we are always interested in constructive criticism.

Again, thanks for your testimony and for helping to light the way for us here in the Legislative Branch.

With that, we are adjourned. Thank you.

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

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APPENDIX

U.S. SENATE COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS

SUBCOMMITTEE ON FEDERAL FINANCIAL MANAGEMENT, GOVERNMENT INFORMATION, FEDERAL SERVICES, AND INTERNATIONAL SECURITY

HEARING: "Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"

WASHINGTON – Today, Sen. Tom Carper (D-Del.), Chairman of the Senate Subcommittee on Federal Financial Management, convened the hearing, "Examining the President's Plan for Eliminating Wasteful Spending in Information Technology." The hearing explored efforts by the Obama Administration to rein in the federal government's information technology (IT) budget, which surpasses $80 billion annually. Vivek Kundra, the nation's first Chief Information Officer, delivered testimony on the President's 25-point plan to reform federal IT spending and management. The hearing examined the progress being made on the plan's implementation, as well as discussed the federal IT community's response to the plan detailed in a survey by Meritalk.

For a copy of the Administration's plan to reform federal IT management, please click HERE.

For more information on the hearing or to watch a webcast of the hearing, please click HERE.

A copy of Sen. Carper's remarks, as prepared for delivery, follows:

"Today's hearing will examine President Obama's plan to fundamentally transform the management of our federal information technology assets. The message of the plan is clear: We need to cut what we can't afford and nurture an environment in which innovative and more cost-effective technologies can be employed throughout government.

"As I've said time and again, we need to look in every nook and cranny of the federal government – domestic, defense and entitlements spending along with tax expenditures – and ask this question, "Is it possible to get better results for less money?" The hard truth is that many programs' funding levels will need to be reduced. Even some of the most popular and necessary programs out there will likely be asked to do more with less.

"Many Americans believe that those of us here in Washington aren't capable of doing the hard work we were hired to do – that is to effectively manage the tax dollars they entrust us with. They look at the spending decisions we've made in recent years and question whether the culture here is broken. They question whether we're capable of making the kind of tough decisions that they and their families make with their own budgets. I don't blame them for being skeptical.

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"And I'm afraid that their skepticism has proved well-founded when you look at the kind of avoidable management failures that have occurred in federal information technology over the past decade. The past mismanagement of our nation's $80 billion annual federal information technology is not only intolerable – it's unsustainable. Late last year, then Office of Management and Budget Director Peter Orszag said that fixing the broken management of our federal government's information technology was the "single-most important step we can take in creating a more efficient and productive government." Based on the information that Office of Management and Budget has released as a part of its reviews, I believe he may be correct.

"The failures of information technology management in the federal government have, in some cases, been spectacular. For example, the Government Accountability Office found in January of this year that those running the National Archives' Electronic Records investment had not been able to identify potential cost and schedule problems early and, as a result, failed to take any actions to address them. The Government Accountability Office estimates that, because of these failures in one troubled project, taxpayers will lose between $205 million and $405 million. That's real money we're talking about.

"Today, we will look at the President's 25-point plan to turn this ship around. The goals are ambitious and so are the timelines. Under the direction of our first Federal Chief Information Officer, Vivek Kundra, the plan is to be fully implemented within 18 months of its introduction. That's May 2012 if you're keeping score at home. But the various goals are broken down into six, twelve, and eighteen month increments. Today, I am particularly interested in hearing how we are progressing towards those six – month goals.

"The President's plan centers around three main initiatives: First, the plan fosters a cultural shift aimed at making the management and implementation of large federal IT projects more effective and efficient. Second, the plan pushes the federal government to adopt cheaper, better, and faster technologies. Third, the plan demands that we shed or consolidate the duplicative and wasteful federal data centers in our inventory.

"The plan is a positive first step in tackling the institutional and systemic problems that have plagued federal information technology management for years. It's not perfect, but the President and Mr. Kundra should be commended for taking on the challenge. I look forward to hearing from our witnesses today about how we are progressing towards these goals, how agencies are responding, and what those of us here in Congress can do to help make it a success.

"Today I'm also happy to introduce, along with my colleagues Senators Scott Brown, Lieberman, and Collins, the Information Technology Investment Management Act of 2011. This legislation calls for greater transparency when it comes to the cost and performance of our nation's information technology investments so that the American taxpayer can see how their money is being spent. It also demands that agencies and the Office of Management and Budget be held accountable for a project's failure and work either to fix them or end them.

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"The time for lazy, wasteful management of these expensive investments is over. We are going to demand that projects be on time, on budget, and deliver on their promises. If they don't, we're going to bring them to a halt, and we're going to end the pattern of throwing good money after bad. I hope that our witnesses will include in their testimony today some brief thoughts and comments about our legislation."

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STATEMENT OF SENATOR SCOTT BROWN, RANKING MEMBER

SUBCOMMITTEE ON FEDERAL FINANCIAL MANAGEMENT, GOVERNMENT INFORMATION, FEDERAL SERVICES, AND INTERNATIONAL SECURITY

COMMITTEE ON HOMLAND SECURITY AND GOVERNMENTAL AFFAIRS

Hearing on

"Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"

April 12, 2011

Senator Carper, thank you for holding this important hearing today. During times of economic hardship, the private sector innovates and finds new ways to operate smarter, faster, and cheaper. Yet responsible fiscal policy demands the government do the same in good times or bad. Accordingly, federal agencies and departments have increasingly looked towards information technology (IT) to modernize and enhance their administrative and operational functions. As you can see in the bar graph behind me, in just the last ten years, government spending on IT has risen from just over $46 billion in 2001 to nearly $80 billion in fiscal year 2011. As the government becomes more dependent on technology to conduct its daily business the proportion of the federal budget going towards IT is anticipated to rise. This is why as agencies go on to make new investments, appropriate acquisition policy and guidance must be firmly in place. Effective oversight and accountability must be ensured. As our witnesses will point out today, however, the federal government continues to struggle with these issues month after month, year after year.

Mr. Chairman, I know this is an issue that this subcommittee has continually focused on, and with good reason. New investments in software and IT infrastructure are supposed to streamline processes, create government efficiencies, and reduce costs. Yet, many of these programs, in fact, do the opposite. Whether it's the Census Bureau's hand-held devices, or the

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Archives Electronic Record's system, or Homeland Security's SBInet – we keep hearing about mismanaged IT programs incurring years of schedule delays and hundreds of millions, if not billions of dollars, in cost overruns. GAO and others point out time and time again that misaligned priorities, poor requirements management, and inadequate oversight continue to plague these investments. Unfortunately, the impact of these delays and cost overruns reach farther than just an individual agency's bottom-line. They have a significant impact on important long-term policy goals government-wide.

For example, take the Department of Defense's financial improvement efforts. DoD has never received a department-wide financial audit. They are pushing aggressively to be audit ready by 2017. Yet reaching that deadline is dependent on upgrades to financial systems at all of the services. As GAO has testified before, most of these systems are years behind schedule and will be billions of dollars over total cost when all is said and done. While many of them are "back on track", any further schedule delays will make meeting the 2017 deadline virtually impossible. We cannot afford for wayward IT projects to impact these important reform efforts in the future.

Thankfully, some significant steps have been taken to address some of the most pressing problems. OMB has created oversight tools, such as the IT Dashboard, to provide Congress and the public better insight into IT project performance. In addition, agencies are being held more accountable. OMB has reviewed a significant number of major projects and, in several cases, canceled or significantly restructured the most problematic programs. To Mr. Kundra's credit, OMB's 25 point reform plan for federal IT is a positive step in the right direction. It seems to address some long-standing program management issues while also taking advantage of key trends and innovations taking place in the private sector.

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I am encouraged by these efforts, but much more work remains to be done. There is no doubt that government can leverage the expertise of the private sector in better ways. More attention can be focused on lessons-learned and using best practices both inside and outside government. For our part, I, along with Chairman Carper and Senators Lieberman and Collins are working on legislation to codify some of the recent OMB initiatives, such as the IT Dashboard. The *Information Technology Investment Management Act* will ensure that these effective oversight measures last beyond the current Administration. Considering the amount of money being spent on IT, senior leadership accountability and ownership over these projects must be a continuing top priority. This legislation will go a long way to make certain it is, now, and into the future.

I am amazed by the potential for new technologies not only to streamline government operations, but also expand citizen participation like never before. No doubt, there are both many opportunities and challenges associated with bringing the federal government into the 21st Century. Our witnesses today play a big role in pushing us ahead. Their efforts do not go unnoticed. I thank them for their service and look forward to an engaging discussion.

Thank you Mr. Chairman.

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EXECUTIVE OFFICE OF THE PRESIDENT
OFFICE OF MANAGEMENT AND BUDGET
WASHINGTON, D.C. 20503

April 12, 2011

STATEMENT OF VIVEK KUNDRA
FEDERAL CHIEF INFORMATION OFFICER,
ADMINISTRATOR FOR E-GOVERNMENT AND INFORMATION TECHNOLOGY
OFFICE OF MANAGEMENT AND BUDGET

BEFORE THE SENATE COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
SUBCOMMITTEE ON FEDERAL FINANCIAL MANAGEMENT, GOVERNMENT INFORMATION, FEDERAL SERVICES, AND INTERNATIONAL SECURITY

"Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"

Good morning, Chairman Carper, Ranking Member Brown, and members of the Subcommittee. Thank you for the opportunity to testify on ongoing efforts to reform Federal information technology management.

My testimony will focus on the "25-Point Implementation Plan to Reform Federal Information Technology Management" (attached), our blueprint to bring IT spending under control and deliver better services to the American people.

The problems the reforms address are well-known: despite the vast promise of using information technology to improve how the Federal Government operates, we continue to see projects spiral out of control – wasting tax payer dollars, failing to deliver results, and introducing security vulnerabilities.

Effective management of IT projects is essential to protecting our citizen's information and our nation's security. No system can be secure unless it is well managed from its design through its implementation and operation.

Early on in this administration we took a new approach: bringing transparency to these failing projects through the IT Dashboard, using the TechStat model to bring the proper focus on resolving problems before it was too late, and reducing the structural barriers to bring innovative and effective technologies into government.

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The reforms we introduced in December 2010 build on this approach – an approach that has already reduced life cycle costs of major IT investments by $3 billion and decreased the average time for delivery of meaningful functionality from over two years to eight months.

Specifically, the reforms address five key areas:

1. Applying Light Technologies and Shared Solutions;
2. Strengthening Program Management;
3. Aligning the Budget and Acquisition Process with the Technology Cycle;
4. Streamlining Governance and Improving Accountability; and
5. Increasing Engagement with Industry.

The plan is focused on execution with clear accountability and ownership. To make sure this is not like a poorly performing Federal IT project we have broken down the reforms into in 6-, 12-, and 18-month intervals, with concrete deliverables that address the structural barriers that get in the way of consistent execution.

1. Apply "Light Technologies" and Shared Solutions

As a government, we too often rely on proprietary, custom IT solutions, instead of leveraging new technology and looking at common solutions to fit our needs. By leveraging shared infrastructure and economies of scale, "light technology" or cloud computing services[1], present a compelling business model for Federal leadership. Agencies are able to measure and pay for only the IT resources they consume, increase or decrease their usage to match requirements and budget constraints, and leverage the shared underlying capacity of IT resources.

Agencies are already taking advantage of the benefits afforded by the cloud, by reducing their ownership costs, improving productivity, and provisioning and scaling faster than ever before. The Department of Agriculture is migrating 120,000 users across 5,000 locations to the cloud, reducing costs by $27 million over a five year period, while the General Services Administration (GSA) is shifting 17,000 email users to the cloud, reducing costs by $15 million over the next five years. The Census Bureau deployed a cloud-based customer self-service tool in just 25 days, rather than the six months it would have taken conventionally.

To harness the benefits of cloud computing, we have instituted a "Cloud First" policy through the "Federal Cloud Computing Strategy."[2] This policy is intended to accelerate the pace at which the government will realize the value of cloud computing by requiring agencies to evaluate safe, secure cloud computing options before making any new investments.

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[1] The National Institute of Standards and Technology defines cloud computing as "a model for enabling convenient, on-demand network access to a shared pool of configurable computing resources (e.g., networks, servers, storage, applications, and services) that can be rapidly provisioned and released with minimal management effort or service provider interaction."

[2] http://www.cio.gov/documents/Federal-Cloud-Computing-Strategy.pdf

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The other key reform in this area of light technologies and shared solutions is an increased focus on controlling infrastructure costs. The Federal Government currently spends $24 billion or 31 percent of its annual IT budget on often redundant and inefficient infrastructure. This is the opposite of what the private sector is doing. Large companies are radically reducing their number of data centers to significantly reduce facilities, energy, IT infrastructure, and operations costs.

Since 1998 the Federal Government has increased the number of its data centers, from 432 to 2,094, a 385 percent increase. This growth is unsustainable. That is why we are actively shutting down 800 data centers by 2015.

2. Strengthening Program Management

Challenges with program management are pervasive across the Federal Government due to a general shortage of qualified personnel. Effectively managing IT programs requires a corps of program and project management professionals with extensive experience and robust training. Strong program management professionals are essential to effectively steward IT programs from beginning to end, align disparate stakeholders, manage the tension between on-time delivery and additional functionality, and escalate issues for rapid resolution before they become roadblocks.

In many government agencies, the Program Manager position is often filled on an ad-hoc basis with individuals temporarily pulled from other functional areas. As a result, agencies suffer from high turnover and a lack of expertise in this critical position.

We have worked with the Office of Personnel Management (OPM) to take steps to significantly enhance the supply of IT program management talent in the Federal Government. OPM has created a career path to attract and reward top performers. They will also draft a competency model for IT program management consistent with the IT project manager model to ensure that the Federal Government cultivates the highest performing managers in IT. The individuals managing the most complicated, high profile, and expensive IT programs in the world must be of the highest quality and given the ability to lead.

The formation of this new occupational series will grow the community of experienced and expert program managers that will help to generate best practices, innovations in IT management, and greater efficiencies and effectiveness in the larger Federal IT portfolio.

3. Align the Budget and Acquisition Process with the Technology Cycle

The rapid pace of technological change does not match well with the Federal Government's budget formulation and execution processes. The budget process forces agencies to specify in detail what they are going to build 24-months before they can even start a project, and the acquisition process routinely tacks on another 12 to 18 months. This multiyear process locks

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agencies into specific technology solutions that are almost by definition out of date by the time the project starts.

For years, including in the Clinger-Cohen Act of 1996, the Government has tried to move to modular development, allowing lessons learned from an early cycle in an IT program to inform the detailed plans for the next cycle.

But for modular contracting to be truly effective, in many cases it will need to be complemented with budget flexibility to manage IT programs responsibly. Several agencies have worked with Congress to achieve greater IT budget flexibility through multi-year and/or agency-wide portfolio appropriations.

To deploy IT successfully, agencies need the ability to make final decisions on technology solutions at the point of execution, so that the budget process is aligned with the technology cycle. Agencies need the flexibility within their portfolio to respond to changes on the ground. At the same time, Congress has a legitimate and important need for oversight; particularly given the history of project failures.

In the past 4 months, we have worked with Agencies to examine their needs and legal frameworks to determine where we may need to work with Congress to provide additional flexibility, while making sure we deliver additional transparency on how these funds are spent. We look forward to working with Congress to consolidate commodity IT funding under the agency CIOs and develop flexible budget models that align with modular development.

4. Streamline Governance and Improving Accountability

In June 2009, the Administration launched the IT Dashboard, making information on the performance of IT projects, such as project budgets and schedules, publicly available and constantly updated. For years, GAO and members of this Committee pushed for more information on troubled projects, as OMB tracked them and worked with the Agencies to bring them under control. The Dashboard provides this transparency and accountability, giving anyone the ability to identify and monitor the performance of IT projects, just as easily as they can monitor the stock market or baseball scores. It shows budget, schedule, and performance metrics. If a project is behind schedule or over budget, you will see it on the Dashboard.

To build off of the information provided in the Dashboard, in January 2010, we held the first TechStat Accountability Session (TechStat). A TechStat session is a face-to-face review of an IT program, undertaken with OMB and agency leadership and powered by the IT Dashboard. Meetings conclude with concrete action items, with owners and deadlines that are formalized in a memo and tracked to completion. This improved line-of-sight between project teams and senior executives increase the precision of ongoing measurement of IT program health.

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In June 2010, we halted all financial system modernization projects requiring agencies to ensure that project plans were focused only on critical functionality and systems were broken down into small frequent deliverables. Then in August 2010, OMB targeted 26 of the highest priority IT investments with TechStats to ensure they deliver value to the American people.

In total, these high priority TechStats and financial systems reviews have led to over $3 billion in life-cycle cost reductions, and have reduced time to delivery from over two years to eight months. As a result of these reviews, the Administration was able to gain a sharper picture of the persistent problems facing Federal IT. This engagement process led directly to our reforms in the areas of operational efficiency and large-scale IT program management.

The strategy for strengthening IT governance centers on driving agency adoption of the TechStat model. We are scaling this capability across the Federal Government, increasing the number of programs that can be reviewed and hastening the speed at which interventions occur. In the past 4 months, we have trained 129 agency representatives to implement the TechStat model at their respective agencies; 23 agencies have conducted their initial TechStat session; we open sourced the IT Dashboard code to allow adoption in states and territories; and shared our training material widely – including publicly on www.cio.gov/TechStat – leading to over 1,000 downloads of our detailed training guide, the over 100-page "TechStat toolkit".

Taken together the reforms allow Agency Chief Information Officers (CIOs) to increase their focus on portfolio management and away from policymaking and maintaining IT infrastructure. This work is being supported by the Federal CIO Council, the body for CIOs from across the government to come together to share best practices and develop policy, and the engine for much of what we do in IT across government. Moving forward, the Council will act more like the Board of a major company: setting high-level goals across the government, and conducting rigorous oversight to meet these goals.

This Council has become essential for executing all these reforms, driving collaboration among agencies, reducing stovepipes and finding common solutions to immediate problems. The CIO Council, with this new management framework, will ensure that Agency CIOs have the support they need to make these changes a reality.

5. Increase Engagement with Industry

Our review determined that Federal IT contracts are often difficult to manage because they were not well-defined or well-written. Many times this is the result of ineffective engagement with the industry, created by misinterpretations of acquisition regulations. With these artificial barriers in place, agencies cannot determine how to effectively get the services they require, which results in waste, delivery delays, and erosion of the value of IT investments as a result.

To address these barriers head-on, Dan Gordon, the Administrator of the Office of Federal Procurement Policy (OFPP) is leading an aggressive "myth-busters" campaign to identify and

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address core misconceptions about communication between the government and industry during the pre-award acquisition process.

The top ten misconceptions were demystified through a memo circulated to all agencies and throughout industry.[3] These myths ranged from "[w]e can't meet one-on-one with a potential offeror," to "[g]etting broad participation by many different vendors is too difficult; we're better off dealing with the established companies we know." In addition to overall better management of IT, we believe that increased engagement with industry will also help overcome the ties that may occur between agencies and certain vendors, stifling innovation and the ability for agencies to use the best and most innovative technologies.

In addition, GSA will be developing a pre-RFP platform that will support increased collaboration between industry and government during market research and concept initiation to leverage industry advances and knowledge, improve development of requirements, and otherwise support open and fair engagement between government and industry.

Conclusion

Throughout these reforms, we have taken the approach of scaling practices that we know work and focusing on execution instead of just policy development. Already this approach has accelerated the delivery of IT functionality, re-scoped and terminated poorly performing projects, and saved money.

That is why we must continue to build upon the progress to date and scale the practices that we know work to make Federal IT perform at the level the American people expect and deserve. The Federal Government must be able to provision services like nimble start-up companies and leverage smarter technologies that require lower capital outlays.

I would like to thank the members of the Committee and their staff for putting IT management front and center and helping transform the landscape of Federal IT.

[3] http://www.whitehouse.gov/sites/default/files/omb/procurement/memo/Myth-Busting.pdf

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STATEMENT OF
Dr. David McClure
Associate Administrator
Office of Citizen Services and Innovative Technologies
General Services Administration

BEFORE THE

SENATE COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
SUBCOMMITTEE ON FEDERAL FINANCIAL MANAGEMENT, GOVERNMENT INFORMATION, FEDERAL SERVICES, AND INTERNATIONAL SECURITY

APRIL 12, 2011

"Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"

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Good morning Chairman Carper, Ranking Member Brown and Members of the Subcommittee. Thank you for the opportunity to appear before you today to discuss the General Service Administration's (GSA) role in ongoing efforts to reform the Federal government's IT management reform agenda. GSA plays a pivotal role in supporting this agenda by pursuing cost effective and innovative technology solutions often shared across federal agencies.

In the last six months, the Administration's efforts to apply rigor to Information Technology Reform has resulted in several key guidance documents, policies, and efforts that inform the federal government's progress in implementing effective IT management reforms – in particular with cloud computing. Key documents include the *OMB 25 Point Implementation Plan to Reform Federal Information Technology Management* and the *Federal Cloud Computing Strategy* issued by the federal CIO's office. They frame the federal government's efforts to reform the way IT is acquired and managed while meeting the Administration's goals to make government more responsive, operationally effective, cost efficient, transparent, participatory, collaborative, and innovative for the citizens it serves.

At GSA, we think the adoption of safe and secure cloud computing by the federal government presents an opportunity to close the IT performance gap between the public and private sectors. We help agencies improve access to modern technology needs faster and with lower costs. The case for cloud computing is compelling. It allows agencies to pay only for the resources they use in response to high and low demand, avoid the expenses of building and maintaining an IT infrastructure, and control the appropriate level of security for data and applications. Also, cloud computing is a key technology for achieving cost effective data center consolidation. In fact, agencies have already started to realize savings as they begin to adopt cloud computing across their programs. There are lots of examples where agencies have implemented cloud solutions and found significant savings. Those are highlighted on our web page Info.Apps.gov.

GSA's Contributions to Government-wide IT Reform Efforts

GSA plays a strong leadership role in supporting the adoption of cloud computing in the Federal government. We concentrate our efforts on facilitating easy access to cloud-based solutions from commercial providers that meet federal requirements, enhancing agencies' capacity to analyze viable cloud computing options that meet their business and technology modernization needs, and addressing obstacles to safe and secure cloud computing. In particular, GSA has the lead in facilitating new innovative cloud computing procurement options, ensuring effective cloud security and standards are in place, and identifying potential multi-agency or government-wide uses of cloud computing solutions. GSA's continued ability to support these important initiatives is dependent upon the availability of funding from the Electronic Government Fund or other sources.

GSA is the information "hub" for cloud use examples and case studies, decisional and implementation best practices, and for sharing exposed risks and lessons learned. We launched

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and maintained a web site *(www.info.apps.gov)* as an evolving knowledge repository for all government agencies to use and to contribute their expertise.

Further, the Federal Cloud Project Management Office (PMO), housed in my office, provides support to the Federal CIO Council's Cloud Computing Executive Steering Committee and Working Groups. As we move more toward more high risk and impact system requirements, we'll engage even further with our intelligence community partners.

Figure 1 details the primary activities within the Federal Cloud PMO.

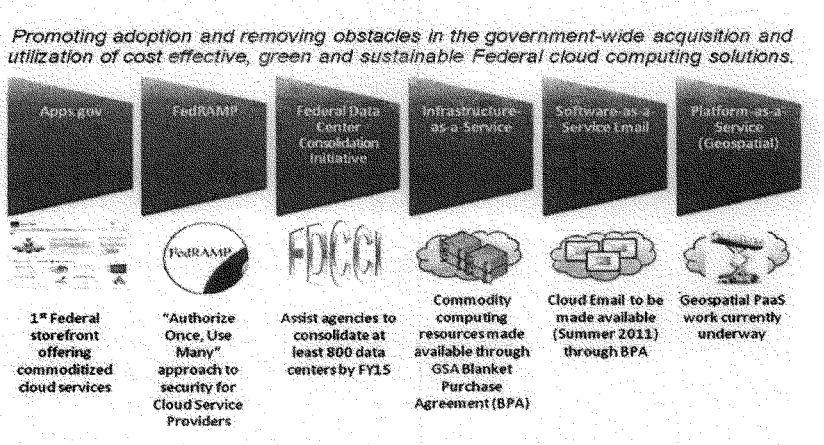

Figure 1

Our Cloud PMO is very active and productive. To illustrate, the PMO is working on the design and implementation of security controls, processes and procedures tailored to cloud computing – commonly referred to as the Federal Risk and Authorization Management Program (FedRAMP). In addition, in conjunction with our Federal Acquisition Service, we have developed procurement vehicles for agencies to acquire cloud services and products – infrastructure as a service and cloud-based e-mail are our current projects. We have also established a "cloud storefront" (*apps.gov*) as a site for agencies to directly purchase cloud services. The PMO also functions as an information clearing house by promoting current and planned cloud projects across the government and sharing best practices & lessons learned for cloud adoption and implementation.

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Additionally, the PMO supports OMB's Federal Data Center Consolidation Initiative. One of our own best practices is the use of working groups that address specific targets requiring specialized in-depth expertise such as security, standards and cloud based e-mail services. These working groups allow us to leverage experience across the government that produces results with a small technical staff.

Let me provide some additional detail on some of these initiatives:

Federal Risk and Authorization Management Program (FedRAMP)

The Federal Risk and Authorization Management Program is being established to provide a standard approach to Assessing and Authorizing (A&A) cloud computing services and products. Currently, this is an expensive, time-consuming process exercised inconsistently across the government. Currently, an average A&A costs up to $180,000 and requires up to six months to complete. FedRAMP will allow joint authorizations and continuous security monitoring services for Government and Commercial cloud computing systems. Joint authorization of cloud providers results in a common security risk model that can be leveraged across the Federal Government. A common security risk model is also a consistent baseline for Cloud based technologies ensuring that the benefits of cloud-based technologies are effectively integrated across the various cloud computing solutions. The risk model enables the government to "approve once, and use often". As depicted in Figure 2, each government agency must currently conduct its own authorization process that is duplicative, expensive and inconsistent. With the implementation of FedRAMP, an agency can accept security authorizations performed by other agencies with confidence in its standardization and consistency.

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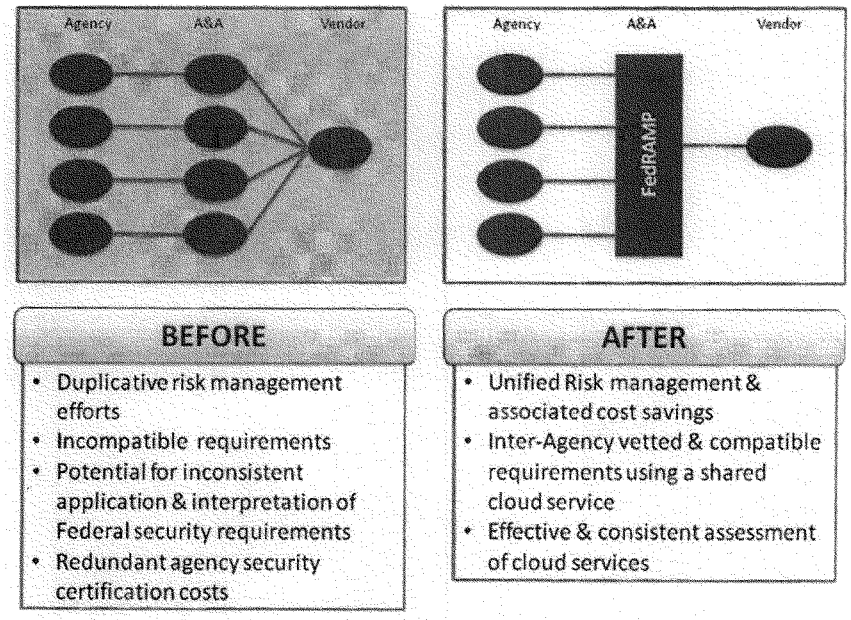

Figure 2

As FedRAMP allows agencies to reuse authorizations, participating agencies need only review security details and leverage the existing authorization in order to secure agency usage of the candidate system. This should greatly reduce cost, enable rapid acquisition, and reduce overall level of effort by both government and industry technology providers. FedRAMP's processes, policy implications, governance, and technical security standards have all been arrived at via a consensus-based approach within government. The National Institute of Standards and Technology (NIST), the Department of Homeland Security (DHS), the Department of Defense (DoD), the National Security Agency (NSA), numerous industry consortia, and many other federal and state and local government entities have all collaborated with GSA to arrive at the current state.

We expect that an initial version of FedRAMP will be stood up and ready to process the first certifications in the near future. We anticipate that this will be an iterative process subject to constant improvement as we evaluate how the risk model, processes, procedures, and controls are executed.

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Infrastructure as a Service (IaaS)

Each year, the government spends tens of billions of dollars on IT products and services, with a heavy focus on maintaining current infrastructure needs and demands. GSA has established a Blanket Purchase Agreement (BPA) with 12 companies (many with multiple partners) who offer storage, computing power, and website hosting as commodities that streamlines the procurement and vetting process to allow agencies to implement solutions more quickly.

This BPA addresses Reform Initiative #4 in *OMB's 25 Point Implementation Plan to Reform Federal Information Technology Management* that directs GSA to stand-up contract vehicles for secure IaaS solutions.

The IaaS BPA offers its federal customers a wealth of benefits, including:

- **Commodity pricing** – Web hosting, Virtual Machines, and Storage are priced as explicitly defined, standard services allowing customers to easily compare prices across vendors. Additional discounts may also be obtained at the task order level
- **Standardized requirements** – Companies are required to meet standard technical and security requirements for use across the Federal government
- **Comprehensive services from a single task order** – All services can be purchased using a single, performance-based task order
- **Acquisition oversight** – GSA has established reporting requirements and effective administrative oversight to ensure compliance and efficiency

Cloud Email

As GSA continues its work to make cloud services more readily available to government customers, the agency chose to tackle one of the most ubiquitous business technologies in use by all federal agencies: email. Established in June 2010, the Email as a Service (EaaS) Working Group, comprised of email and collaboration experts from across government, took a collaborative approach to procurement by drafting requirements with input from its members. These IT professionals brought their own agencies' requirements to the table, leading to a cooperative procurement that will best address the needs of the federal enterprise as a whole.

Once this procurement is released and concluded, services will be offered to federal customers via a Blanket Purchase Agreement (BPA), which will drastically reduce the amount of time and resources needed to procure the cloud email solution that best fits their agency's needs. Based on Forrester Research average cost savings for an agency that leverages the BPA will be $11/mailbox/month, $1 million in annual savings for every 7,500 users, or approximately 44% over existing on-premise email solutions. Furthermore, the BPA will accommodate a range of email services in public, private, and highly secured clouds, making robust, feature-rich, secure email and collaboration service options similar to those currently being implemented at GSA and USDA available to any interested federal or state and local agency. The EaaS BPA addresses IT Reform Initiative #5 in the President's *25 Point Implementation Plan to Reform Federal*

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Information Technology Management that pushes contract vehicles for cloud commodity services.

Interactive platform for pre-Request for Proposal agency-industry collaboration

Shortening the acquisition timeline and awarding successful IT contracts requires a multifaceted set of solutions. To "bust" prevailing myths, we will increase communication with industry and help establish a foundation of high functioning, "cross-trained" program teams. Improving the way we define requirements requires that we make inexpensive, efficient collaboration solutions available to all agencies, especially in the period prior to issuing a Request for Proposal (RFP). To this end, GSA is working to establish an interactive platform for pre-RFP agency-industry collaboration.

GSA is responsible for this action in *OMB's 25 Point Implementation Plan to Reform Federal Information Technology Management*. To date, GSA has gathered input from stakeholders in government and industry as a basis for requirements for the collaboration. Based on those requirements, a host of alternatives for design and delivery of an online collaboration tool were examined and rated. Candidates for the tool included existing government systems and commercial collaboration tools.

Federal Data Center Consolidation Initiative

In addition to improving IT service levels, cloud computing will be a major factor in reducing the environmental footprint of technology and will help achieve important sustainability goals. Effective use of cloud computing is an integral part of the government's strategy to reduce the need for multiple data centers and the energy they consume. Currently, GSA is supporting agencies to execute their data center consolidation plans, with activities planned through FY15. Adoption of cloud computing can help agencies buy improved services at a lower cost within acceptable risk levels. Furthermore, agencies can do so without having to maintain expensive, independent, and often needlessly redundant brick-and-mortar data centers.

The Federal Data Center Consolidation Initiative was launched in February 2010 to (a) reduce the cost of data center hardware, software and operations; (b) increase the overall IT security posture of the government; (c) shift IT investments to more efficient computing platforms and technologies; and (d) promote the use of Green IT by reducing the overall energy and real estate footprint of government data centers. GSA assists agencies in identifying their existing data center assets and formulating consolidation plans that include technical roadmaps and consolidation targets. We are also supporting the Data Center Consolidation Task Force that functions as a consensus-based group to tackle the many challenges the government will face as it reduces the number of data centers.

The FDDCI addresses Reform Agenda Initiatives #1 and #2 in *OMB's 25 Point Implementation Plan to Reform Federal Information Technology* Management that requires agencies to

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complete detailed implementation plans to consolidate at least 800 data centers by 2015 and create a government-wide marketplace for data center availability.

GSA Cloud Initiatives Focused on Improving Internal Efficiencies

In addition to supporting cloud computing initiative across the government, GSA has also moved aggressively to adopt practical and secure cloud-based solutions. GSA is at the forefront of adopting cloud computing from web hosting to e-mail.

- **Cloud E-mail Implementation** – GSA is the first federal agency to award and begin implementing a cloud-based email solution agency-wide. GSA will save 50 percent, over the next five years when compared to current staff, infrastructure, and contract support costs. Implementation will be complete in 2012.
- **Data Center Consolidation** – GSA expects to reduce its government owned data centers from 15 to 3 by FY2015. This is one of the most aggressive reductions in the federal government. We are inventorying our data center assets to find opportunities to decommission and move to virtualized servers, consolidate or retire business applications, and migrate to cloud computing solutions. As noted before, we expect a significant savings once we complete the consolidation efforts.
- **USA.gov** – GSA moved this site – the federal government's primary public-facing information portal to a cloud-based hosting arrangement with a commercial vendor. This enables the site to deliver a consistent level of access to information as new databases are added, as peak usage periods are encountered, and as the site evolves to encompass more services. By moving to a cloud, GSA was able to reduce site upgrade time from nine months to one day; monthly downtime improved from two hours to 99.9% availability; and GSA realized significant savings in hosting services.
- **Data.gov** - Data.gov, one of the first public facing Government websites to successfully deploy cloud computing, is the central portal for the public to find, download, and analyze data generated by the Federal government. Today, there are more than 380,000 data sets covering topics ranging from geospatial to commerce to education. Data.gov also hosts communities, such as health.data.gov, that serve as platforms for participants from across academia, business, government and the general public to share ideas and take action around specific topic areas. Public participation and collaboration have been essential to the success of Data.gov, as citizens can contribute to the site through forums, feedback tools, and the development of innovative applications. Citizens are also empowered to create mash-ups of information that pull together data sources to solve problems and build awareness of the Government's role in daily activities, such as food safety and weather prediction. Data.gov promotes the efficiency and effectiveness of our government by enabling the public to become active participants in strengthening our Nation's democracy.
- **Challenge.gov** – This government-wide challenge platform is hosted in a cloud computing infrastructure service to facilitate government innovation through challenges and prizes. This tool provides forums for seekers (the federal agency challenger looking for solutions) and solvers (those with potential solutions) to suggest, collaborate on, and

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deliver solutions. It allows the public to easily find and interact with federal government challenges. The platform responds to requirements defined in a March 8, 2010 OMB Memo, "Guidance on the Use of Challenges and Prizes to Promote Open Government" which included a requirement to provide a web-based challenge platform within 120 days. GSA is also exploring acquisition options to make it easier for agencies to procure products and services related to challenges.

- **Citizen Engagement Platform (CEP)** – CEP is a cloud-based platform that makes it easier for agencies to use social media tools that are compatible with federal laws and policies, including tools that are accessible to persons with disabilities. The platform is built off of our experience in providing a cloud-based ideation tool to help all departments and agencies collect public feedback and advice on their open government plans and actions. GSA's Center for New Media and Citizen Engagement is building a fully-functioning software as a service storefront in a secure government space. The software allows government agencies to easily deploy tools such as blogs, wikis, and forums, and a URL shortener to help engage with the public in a simple, cost-effective way. All tools for the Citizen Engagement Platform are based on open source code, making them widely shareable across government.

Conclusion

Mr. Chairman, the General Services Administration is leading the Administration's charge to make government more open, transparent, and effective for the citizens it serves. In our increasingly data-centric and network-based world and workplace, effective and efficient procurement and implementation of information technology will be paramount in making sure that the federal government closes the IT performance gap between it and the private sector. Cloud computing, data center consolidation, and open government are key initiatives that can and should be pursued with all possible impetus on the part of the federal enterprise to ensure that wasteful, duplicative IT spending is brought to a halt and ultimately eliminated. Information technology is not a core competency for any federal agency, but rather, is a support mechanism to enable day-to-day operations.

Thank you for the opportunity to appear today. I look forward to answering questions from you and members of the Subcommittee.

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United States Government Accountability Office

GAO

Testimony

Before the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Committee on Homeland Security and Government Affairs, U.S. Senate

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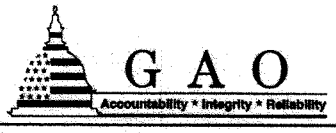
INFORMATION TECHNOLOGY

Continued Improvements in Investment Oversight and Management Can Yield Billions in Savings

Statement of David A. Powner
Director, Information Technology Management Issues



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Abbreviations

CIO	chief information officer
IT	information technology
OMB	Office of Management and Budget

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GAO Highlights

Highlights of GAO-11-511T, a testimony before the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Committee on Homeland Security and Government Affairs, U.S. Senate

Why GAO Did This Study

The federal government anticipates spending $79 billion on information technology (IT) in fiscal year 2011. The Office of Management and Budget (OMB) plays a key role in overseeing the implementation and management of federal IT investments. Given the size of these investments and their importance to the health, economy, and security of the nation, it is critical for OMB and federal agencies to provide appropriate program oversight and ensure adequate transparency. Over the past several years, GAO has issued a number of reports and testimonies on OMB's initiatives to highlight troubled projects, justify IT investments, and use project management tools. Partly in response to this prior work, in 2009 OMB deployed a public Web site—known as the IT Dashboard—that provides detailed information on approximately 800 major federal IT investments, including assessments of these investments' performance against cost and schedule targets (referred to as ratings).

GAO was asked to testify on OMB's key efforts to improve the oversight and management of federal IT investments through the use of the Dashboard and other efforts. To prepare this statement, GAO drew on previously published work on IT investments, including OMB's Dashboard, agencies' oversight boards, and agencies' use of project management tools.

View GAO-11-511T or key components. For more information, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov.

April 12, 2011

INFORMATION TECHNOLOGY

Continued Improvements in Investment Oversight and Management Can Yield Billions in Savings

What GAO Found

OMB has improved the oversight and management of IT investments through multiple initiatives. By establishing the IT Dashboard, OMB has drawn additional attention to over 300 troubled IT investments at federal agencies, totaling $20 billion, which is an improvement from the previously used oversight mechanisms. The Federal Chief Information Officer (CIO) recognized that the Dashboard has increased the accountability of agency CIOs and established much-needed visibility into investment performance. However, GAO has found that the data on the Dashboard are not always accurate. Specifically, in reviews of selected investments from 10 agencies, GAO found that the Dashboard ratings were not always consistent with agency cost and schedule performance data. In these reports GAO made a number of recommendations to OMB and federal agencies to improve the accuracy of Dashboard ratings. Agencies agreed with these recommendations, while OMB agreed with all but one. Specifically, OMB disagreed with the recommendation to change how it reflects current investment performance in its ratings because Dashboard data are updated on a monthly basis. However, GAO maintained that current investment performance may not always be as apparent as it should be; while data are updated monthly, ratings include historical data, which can mask more recent performance.

In addition to the Dashboard, beginning in January 2010 the Federal CIO began leading reviews—known as "TechStat" sessions—of selected IT investments involving OMB and agency leadership to increase accountability and transparency and improve performance. OMB officials stated that, as of December 2010, 58 sessions had been held and resulted in improvements to or termination of IT investments with performance problems. For example, the June 2010 TechStat session for a National Archives and Records Administration investment resulted in the halting of development funding pending the completion of a strategic plan. In addition, OMB identified 26 additional high-priority IT projects and plans to develop corrective action plans with agencies at future TechStat sessions. According to the Federal CIO, OMB's efforts to improve management and oversight of IT investments have already resulted in $3 billion in savings.

Additionally, in December 2010, OMB issued an 18-month plan for reforming federal IT management that has five major goals, including strengthening program management, streamlining governance and improving accountability, and using shared solutions, among others. These goals and the plans in place to support them are consistent with GAO's work highlighting IT management and governance weaknesses, as well as work to identify duplicative activities in the government. As part of this plan, OMB has initiatives under way to strengthen agencies' investment review boards and to consolidate federal data centers.

GAO has ongoing work to review the Dashboard and other OMB initiatives. Continued OMB oversight and the implementation of its 18-month plan along with outstanding GAO recommendations, could result in further significant savings and increased efficiency.

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April 12, 2011

Chairman Carper, Ranking Member Brown, and Members of the Subcommittee:

I am pleased to be here today to discuss the federal government's key activities and efforts to improve the management of information technology (IT) investments, totaling an estimated $79 billion for fiscal year 2011. Given the size of these investments and the criticality of many of these systems to the health, economy, and security of the nation, it is important that the Office of Management and Budget (OMB) and federal agencies provide appropriate oversight of and adequate transparency into these programs.

During the past several years, we have issued multiple reports and testimonies on OMB's initiatives to highlight troubled projects, justify IT investments, and encourage the use of project management tools.[1] We made numerous recommendations to OMB and to federal agencies to improve these initiatives to further enhance the transparency, oversight, and management of IT projects.

As part of its response to our prior work, OMB deployed a public Web site in June 2009, known as the IT Dashboard, which provides

[1]See for example, GAO, *Information Technology: OMB Has Made Improvements to its Dashboard, but Further Work Is Needed by Agencies and OMB to Ensure Data Accuracy*, GAO-11-262 (Washington, D.C.; Mar. 15, 2011); *Information Technology: OMB's Dashboard Has Increased Transparency and Oversight, but Improvements Needed*, GAO-10-701 (Washington, D.C.: Jul. 16, 2010); *Information Technology: Federal Agencies Need to Strengthen Investment Board Oversight of Poorly Planned and Performing Projects*, GAO-09-566 (Washington, D.C.; June 30, 2009); *Information Technology: Management and Oversight of Projects Totaling Billions of Dollars Need Attention*, GAO-09-624T (Washington, D.C.: Apr. 28, 2009); *Information Technology: Agencies and OMB Should Strengthen Processes for Identifying and Overseeing High Risk Projects*, GAO-06-647 (Washington, D.C.: June 15, 2006).

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detailed information on federal agencies' major IT investments,[2] including assessments of actual performance against cost and schedule targets (referred to as ratings) for approximately 800 major federal IT investments. The Dashboard is intended to improve the transparency and oversight of these investments.

You asked us to testify on OMB's key efforts to improve the oversight and management of federal IT projects. Specifically, my testimony covers OMB's efforts to improve IT management—in particular, through the use of the Dashboard and its recently announced IT reform plan.[3] In preparing this testimony, we relied on prior GAO reports and testimonies that assessed the government's management of IT investments, including OMB's Dashboard, agencies' oversight boards, and agencies' use of project management tools.[4] All of our work for these reports and testimonies was performed in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

[2]Major IT investment means a system or an acquisition requiring special management attention because it: has significant importance to the mission or function of the agency, a component of the agency, or another organization; is for financial management and obligates more than $500,000 annually; has significant program or policy implications; has high executive visibility; has high development, operating, or maintenance costs; is funded through other than direct appropriations; or is defined as major by the agency's capital planning and investment control process.

[3]OMB, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Washington, D.C., 2010).

[4]GAO-11-262; GAO-10-701; GAO, *Information Technology: Agencies Need to Improve the Implementation and Use of Earned Value Techniques to Help Manage Major System Acquisitions*, GAO-10-2 (Washington, D.C.; Oct. 8, 2009); GAO-09-566; *Information Technology: Agencies Need to Establish Comprehensive Policies to Address Changes to Projects' Cost, Schedule, and Performance Goals*, GAO-08-925 (Washington, D.C.: July 31, 2008); *Information Technology: Agencies Need to Improve the Accuracy and Reliability of Investment Information*, GAO-06-250 (Washington, D.C.: Jan. 12, 2006); *Information Technology Management: Governmentwide Strategic Planning, Performance Measurement, and Investment Management Can Be Further Improved*, GAO-04-49 (Washington, D.C.: Jan. 12, 2004).

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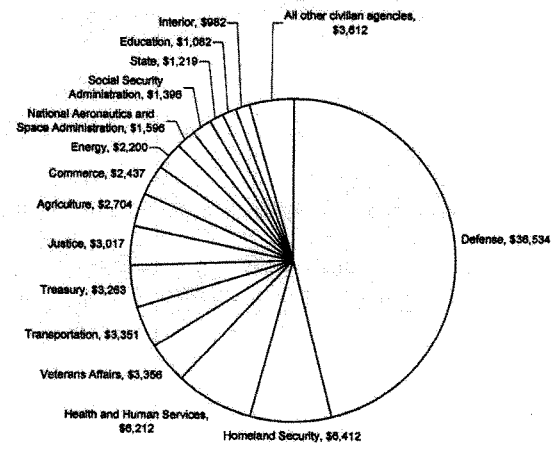
Background

Each year, OMB and federal agencies work together to determine how much the government plans to spend on IT projects and how these funds are to be allocated. The President's Budget for fiscal year 2011 totaled an estimated $79.4 billion for IT investments. Figure 1 displays the breakdown of agencies' planned IT expenditures for fiscal year 2011.

Figure 1: Breakdown of $79.4 Billion in Planned IT Investments for Fiscal Year 2011



Source: OMB data.

OMB plays a key role in overseeing the implementation and management of federal IT investments. To improve oversight, Congress enacted the Clinger-Cohen Act of 1996, which requires OMB to establish processes to analyze, track, and evaluate the risks and results of major capital investments in information systems made by federal agencies and report to Congress on the net program

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performance benefits achieved as a result of these investments.[5] Further, the act places responsibility for managing investments with the heads of agencies and establishes chief information officers (CIO) to advise and assist agency heads in carrying out this responsibility.

To help carry out its oversight role, in 2003 OMB established the Management Watch List, which included mission-critical projects that needed to improve performance measures, project management, IT security, or overall justification. Further, in August 2005, OMB established a High-Risk List, which consisted of projects identified by federal agencies, with the assistance of OMB, as requiring special attention from oversight authorities and the highest levels of agency management. Our reviews of these efforts have highlighted many issues regarding the accuracy and usefulness of these lists.[6] To address these issues, we made multiple recommendations to OMB, including disclosing risks and deficiencies of troubled projects and reporting to Congress on remediation plans for these projects.

More recently, in June 2009, OMB replaced the Management Watch List and High-Risk List with a public Web site—known as the IT Dashboard—to further improve the transparency into and oversight of agencies' IT investments. It displays detailed information on federal agencies' major IT investments, including assessments of actual performance against cost and schedule targets (referred to as ratings) for approximately 800 major federal IT investments. According to OMB, these data are intended to provide a near real-time perspective of the performance of these investments, as well as a historical perspective. Further, the public display of these data is intended to allow OMB, other oversight bodies, including Congress, and the general public to hold government agencies accountable for results and progress.

[5]40 U.S.C. § 11302(c).

[6]GAO-09-624T; GAO-08-1051T; GAO-07-1211T; GAO-06-1099T; GAO-06-647, GAO-05-571T; GAO-05-276.

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Prior Reviews of Agencies' IT Investment Governance Have Identified Weaknesses

We have previously reported on the enduring challenges that agencies have faced in effectively managing IT investments. Specifically, we found that agencies had weaknesses in several areas relating to the oversight, budget justification, planning and management of these investments, among others.

- In January 2004, we reported that agencies did not always have the mechanisms in place for investment review boards to effectively control their investments.[7] Among other things, we reported that selected agencies largely had IT investment management boards, but these boards did not have key policies and procedures in place for ensuring that projects are meeting expectations. Agencies cited a variety of reasons for not having these mechanisms in place, such as that the CIO position had been vacant, a requirement was not included in guidance, or that the process was being revised. We made recommendations to the agencies regarding those practices that were not fully in place.

- In January 2006, we reported that the underlying support for agencies' IT budget justifications for IT investments (OMB's Capital Asset Plan and Business Case, also known as the exhibit 300) was often inadequate.[8] Specifically, we found weaknesses in all 29 of the exhibit 300s that we reviewed. For example, 21 investments were required to use a specific management system as the basis for the cost, schedule, and performance information in the exhibit 300, but only 6 did so following OMB-required standards. We made recommendations aimed at improving related guidance and training and at ensuring the disclosure and mitigation of limitations on reliability.

- In July 2008, we reported that approximately half of the federal government's major IT projects had been rebaselined—i.e., had modifications made to their cost, schedule, and performance goals

[7]GAO-04-49.

[8]GAO-06-250.

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to reflect changed circumstances.[9] Reasons for these rebaselines included changes in project goals, changes in funding, or inaccurate original baselines. We also found that agencies lacked comprehensive rebaselining policies and that without such policies, baseline changes could be used to mask cost overruns or schedule delays. We recommended that OMB issue guidance for rebaselining policies and that the major agencies develop policies that address identified weaknesses. Consequently, OMB issued a memorandum in June 2010 on baseline management that provided this guidance.[10]

- In June 2009, we reported that about half of the projects we examined did not receive selection reviews (to confirm that they support mission needs) or oversight reviews (to ensure that they are meeting expected cost and schedule targets).[11] Specifically, 12 of the 24 reviewed projects that were identified by OMB as being poorly planned did not receive a selection review; and 13 of 28 poorly performing projects we reviewed did not receive an oversight review by a department-level board. To address these weaknesses, we made recommendations to selected agencies to improve their department-level board representation and selection and oversight processes.

- In October 2009, we reported that selected agencies' policies were not fully consistent with best practices for a key program management tool.[12] Specifically, most agencies' policies lacked appropriate earned value management training requirements and did not adequately define criteria for revising baselines. Earned value management is a project management approach that, if implemented appropriately, provides objective reports of project status, produces early warning signs of impending schedule delays and cost overruns, and provides unbiased estimates of anticipated costs at completion. Additionally, we reported that for 13 of 16 selected investments, key practices necessary for sound earned value management execution

[9]GAO-08-925.

[10]OMB Memorandum, M-10-27.

[11]GAO-09-566.

[12]GAO-10-2.

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had not been implemented. Finally, we estimated the total cost overrun of these investments to be about $3 billion at program completion. We recommended that the selected agencies modify policies to be consistent with best practices, implement practices that address identified weaknesses, and manage negative earned value trends.

OMB Has Several Initiatives Under Way to Improve the Oversight and Management of IT Investments, but Continued Attention Is Needed

OMB has initiated several efforts that have improved the oversight and transparency of IT investments. As discussed earlier, OMB deployed its IT Dashboard in June 2009, providing detailed information, including performance ratings, for over 800 major investments at federal agencies. Each investment's performance data are updated monthly, which is a major improvement from the quarterly reporting cycle used by OMB's prior oversight mechanisms.

As of March 2011, the Dashboard provided visibility into over 300 IT investments, totaling almost $20 billion, in need of management attention (rated "yellow" to indicate the need for attention or "red" to indicate significant concerns). (See fig. 2.)

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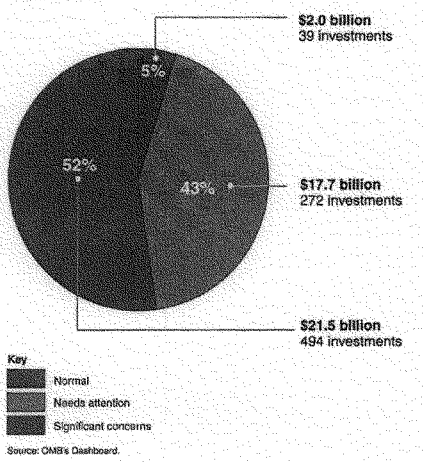
Figure 2: Overall Performance Ratings of Major IT Investments on the Dashboard, as of March 2011



Source: OMB's Dashboard.

The Federal CIO stated that the Dashboard has greatly improved oversight capabilities compared to previously used mechanisms, increased the accountability of agencies' CIOs, and established much-needed transparency.

However, in a series of reviews, we have found that the data on the Dashboard are not always accurate. Specifically, in reviews of selected investments from 10 agencies, we found that the Dashboard ratings were not always consistent with agency performance data.

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- In July 2010, we reported that cost and schedule performance ratings were not always accurate for selected investments.[13] Specifically, we reviewed investments at the Departments of Agriculture, Defense, Energy, Health and Human Services, and Justice and found that the cost and schedule ratings on the Dashboard were not accurate for 4 of 8 selected investments and the ratings did not take into consideration current performance. For example, the Dashboard rated a Justice investment's cost performance as "green" from July 2009 through January 2010, but our analysis showed the investment's cost performance was equivalent to a "yellow" rating, meaning it needed attention. We also found that there were large inconsistencies in the number of investment activities that agencies report on the Dashboard.

- In March 2011, we also reported that agencies and OMB need to do more to ensure the Dashboard's data accuracy.[14] Specifically, we reviewed investments at the Departments of Homeland Security, Transportation, Treasury, and Veterans Affairs, and the Social Security Administration and found that cost ratings were inaccurate for 6 of 10 selected investments and schedule ratings were inaccurate for 9 of 10. We also found weaknesses in agency and OMB practices contributing to the inaccuracies on the Dashboard. In particular, we found that agencies had uploaded inconsistent or erroneous data, failed to submit data, and/or used unreliable source information. Additionally, we found that OMB's ratings understated some schedule variances and did not emphasize current performance.

  In these reviews, we made recommendations to the agencies and OMB aimed at improving data accuracy on the Dashboard. Specifically, we recommended that the selected agencies comply with OMB's guidance to standardize activity reporting, provide complete and accurate data to the Dashboard on a monthly basis, and ensure that CIO ratings disclose issues that could undermine the accuracy of investment data. These agencies generally

[13]GAO-10-701.

[14]GAO-11-262.

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concurred with our recommendations. We also recommended that OMB improve how it rates investments related to current performance and schedule variance. Further, we recommended that OMB report on the effect of planned changes to the Dashboard and provide guidance to agencies to standardize reporting. OMB agreed with most of these recommendations but disagreed with the recommendation to change how it reflects current investment performance in its ratings because Dashboard data are updated on a monthly basis. However, we maintained that current investment performance may not always be as apparent as it should be; while data are updated monthly, ratings include historical data, which can mask more recent performance.

Our recent and ongoing work has identified additional opportunities for using the Dashboard to increase operational efficiency and realize cost savings. As part of our first report responding to a statutory requirement that GAO identify duplicative goals or activities in the federal government, we reported on the potential for further significant savings if OMB implements planned improvements to the Dashboard, along with outstanding GAO recommendations.[15] We also have ongoing work to evaluate the data provided by the Dashboard in order to determine the extent to which agencies may be investing in similar projects, as well as OMB's efforts to identify and act on such duplicative investments.

Recent OMB Efforts Have Resulted in Improved Management of Troubled IT Investments

Drawing on the visibility into federal IT investments provided by the Dashboard, OMB has initiated efforts to improve the management of IT investments needing attention. In particular, in January 2010, the Federal CIO began leading TechStat sessions—a review of selected IT investments between OMB and agency leadership to increase accountability and transparency and improve performance. OMB has identified factors that may result in a TechStat session, such as

[15]GAO, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP (Washington, D.C.; Mar. 1, 2011).

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policy interests, Dashboard data inconsistencies, recurring patterns of problems, or an OMB analyst's concerns with an investment.

As of December 2010, OMB officials stated that 58 TechStat sessions have been held with federal agencies. According to OMB, these sessions have enabled the government to improve or terminate IT investments that are experiencing performance problems. For example, the June 2010, TechStat on the National Archives and Records Administration's Electronic Records Archives investment resulted in six corrective actions, including halting fiscal year 2012 development funding pending the completion of a strategic plan. In January 2011, we reported that the National Archives and Records Administration had not been positioned to identify potential cost and schedule problems early, and has not been able to take timely actions to correct problems, delays, and cost increases on this system acquisition program.[16] Moreover, we estimated that the program would likely overrun costs by between $205 and $405 million if the agency completed the program as originally designed. We made multiple recommendations to the Archives, including establishing a comprehensive plan for all remaining work, improving the accuracy of key performance reports, and engaging executive leadership in correcting negative performance trends. The Archivist of the United States generally concurred with our recommendations.

OMB has also identified 26 additional high-priority IT projects and plans to coordinate with agencies to develop corrective actions for these projects at future TechStat sessions. According to OMB officials, OMB and agency CIOs identified these projects using Dashboard data, TechStat sessions, and other forms of research. For example, OMB directed the Department of the Interior to establish incremental deliverables for its Incident Management Analysis and Reporting System, which will accelerate delivery of services that will help 6,000 law enforcement officers protect the nation's natural resources and cultural monuments.

[16]GAO, *Electronic Records Archive: National Archive Needs to Strengthen Its Capacity to Use Earned Value Techniques to Management and Oversee Development*, GAO-11-86 (Washington, D.C.: Jan. 13, 2011).

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According to OMB, the TechStat sessions and other OMB management reviews have resulted in a $3 billion reduction in life-cycle costs, as of December 2010. Further, OMB officials stated that, as a result of these sessions, 11 investments have been reduced in scope and 4 have been cancelled. Additional opportunities for potential cost savings and efficiencies exist with the use of the Dashboard by executive branch agencies to identify and make decisions about poorly performing investments, as well as its continued use by congressional committees to support critical oversight efforts.

Recent OMB Plan Aims to Reform IT Management

In addition to the efforts already described, in December 2010, OMB issued its *25 Point Implementation Plan to Reform Federal Information Technology Management*, a plan spanning 18 months to reform IT management throughout the federal government. The plan contains five major goals:

- strengthen program management,
- align the acquisition and budget processes with the technology cycle,
- streamline governance and improve accountability,
- increase engagement with industry, and
- apply "light technology" and shared solutions.

Many of these major goals, and their supporting reform initiatives, are consistent with our body of work on IT acquisition issues—which has shown a lack of implementation or execution of critical project management and executive governance activities. For example, as previously discussed, in a June 2009 review[17] of 24 IT projects identified by OMB as needing the most attention, about half did not receive selection or oversight reviews by agency governance boards. OMB's plan acknowledges this issue and calls for agency

[17]GAO-09-566.

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Investment Review Boards to be restructured according to OMB's TechStat session model, in support of the goal to streamline governance and improve accountability.

Additionally, in support of the goal to apply "light technology" and shared solutions, the plan outlines OMB's Federal Data Center Consolidation Initiative to guide federal agencies in developing and implementing data center consolidation plans. According to OMB, the number of federal data centers grew from 432 in 1998 to more than 2,000 in 2010. These data centers often house similar types of equipment and provide similar processing and storage capabilities. These factors have led to concerns associated with the provision of redundant capabilities, the underutilization of resources, and the significant consumption of energy. In our March 2011 report[18] on duplicative goals or activities within the federal government, we noted that data center consolidation makes sense economically and as a way to achieve more efficient IT operations. However, we also described key challenges associated with this effort, such as agencies' ability to ensure the accuracy of their inventories and plans and integrate consolidation plans into fiscal year 2012 agency budget submissions (as required by OMB).

In October 2010, OMB reported that all federal agencies had submitted consolidation plans. OMB plans to monitor agencies' progress through annual reports and has established a goal of closing 800 of the over 2,100 federal data centers by 2015. We are currently evaluating the data center initiative as well as agencies' efforts to develop and implement consolidation plans.

In summary, OMB's recent efforts have resulted in greater oversight and management of federal IT investments, but continued attention is necessary to build on the progress that has been made. For example, OMB and federal agencies need to improve the accuracy of information on the Dashboard, and continue to use OMB's TechStat sessions to address troubled investments. In addition, the full

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implementation of OMB's 18-month roadmap to reform federal IT management, along with outstanding GAO recommendations, should result in more effective IT management and delivery of mission-critical systems, as well as further reduction in wasteful spending on poorly managed investments.

Chairman Carper, Ranking Member Brown, and Members of the Subcommittee, this concludes my statement. I would be happy to answer any questions at this time.

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Appendix I: GAO Contact and Staff Acknowledgements

If you should have any questions about this testimony, please contact me at (202) 512-9286 or by e-mail at pownerd@gao.gov. Individuals who made key contributions to this testimony are Carol Cha, Assistant Director; Lee McCracken; and Kevin Walsh.

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Testimony of Stephen W.T. O'Keeffe
Founder, MeriTalk
before the:
Senate, Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security Hearing Titled: "Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"

Chairman Carper, Senator Brown, and distinguished members of the subcommittee, thank you for the opportunity to speak today. My name is Steve O'Keeffe, founder of MeriTalk, the government IT network. MeriTalk is an online community that combines professional networking and thought leadership to drive the government IT community dialogue.

Why Modernize Government IT?

The Federal government currently spends north of $80 billion – with a B – on IT. That's a lot of jingle – 33 percent more than the Gross State Product of Delaware. Were it a standalone Federal department, it would be the eighth largest – just ahead of the Department of Transportation. Despite talk about doing more with less, that number grows every year. According to Federal IT leaders, nearly half existing agency IT applications – 47 percent – are based on legacy technologies in need of modernization[1]. These same leaders estimate that they spend almost half their IT budget, or $35.7 billion – again with a B – to support these technologies. Four out of five C-level IT executives say if their agency does not modernize legacy applications, mission-critical capabilities will be threatened[1].

If the definition of insanity is doing the same thing and expecting a different outcome, then Vivek Kundra deserves high praise for introducing much-needed new thinking into Federal IT. Since taking office in 2009, Mr. Kundra has injected many new concepts into the Federal IT mindset. From cloud computing to data center consolidation to continuous cyber security monitoring – these new ways of harnessing IT have proven their value in the private sector. Without question, if the Federal government is expecting to realize much-needed change in Federal IT results – and certainly taxpayers are – we need to accept and invigorate efforts that change Federal IT practices. Further, we should expect change in results commensurate with the change in practices. There is no such thing as a free lunch.

Are We Really Talking About Reducing the Federal IT Budget?

This is the information age. As we wrestle with the deficit, we should not merely look at IT as an expense item. IT is a powerful tool to enhance efficiency across the Federal government. Today, the notion of the Federal government investing is not very popular. Might I be so bold as to say that the future of Federal IT is not really about reducing the amount that we spend on IT. We need to leverage IT as a force multiplier to reduce the cost of government – and at the same time enhance the quality of service we provide to America. We need to radically increase the value density of IT – not necessarily reduce the total spend.

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[1] "Federal Application Modernization Road Trip," January 11, 2011, http://www.meritalk.com/fedappmod

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The 25 Point Plan and the 10 Commandments

The purpose of the hearing is to provide some perspective on OMB's 25 Point Plan for restructuring Federal IT – and importantly to allow OMB to make the case for a $25 million budget to fund the implementation of this plan.

Like many others, my first review of OMB's 25 Point Plan ended in confusion. 25 points – really? When I was a small boy in school, I had profound challenges remembering the 10 commandments – and there were only 10 of them.

Moreover, while we all applaud the notion of tangible deadlines, these add an enormous layer to the complexity of the outline while doing little to enhance the credibility. Setting deadlines is not nearly so important as managing them, and is OMB really going to manage each and every one of these line items and associated deadlines? In addition to other existing initiatives?

What Does Federal IT Think?

As we did last year for this Committee's Open Government Hearing, MeriTalk launched a survey of the Federal IT community to get government and industry perspectives on the 25 Point Plan. Launched March 14 on the MeriTalk site, the online survey quickly received some 269 responses from government and the supporting industry IT community. We asked respondents to rate each point of the plan based whether it was 1) Desirable; and 2) Doable.

Net Upfront – Desirable Yes, Doable Unclear

The net upfront is that the community feels that all points are desirable, but there are serious questions about executability. Interestingly, govies are less optimistic about doability than their industry counterparts.

Join the Dots – Point-by-Point Perspective

Next, we asked the community to rate each point in the 25 Point Plan. As you can see from the All Respondents scatter gram[2], the community doesn't place equal value on all points. Interestingly, the evolutionary, nurturing, and easy to understand points score best – with design a formal IT program management career path topping the chart.

The most revolutionary initiative – Cloud First – rated lowest. Data center consolidation hit roughly in the middle of the pack – with enabling government-wide marketplace for data center availability scoring more poorly. I would note that cloud and data center consolidation are the brains and stomach of this 25 Point Plan. Considering options for simplification and prioritization, OMB might want to focus hardest on these programs – they offer the highest RoI.

Civilian vs. Defense – Little to See Here

As you can see in the charts[3], civilian and defense respondents marched very much in lock step. Design a formal IT program management career path and launch a best practices collaboration platform top the charts. Interestingly, civilian agencies were more focused on reducing barriers to small innovative technology companies. Due to their dynamic mission focus, defense agencies embraced this approach long ago. DoD respondents demonstrated significantly greater appetite for shared services as well as optimism for executability.

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[2] See Appendix A, Figure 1

[3] See Appendix A, Figures 2 and 3

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Government vs. Industry – Lion Lies Down With the Lamb

Interestingly, with the exception of government being less optimistic about the plan's ability to deliver, government and industry are almost precisely on the same page in terms of the most important points[4]. The exceptions, industry prioritizes the requirement to scale the IT program management career path government-wide as well as the requirement to issue guidance and templates to support modular development. It is no great surprise that these points are so important for contractors.

If You Could Make One Change – Less is More

Closing out the survey, we asked what one thing the Federal IT community would change to improve Federal IT. Both government and industry suggested that we attach accountability to objectives. Other hot recommendations – allow CIOs to retain funds they save, eliminate unfunded mandates, and reduce the number of objectives. Less is more.

Three Cs

The lesson of change is that it comes with confusion and turbulence directly related to size. Past a certain critical point, if people think that the program is unattainable – no matter how desirable it may be – the program will not succeed. The beatings will continue until morale improves. As we move forward with the plan, the feedback from the community is clear. We need to simplify the message and focus on three Cs – Consolidate, Connect, and Calibrate.

Consolidate: Like any roadmap, the 25 Point Plan sets out a drivable course from the current location to a future destination. Rather than trying to get from point A to point B in a single haul, the plan should break down the journey into a series of manageable/attainable interim steps. Tackling the first five initiatives will not yield the same results as tackling all 25, but it would be "doable" change rather than just a paper tiger.

Connect: To reduce the turbulence and confusion, we need to really step up the communications and education outreach initiatives to ensure that Federal IT professionals in the agencies understand the motivation and the methodology. The Federal government's cadre of senior IT professionals is not equipped for, nor experienced at, driving change – we need to communicate the why, how, and what it means for your career in order to successfully operationalize desired change.

Calibrate: And, critically, we need to only set goals that we really can and mean to measure – and we need to follow through on measurement and hold executives accountable. We need to recognize that the changes on the table are not easy. We need to set realistic timelines and we need to establish venues and tools to support Federal IT professionals as they move through profound change.

The Carrot, the Stick, and the Dog Bone

As stated above, if the Federal government is expecting to realize much-needed change in Federal IT results, we need to accept and invigorate efforts that change Federal IT practices. Change is hard. Accountability and consequences – both positive and negative – are not common characteristics in the Federal government. To succeed in transforming Federal IT – not necessarily in reducing absolute budgets, but in increasing value density and unlocking innovation to increase the efficiency of government writ large – we need to consider the individual motivation for change.

[4] See Appendix A, Figures 4 and 5

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What's In It for Me – WIIFM? for the executive and practitioner. If increasing efficiency means reducing total budget for next year, why would managers want this change? We need to put in place an incentive and penalty system to support the change outcomes we need – which means changing behaviors. We need to recognize that not all change initiatives succeed – and reward an increased risk profile. And, significantly, our Federal leaders need to "eat their own dog food" – practice what they preach and become the change they want to see in the community.

Funding – Pennies for Hundred Dollar Bills

Federal IT professionals estimate that data center consolidation and cloud can drive upwards of $14 billion – again with a B – in efficiency savings[5]. The RoI on this $25 million is hundreds of dollars for pennies invested. We need to make changes to realize these savings. The plan is good. It has the potential to drive real change in practices and therefore, real change in results. It needs to be simplified. The community is curious to understand how OMB will utilize the $25 million to operationalize IT reform. We note that funding is critical to the successful transformation of Federal IT. I'll close with a verbatim quote from the survey:

"The destination is good, we need to go there, but I'll be damned if I can make any sense of these directions."

[5] "Federal Data Center Addiction: The Road to Recovery," November 15, 2010, http://www.meritalk.com/datacenteraddiction

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APPENDIX A:

JOIN THE DOTS: A POINT-BY-POINT PERSPECTIVE ON THE 25 POINT PLAN

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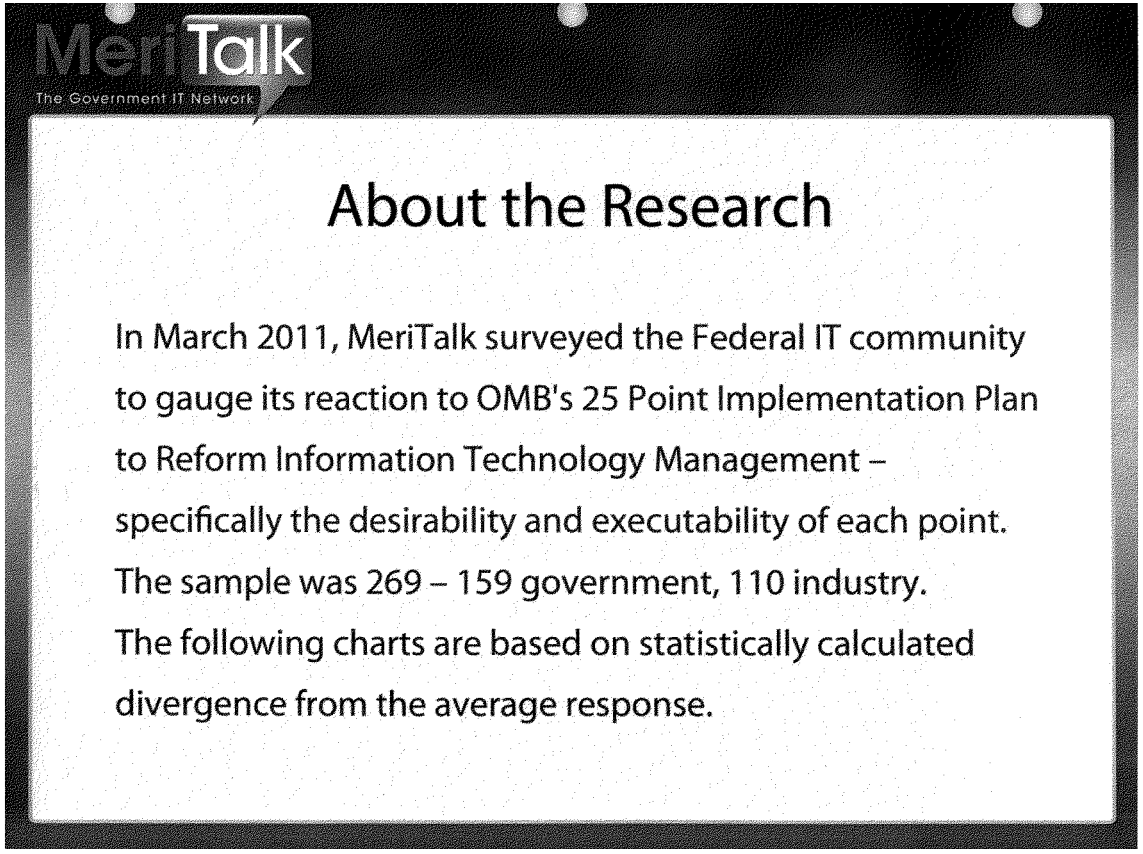

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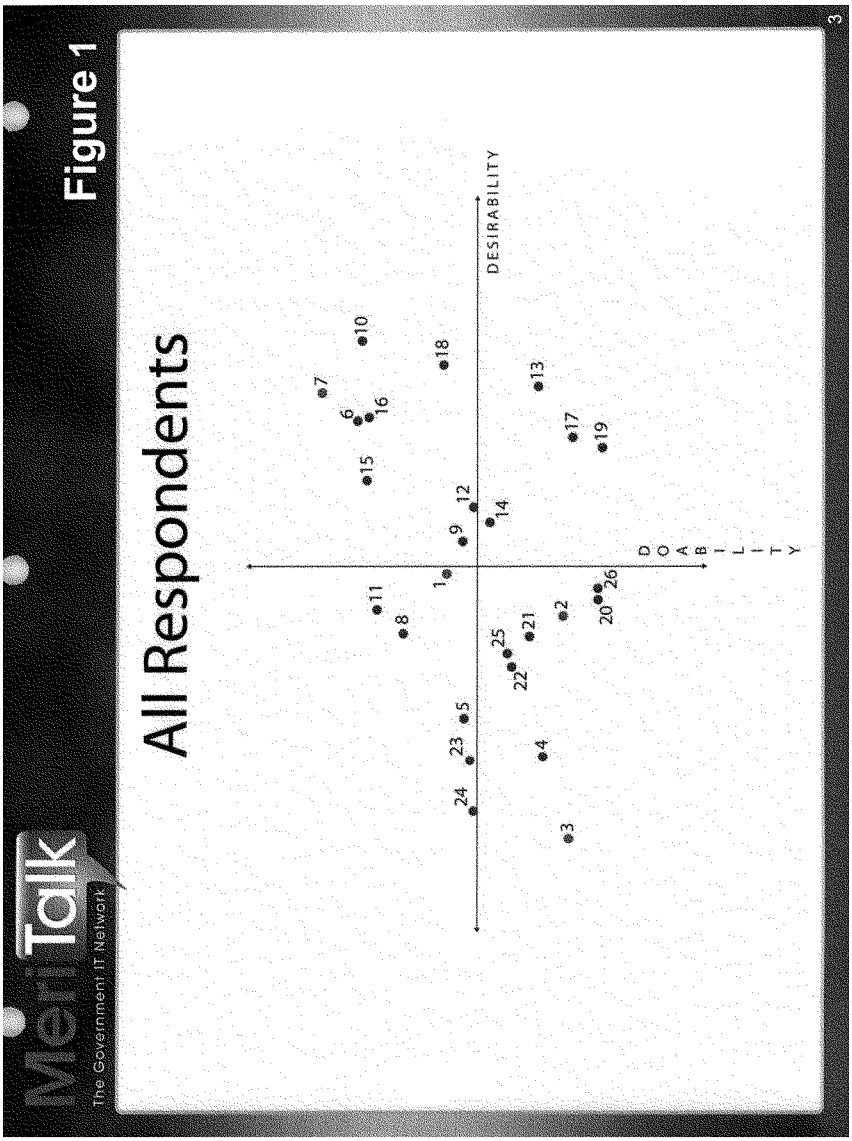

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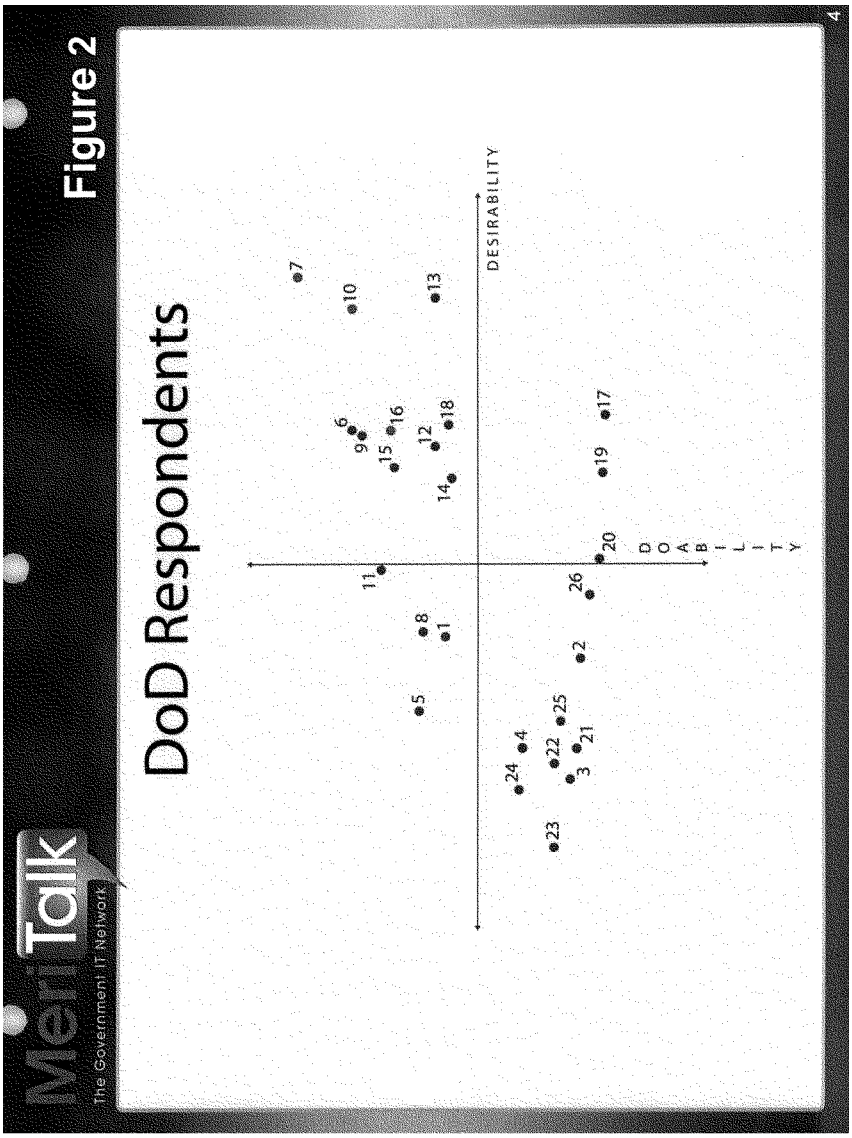

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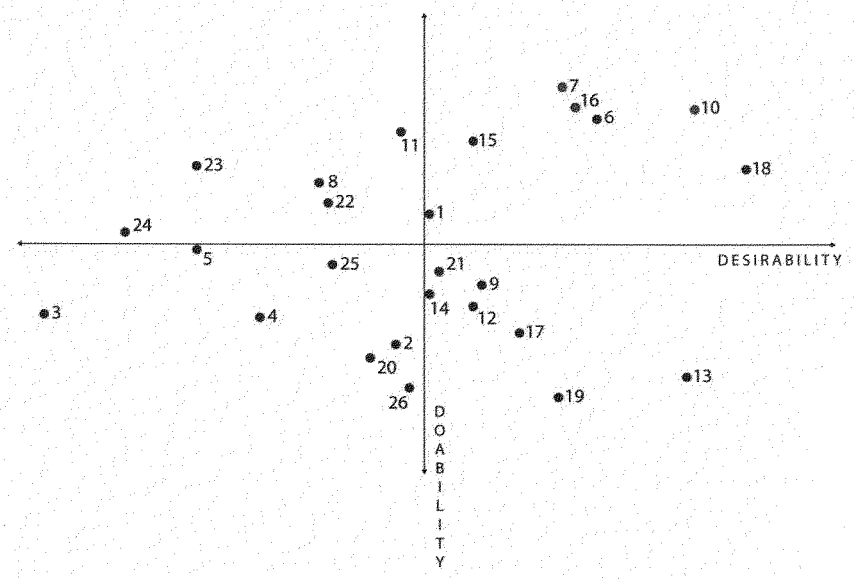
MeriTalk
The Government IT Network

Figure 3

Civilian Agency Respondents



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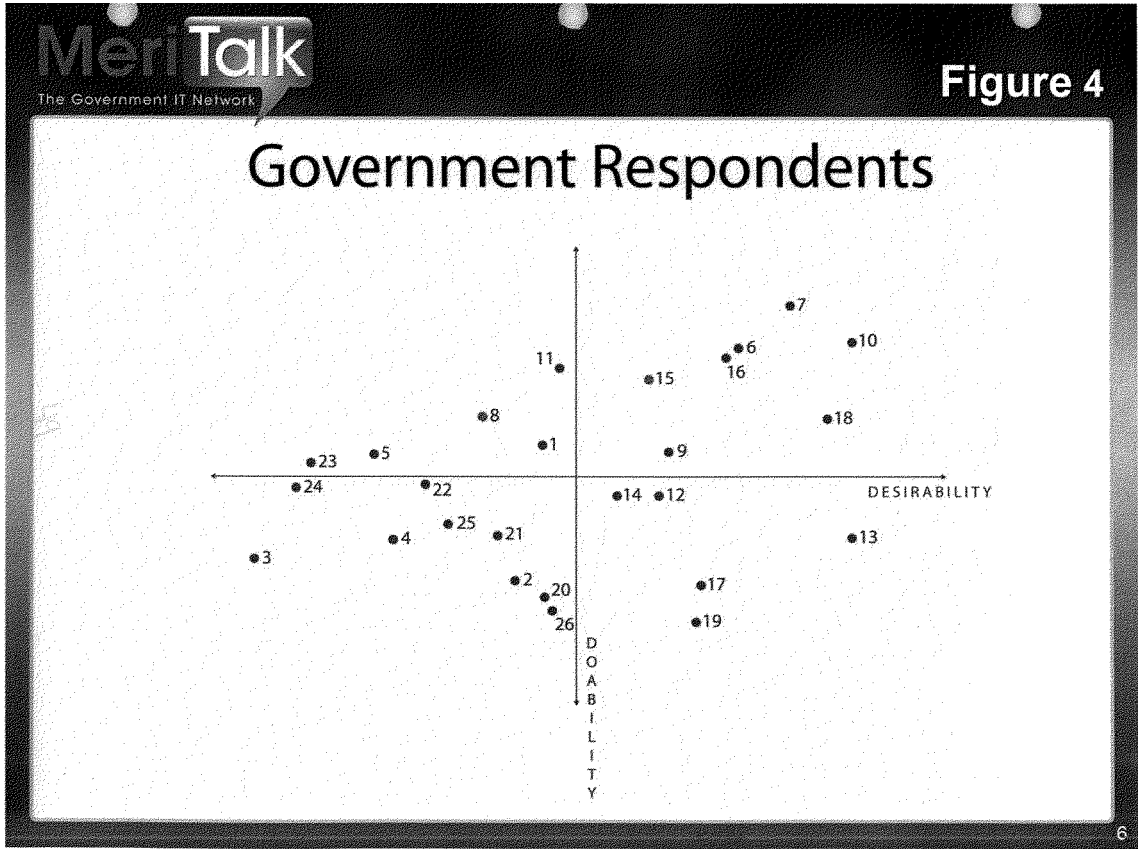

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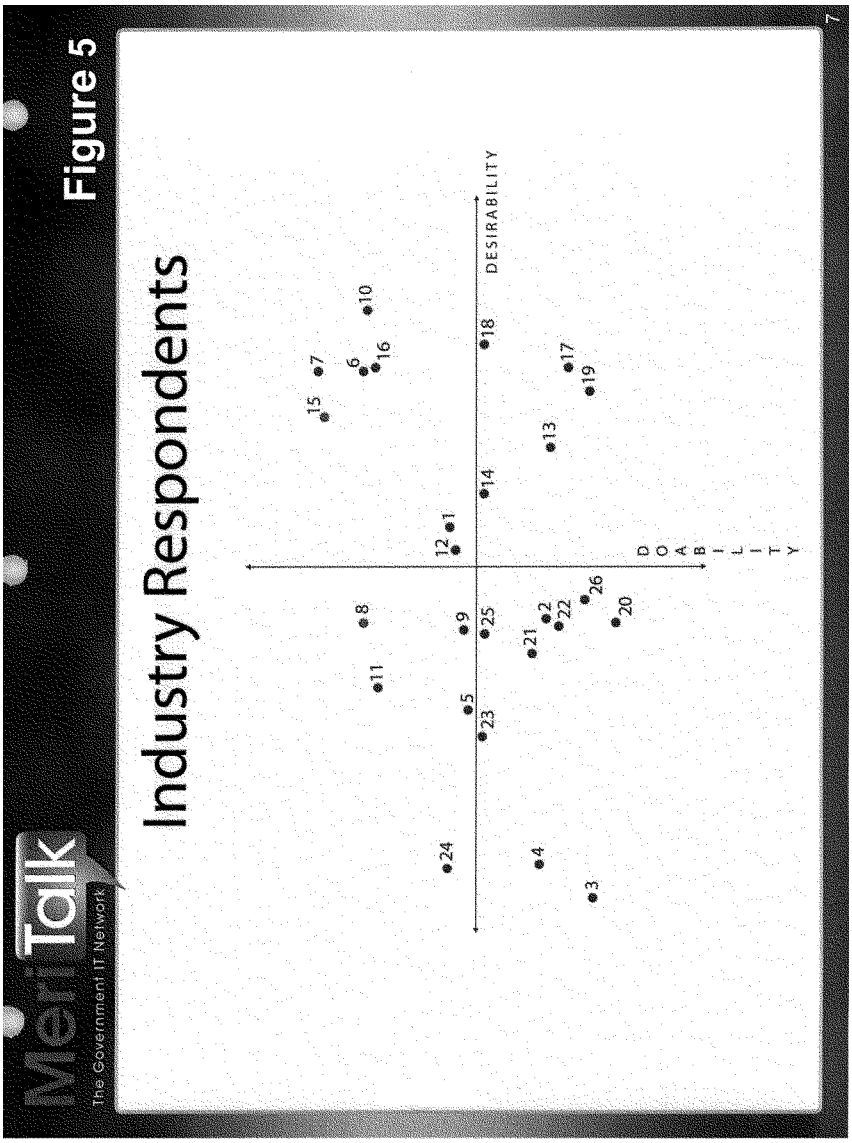

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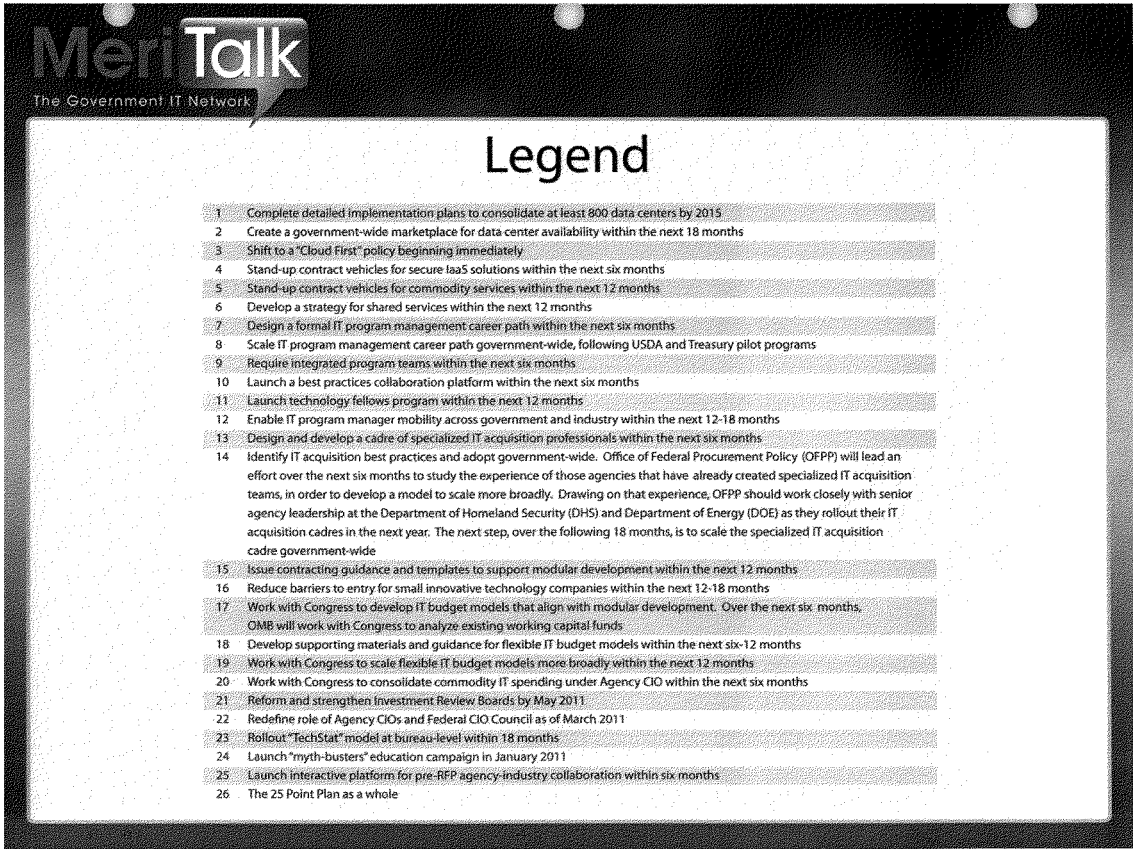

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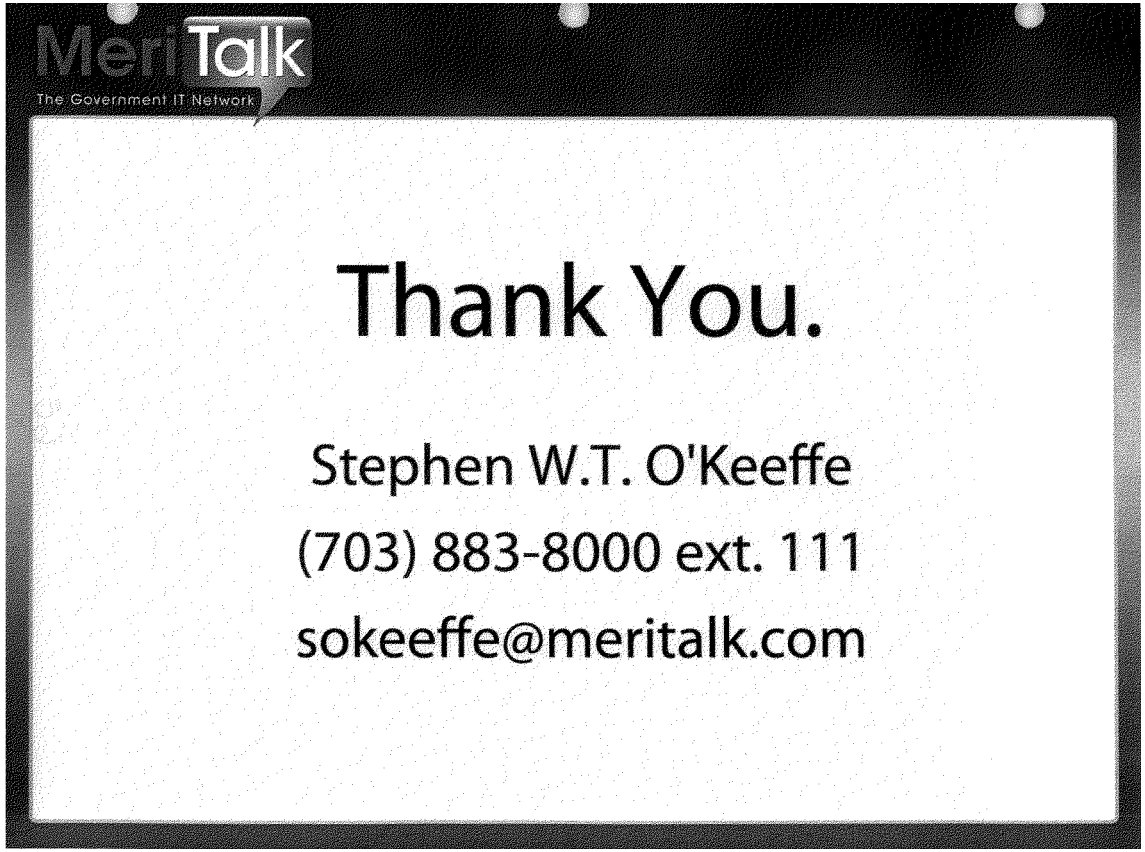

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Testimony of Rishi Sood
Vice President, Government
Vertical Industries, Gartner
April 12, 2011

Senate, Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security Hearing Titled: "Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"

Chairman Carper and distinguished members of the subcommittee, thank you for the opportunity to speak today. My name is Rishi Sood and I am Vice President of Government Research at Gartner. Gartner is the world's leading information technology research and advisory company and is a valuable partner to 60,000 clients in 11,000 distinct organizations.

In examining the President's plan, I would like to focus on the growth in federal technology spending, the elements of the plan that will have an immediate impact, and reform issues that will be important over the long term.

Federal Government Technology Spending: A Snapshot

To begin, federal IT spending has exploded over the past decade. According to my research at Gartner, traditional IT spending by federal government organizations was approximately $32.2 billion in 2001. This year, it will reach $80.1 billion. This is an increase of over 248% during the past 10 years.

While much of the IT expansion is justified by growing federal operations (e.g. fighting 2 wars, creating the Department of Homeland Security, managing rising Medicaid/Medicare workloads, etc.), insufficient analysis has been given to the cost effectiveness of federal IT spending. Additionally, some of the spending increase has not been effectively coordinated, resulting in some cases to technology sprawl across the federal government.

Given this dramatic rise in federal government IT spending, there are a number of questions that need to be addressed:

- What is the value and cost-effectiveness of IT spending?
- To what extent is accountability adequately built into IT spending?
- What steps should be taken to invest the right amount in the right applications while avoiding costly mistakes?

While these questions are always important, they are even more important in light of the current budget battles and fiscal constraints that will affect future federal IT spending. Not only will

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federal agencies face slower growth in IT spending over the next decade, there may be cutbacks to current levels of IT spending. Urgent action to improve IT spending is needed because reforms will take time to show results.

In shaping IT policies and actions, federal leaders should learn from trends emerging in other industries. For example, many state & local governments and private industries have been forced to respond in new ways to economic pressures and technology investments. Their responses offer key lessons about IT and its implications:

- **Centralization/Consolidation/Rationalization**: Across industries, there has been a concerted effort to centralize IT in order to harvest economies of scale. This is particularly true of infrastructure spending, where the focus has been largely on consolidating data centers as well as rationalizing technology assets across the enterprise.
- **Emergence of Cloud Computing**: Cloud offerings represent a new maturity of Internet services that offers new ways to finance IT modernization, reduce the IT footprint, and eliminate maintenance costs. While security, data ownership, and vendor viability issues remain to be resolved, the increasing utilization of cloud in the private sector will undoubtedly bring significant change to government as well.
- **The Business Value of IT**: Given the new economic climate, organizations have been strategically applying IT to deliver bottom line results. In this approach, business cases are built around the value IT modernization would deliver to operational and business metrics for the organization.

In the end, however, the true value of IT comes from the impact of technology on government operations (e.g. increased productivity, lower cost of service delivery, increased customer service, etc.). To succeed in these times, government must harvest the upside potential of IT while limiting the downside risk of implementation failures.

President Obama's 25 Point Reform Plan: Immediate Impacts

Given the issues raised above, President Obama's 25 Point Reform Plan is a strong path forward to align the IT needs of federal government organizations with the budget realities. The reform creates guardrails needed to guide technology operations while continuing to promote innovative and accountable technology use. In many respects, the reform plan lays the initial foundation needed to answer the questions raised earlier (value, accountability, application size/mix)

Several areas of the reform plan will likely be most important for federal technology management and service delivery. These include:

- **Focus on an Empowered CIO Position**: These portions of the reform plan will give essential support for Federal CIOs to drive technology change across agency enterprises. Empowered CIOs are needed to set enterprise goals, push standardization

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though the organization, and drive more efficient technology use. By strengthening the CIO position, there will be greater accountability for achieving targeted agency goals.

- **Move to Data Center Consolidation Plan**: The increase in data centers across the Federal Government over the past decade has been dramatic. The task now is to consolidate these data centers to drive down costs and increase efficiency. Harvesting economies of scale is critical for the effective allocation of federal technology investments.
- **Focus on Shared Services**: The move to shared services (rather than each program or agency serving itself) provides an important means for federal agencies to maximize the value of technology, create a services-led approach to technology delivery, and build more efficient IT services across the government enterprise.
- **Adapt Commercial Best Practices and Leverage New Technology Strategies**: A critical aspect of the reform plan is to adapt lessons learned and best practices in private sector technology for federal government organizations. Equally important, however, is to leverage some of the emerging technology strategies that provide alternative ways for IT modernization. The reform plan's solutions for acquisitions, commoditized services, the Cloud first policy, and secure Infrastructure as a Service (IaaS) are all important steps for the federal government.

Longer Term Reform Issues

The President's reform plan includes other strategically important goals that will likely require a longer time horizon to implement. These include:

- **Additional Investments in Government Personnel**: The federal government will need to invest in additional Contract Officers, Acquisition Officers, and Program Managers to drive and execute real change in procurement, acquisition, and management of technology projects. These investments must include education and training to support newer methodologies (e.g. Earned Value Management), to understand new technology models (e.g. Cloud Computing), and to develop new skill-sets (e.g. updated and evolving project management methodologies).
- **Technology Vendor Outreach, Partnerships, and Buy-in**: An effective technology and service provider community is an essential part of federal success with IT. As larger reforms take root, it will be vital for the federal government to increase its outreach to the vendor community, to continue to work in a partnership approach with this community, and to secure strong buy-in for the changes ahead. Issues such as procurement reform, timelines for consolidation, focus on cloud computing, etc., will all require on-going dialog with the vendor community to develop the right path forward.
- **An Agile Approach to IT**: One of the most difficult yet important aspects of the reform plan involves building a modular approach to technology investments. This will impact

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multiple parts of the technology lifecycle (planning, budgeting, procurement, vendor engagement, management, etc.) and will likely require more effective and detailed use of newer methodologies (Earned Value Management, Project Portfolio Management, etc.) to support these goals.

Conclusions

President Obama's 25 Point Reform Plan represents an important advance to harvest the benefits of information technology while eliminating wasteful spending. While many aspects of the reform plan will have an immediate impact, others will likely require more time and continuing investments.

In addition to the issues described above, it will be important for federal officials to recognize the following:

- **Timing**: The reform plan includes goals for 6, 12, and 18 month time periods. While these goals are laudable, they may be overly ambitious. The federal government is an enormous enterprise and it is difficult to achieve significant structural changes in a short time horizon.
- **Assisting Agencies Through the Change**: While some agencies have embraced the changes proposed, other agencies may be more resistant to change. As the reform plan moves forward, some agencies will need significant guidance and on-going support to ensure progress. Proper incentives and disincentives will be critical in moving agencies in a cohesive fashion.
- **The Technology Silver Bullet**: In the end, it must be recognized that information technology represents the best mechanism to improve government efficiency and lower the cost of service delivery. Consequently, IT must remain an area of continued aggressive investment. The critical issue now is to protect and incentivize the IT reforms noted here, so that federal IT will maximize results while minimizing mistakes.

Thank you for your time and I look forward to your questions.

Company and Analyst Background

Gartner, Inc. (NYSE:IT - News) is the world's leading information technology research and advisory company. Gartner delivers the technology-related insight necessary for its clients to make the right decisions, every day. From CIOs and senior IT leaders in corporations and government agencies, to business leaders in high-tech and telecom enterprises and professional services firms, to technology investors, Gartner is the valuable partner to 60,000 clients in 11,000 distinct organizations. Through the resources of Gartner Research, Gartner Executive Programs, Gartner Consulting and Gartner Events, Gartner works with every client to research, analyze and interpret the business of IT within the context of their individual role. Founded in 1979, Gartner is headquartered in Stamford, Connecticut, U.S.A., and has 4,400 associates, including 1,200

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research analysts and consultants, and clients in 85 countries. For more information, visit www.gartner.com.

Rishi Sood is a vice president of government research at Gartner, where he leads the Gartner for Business Leaders research for the U.S. State and Local Government, U.S. Federal Government and Global Public Sector programs. In this capacity, Mr. Sood provides strategic direction for his clients by helping them understand key business issues, leading technology trends and drivers, demand for IT solutions, industry best practices, competitive landscapes, and future scenarios for public sector organizations. Within the state and local government marketplace, Mr. Sood specializes in the following agency segments: health, human services, tax/revenue and public safety. Mr. Sood's key technology areas include: Cloud Computing, E-Government, CRM, Outsourcing, Homeland Security, ERP and agency-specific solutions.

Within the U.S. federal government market, Mr. Sood focuses on the civilian, defense and intelligence agency segments. His key technology areas include Cloud Computing, E-government, Cybersecurity, RFID, CRM, IT Services, Outsourcing, Analytics and ERP. Mr. Sood's key business issues are government healthcare, homeland security, sustainability, transformation and sourcing.

Mr. Sood frequently presents at major industry conferences and is a regular contributor to leading IT services publications. He managed a monthly column called "Across the Digital Nation" for Washington Technology magazine. Mr. Sood has been a dedicated government analyst at Gartner for 17 years.

Mr. Sood joined Gartner with the acquisition of G2 Research, where he was vice president, managing the firm's Global Industries group, as well as being chief analyst for state and local government. Mr. Sood is a graduate of the University of Chicago.

Acknowledgements

I would like to thank my fellow Gartner Analysts for contributing their intellectual capital to spur innovation across the technology industry. Specifically, I would like to thank my fellow Gartner Government Research colleagues (Andrea DiMaio, Jeff Vining, Massimiliano Claps, Jerry Mechling, Steve Hawald, and Rick Howard) for their contribution to this testimony and to their collective wisdom in supporting government technology issues.

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Testimony of:
Alfred Grasso
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to the
US SENATE COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS
Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security
on the subject of
"Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"
APRIL 12, 2011

Chairman Carper, Senator Brown, and honorable members of the Subcommittee, thank you for the opportunity to appear before you on this important topic. My name is Alfred Grasso, and I am the President and Chief Executive Officer of The MITRE Corporation. Our company's 50 plus years of experience, contributions, and accomplishments have given us a perspective that I believe is highly relevant to today's topic of information technology planning and management. From the early days of the SAGE air defense system to present day deployment of advanced command and control and business systems, MITRE has been witness to great successes and significant disappointments in the acquisition and deployment of advanced information technology (IT) systems. We are honored to be asked to share our thoughts on the direction of IT reform in the federal government with your subcommittee.

You may know that MITRE is a not-for-profit corporation, managing five federally funded research and development centers sponsored by the U.S. government. Our organizational structure demands that we remain conflict free, do not manufacture products, and do not compete with industry. In this way, MITRE is able to provide objective assistance to the government and work on programs for our government sponsors with the primary motives of achieving established program outcomes, and being good stewards of public funds. It is these motives that bring me here before you today.

Information technology-intensive programs operate in an environment of rapid technology evolution where new generations of technology are introduced in months rather than years. Unfortunately, current federal acquisition processes and budget cycles are not well matched to these timelines, thereby causing some technology components to become obsolete while the program is still in development. To compound matters further, IT investment decisions are often made against a backdrop of rapidly evolving policy decisions, mission priorities and business needs. This pace of change challenges federal IT programs to keep their technical skill base current. All of these factors conspire to undermine the transformative potential IT holds for our government and the public. The answers to these problems are not easily found, but it is essential that steps be taken to begin turning the tide.

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OMB's 25-point plan is a positive step in the IT reform process. In addition to OMB's activities, others across the federal civilian and defense sectors are also striving to find solutions to these challenges. As a personal example, I had the privilege to co-chair the Defense Science Board Summer Study on enhancing military adaptability last year. It should not be surprising that the observations and recommendations made in that study align closely with those expressed here. Adaptable systems, processes and people are critically important in an environment that is rapidly changing.

As I observe the state of IT management in the federal government, I am struck by the amount of attention paid to failures versus time spent analyzing successes for critically important lessons to be learned. I observe a strong tendency to impose new policies, processes and reporting requirements in an effort to avoid future failure. These requirements introduce an ever increasing burden that reduces agility, imposes costs, and delays the delivery of much needed capability. In an interesting study conducted at the Defense Acquisition University, students determined that a "null program"–one that delivers nothing but satisfies mandatory reporting and process requirements–would take three years to complete under the current rules. A system that requires three years to deliver nothing is fundamentally flawed.

As we consider how to reform IT management in the federal government and this Committee considers potential legislation, I suggest policy, process and model decisions be based on what is known to work in government and the private sector, not on reactions to problems. We must build our systems upon successful practices and avoid focusing solely on correcting past failure. My comments today will be based on this premise–that the experiences and attributes of organizations that develop and deploy IT successfully should be the models on which new legislation, policy, and process decisions are based.

The *"25-Point Implementation Plan to Reform Federal Information Technology Management"* is based on practices that work. It establishes a good direction and addresses an important set of issues. We applaud OMB, Mr. Kundra, and the Federal CIO Council's leadership on this topic. It is a national imperative, and it is our collective obligation to deliver information technology more effectively and rapidly to better meet the needs of the public. However, experience leads us to observe that additional steps can be taken both to enable successful implementation of the plan and to expand on some of the important goals defined in it. With that in mind, I will address the following three important topics and provide specific recommendations that build on the intent and direction in the plan:

1) Establishing a governance model which incorporates a comprehensive portfolio management and budgeting approach with close coupling to the end user
2) Establishing strong Program Management Offices (PMOs) by incentivizing and professionalizing the key roles required to successfully deliver IT programs
3) Building secure and resilient IT intensive systems

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IT Governance and Portfolio-based Management and Budget Model

Succeeding in a rapidly changing environment requires a balance between discipline and flexibility. The planning-centric investment and acquisition environment of today is built upon a strong discipline, but management must have the tools and authorities to shift resources as conditions change, opportunities arise, and risks are identified and present themselves. This balance is important in an effective IT governance model. Several points in the 25-point plan address aspects of this challenge.

Aligning the budget process with the technology cycle offers the flexibility to shift resources to address changing needs and increase agility. Furthermore, streamlining governance and ensuring accountability strengthens the role and authorities of the CIO to execute important Clinger-Cohen responsibilities. However, these actions will fall short if the link and timing between the investment decision process and the budget formulation process is not addressed to afford increased flexibility.

Fundamentally, the problem is this: the investment decision process occurs 12–24 months before the budget is actually made available, but the steps necessary to make a sound investment decision cannot be taken that far in advance and without some limited budget authorization. More specifically, the details required in the supporting documentation (the E300) cannot be accurately provided without performing some degree of up-front systems engineering to evaluate alternatives, establish initial requirements, and develop an architecture that is needed to estimate schedule and cost–all tasks that currently require the initial budget allocation (which, unfortunately currently requires a completed and approved E300). The net result is an investment decision, based on little real analysis, made two years in advance to support a budget request. By the time the budget is authorized, technology has likely changed, the business environment has been altered, and key personnel have moved to other pursuits, all of which results in significant risk to the successful delivery of the desired results on time and on budget.

This is occurring now, in FY11, as agencies are developing their FY13 budgets. They are currently making major assumptions about future investments and IT expenditures, without the resources or authority to do the ground work required to properly scope the investment, evaluate alternatives, and estimate the cost of delivery based on an evidence-based analysis. By FY13, the assumptions used today to build the budget will be irrelevant.

Moreover, organizations that budgeted to refresh their aging infrastructure using procurement funds may not have the budgetary flexibility to move to the more efficient services model proposed in the 25-point plan. We are already seeing some organizations making suboptimal decisions because the "color of money" does not support provisioning for services. The 25-point plan proposes to work with Congress to realign this process, and we agree. The near term solution is for Congress to provide greater reprogramming authority for IT investments to all department and agency CIOs until a single IT appropriation can be enacted. This is especially critical for IT infrastructure investments that shape the foundation for future mission and business investments. Increasing transparency into these reprogramming actions can satisfy

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Congress' oversight function with limited risk and without imposing on the CIOs authority to make trade-off decisions.

This model is very common in private industry and not a new concept. In 2005, the Corporate Executive Board performed a benchmarking study of Key Attributes of World-Class, High Performing IT Organizations. Among the eight attributes identified, IT governance was one of the three most important priorities, based on the nearly 1000 private and public sector organizations involved in the study. Within IT governance, Portfolio Management ranked as one of the activities of greatest importance.[1] Within the federal government, the CIOs of DHS, VA, and IRS have all adopted, or are moving to, a portfolio approach. The DoD, in its IT acquisition task force effort, has also determined that changes to the resourcing process, including portfolio management and a single IT appropriation, are critical enablers for IT acquisition reform.

Unfortunately, the budget process and oversight approach does not align well with this management model and does not allow these CIOs to treat their budgets as a complete IT investment portfolio, thereby diluting the degree of trade-offs that can be made and the spending efficiencies that can be realized. Portfolio flexibility is a long-standing best practice in the private sector where corporate boards of directors rarely engage in line-item oversight of specific IT investments or spending priorities. Instead, they hold the Corporate Officers and the CIO accountable for investing wisely to meet the needs of the business and their customers and for demonstrating strong fiscal and fiduciary responsibility. I strongly encourage Congress to take the additional steps necessary to provide this flexibility by realigning the budgeting model and allowing CIOs and portfolio managers to exercise the strategic decision-making that their peers in the private sector have had for years.

I think that a fundamental reshaping of the role of the CIOs and the implementation of a version of this model, along with the alignment of the budget and technology cycle already defined in the 25-point plan, will transform IT management in ways that will result in more efficient and effective use of IT budgets and greater agility to react to a changing environment.

In addition to the improvements described above, we agree that aligning the delivery cycle with the technology cycle through incremental delivery is another clear step in the right direction. These increments represent a disaggregation of large-scale capability into a number of smaller integrated projects that can be executed in a more accelerated manner. The increments must be built on a sound foundation of up-front architecture and systems engineering, where the architect works to understand the user's operational needs and translates them into technical requirements, and the systems engineer translates those technical requirements into a system design. Sound systems engineering performed early in a program's life cycle has a strong correlation with improved project cost and schedule planning. The use of modular open-system enterprise solutions based upon established standards sets the environment for seamlessly and rapidly delivering incremental performance improvements while enabling the environment for continuous competition. These elements provide for an enduring foundation that will reduce risk

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[1] CIO Executive Board of the Corporate Executive Board, "Key Attributes of World-Class IT Organizations: A Competency Diagnostic"; January, 2005

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and deliver capabilities in a timeframe during which the technology is current and skills are relevant. This is also a common approach in the private sector.

Equally important is the need to couple the IT investments and the acquisition process more closely with operations. Speed is important, but it must be well matched to the operational tempo. This coupling ensures that technology drops have clear business value, and increments build on an enduring, underlying IT infrastructure that supports future investment and capability delivery in a cost effective fashion.

At the enterprise level, current processes tend to focus more on compliance than on outcomes. This means they often fall short of meeting business needs. Aligning all stakeholders to a set of shared mission outcomes creates clarity of purpose and will drive dynamic trade space analysis to assess alternative architectures; concepts of operation; and tactics, techniques, and procedures. Aligned teams can guide decisions through short development cycles and can motivate their home organizations to support the outcomes most effectively. These teams provide a venue for the enterprise to engage directly with the operator and gather important feedback from the field. This "Integrated Product Team" (IPT) program management office approach, highlighted in the 25-point plan, is a most effective way to manage an incremental development program. It is critically important that this concept extend to include the development team and be inclusive of the technical management roles (e.g., Chief Architect and Chief Engineer) to set the technical direction for the program, guide the technical decomposition of the solution from concept to field, and enable the government to be a technical peer to the contractors and other supplier organizations. Without this broad set of operator and technology perspectives, the risk of missing critical issues, or taking advantage of opportunities to lead to better outcomes.

With these thoughts in mind, my recommendations can be summarized as follows:

1) Adopt an IT governance model that that features a consolidated, portfolio-based IT budgeting model to allow the flexibility of CIOs and agency leaders to adapt funding during the year to react to changes in technology and mission requirements. This should include multi-year authority and the authority to fund the up-front systems engineering and alternatives analysis necessary to evaluate and estimate the scope, cost, and schedule for their proposed investments without prior approval.
2) Eliminate the investment line-item oversight and the practice of differentiating or "fencing" budget by investment type. Instead, allow CIOs to trade-off investments between New Development, Operations and Maintenance and Infrastructure.
3) Enhance and expand accountability methods and metrics akin to the TechStat reviews and the evolving dashboards to hold the CIO, business leader, and other stakeholders collectively accountable for outcomes. Act upon these results by rewarding performance and addressing areas needing improvement.
4) Match incremental delivery with the operational cadence of the organization or function the IT program supports, with timeframes no later than those identified in the 25-point plan, but not requiring an increment every six months.

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Establishing Strong, Enduring PMOs by Incentivizing and Professionalizing IT Program Management

In my past testimony to this subcommittee, I emphasized the importance of maintaining strong technical and management capabilities within program management offices (PMO). It continues to be my experience that successful programs are characterized by a strong government PMO capable of acting as a strong "technical peer" with contractor counterparts on systems engineering. The individuals assigned to these program offices must view their position as a career and not simply a job. Incentives play a key role in attracting and retaining competent program office personnel. Establishing a career progression gives individuals the opportunity to secure greater responsibility and pay based commensurate with increased degrees of proficiency.

Incentives for individuals need to become more mission-focused and designed so that top performance leads to career growth. Incentives should motivate individuals to leave assignments better than they found them. Toward that end, the performance of the organization and individual leads should influence those individuals' future performance reviews. Too often individual leads are so concerned with ensuring that nothing "happens on my watch" that problems are not recognized in a timely fashion. Individual incentives should also be designed to retain individuals with knowledge and skills of value to the organization and make allowances for a reasonable amount of courageous risk taking, recognizing that that the occasional failures that are a natural outcome of that behavior are far outweighed by the potential benefits.

Contractor incentives also must be considered, as they play an important role in the organization's ability to achieve its objectives. Current contract management practices create some incentives that run counter to government objectives for these companies, which today are motivated largely by profit, opportunities for change orders, and maintaining barriers to entry. In other cases, the excessive bureaucratic and regulatory environment produces disincentives that lead many commercial companies to refuse to do business with the government. While it is clear that the contractors must operate in ways that satisfy their stakeholders and employees, it should also be possible to establish incentives that serve both the government and contractor community well—incentives that are mission-focused, allow for reasonable profit, reward successful contract performance, lower the barrier to entry for commercial firms, and promote continuous innovation and competition.

1) Establish career paths for these IPT PMO team. Many are identified in the 25-point plan, but I would include the technical management roles such as Chief Architect and Chief Engineer since they set technical direction and act as the technical peer with the contractor.
2) Establish incentives for program leaders and technical leaders by aligning their performance with mission outcomes, not just program outcomes. Reward prudent risk taking and results.
3) Allow contracting flexibilities to incentivize contractors in accordance with mission outcomes, not just with contract delivery.

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Building Secure IT Systems

A final area of extreme importance is securing information systems. This should be a critical aspect of any investment, and it warrants major investments in its own right. All too often, however, security is regarded as an afterthought, an option. And all too frequently, concerns about system vulnerabilities are used to justify making less transformational investments and adhering closely to the status quo–making marginal improvements instead of fundamental changes. This reluctance is justified as a concern about the "new technology."

I believe that security concerns should not be the reason for not doing something new, but rather should be a major consideration in how to do it successfully. This process starts with the architecture and initial investment plan. Defining resilient architectures that not only address vulnerabilities but also include the capabilities required to withstand a breach should be a key element of any investment. Factoring in security considerations should be, for instance, important in determining the type of cloud environment to adopt and how to architect and operationalize it. It should not be a deterrent.

An example of this case can be found in the 25-point plan's "cloud-first" policy. Cloud-based strategies provide opportunities for efficiencies through virtualization, commoditization, and provisioning of services. However, security issues should be a major consideration in the process of determining the type of cloud. From my experience, it is important to weigh the security issues as a key element in the decision about which applications are moved to the cloud and which cloud strategy is best leveraged to meet the functional needs, deliver efficiencies, and protect the data and applications. We developed, and have shared with many agencies and OMB, MITRE's *Cloud Computing Decision Process*[2]—our recommended guidance on how to measure and evaluate the trade-offs to make the best cloud decision. Inherent in this framework, and the intent behind it, is the belief that decisions of this nature should recognize and weigh both risk and benefit.

As an illustration, deploying data and applications to a cloud environment changes an organization's IT security posture. New technologies are introduced into the IT infrastructure and responsibility for securing systems is shared between the organization and the cloud service provider. These changes create both challenges and opportunities. Risks introduced by the new technologies are challenges that must be understood and addressed. The cloud service provider, however, is an ally who has both expertise and resources to help address these challenges. Working together, these partners have the opportunity to achieve more secure systems. The cloud service provider can address IT infrastructure security, thereby allowing the organization to focus on protecting information.

This is a topic on which the Federal CIO, the CIO Council, and the Congress can provide more leadership. They should send a clear message that government information technology investments must not only be aligned with business needs, deployed incrementally, and managed

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[2] Presented in *"A Decision Process for Applying Cloud Computing in Federal Environments"*; www.mitre.org/work/tech_papers/2010/10_1070/cloud_federal_environments.pdf

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properly within budget and schedule, but must also be architected, developed, and operated with a clear eye on protecting public and private data and continuing the critical services government performs for the public. A major thrust of this nature will also represent a transformation in the way information technology is adopted, deployed, and operated by the federal government.

Summary and Closing

Achieving the results expected of the 25-point plan requires a major transformation that spans many aspects of the federal government's operations. Transformation succeeds when culture, strategy, vision, processes, incentives, and accountability are aligned and reinforce one another. Moving away from core rigidities that prevent the enterprise from being as effective as possible can only be achieved by changing the way individuals think about their roles and how they help achieve the overarching goal of the organization.

John Kotter's *Harvard Business Review* article "Why Transformation Efforts Fail"[3] lists the mistakes companies make when attempting to reengineer themselves. One of the most common errors is not anchoring changes in the organization's culture. Change sticks when it becomes "the way we do things around here," when it seeps into the bloodstream of the corporate body. Until new behaviors are rooted in social norms and shared values, they are subject to degradation as soon as the pressure for change is removed. Cultures can change when leaders make a compelling case for change, there is a clear roadmap of explicit steps, the roadmap is consistently communicated to all stakeholders, and expectations and accountability are unambiguous. The 25-point plan presents this roadmap.

One of the key attributes of successful commercial organizations is the willingness to examine how the firm does its work and to abandon processes that consume resources but don't create value for the mission. The federal government, conversely, has a long history of repeatedly layering new initiatives on existing processes with a goal of minimizing risk. As a result, achieving IT objectives in the federal government is more difficult, takes longer, and requires too many reviews and approvals. To compound this process-heavy environment, the culture of risk aversion means that "no" is much more likely to be encountered than "yes." Successful organizations will routinely abandon less valuable activities to increase speed and reduce cost. We must not be reluctant to do the same.

The many elements of the 25-point plan reflects two sets of related priorities – adopting new technology that enables greater efficiency, and establishing an enduring foundation of capabilities to plan, manage, and execute IT programs more successfully. I believe the latter represents both the greatest challenge and the true imperative. From my vantage point, enduring change will require the following:

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[3]. John P. Kotter, "Leading Change: Why Transformation Efforts Fail," *Harvard Business Review on Change*, Harvard Business School Press, 1998.

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1) Establishing IT governance that includes authorities and flexibilities where they best contribute to the success or failure of these programs without losing transparency into how these portfolios are performing
2) Building and empowering Program Management Offices (PMOs) by incentivizing and professionalizing the key management and technical roles to motivate people to adopt these roles as careers
3) Defining and building IT capabilities that are secure and resilient

Without the opportunity, authority, and resources to accomplish these goals, the success rate in adopting new technology will continue to suffer. I am supportive of the direction of the 25-point plan, as well as other similar action plans developed and being implemented across many agencies today. I am encouraged by the clear interest of this subcommittee in taking steps to codify methods and operating models that we know to be successful and on the increased emphasis on developing the foundation capabilities that endure beyond contemporary solutions. I believe if these steps are taken, the promise of the 25-point plan can be realized, and the priorities it lays out will endure.

I respectfully request that my prepared statement be included in the record, and I would be pleased to answer any questions.

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Post-Hearing Questions for the Record
Submitted to Vivek Kundra, Federal Chief Information Officer, Office of Management and Budget
From Senator Claire McCaskill
Note: Due to the timing of Vivek Kundra's departure, these questions were responded to on his behalf by the Office of E-Government and Information Technology.

"Examining the President's Plan for Eliminating Wasteful Spending in Information Technology"
April 12, 2011

1. **The "25-point plan" recently announced by OMB to reform the way the federal government procures and manages its IT appears to be directly antithetical to the current approach taken by GSA. At a time when the government is looking to decrease its costs, eliminate wasteful spending, and decrease the project deliverables and completion timelines, it is my understanding that GSA has yet to do a comparison/business case as to how a Software-as-a-Service/Cloud approach could help achieve the government's goals in this regard.**

   a. **How does the IAE approach comply with Cloud-first policy?**

   The Administration's Cloud-first policy is intended to accelerate the pace at which the government will realize the value of cloud computing by requiring agencies to evaluate safe, secure cloud computing options before making any new investments. Under the 25-Point-Plan, agencies, including GSA, are migrating three services to the cloud by June 2012; one of these migrations must be complete by December 2011. Additionally, as per the Federal Cloud Computing Strategy, each agency will re-evaluate its technology sourcing strategy to include consideration and application of cloud computing solutions as part of the budget process. Consistent with the Cloud First policy, agencies will modify their IT portfolios to fully take advantage of the benefits of cloud computing in order to maximize capacity utilization, improve IT flexibility and responsiveness, and minimize cost. Agencies such as USDA and GSA have centralized disparate email systems, by moving to cloud providers, saving millions of taxpayer dollars.

   The investment of $38 million into a System of Award Management (SAM) will allow GSA to improve operating capabilities, eliminate redundancy, increase data accuracy and improve agility of the application for future expansion. SAM will consolidate the eight procurement systems by consolidating eight databases into one, which will greatly improve unnecessary duplication and redundancy and improve data quality for both the acquisition workforce and the public. Specific benefits include:

   - Improving Functionality and Reducing Operations & Maintenance Costs – Due to the age and complexity of the eight systems currently supported, it is difficult to make changes quickly and making changes to eight systems is costly. In the current state, it is expensive and increasingly more difficult to make changes required by legislation, executive order or the Federal Acquisition Regulation (FAR). However, once integration is complete, the cost savings will be significant. SAM, a single system versus the current eight systems, will allow for more active management and for active competition of support services through the life of the integrated system.

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- Single Login and Data Entry – SAM will result in one online location for data entry that will increase functionality and accessibility for the federal contracting community and interested businesses. For example, there will only be one input for a vendor's name and address, which will be used to support multiple functions and appear in multiple reports. A unified system will make it possible to have a single log on and single reporting system that enables the acquisition workforce and public to retrieve and analyze procurement data and ensure accurate data from the vendors who that do business with the federal government.

- Single Data Source – SAM will enable centralized, normalized data to eliminate potential conflicting value when agencies and the public are conducting searches for contract data. SAM will simplify and reduce the number of interfaces that each agency must maintain thereby also benefitting the vendors who provide agencies with procurement systems. The processes that each of the eight systems performs are being analyzed and redundancies will be removed resulting in such improvements as the quality of standardized reports.

- Single Hosting Site – SAM will consolidate hosting for multiple websites. Consistent with the Administration's "Cloud First" policy, GSA is deploying an infrastructure as a service cloud environment, hosted in a private cloud, which is the definition of cloud computing developed by the National Institute for Standards and Technology (NIST). Among other things, the definition emphasizes that cloud technologies that are inherently more reliable and flexible. The consolidation will also bring immediate benefits from a security and accreditation standpoint since each of the systems share common solutions for physical and internet security, so one set of documentation/process can be used for all eight systems.

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2. **Both in your oral and written testimony, you highlighted that the present budget process does not align well with the "modular" IT development process. Similarly, the process makes the duplication, across the federal government, of IT systems more likely. Both modular development and reducing the number of duplicative IT systems are two main components of the administration's "25 point plan" to reform federal IT spending and management.**

   a. **Without a change to the budget process how will the implementation of the present plan be affected?**

   As outlined in the "25 Point Plan", providing agency CIOs with increased budget flexibility (e.g., ability to pool bureau-level funds to serve agency-wide purposes, flexibility to transfer funds between projects) can improve their ability to consolidate redundant investments and reduce the number of duplicative IT systems agency-wide. Furthermore, extending the period of availability of funds as part of the broader effort to improve the alignment of the budget process with the technology cycle can further the goal of modular development and help to curb potentially wasteful year-end spending.

   While such changes to the budget process have the potential to advance key goals for federal IT as articulated in the "25 Point Plan," in some instances agencies have existing transfer authorities, established revolving funds, and other mechanisms already in place which can be used to centralize funding for major IT initiatives, consolidate the acquisition of commodity IT, and reduce agency-wide duplication. OMB continues to work with agencies to maximize their use of current authorities and to share management best practices to improve CIOs' abilities to coordinate and optimize management of their IT portfolios. To achieve optimal results, Congressional action is likely required.

   b. **How would you reconcile the ability of an agency to make final decisions and/or changes to their IT plan at the time of execution with the need for Congressional oversight of taxpayers' money?**

   As stated in the "25 Point Plan," "information technology should enable government to better serve the American people. " Accordingly, agency decisions regarding IT systems should always be done with the ultimate aim of providing increased value to the taxpayer.

   With that in mind, in June 2009 the Administration launched the IT Dashboard to allow the public to monitor IT investments across the Federal Government. As part of this increased transparency into the Federal IT portfolio, the Dashboard makes available details regarding rebaselining/replanning activities affecting major IT investments. Details provided include the date of the rebaseline/replan and the reason for rebaseline/replan (as provided by the agency).

   Planned enhancements to the IT Dashboard include, for all major investments, the display of details regarding component projects and updates to progress on key deliverables at least every six months. The release of this information is consistent with the principles of modular development and will empower every stakeholder in the oversight process – from the CIO to the Congress – to have a more timely impact on improving the results for Federal IT spending.

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3. **One of the areas targeted by the administration's "25 Point Plan" is the lack of properly trained and experienced program managers. According to your written testimony OMB and OPM have worked together to create a new occupational series to recruit the best and brightest project managers.**

   a. **Will the use of private contractors for these positions be an option available to a department or agency? If so, has an analysis been performed on the cost of using a private contractor in lieu of a federal employee?**

      This Program Manager career series was established for Federal employees. In developing a career path for this series, it was envisioned that we would recruit from within and outside of the government.

   b. **What, if any, incentives are being offered to recruit and retain highly qualified individuals as IT project managers? Would an incentive, such as pay banding, be the decision of the employing department/agency?**

      OPM released the results of a Government-wide competency study in mid-July. The results were used to inform the development of new competency model for the program manager position. The competency model can be used along with the new Program Manager title to create job opportunity announcements and position descriptions for recruiting IT program managers. The competency model will also be useful to agencies in workforce planning (e.g., competency gap analyses) to ensure they have staff with the essential competencies to effectively perform IT program management work.

      In addition, there is a follow-up effort to supplement the new Program Manager title. OPM is developing information about typical career paths, suggested training and development activities, and other information on IT program management careers to assist agencies and employees in fully utilizing the new IT program management title. Finally, the career path effort will be a resource agencies can use to grow and develop a pipeline of successful IT program managers. The 25 point plan did not investigate any specific pay incentives.

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Washington, DC 20548

July 22, 2011

The Honorable Claire McCaskill
Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security
Committee on Homeland Security and Governmental Affairs
United States Senate

Subject: *Efforts Underway to Eliminate Wasteful Information Technology (IT) Spending*

Dear Senator McCaskill:

This letter is in response to questions you sent us following the April 12, 2011, hearing on the governance of federal IT investments.[1] At that hearing, we discussed the Office of Management and Budget's (OMB) key efforts to improve oversight and management of these investments through the use of the IT Dashboard[2] and other efforts. Your questions, along with our responses, follow.

In your written testimony you stated that a March 2011 GAO report stated that agencies needed to do more to ensure the IT Dashboard's data accuracy. Specifically, you reviewed investments at the Department of Homeland Security (DHS) as well as other departments. You found that cost ratings were inaccurate for 6 of 10 selected investments and schedule ratings were inaccurate for 9 of 10. You also found weaknesses in agency practices, e.g. uploaded inconsistent or erroneous data, failed to submit data, and/or used unreliable source information.

(a) Can you briefly explain your findings with respect to DHS? What recommendations were given to the departments as a result of your review? Since the initial recommendations have you done a follow up review and if so what were your findings?

In March 2011, we reported that the Dashboard ratings for the two DHS investments selected for review contained data inaccuracies over a 3-month period.

- *U.S. Citizenship and Immigration Services–Transformation investment:* The Dashboard's cost and schedule ratings for this investment were inaccurate for all

[1]GAO, *Information Technology: Continued Improvements in Investment Oversight and Management Can Yield Billions in Savings*, GAO-11-511T (Washington, D.C.: Apr. 12, 2011).
[2]The IT Dashboard, deployed by OMB in 2009, provides detailed information on approximately 800 major federal IT investments, including assessments of these investments' performance against cost and schedule targets.

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3 months that were evaluated. Cost performance on the Dashboard was reported as "red" (i.e., significant concerns) from June 2010 through August 2010, whereas our analysis of program data showed cost performance as "yellow" (i.e., needs attention) for those months. In addition, the investment's schedule performance, as reported on the Dashboard, was "green" (i.e., normal), while our analysis showed the performance to be "yellow" for those same months. In other words, the investment's actual cost performance was better than what was reflected in the Dashboard, and its actual schedule performance was worse.

- *U.S. Coast Guard-Command, Control, Communications, Computers, Intelligence, Surveillance & Reconnaissance investment:* While the Dashboard's "yellow" cost ratings for all 3 months were accurate, the schedule ratings for each of those months were inaccurate. Specifically, schedule performance was reported as "yellow" in June and July 2010 and "red" in August 2010. In contrast, our analysis determined that the performance was "green" in June and July, and "yellow" in August, indicating that the investment's actual schedule performance was better than what was reflected on the Dashboard.

We further reported that the data inaccuracies noted above were attributed to weaknesses in the department's Dashboard reporting practices, as well as limitations in how OMB calculates the ratings. Specifically, DHS's Dashboard-data submissions were not always provided on a monthly basis; contained errors; and were not reflective of the investment's actual baseline. In addition, OMB's Dashboard calculations lacked a sufficient emphasis on current investment performance. Specifically, these calculations combined the performance of ongoing activities with completed activities—thus masking recent performance of the department's investments.

To improve the accuracy of the Dashboard's performance ratings, we made multiple recommendations to DHS and OMB. We recommended that DHS ensure investment data submissions include complete and accurate investment information for all required fields and comply with key OMB Dashboard-related guidance. DHS concurred with our recommendations. We also recommended that OMB develop rating calculations that better reflect current investment performance. OMB disagreed with this recommendation, stating in its response that real-time performance is always reflected in the ratings since current investment performance data are uploaded to the Dashboard on a monthly basis. However, we maintained that the issue was not the frequency with which the data were updated, but that the use of historical data going back to an investment's inception could mask more recent performance, as our report had shown.

Since the completion of our review, we have not yet initiated follow-up work on the implementation status of our recommendations.

(b) In your opinion, do you believe the weaknesses in agency practices were caused by unclear department processes or on human resources? Did these inaccuracies cost the government taxpayer money? If so, how much?

The data inaccuracies described above, such as missing monthly data uploads and erroneous data, are a result of the department's lack of compliance with OMB's guidelines on maintaining data on the Dashboard. However, if DHS fully implements

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all of our recommendations, the accuracy of the Dashboard ratings for its investments should improve. Further, while we do not have specific information regarding costs incurred as a result of inaccurate Dashboard reporting, our prior work on poorly performing major IT programs[3] has shown that the use of inaccurate performance data for executive-level decisions contributed to cost overruns that could potentially have been avoided.

Notwithstanding the issues with data accuracy on the Dashboard, this mechanism has demonstrated the potential to significantly improve the performance of IT investments and reduce unnecessary spending. Through the use of the Dashboard, the Federal Chief Information Officer (CIO) has led reviews—known as "TechStat" sessions—of selected IT investments involving OMB and agency leadership to improve performance. According to OMB officials, 58 sessions had been held as of December 2010 and resulted in improvements to or termination of IT investments with performance problems. For example, the June 2010 TechStat session for the National Archives and Records Administration's Electronic Records Archives investment resulted in the halting of development funding pending the completion of a strategic plan. Further, OMB identified 26 additional high-priority IT projects and coordinated with the cognizant agencies to develop corrective action plans at future TechStat sessions. According to the Federal CIO, OMB's efforts to improve management and oversight of IT investments using this mechanism (i.e., the Techstat sessions) and other OMB management reviews have thus far resulted in $3 billion in savings.

Additionally, our recent and ongoing work has identified other opportunities for using the Dashboard to increase operational efficiency and realize significant cost savings.[4] As part of our first report responding to a statutory requirement that GAO identify duplicative goals or activities in the federal government, we reported on the potential for further significant savings if OMB implements planned improvements to the Dashboard, along with outstanding GAO recommendations. We also have ongoing work for this subcommittee to evaluate the data on the Dashboard in order to determine the extent to which agencies may be investing in similar projects, as well as efforts to identify and act on such duplicative investments. We plan to issue a report on this body of work in September 2011.

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[3]For example: GAO, *Electronic Records Archives: National Archives Needs to Strengthen Its Capacity to Use Earned Value Techniques to Manage and Oversee Development*, GAO-11-86 (Washington, D.C.: Jan. 13, 2011); *Information Technology: Agencies Need to Improve the Implementation and Use of Earned Value Techniques to Help Manage Major System Acquisitions*, GAO-10-2 (Washington, D.C.: Oct. 8, 2009); and *Polar-orbiting Operational Environmental Satellites: Restructuring Is Under Way, but Technical Challenges and Risks Remain*, GAO-07-498 (Washington, D.C.: Apr. 27, 2007).
[4]GAO, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP (Washington, D.C.: Mar. 1, 2011).

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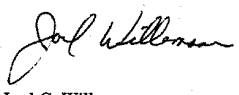
In responding to these questions, we relied on previously reported information on the IT Dashboard. The work supporting this letter was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. Should you or your office have any questions on matters discussed in this letter, please contact me at (202) 512-6253 or willemssenj@gao.gov.

Sincerely yours,



Joel C. Willemssen
Managing Director, Information Technology

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