

**IDENTIFYING CRITICAL FACTORS FOR SUCCESS  
IN INFORMATION TECHNOLOGY ACQUISITIONS**

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**HEARING**

BEFORE THE

COMMITTEE ON  
HOMELAND SECURITY AND  
GOVERNMENTAL AFFAIRS  
UNITED STATES SENATE  
ONE HUNDRED THIRTEENTH CONGRESS

SECOND SESSION

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MAY 8, 2014  
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Available via the World Wide Web: <http://www.fdsys.gov/>

Printed for the use of the  
Committee on Homeland Security and Governmental Affairs



U.S. GOVERNMENT PUBLISHING OFFICE

89-681 PDF

WASHINGTON : 2015

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**IDENTIFYING CRITICAL FACTORS FOR  
SUCCESS IN INFORMATION TECHNOLOGY  
ACQUISITIONS**

THURSDAY, MAY 8, 2014

U.S. SENATE,  
COMMITTEE ON HOMELAND SECURITY  
AND GOVERNMENTAL AFFAIRS,  
*Washington, DC.*

The Committee met, pursuant to notice, at 10:04 a.m., in room SD-342, Dirksen Senate Office Building, Hon. Thomas R. Carper, Chairman of the Committee, presiding.

Present: Senators Carper and Coburn.

**OPENING STATEMENT OF CHAIRMAN CARPER**

Chairman CARPER. Good morning, everyone. The hearing will begin.

Dr. Coburn, our witnesses, our guests, I want to start off by just thanking you for joining us today, for your testimonies and your willingness to respond to our questions. My thanks to Dr. Coburn and his staff, as well, for helping us to put this hearing together as part of our ongoing Committee effort to improve how Federal agencies acquire, implement, and manage information technology (IT).

It is a topic near and dear to my heart. I know it is something that is near and dear to Senator Coburn's heart, something he has worked on, I have worked on for a number of years as we took turns leading what was the former Federal Financial Management Subcommittee. During our time in the Senate, we have heard about and chaired hearings on a number of successful IT projects. I have also, unfortunately, worked with my colleagues to determine what went wrong with a number of failed projects.

One example of a successful government IT project is the Western Hemisphere Travel Initiative, which went into effect in 2007. The program addressed one of the main 9/11 Commission findings, and that is before September 11, 2001, people could show a border official one of hundreds of different kinds of documents in order to enter the United States at land borders and ports of entry (POE), making it difficult for officials to identify fraudulent documents. Since 2007, people trying to enter our land ports must present a Department of Homeland Security (DHS)-approved secure card that communicates with Customs and Border Protection (CBP) equipment to prove their citizenship. The project required that Customs and Border Protection modernize its ports of entry infra-

structure and IT systems in order to enable the use of technology, which it did successfully within 2 years. The program is still going strong today and has proven to be a very smart investment. In fact, they continue to improve it.

Some examples of failed projects include USAJobs, which is run by the Office of Personnel Management (OPM), along with the Federal Bureau of Investigation (FBI) digital case management system called Sentinel, and, of course, the failed launch of HealthCare.gov. With regard to HealthCare.gov, the Administration was, fortunately, able to get things turned around quickly. More than eight million people—have signed up for insurance, and a number of them through HealthCare.gov. But, the stand-up, I think we will all agree, was abysmal, at least initially.

Most struggling IT projects do not get the type of response or media attention that we saw with HealthCare.gov, a team of experts rushing in to try to set things straight. Rather, what typically happens is that we continue to sink more money into these programs as they sputter along.

Now, the simple truth is that every organization, be it a Federal agency or a Fortune 500 company, faces a host of challenges in implementing large IT projects. We faced plenty of challenges in my last job as Governor. We are not always successful, either. But, from where I sit, it appears to me that the Federal Government seems to have more problems than the private sector, or it may seem that way because the government's problems are more frequently on the front page of the paper, given that they are paid for with taxpayer dollars.

Today's hearing will explore the challenges that organizations both in government and in the private sector face in implementing IT systems. It will also examine the steps agencies need to take in order to be successful. Several of our witnesses today have significant experience working in the private sector, so I am especially interested in hearing about the similarities and differences between the government and industry. Most importantly of all, I am also interested in hearing about what lessons Federal agencies can learn from how industry implements IT. I also want to hear from our witnesses about what successes look like and what our agencies need to do to increase the likelihood that an IT project will succeed.

As I oftentimes quote former Federal Reserve Vice Chairman Alan Blinder, now back at Princeton teaching economics, he once advised us in terms of how to reduce budget deficits, how to especially rein in the growth of health care costs, he said, find out what works and do more of that. Pretty good advice, not just on health care, but on a lot of other things, as well.

Agencies need to get to the point where they succeed more often than not. But, all of us need to acknowledge that there will always be projects that, despite our best intentions, wind up failing. When that happens, we need to make sure agencies know how to pick up the pieces, avoid squandering the money we entrust to them on projects that should be scrapped.

With that having been said, we are glad you are here. Senator Coburn and I look forward to this. There is legislation out of the House—I think it is called the Federal Information Technology Acquisition Reform Act (FITARA)—that Congressman Issa and others

are pushing and it has been reported out of the House. This is a very helpful hearing for us to craft what we believe we should legislate and what we should do in response to and hopefully work with the House to pass legislation that will help save some money and provide better service for the folks we work for. Thanks very much. Senator Coburn.

#### **OPENING STATEMENT OF SENATOR COBURN**

Senator COBURN. Well, thank you, Mr. Chairman, and welcome to all of you. I appreciate your hard work.

IT is one of the areas where we waste more money than any other area in the government, except the Pentagon when you take IT out. Let us put the other one up first.

Twenty years ago, Bill Cohen, the Ranking Member on this Committee, had a hearing.<sup>1</sup> My question is, what has changed? We still waste about 50 percent of all the money we spend on IT, and the question we have to be asking ourselves is, why?

Twenty years later, we find ourselves sitting here having a discussion. Some things have changed. We have better leadership now. Mr. Tangherlini, what you are doing, I congratulate you. I have all the confidence in the Office of Management and Budget (OMB). I have some disappointment on the data center stuff, which I will talk about in the questions. The one thing that also has changed is we are wasting more money now than we did back then on IT.

We are starting to put some good reforms in place, which I congratulate all of you on. OMB set a goal 4 years ago of closing 40 percent of the Federal data centers and saving \$3 to \$5 billion by the end of 2015. We are not there yet. Are we making progress? Yes. Do we need to make more progress sooner? Yes. There is not the tracking that needs to go on, according to the Government Accountability Office (GAO).

I would tell you, I think every Member of this Committee supports OMB's initiative and effort and wants it to succeed, and as Chairman Carper mentioned, that is why we reported a bill, the Federal Data Center Consolidation Act by Senators Bennet, Ayotte, and Chairman Carper and myself, to enhance the consolidation initiative and improve the quality of data. Greater transparency, clear metrics, and strong oversight, and not just by us but by OMB, of the agencies, can make this consolidation one of OMB's biggest successes in terms of dollars, but also in terms of how it impacts the rest of the Federal Government. GAO, in their recent report, now says that the initiative has the potential to save far more than the early estimates, far more, \$10 billion over the next decade.

We are going to hear about some new plans today from OMB and the General Services Administration (GSA). I am excited for that. What I do not want is for us, all of us, to lose focus on a good set of initiatives that are in place, making progress, and saving money.

So, I welcome you here. I have some concerns that I will elevate and discuss in the question period. But, we have a pretty good start. It can be better, and we will focus on that.

Mr. Chairman, thank you for holding this hearing.

<sup>1</sup>The hearing referenced by Senator Coburn appears in the Appendix on page 109.

Chairman CARPER. Thank you, Dr. Coburn.

I would just say, this is certainly about saving money, and there are a lot of cooperative efforts underway—to do that. It is a great way to provide better service. A good example is the Veterans Administration (VA). We have these huge backlogs. We had these huge backlogs—they are still pretty big—for veterans applying for disability under the VA, and it had huge backlogs. We had, basically, a paper system and we have a lot of folks who had been trying to get disability pensions because of Agent Orange, a huge backlog there, a huge backlog just because people were looking for a way to supplement their income in the worst recession since the Great Depression. So, that made a bad situation even worse. But, we are using technology and using that technology to whittle down the backlog list. We are making very good progress, and that is an important thing.

Another area where we are trying to save some money, but also to provide better service, is we have people that are on active service in the Department of Defense (DOD). They operate under one kind of electronic health record. Over here in the VA, they have a different kind of electronic health record. They do not talk to each other, not interoperable, and there is a great effort underway to make sure that they are interoperable. So that when someone leaves active duty and moves to veteran status, they can do so in a seamless way and we can provide better health care at less cost to our veterans.

So, it works in a lot of ways. There are some good success stories out there. There are some that could be a good success story. We want to figure out how we can work together to make sure there are a lot more success stories.

I am not going to introduce everyone individually. You all have been good enough to come before us before. We are delighted that you are here today. We appreciate your work very much.

Dan, I am going to ask you to lead us off, and then Steven and David, if you would, please. Thanks so much.

**TESTIMONY OF THE HONORABLE DANIEL M. TANGHERLINI,<sup>1</sup>  
ADMINISTRATOR, U.S. GENERAL SERVICES ADMINISTRATION**

Mr. TANGHERLINI. Thank you very much, and good morning, Chairman Carper, Ranking Member Coburn, Members and staff of the Committee. My name is Dan Tangherlini and I am the Administrator of the U.S. General Services Administration.

Before focusing on the topic of today's hearing, I would like to take a moment to introduce to the Committee our new Deputy Administrator, Denise Roth, who, among other duties as our Chief Operating Officer (COO), will be working on internal GSA IT issues.

The challenges of technology procurement and delivery facing the government have been a focus for better management and oversight throughout this Administration. Given GSA's mission, to deliver the best value in real estate, acquisition, and technology services to the government and the American people, we believe we are uniquely positioned to help make a difference in these efforts.

<sup>1</sup>The prepared statement of Mr. Tangherlini appears in the Appendix on page 47.

Through better management of our own IT investments as well as offerings GSA provides governmentwide, GSA can support the Administration's efforts to better manage IT and to continue improving some of the longstanding challenges.

Since my arrival at GSA, we have been focused on consolidating and streamlining major functions within the agency to eliminate redundancy, improve oversight, and increase accountability. As part of GSA's top-to-bottom review, GSA brought together all IT functions, budgets, and authorities from across the agency under an accountable, empowered GSA Chief Information Officer (CIO) in line with the best practices followed by many modern organizations today.

GSA now has one enterprise-wide process for making IT investments, which ensures that investments are geared toward the highest priorities in support of the agency's strategic goals. We have set internal goals to reduce ongoing operating costs to allow the organization to make better long-term investments using our enterprise-wide, data driven, zero-based IT budgeting process.

Consolidation also provides an opportunity to adopt the best forward-leaning practices in supporting investments. In recognition of the need to modernize not just applications, but how we support IT and consistent with broader Federal efforts, GSA instituted a cloud-first policy that prompts all application development initiatives to look first to the GSA cloud platforms available as technology solutions before evaluating legacy platforms with higher operating costs.

The focus of our transition has not been limited to what we build but also how we build it. Our move to an agile development shop has resulted in a significant increase in our ability to rapidly deploy and scale. Consolidated IT governance is also helping GSA realize a high-performing IT environment as effectively and efficiently as possible while also providing a level of transparency and accountability that will lead to continuous ongoing improvement.

GSA also looks for opportunities to help agencies adopt new technologies and take advantage of digital services that improve mission delivery and enhance their interactions with the public. GSA helps to ensure that we have tools that allow the government to access the ingenuity of the American people to help solve government's challenges.

GSA manages Challenge.gov, an award winning platform to promote and conduct challenge and prize competitions governmentwide. We are also leading efforts to open government data to entrepreneurs and other innovators to fuel development of products and services that drive economic growth. GSA operates Data.gov, the flagship open government portal which enables easy access to and use of more than 90,000 data collections from over 180 government agencies.

In addition, GSA recently announced the creation of 18F, a digital delivery team within GSA that aims to make the government's digital and web services simpler, more effective, and easier to use to the American people. By using lessons from our Nation's top technology startups, these public service innovators are looking to provide support for our Federal partners in delivering better digital

services at reduced time and cost and making the government a better consumer of IT services.

GSA's internal IT reforms, acquisition solutions, and digital services are in keeping with our mission to deliver the best value in information technology solutions to the government and the American people. GSA still has a lot of work ahead of us and I am grateful for the Committee's support of our reform efforts.

I appreciate the opportunity to appear before you here today and look forward to any questions that you might have. Thank you.

Chairman CARPER. Thank you, Dan. There will be some questions.

Steve, you are up. Thank you so much.

**TESTIMONY OF STEVEN L. VANROEKEL,<sup>1</sup> U.S. CHIEF INFORMATION OFFICER, U.S. OFFICE OF MANAGEMENT AND BUDGET**

Mr. VANROEKEL. Thank you, sir. Chairman Carper, Dr. Coburn, Committee staff, thank you for the opportunity to testify before you today about the best practices and factors for successful acquisition and implementation of Federal information technology.

During my nearly 20 years in the private sector, I woke up every day focused on improving and expanding core services and customer value while also cutting costs. I brought this focus with me to the Federal Government. When I joined the Administration in 2009, and the Office of Management and Budget in 2011, I found willing partners in this mission and have spent the past 3 years at OMB focused on driving innovation to meet customer needs, maximizing our return on investments in Federal information technology, and establishing a trusted foundation for securing and protecting our information systems.

Constantly improving the state of Federal technology is a priority for this Administration and a mission that OMB takes very seriously. In these times of fiscal constraint, this means we must drive innovation while controlling spending by maximizing effectiveness and efficiency in everything we do.

The Administration's first term efforts largely focused on establishing mechanisms to stop the growth of IT spending, promoting new technology such as cloud computing, mobile, opening up Federal Government data for private sector use, enhancing cyber capabilities, and deploying Federal technology as a tool to increase efficiency and allow government to do more with less.

In the decade prior to this Administration, the Federal IT budget increased at the Compound Annual Growth Rate of 7.1 percent a year. If spending increased at the same rate during this Administration, our current IT budget request would total \$117 billion. However, through our PortfolioStat data-driven accountability sessions, Federal agencies enhance their analytical approaches to more effectively manage their IT and improve IT cost oversight. The result is over \$2.5 billion of identified cost savings and \$1.9 billion of realized savings through the PortfolioStat process.

During this Administration, we flatlined Federal IT spending, driving efficiencies and fueling innovation across the Federal technology portfolio through initiatives like data center consolidation,

<sup>1</sup>The prepared statement of Mr. VanRoekel appears in the Appendix on page 53.

cloud computing, and the Administration's Digital Government strategy, all the while working to keep Federal data safe and secure.

One of the pillars of the President's Management Agenda is a focus on increased effectiveness, finding ways to deliver world class customer services to citizens and businesses. Our efforts underway on Smarter IT delivery are a key part of this work. To deliver citizens the services they expect from their government, we must shift the focus of Federal Government IT projects from compliance and process to meeting user needs. We must be intensely user-centered and agile, involve top talent from the private sector in government IT projects, and ensure agency leadership is actively engaged and accountable to the public for the success of the digital services of their agency.

To support this effort, the Administration's Smarter IT Delivery Agenda focuses on ensuring the Federal Government has, one, the best talent working inside government; two, the best companies working with the government; and, three, the best processes in place to make sure everyone involved can do their best work and be held accountable for delivering excellent results for the American people. This agenda aims to increase customer satisfaction with top government digital services, decrease the percentage of Federal Government IT projects that are delayed or over-budget, and increase the speed by which we hire and deploy qualified talent and vendors to work with government on these IT projects.

As in any organization, public or private, IT excellence starts with having the best people executing the IT. While there are many talented IT professionals across our government, it is clear we need to broaden and deepen this talent pool to meet present and future needs.

To this end, we are building a new capability called the Digital Service. The Digital Service will be made up of a modest team of some of our country's best digital experts. This team will be housed in my office at OMB and it will be charged with proactively establishing standards to bring the government's digital services in line with the best private sector experiences, define common platforms for re-use that will provide a consistent user experience, collaborate with agencies to identify gaps in their delivery capacity, and provide oversight and accountability to ensure we see results.

The Digital Service is a close partnership with the 18F delivery team at GSA and will work side-by-side with agencies to ensure they have the resources and talent that they need to deliver great services on time, on spec, on budget, with optimal user functionality.

In conclusion, it is apparent that in today's world, we can no longer separate the outcomes of our Federal programs from the smart use of technology. By increasing an emphasis on customer need and making it faster and easier for individuals and businesses to complete transactions with the government, online or offline, we can deliver the world class services that citizens expect.

Mr. Chairman, Dr. Coburn, thank you for holding this hearing and inviting me to speak today, and I appreciate the Committee's interest and ongoing support. I am excited to continue our dialogue in questions today. Thanks.

Chairman CARPER. All right. Thank you, Steve. David, please proceed.

**TESTIMONY OF DAVID A. POWNER,<sup>1</sup> DIRECTOR OF INFORMATION TECHNOLOGY MANAGEMENT ISSUES, U.S. GOVERNMENT ACCOUNTABILITY OFFICE**

Mr. POWNER. Chairman Carper, Dr. Coburn, we appreciate the opportunity to testify on how the Federal Government can better manage its annual \$80 billion investment in information technology.

Of this \$80 billion, about three-quarters is spent on operational or legacy systems and the remaining goes toward new development. Therefore, it is vitally important that new systems acquisitions are managed effectively and that the government finds more efficient ways to deliver existing services.

Over the past 5 years, OMB has initiated excellent efforts to do just that. This morning, I would like to highlight four significant initiatives: Data center consolidation, PortfolioStat, the IT Dashboard, and TechStat sessions. For each of these, I will highlight accomplishments to date, but also what needs to be done to get even more out of these initiatives. I will also discuss the report we are releasing at your request, Mr. Chairman, on incremental development.

Starting with data center consolidation, OMB started a data center consolidation effort in 2010 to address the government's low server utilization rates, estimated, on average, at 10 to 15 percent, far from the industry standard of 60 percent. This effort was also to result in \$3 billion in savings across all departments. Our ongoing work shows that the number of centers is now more than 10,000. About 750 have been closed or consolidated to date. Over \$1.3 billion in savings has resulted, and agencies estimate another \$3 billion in savings in fiscal years 2014 and 2015. Therefore, expected savings through 2015 should be around \$4.5 billion.

Chairman CARPER. Is that cumulative?

Mr. POWNER. Yes, that is cumulative. Now, if you go beyond 2015, Mr. Chairman, you are in that \$10 billion price range that you mentioned, Dr. Coburn.

Better transparency on the savings is needed, in our opinion, and the legislation this Committee has introduced would do just that.

OMB recently expanded the data center consolidation effort into a larger initiative called PortfolioStat to eliminate additional duplicative spending in administrative and business systems. OMB reports that agencies have achieved about \$2 billion in savings on this initiative through 2013. The target, based on our work going out to each agency, is actually \$5.5 billion, and there are over 200 PortfolioStat initiatives that agencies are currently working on to eliminate duplicative spending. It is critical that these 200 initiatives are driven to closure so that the \$5 billion in savings can be achieved.

Now, turning to initiatives that help better manage large IT acquisitions. The IT Dashboard was put in place to highlight the status and CIO assessments of approximately 750 major IT invest-

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<sup>1</sup>The prepared statement of Mr. Powner appears in the Appendix on page 59.

ments across 27 departments. The accuracy of the department has improved over time, with certain agencies reporting more accurately than others. Here is what the Dashboard tells us. Of the 750 major investments, about 560 are in green status, 160 are in yellow, and 40 are in red, so there are about 200 projects where the government will spend about \$12 billion that are at risk and need attention. Only eight agencies report red, or high risk, projects. Nineteen agencies do not have high-risk investments.

Mr. Chairman, there are three things that need to happen to make the IT Dashboard a better accountability mechanism. First of all, all major investments need to be listed on the Dashboard. Our work has shown that several investments, like the Department of Energy (DOE) supercomputers, are not listed on the Dashboard. Ratings need to be even more accurately reported. There are clearly more than 200 projects that are medium-or high-risk.

And, OMB and agencies need to aggressively govern the at-risk investments using TechStat sessions. OMB held about 80 TechStat sessions and had great results that included scaling back and even terminating failing projects. OMB subsequently empowered CIOs to hold TechStat sessions with their respective agencies, a move we agree with, but we also strongly think that OMB should hold TechStat sessions on a selected basis for either troubled projects or projects that are top national priorities. OMB recently told us that they only held two TechStat sessions in 2013. This is clearly not enough. Agencies also need to better use IT acquisition best practices that include executive involvement in getting your requirements right early.

Finally, a major aspect of the IT reform plan of 2010 called for agencies to deliver in smaller increments to be successful. Our 2011 report on successful acquisitions proved this as all seven examples were increments of larger projects. The report we are releasing today shows that three-quarters of the IT acquisitions are not planning to deliver within 6 months, and less than half plan to deliver within the year. Therefore, we still have too many “big bang” projects that do not deliver anything for years and, therefore, run a high risk of failure.

Chairman Carper, Dr. Coburn, thank you for your continued oversight of these issues. We look forward to working further with you.

Chairman CARPER. Thanks so much.

Would you go back to the beginning of your statement. There was a sentence near the beginning where the letters “OMB” appeared and the word “excellent” appeared. Would you go back and read that sentence again.

Mr. POWNER. Yes. OMB has initiated excellent efforts to do just that, and they are. These are all great initiatives. All four of them are tremendous initiatives. The key is to drive them to closure so that we get the savings that are currently on the table. Data center consolidation: the goal was \$3 billion through 2015. Agencies are telling us they can save \$4.5 billion through 2015, and if you go out to about 2018, it is about \$10.5 billion on the table.

Chairman CARPER. And you have already said this before, but in terms of what needs to be done to make sure we reach that goal—just run through, if you will, some of your recommendations. It is

one thing to launch excellent initiatives. It is another thing to actually realize them. But, just highlight for us again some of the steps that need to be taken to make sure that we realize the promise.

Mr. POWNER. Well, what is very good on data center consolidation, it is publicly available that you could look at the closures to date—

Chairman CARPER. Yes.

Mr. POWNER [continuing]. And there are great success stories. I can tell you about some of the closures that—

Chairman CARPER. Good. Some of the other initiatives beyond the consolidation of the data centers, please.

Mr. POWNER. Oh, beyond the data centers?

Chairman CARPER. Yes.

Mr. POWNER. Well, if you look at the TechStat sessions, the IT Dashboard, a number of things with the IT Dashboard. You have to get all investments on the IT Dashboard. There are some investments that are listed as non-major that are huge dollars that are not listed. DOE's supercomputers are not listed on the Dashboard. There are satellite programs that should be listed on the Dashboard.

So, first of all, we have to get everything on the Dashboard. A good example is DOD, for a long period of time they only listed 93 major investments on the Dashboard. The Senate Armed Services Committee (SASC) held a hearing a couple months ago. It was highlighted that a number of investments were not on the Dashboard. They report 118 today. Ninety-three to 118, great progress. So, we have to get them all on there.

We have to get accurate assessments on the Dashboard, and then we need to use TechStat sessions to fix failing projects or projects that are in trouble. The 80 TechStat sessions that OMB initiated in the 2010 and 2011 timeframe, it was excellent. There were some projects that were descoped, turned around. A few were terminated. It was very successful in terms of focusing on large-scale IT acquisitions and fixing it. We need to go back to doing more of that.

Chairman CARPER. All right.

Steven, are you going to sit there and take this? [Laughter.]

Would you like to say anything? You can accept the praise, or just address some of the—I think you would be smart to accept the praise, but then say, well, David has some points here and here is what we are doing about it. Go ahead.

Mr. VANROEKEL. Yes. He had me at excellent, sir. [Laughter.]

I think that if you look at the work being done and think about how to get the activity we want to see in Federal IT, I am a huge fan and have done a lot of work to think about what kind of transparency mechanisms we are doing. Are we enhancing the IT Dashboard? What are we doing there to hold people accountable?

I think, much like I saw throughout my career in the private sector, transparency is one part of it. You also have to set up the right incentives to make sure that it yields the behavior you want to see. Just simply going out and telling agencies, close X-amount of data centers, is an ends, not a means, without telling them, here is how to get there. You have to set up the structure, and I will give you an example.

If an agency has two data centers that are right next door to each other, share a common wall, say, and I say, close 50 percent of your data centers, they will take down the wall in between and two suddenly goes to one and they have reduced their total inventory by 50 percent.

Instead, what we have been doing is thinking about what are the core elements that make closing down a data center so essential. It is, how much power are you using? How much square footage is this data center? What is your utilization of the data center, and all of those things. Because data centers are essential to government, and making sure that we create centers of gravity and ones that use low power, that have the lowest costs, that are running modern technology is the motivation.

Just this week, we launched PortfolioStat 2014, so, the new PortfolioStat guidance actually went out to agencies yesterday. And in that guidance, we actually contain within a whole set of incentives and key performance indicators (KPI) that basically tell agencies, one, identify these centers of gravity. Identify a highly optimized data center. For everything else in your inventory, I either want you to shift that to the cloud or I want you to close it down. And, the mechanisms and the incentives we have set up are doing this.

I talk to large private sector CIOs—General Electric, Wal-Mart, some of those companies. When they talk about consolidating their data centers, they will literally say some of their divisions will bring forklifts in and pick up their data centers and move them to a bigger room, and suddenly, five became one, which does nothing to drive down costs or drive efficiency or a different outcome.

And so what we have done is not only thought about the transparency—and, by the way, the number of data centers in the inventory have grown because I expanded the definition to get more—I wanted to uncover everything out there to make sure we are not growing—

Chairman CARPER. Something like that happened with respect to improper payments—

Mr. VANROEKEL. Exactly.

Chairman CARPER [continuing]. The first improper payments, the amount of improper payments grew, it was because agencies were finally reporting it and identifying it.

Mr. VANROEKEL. That is right. We are closing, not growing. The inventory is growing because the diligence is going up and the quality of the inventory is going up. So, I wanted to get everything on the table and then make sure that we are bringing all that in and the right incentive structures.

Chairman CARPER. Let me just ask you, anything that David mentioned in terms of additional steps that need to be taken to ensure that the full potential of these initiatives is realized, is there anything that he said that you disagree with? Is there anything that he has mentioned here—and this would be for any of you—that Dr. Coburn and I, our Committee, the Senate, the House, could be helpful in better ensuring that we realize the potential in these initiatives? Our response. This is a team sport. We are part of the team.

Mr. VANROEKEL. Yes. And, I agree with his point on the power and the results that we saw through the TechStat process. What we did is, we have a very finite resource in our staff at OMB. It is small, a double-digit number of people on the team, and we have a lot of statutory responsibility and a lot of other responsibilities we do to formulate the budget and work on lots of other things in the interest of Congress.

What we did to scale that effort was actually go out and train employees and agency technical officials on how to run TechStat. We have trained over a thousand people in running TechStat and it is starting to become a cultural element inside turning around projects.

I think the issue with TechStat is that it is, by its nature, a reactive motion. It is when something is going wrong, we step in and look at things, versus getting in on the front end. Yesterday, I had a Senate Appropriations hearing and I talked about supporting our fiscal year (FY) 2015 request, which really aims to build capacity on my team to get out in front of some of these things and do what we have done in a reactive way more proactively with agencies.

Chairman CARPER. OK. The second half of my question, and I am over time, but I want to just maybe do it quickly. Our responsibilities—what can we do? Dr. Coburn and I, our staffs, our colleagues here, try to do oversight, and we are told—whenever I ask—a lot of times, I ask, well, what can we do to better ensure that we are doing the right thing there across the board in all kinds of initiatives that are oftentimes identified by GAO, on their High-Risk List, and what we hear again and again is, oversight, oversight, oversight. It actually does help.

But, in terms of what we can do to supplement and increase the likelihood that we will be fully successful in these initiatives. We will start with you, David. What further should this Committee be doing under our leadership?

Mr. POWNER. Well, first of all, I think your oversight and the hearings you hold on troubled projects—it is OK to be red and yellow, but are we doing something about it? And I agree with Steve that we need to be proactive, but the reality is, good IT governance, you have a lot of programs that get started, then risks come up, and there are a lot of risks and you need to deal with them. So, that is where the TechStat and strong governance is important and your oversight is very important there.

I do think, because there is so much money on the table with data center consolidation, that your legislation is essential. I am not certain we are going to get to the \$10.5 billion without legislation and strong Congressional oversight, where those reports go to you on an annual basis and we keep the foot on the gas pedal.

Chairman CARPER. Anything else you want to add to that before Dr. Coburn takes over?

Mr. TANGHERLINI. I would simply add that there is actually an awful lot of good that is happening within Federal IT, and as we focus on issues of oversight and as we do reviews, as we even do the stats, we should be thinking about the places where we are actually succeeding and making progress so that we can more widely disseminate and share that experience with agencies so that they can model the best behavior, not just have evidence of the worst.

Chairman CARPER. Good. Well, I think this glass is definitely half-full, maybe more, and we want to fill it up even more. Dr. Coburn.

Senator COBURN. This is the first hearing I have been to in a long time that, really, there are a whole lot more positives than there are negatives, and I congratulate you all on it.

David, there is a discrepancy in terms of what OMB has labeled as high-risk IT projects. I think they have labeled self-reporting from a one to a five. They have, like, 40, and I think in your testimony, it was 200. What is the difference there between you and Steve? Why do you see 200 and they see 40, and is it a matter of downgrading the risk so that you look better, or is there just a difference in the assessment, because that is a 500 percent difference.

Mr. POWNER. Yes, Dr. Coburn. So, there are about 40 red investments on the Dashboard and about 160 yellow, so that is how we get to the 200 we deem at-risk investments. There are a lot more than 200. That includes DOD reporting zero reds—

Senator COBURN. Yes, which is—

Mr. POWNER [continuing]. And really not that—

Senator COBURN. Which is ridiculous.

Mr. POWNER. Not that many yellow. I will say, though, on the importance of Congressional oversight, that I was recently at a hearing in front of the SASC. DOD is now committed. Their report went from 93 to 118 investments. They have committed now to update the Dashboard every 6 months, they say, but their process—monthly is unrealistic. That is progress.

They also said—I thought this was very good, DOD—with their Enterprise Resource Planning (ERP) history and failure, especially with Expeditionary Combat Support System (ECSS), they said, if we have an ERP system, we are going to immediately put it as red on the Dashboard and manage it appropriately. I think that is actually progress, given their history and the failures they have had.

So, that is where the Dashboard—the 200 is well understated in terms of projects that are at risk. There are many more. But, again, we do see some agencies moving in the right direction with more accurate reporting and doing something about it.

Senator COBURN. Steve, were you gamed a little bit by some of the agencies in terms of downgrading their risk? You allowed them to grade it, right? You all did not grade it.

Mr. VANROEKEL. This is self-reported, yes.

Senator COBURN. Yes. So, have you done anything from a management standpoint of saying, hey, guys, here are the real guidelines?

Mr. VANROEKEL. Well, I think the first order of business, much like the mentality I would use in the private sector, is that self-reporting is not the best mechanism—

Senator COBURN. Right.

Mr. VANROEKEL [continuing]. To track this stuff, and so we put into place other mechanisms to do that. The first one is actually in the IT Dashboard. It is a feature I added where I can tell if an agency is rebaselining, they are moving the goal line on their cost or their schedule or things like that. I get, now, an indication if that is happening and so we can see. A lot of times in the past, we would see someone bright green, but they were moving the goal

line a lot and then you knew that something was wrong in that sense.

The second thing is the PortfolioStat process actually establishes a whole host of key performance indicators that we hold agencies accountable to, and most of that, leading up to where we had today, because we had to get our arms around the growth of IT spend, was really focused on efficiency. It is literally, like, how many e-mail systems are you running, because it is unthinkable to run more than one. How many mobile contracts do you have? How many of this? Kind of rooting out duplication inside the agency.

In 2014, the guidance that came out this week, we inflect and build upon that by adding effectiveness KPI. So, we ask agencies to identify, what are your key mission critical investments, like, give us the top two or three that we want to make sure that we are applying a new playbook to to make sure that you are taking 21st Century principles and holding them accountable to these key performance indicators. So, like I said, it is about those metrics, about those indicators, but it has been the incentive structure we put behind it to get the behavior we want.

Senator COBURN. So, having said that, you would expect the Dashboard to reflect more and more the numbers that GAO is actually reporting on rather than what the self-reporting is?

Mr. VANROEKEL. I anticipate that we will see changes in the IT Dashboard over time that pick some of this capability up for sure, yes.

Senator COBURN. All right. In terms of the TechStat, in terms of agencies reporting this each month, there is a real lack of performance on agencies in terms of meeting that milestone each month, just in terms of reporting that. Where are we on that, and what have you seen, David—you mentioned it in your testimony—in terms of compliance with that? Because as I read the briefing for this and read your testimony, it seems that that is one area where we are not having much compliance with the agencies. What do you see?

Mr. POWNER. Well, I think it varies across the board, Dr. Coburn, and I think some agencies have very strong IT governance processes and they hold TechStat-like meetings and always have, even prior to TechStat existing. IRS—

Senator COBURN. Do you correlate that at all with a strong CIO position?

Mr. POWNER. Absolutely. DHS, I think the governance processes they are trying to roll out, and have been for a few years now, the processes are very good. We have written reports, the processes are good. Now, we need to implement it on more and more of these projects. The Internal Revenue Service (IRS) is another example. It is an organization that came off our High-Risk List because they have pretty strong leadership. They have strong governance processes.

We see pockets of success, so it can be done, but then we see other agencies that we do not get the amount of governance that you would expect. That is why we are strong proponents of, and I understand Steve is challenged to do a lot of things with his responsibilities, but when he kind of hovers in and does a couple

TechStat, it gets attention and it gets movement in the right direction.

Mr. VANROEKEL. One of the goals, one of my agendas related to PortfolioStat was not only setting up a data-driven mechanism to start going in and understanding Federal IT. When I came to the job in 2011, I could not really tell you what an e-mail box should cost in government. I could not sit down and have a face-to-face with an agency and say, boy, you are spending too much, you are not on par, things like that. I now have that and I now know that because we were able to gather broad sets of data across government and process that in a way.

Not the secret agenda, but the goal of PortfolioStat, in addition to just gathering that data, was I hold a face-to-face meeting with the Deputy Secretary and all the C-level executives of the agency and we sit down every summer and go through a very long set of metrics, KPIs, and talk about the state of affairs within their agency. The goal of those sessions is actually to teach an agency, who are typically not optimized around management, more optimized maybe around the policy agenda they are running—is to teach them how to run a private sector Investment Review Board.

Senator COBURN. Yes.

Mr. VANROEKEL. If you were in a company, you would put all your C-level executives. You would have your mission goals up on the screen. And then you would dovetail that into, what are our resources to go execute that mission and what are the tough decisions we need to make to get there?

The Government Performance and Results Modernization Act (GPRA) coupled with these sessions and some principles that we bring in through our policy work, I think, are the combination we need to go drive this stuff forward, to teach them how to run this. I end up bolstering the authority of not only the CIO in those meetings, but the acquisition officer, the human capital officer, and it really takes the combination of all those people working in—the lawyer on the team—working in concert to meet that shared mission.

Senator COBURN. Yes. What is your answer to David's worry that there are not enough TechStat meetings and that the benefits from those—I guess what you are saying is, there is a diminishing return. When you started this, there was a lot of return for these TechStat meetings, and having two in 2013—David is worried that we are not getting as much bang because we are not having as many of those and he feels those really drive change within the agencies. You have had to put a budget out every year, and the year that you spent all this time on this, you were still putting a budget out, so I am not inclined to buy the time limitation as much as saying you have done it before, why can we not do it now?

Mr. VANROEKEL. With the limited resources on the team, I put prioritization behind getting the foundation in place—

Senator COBURN. Which is what you did.

Mr. VANROEKEL [continuing]. Is what I am doing around PortfolioStat and other things to make sure that we were not causing more TechStats to be had in the future. We had to get the foundation set up in a way that we could deliver mission solutions. We were not in a place when all these TechStats were happening be-

fore, and what would happen is we just spent all of our time doing TechStats.

Senator COBURN. Yes.

Mr. VANROEKEL. I truly feel, if you have spending under control, you consolidate all your commodity computing, you get things streamlined in an agency in order to deliver the mission outcomes you want to do, you teach them how to run an Investment Review Board, you create this sort of virtuous cycle and cultural shift, you can then go in and deliver mission solutions in more 21st Century ways, and that is what we are—

Senator COBURN. But, does GSA have the capability to help you in that area? I would ask you, and then I would ask Dan. I mean, do they have the expertise where you can say, hey, guys, come over here and help us on this TechStat.

Mr. VANROEKEL. Absolutely.

Senator COBURN. And you spread your resources by utilizing some of them.

Mr. VANROEKEL. Well, where we have utilized our partnership mostly with GSA, which I think is core to both of our missions, has been looking for those opportunities where, coming out of PortfolioStat sessions, coming out of these things, what are the core capabilities we should be delivering governmentwide, that we should not do it, every agency doing their own thing.

Senator COBURN. Yes.

Mr. VANROEKEL. We should just do it once. And then, to that end, we have done many things, like the Federal Risk and Authorization Management Program (FedRAMP) cloud security program has come out and now is run by GSA. The mobile device program, we now have a family plan for government, so you can share minutes now across agencies and drive efficiencies that way. And so we are doing a lot to partner on that front.

And then now, I believe, this 18F capability that Dan talked about in his testimony is also essential—and we are so friendly, I call him Dan—Administrator Tangherlini—

Mr. TANGHERLINI. Yes.

Mr. VANROEKEL [continuing]. That this capability is essential, too, now that we are inflecting and building upon the efficiency work to get into effectiveness.

Senator COBURN. OK.

Mr. TANGHERLINI. I would just echo Steve's comments and say that GSA and OMB actually do have a very collaborative relationship. Though, we have recognized that there is white space there that we can grow into. So, we created the 18F activity to help us begin to get the ability to be a better consumer of IT resources by having a better understanding of how IT technology is actually developed. Having coders and developers on staff is going to make it possible for us to help agencies better define their scopes of work so that they can be a better consumer of those resources.

Working very closely with the Office of Federal Procurement Policy Office (OFPP), on things like what Steve mentioned, strategic sourcing, but also building stronger capabilities, such as our OASIS contract, our services contract, that allows agencies to buy things once and well, and rather than putting an awful lot of effort into the actual acquisition activity, they can focus more of their effort

on defining scope and understanding how to better manage that contract.

So, I think that those are some of the ways we are working together, but we do believe that there are many opportunities for us to partner more closely.

Senator COBURN. But, 18F is really small scale projects.

Mr. TANGHERLINI. Eighteen-F is really small scale projects because it is really small scale.

Senator COBURN. Yes.

Mr. TANGHERLINI. But, it helps agencies begin to think about better ways to approach much larger projects and—

Senator COBURN. But, a case can be made, for the hard, big dollar projects, a TechStat intervention, I would call it, can be very beneficial, and I think that was Dave's point. I mean, how many TechStat meetings have happened at DOD in the last year?

Mr. VANROEKEL. That is a better question for DOD on specifics, because we train people to run—

Senator COBURN. I know, but the point is, half of our spending on IT really goes through DOD.

Mr. VANROEKEL. Yes.

Senator COBURN. And, more than half of our waste goes through DOD.

Mr. VANROEKEL. I think the key—if I might—

Senator COBURN. Sure.

Mr. VANROEKEL. I think the key is the big projects. Part of the cultural transformation we are in, if you were to go to a leading private sector company and talk to them about how are they delivering solutions, they would never say to you, we are doing big projects. Nobody does the big monolithic, I am going to take 3 years to ship something, approach. Every time you go to Facebook or Amazon.com, you are probably getting a new version of it and not even realizing that you are getting a new version. It is just updates happen—

Senator COBURN. They are doing continuous process improvement within their IT.

Mr. VANROEKEL. Something we call agile development versus monolithic. The history of government IT has really been defined by a waterfall, monolithic approach, and part of the goal here on 18F, on the work we have been doing and the policy framework, the guidelines we are doing, the playbook as part of our smarter IT, is all about how do we get out of this compliance waterfall culture and do more of an agile culture.

Senator COBURN. Yes, I agree.

Mr. VANROEKEL. I want to know what agencies can ship in 60 days, not what they can ship in 3 years.

Senator COBURN. Yes. I am way over time and I—

Mr. VANROEKEL. Sorry.

Senator COBURN. I guess I take it from you that you are pretty tight on—you are going to do the TechStats that you think you need to do, and numbers do not matter, outcomes matter.

Mr. VANROEKEL. I think proactivity matters a lot.

Senator COBURN. OK.

Mr. VANROEKEL. And, I think getting in front of a lot of this stuff versus reacting to it is essential.

[Pause.]

Senator COBURN. Tom and I just discussed—I have a lot of other questions. I am going to put them into written form and then get you to answer them back, OK.

[Pause.]

Chairman CARPER. I am going to ask our staff to put up a couple of posters, please.

The focus of this hearing is to examine the best practices and the critical factors that lead to successful acquisition of information technology investments. Both GAO and the organizations that Mr. Chenok represent—I think he is going to be on our next panel, but I think he represents the Industry Advisory Council—have done some work on that question.

I had asked that a couple of posterboards be printed up that list the critical success factors that GAO found and the 7-S for Success Framework<sup>1</sup> that Mr. Chenok will testify about in a few minutes. But, I would want to ask this panel to comment on these exhibits, whether they agree with these findings and any other thoughts that you all might have as we try to determine what it takes to successfully implement IT projects in the Federal Government.

The first one that I am looking at here is Common IT Investment Acquisition Critical Success Factors.<sup>2</sup> It is not a top 10, but it is a top 9. I would like for you all just to look down that list, and then, if you will, the 7-S for Success Framework that has been provided for us and white paper by Mr. Chenok. They are going to be releasing it in conjunction, I think, with this hearing.

But, David, if you want to lead off and just comment on these success factors, if you would, please.

Mr. POWNER. Yes. I think there is a lot of commonality between the two lists, and what this is really about is governance. It starts with governance, getting the senior executives engaged on these projects. A lot of failures, we do not have executive sponsorship. There is a lot up here about having the right staff, having the right stakeholders, and that includes the business partners on these IT acquisitions, getting your requirements right up front, and then there are some things on testing.

But, I would like to highlight one key point here, Mr. Chairman, and it is on No. 6, software development is agile, and piggyback off of what Steve said. These common success factors, the nine, they were based off of seven projects that were all increments of larger projects. So, going small matters. We do not go small enough in the Federal Government.

The IT Reform Plan of 2010 had a requirement that we deliver within 12 months. Steve upped the ante at OMB and said, we are going to now require 6 months. So, we did a review—we are releasing the report today of 90 major IT acquisitions. About a quarter of them are planning to deliver within 6 months. Less than half are planning to deliver in a year. So, many of these projects go years without delivering.

Steve is absolutely right. We need to go small. That is the big difference between government and the private sector. They go

<sup>1</sup> The chart referenced by Senator Carper appears in the Appendix on page 107.

<sup>2</sup> The chart referenced by Senator Carper appears in the Appendix on page 108

smaller much better, OK. When I was in the private sector 10 years ago, we were doing 90-day deliverables all the time.

So, what do we do to fix it? In that report, we have a recommendation that in their Exhibit 300 process, that agencies—there are about 275 of the 760 investments, about 275 are in development, OK, the rest are more in legacy. Two-hundred-and-seventy-five—it is not that many governmentwide. They should clearly identify whether they are delivering in 6 or 12 months, whatever we want to pick. I do not care. You can choose either one. And if they are not delivering at least within a year, we ought to think real hard about whether those projects ought to be funded. That is how you would fix it. That would be the solution.

Chairman CARPER. Good. Thanks.

Same question. I want to ask you to compare these two lists for success. As David says, there is a lot of common ground here.

Mr. VANROEKEL. Yes. I think they are very common, and actually, we used both of these lists, the 7-S in draft form and the GAO recommendations, to inform a lot of the playbook that we established for this new Digital Service effort that we have that is basically saying, what are the key performance indicators we want to hold agencies to on the mission side.

I think the thing that takes me, the perspective I have across here, is if you read through both of these, you could not just apply the title of CIO to this list. I see acquisition elements on here. I see people elements on here. I see probably some things that need legal interpretation inside agencies on this list.

One of the challenges we have—but, I think, opportunities we have—is really around how do we get this more coordinated effort across the C-level executives inside our agencies so they are working in concert to the mission outcomes we want to see. Oftentimes, I will hear from CIOs that say they walk down the hall and talk to their acquisition official and they have some innovative way they have thought about delivering some solution that is completely within the law in their interpretation, and maybe even another agency has done it, but their acquisition person will say no. Or, you have some other aspect where you cannot think in this module a way to get funding and break a contract down or get your funding from your Chief Financial Officer (CFO) established in that way. And so there are things I think we need to do in more common ways.

One of the things we are doing this year is we are sort of lovingly calling it the TechFAR, which is we are taking case law examples of great, successful, kind of 21st Century approaches to acquisition and we are compiling them and sharing those with the agencies. So, saying, if you want to take this agile approach, here is another agency that has done it. Here is the section of the Federal Acquisition Requirements they used. Here is how they approached it, and maybe even sample contract language they used to do that.

We also launched, and had an open dialogue with the public the last 2 weeks that just closed on Monday, asking innovative small companies, what are barriers you are facing when wanting to come and do work for the government? Is it reporting requirements? Is it barriers to entry to get into the procurement lifecycle and cycle? Is it things like that? I did a trip to the West Coast. We had other

people doing a lot of outreach to get lots of interest in people who are not traditionally working with government to research what it would take and then give us their perspective on it. We anticipate out of that work we are going to have administrative, legislative, and possibly some regulatory suggestions on changes we could do to drive and lower some of those barriers for those small, innovative companies to work with government.

Chairman CARPER. All right. Dan, just anything brief in terms of lists for success, so what finds favor and maybe what does not?

Mr. TANGHERLINI. No, I would like to build on what Steve said, if you look at this list and say, this cannot just be a list of “to do’s” for a CIO. We have a consolidated, empowered, talented, and focused CIO at GSA, but he, too, and his team would fail in delivering high-quality IT solutions if he did not have the support of, say, from the GAO list No. 3, senior department and agency executives supporting the program. He would fail if he did not have No. 4 and No. 5 from the GAO list, and No. 5 and No. 6 from the 7-S for Success list, which is to constantly work with your end users and the people who are actually going to touch the system to know whether the system is going to work and meet their needs.

I also think that No. 4 from the 7-S list is one that does not get enough attention, as well, shared technology and business architecture. There is no reason to continually reinvent the wheel. There is no reason why we cannot take the benefits of the billions of dollars that the taxpayers have already spent on building systems and we cannot make them extensible and use them more widely.

Chairman CARPER. I have one more question, but, Dr. Coburn, let me just say, I know you said you would submit some questions for the record—

Senator COBURN. Yes, I will ask a few more.

Chairman CARPER. Please, go ahead.

Senator COBURN. David, I want to talk about incremental development, because one of the holes I see is a lack of compliance on incremental development. Steven said that is important, except we do not see that coming from the agencies. As a matter of fact, 6 months, hardly any of them are meeting it at all, and then we are at a year. So, talk about where you see the hole in terms of complying with this incremental development idea and what we do about it.

Mr. POWNER. Well, I think we have, and I think Steve put it very well, there is a history in the Federal Government to go with the waterfall approach. So, this is something new. Change is slow. But, if you want to get serious, and I think you stepped out for a second, but I will repeat what I said earlier. If you want to really fix the incremental—the IT Reform Plan of 2010 said, we are going to do everything in 12 months. So, let us get serious about that.

In the Exhibit 300’s, there are only about 275 major IT acquisitions when you look at the 760 investments, because a lot of it is legacy spend. Take those 275 investments, identify in their Exhibit 300 on an annual basis what they are delivering within the year. If they are not delivering anything, do not fund it. Do not fund it.

Senator COBURN. So—

Mr. POWNER. That is one way to get serious about it. Now, granted, there will be exceptions and waivers. But, if you want to get

serious about incremental development, you could tackle those 275 investments.

Senator COBURN. So, Steve, what is your response to that?

Mr. VANROEKEL. I think—

Senator COBURN. If an agency is not going to be complying in incremental development, why would you fund them?

Mr. VANROEKEL. I think the key here is to look at, like I have said, and I sound like a broken record, not only the, how are we tracking this, how are we funding it, but looking at what incentives are we putting in place and how are we kind of shaping the system of government, the systems behind the scenes, to get this outcome that we want.

We still have a long history of certifying IT professionals in the waterfall methodology. So, we are changing that. Our acquisition professionals who do acquisitions are kind of pre-programmed to do these big monolithic approaches, so we need to change that. That is this effort around the TechFAR that I mentioned, where we are taking all these examples and getting this community to happen. We need companies working with government that know how to do this well, because they are all pre-programmed to kind of do these big waterfall approaches. So, we are working not only with the incumbents and saying, what are the incentives we need to do to get you to turn these things in this way, but writing requirements in a way that foster this, as well as looking at how do we get new companies into government that are going to bring these approaches.

Senator COBURN. Given your history prior to government service and the fact that I have a son-in-law with a Master's in computer engineering and electrical engineering and works for one of the big firms that does this, my observation is big business does not do this a whole lot better than government in terms of the stories and the tragedies and the failures that I see.

And, so I want to go back to my point. If, in fact, we believe incremental management and incremental reporting is an important way for us to see milestone development, and also to exclude the catastrophes, why are we not putting more pressure on the agencies? I know you are building the infrastructure, and I get that. But at the same time, if we are not going to have some reporting 6 months or a year of whether we are reaching these milestones, they are just not even coming back with the information, we are going to have another couple of disasters.

Mr. VANROEKEL. So—

Senator COBURN. It is going to happen.

Mr. VANROEKEL. Mm-hmm.

Senator COBURN. And, so why would we not have as a policy, give us the incremental development?

Mr. VANROEKEL. So, I think the private sector is in an inflection where we are starting to see this take hold in even the larger corporations out there and definitely taking a lot of the best practices you saw on these two sheets up here.

As far as accountability with agencies, PortfolioStat 2014, as I mentioned, makes this inflection into effectiveness. It basically says for agencies, identify your mission critical investments to us, and then we hold them accountable to a set of—basically, informed by

these two sheets—a set of KPIs, key performance indicators, that indicate agility, that indicate this modular approach—

Senator COBURN. But they are not reporting—

Mr. VANROEKEL. They do—and part of PortfolioStat 2014 is quarterly reporting against those KPIs, and so we are holding people accountable with a yearly face-to-face meeting where we sit down, as I mentioned, with the C-level executives. So, there is a mechanism and process.

Senator COBURN. So, you are saying you have it covered without them—you have it covered, even though when we see it from GAO, we see a hole in that.

Mr. VANROEKEL. PortfolioStat 2014 launched yesterday, so this is a—

Senator COBURN. Yes. So you—

Mr. VANROEKEL [continuing]. This is a looking forward.

Senator COBURN. So you say you are fixing that?

Mr. VANROEKEL. This is a looking forward motion.

Senator COBURN. OK. All right.

Mr. VANROEKEL. Yes, sir.

Senator COBURN. Good enough. Thank you.

Chairman CARPER. Thank you, Tom.

When I look at these factors as laid out by GAO on these posterboards and on this coalition that Mr. Chenok represents, they appear to center on getting key stakeholders lined up and properly incentivized, getting the right people on a project, setting up a good review process, as well.

Our House colleagues, Chairman Issa, Elijah Cummings, and Gerry Connolly, introduced an IT reform bill that has passed the House, I think by a pretty broad margin. And while we appreciate their hard work on the legislation and share many of their same goals—based on these charts, it is not clear how many of these critical success factors can actually be encapsulated in legislation.

I just want to ask if you have any additional thought. We talked about this a little bit earlier in terms of what we can do to be helpful and constructive on the legislative side. Do you have any additional thoughts on that and where legislation may be necessary to improve Federal agency ability to develop and manage IT systems? Steve.

Mr. VANROEKEL. So, I think the challenge, as I mentioned earlier, is part of this, and many of the best practices you see here are really about comprehensive management, and that is probably the hardest thing to legislate, is thinking about how do you bring management principles to bear—

Chairman CARPER. Like, how do you legislate common sense.

Mr. VANROEKEL. Well, I will not make comments.

A starting point if you look at a bill, a proposed bill like FITARA, is that I think there is a disconnect between appropriators and authorizers. I think there is a money aspect here as much as there is an authorization aspect and thinking about that kind of duality in the work that is being done.

I think that we have an opportunity with incentives and thinking about what outcomes we want to see. I also fear a lot of what we see in legislation that looks at technology is technology is moving so quickly. If we were sitting here 15 years ago, the notion of doing

these sort of agile approaches, or even Internet kind of approaches in government, were not as self-apparent as they are today. And, so, looking at how do we really think about what outcomes we are trying to drive versus what are the tactical ways we are going to get there is essential, because we are just moving so fast. We are moving fast enough that our procurement system or other things cannot keep up with it, and so we need to think about modern approaches to get there.

Chairman CARPER. OK. Thanks.

Same question, Mr. Powner, David, please.

Mr. POWNER. We have been pretty consistent saying that in terms of legislation, there are two things—that I think the two biggest areas when you look at these initiatives, on the legacy side of the fence, it is data center consolidation, and we believe strongly that legislation that calls for annual reporting on what is being done will help hold everyone accountable. So, I think legislation is very important there.

The other part of legislation that comes up frequently, too, is what do we do with the Dashboard? The Dashboard is very important from a transparency point of view and we do not want that to go away. The CIO ratings actually have helped with CIO accountability and authorities, and we hear a lot about, well, the cost and schedule data is not accurate. This is—

Chairman CARPER. I am sorry, what is—

Mr. POWNER. The cost and schedule data is inaccurate, what is behind the Dashboard, behind the ratings. Well, let's get it accurate. Most of these agencies have about 40 to 50 major IT investments and accurate reporting—760 major investments is not that many when you look at 27 departments. So, we need to get the CIO ratings accurate and we need to get the costs and schedule fixed, and that transparency mechanism is vitally important for oversight.

And, so, I think the IT Dashboard, you need to be careful on what you report out of it, but I think having that mechanism in place going forward is very important.

Chairman CARPER. In terms of how the House-passed legislation addresses the points you have just raised, which one does it address and, maybe, which ones does it not?

Mr. POWNER. I think the House legislation addresses both data center consolidation and the Dashboard. I think both those items are in that legislation.

Chairman CARPER. OK. All right. Thanks.

Dan, same question.

Mr. TANGHERLINI. I would just echo what Steve said. I think it is very hard to create a legislative framework that requires and demands engagement at the executive level in IT projects. You can require it, but it will not necessarily result in it.

So, I think what we need to do is continue to work, as we have been, closely with Steve to try to bring these best practices into our agencies, and we need to make sure there is transparency, and as a result, accountability through strong oversight from Congress, seeing how we are performing and getting the work done that we say we are going to get done.

I also think that we should be careful. One of the problems we have with doing anything, frankly, in government, IT among them, is how many different layers and policies and structures we have built up over time. As Steve said, this stuff is changing very fast, and do our requirements keep up with the speed and the pace of that change?

Senator COBURN. Can I interject? We passed the DATA Act out of here, and the thing that will not change is the requirement to know what you spent and where you spent it and be able to account for it. Those are basic principles, because you are never going to get a metric unless you know those numbers, and I think that is one of the things that David is saying. And the push-back from OMB on the DATA Act was, this is going to be so hard to do, which, all that tells you is they do not know where it is. It is not in getting the data to put onto it. It is, we do not know the data, which goes back to what Steve says, you are teaching management and you cannot manage what you cannot measure.

So, the whole idea behind this was to get data, not just for transparency for the American public, but to force the agencies to actually be able to measure what they are doing and have to report on it, because if you have to report on it, you are going to have to collect the data. And the hard job—I mean, we are giving the Pentagon 4½ years to come forward with data on where they spend their money. They do not know where they spend their money.

So, I really appreciate, Steve, what you are doing in terms of implementing a management capability, because that has been the real problem. It is not that we do not have great employees. It is we have a skill set that has not been up to the task, and what you are doing is very important in that regard.

I have one other question. GAO's recommendation is for OMB to issue more specific guidance. What do you think about that recommendation?

Mr. VANROEKEL. Are there more specifics about that recommendation?

Senator COBURN. Well—

Mr. VANROEKEL. More specifics, guidance and—

Senator COBURN. In the incremental development.

Mr. VANROEKEL. I think a lot of what we are doing is in the direction of how to do incremental development, including getting in front of the agencies to work with them to teach the—

Senator COBURN. So, you feel you are actually issuing specific guidance and they just did not see it, or—

Mr. VANROEKEL. No, I think it is not just about guidance. We do incremental guidance. Part of the key performance indicators as part of our PortfolioStat guidance that went out yesterday has incremental guidelines in it. So, I think we are definitely not only satisfying the spirit of incremental guidance, but doing very specific things.

Senator COBURN. All right.

Dan, I just had one question. You are the agency that should model this behavior better than anybody. Are your IT projects within GSA meeting the 6-month timeframe in terms of incremental development?

Mr. TANGHERLINI. Some of them are, and we are working on making all of them meet those requirements. So, as I said at the end of my testimony, we still see a lot of hard work ahead for the systems that we are developing. But, we are hoping that the work that we are engaged in and the lessons that we learn are transferrable to our agency partners so that we can structure the way we do business with them in such a way that they can actually get those outcomes, as well.

Senator COBURN. OK. Thank you.

Chairman CARPER. One of the adages with respect to leadership is, do not just do as I say, do as I do. And to the extent that you are setting a good example for the others, it is just very helpful.

I think we are going to start a vote here, a series of votes, and with that, I have one last quick question—no, I will ask it for the record. I have several more questions for the record.

I will just conclude by saying this before we welcome our second panel. This is not an easy thing to do. It is a hard thing to do. In fact, it is a lot of hard things to do and it requires good planning, good implementation, appropriate funding, good oversight, trying to figure out what is working and what is not working and do more of what is working.

We struggled with this in State Government when I was Governor of my State, honestly, and one of our problems was having the kind of human resources that we needed to actually develop, conceive of these plans, these kind of projects, and then have the people in place who could actually work with the private sector to implement them and do that in a cost effective way.

And we found that we would just train people to do the IT work within State Government, and just when they would get to be really skillful, they would get hired away, make more money and leave us. We finally figured out, the administration after time, to pay them more money and to reduce the kind of turnover and be able to attract good people and keep them for a longer period of time.

So, I know these are not easy things that we are asking you and the administration to do. We want to play a constructive role. We got some great input and insights on what can be constructed. We have a data center bill that is out of Committee, waiting attention by the full Senate. We might even try to have it hotlined and get it passed under unanimous consent. We understand that that would be a constructive thing. I think the bill that comes out of the House, the FITARA bill of Mr. Issa and others, I think it is one of the elements of their legislation, so there are some common grounds.

But, we want to continue to work with you. We want to stay in touch with you. We do not want to pass legislation that is counterproductive or unproductive. You will continue to—I am sure you will—make sure we are a guided missile, not an unguided missile.

All right. With that, thank you for your continued dedication and diligence here and keep working. I think we are on the right track. Thanks so much.

And with that, we will welcome our second panel. Initially, we had a vote that was supposed to start, or a series of votes that was supposed to start at 11. They did not, and then we are told there is a series of votes starting at 11:15, and that has not happened

yet, so we will go as far as we can, but my inclination is to go ahead and go as far as we can without taking a break.

I want to welcome our second panel. Dan Chenok is Executive Vice Chair of the Industry Advisory Council, the industry partner to the American Council for Technology (ACT), recognized as a premier public-private partnership in the government IT community. The ACT—I am just going to call it by its regular name, Industry Advisory Council (IAC). I do not like those acronyms, and this is one I am not going to learn. But, the Industry Advisory Council provides a wide range of programs and services to facilitate communications and collaboration and education. Mr. Chenok will become Chair, I am told, what, July 1. There is more I could say about you, Mr. Chenok, but I am not going to do it today. I want to welcome you, thank you for your good work and being here today.

Next is Karen Evans, no stranger to this Committee. Nice to see you again. She serves as the National Director for the U.S. Cyber Challenge, the nationwide talent search and skills development program focused specifically on the cyber force. She has been great to work with as a servant to the people of our country and working with us for many years. We are just happy to see you again, and welcome, both of you.

Please proceed with your statements. Dan, if you want to go first, and Karen, we will ask you to followup, please. Thank you.

**TESTIMONY OF DANIEL J. CHENOK,<sup>1</sup> EXECUTIVE VICE CHAIR,  
INDUSTRY ADVISORY COUNCIL, AMERICAN COUNCIL FOR  
TECHNOLOGY AND INDUSTRY ADVISORY COUNCIL**

Mr. CHENOK. Thank you, Chairman Carper, and thanks to Dr. Coburn, as well—

Chairman CARPER. He will be back shortly.

Mr. CHENOK [continuing]. And to the Committee for holding this hearing and for the opportunity to testify.

I am here in my capacity as the Executive Vice Chair of the Industry Advisory Council. IAC is the industry partner for the non-profit American Council for Technology, an organization led by government IT officials. This unique government industry partnership, referred to as ACT-IAC, provides an objective, vendor-neutral, and ethical forum to improve government.

As this Committee has highlighted, every Federal agency relies on IT to provide services and conduct operations. Any major program, project, or transformation involving IT brings great potential for positive change and benefits, but also brings risks to be managed.

Over the past several months, ACT-IAC has joined a number of stakeholder groups in a dialogue with OMB and other government leaders regarding how best to improve the government's capacity to manage IT programs effectively. We have drawn on our unique position as a government industry partnership to identify best practices and lessons learned in both sectors and formulated an initial set of critical success factors for IT and a framework that you indicate here on the posters we refer to as 7-S for Success.

<sup>1</sup>The prepared statement of Mr. Chenok appears in the Appendix on page 79.

Before addressing the 7-S Framework, I would note that government and industry share many common elements with regard to the implementation of large-scale IT systems as well as important differences. Complex IT programs in both sectors are characterized by multiple stakeholders, large and organizationally diverse project teams, and the need for agility given technological change.

Government IT programs do involve unique elements, as well. These include laws and rules that can require significant time to revise, if needed; a budget process where planning occurs up to 30 months before the money is actually spent; and limited knowledge about how to leverage the acquisition process to promote innovation. Adapting commercial best practice to help improve how government acquires and manages IT programs must account for these elements in order to succeed.

I will now turn briefly to the 7-S Framework itself. The first success factor is stakeholder commitment and collaborative governance. Most complex programs involve numerous stakeholders and often multiple agencies, contractors, and other non-government constituencies. There should be clear lines of accountability and responsibility for program goals among these players, as well as engagement with key stakeholders, including oversight organizations like OMB, GAO, and Congress.

The second factor is a skilled program manager (PM) and team. There must be an accountable and qualified senior leader of the program. The PM should ensure that a sound, integrated program team includes strong leaders who have consistent performance measures related to system and program milestones to maximize the likelihood of positive outcomes.

The third factor is systematic program reviews. In addition to assessing progress against programmatic goals, governance leaders and the PM should celebrate success and identify problems promptly for correction. Reviews should include senior representatives from key contractors, where appropriate, to ensure agreement on status, risks, and necessary actions.

The fourth factor is shared technology and business architecture. Major IT programs involve complex interfaces with multiple systems. A business and technology architecture can guide activities across the team while remaining flexible enough to encourage changes during development and execution. The architecture should also address how new technologies and business processes will be integrated with legacy systems.

The fifth factor is a strategic, modular, and outcomes-focused acquisition strategy. The PM must collaborate with the acquisition organization and other government and industry stakeholders to develop an acquisition strategy that supports program goals. The acquisition process should start well before contract award, include market research and requirements identification, and lay out goals, timelines, and budget linkages. Procurements should also have consistent outcomes-based incentives across contracts.

The sixth factor is software development that is agile. An innovative IT approach, as you heard earlier, is found in agile software development under which applications are developed in an iterative fashion with small-scale rollouts, frequent feedback from end users, and communication with leaders on changes needed throughout.

This approach reduces risks and increases the chances for program success.

The seventh and final success factor is security and performance testing throughout. Modules should be tested and released in phases throughout design development and operations, both for individual components and end-to-end system performance.

Chairman Carper, Dr. Coburn, and Members of the Committee thank you for the opportunity, again, to testify here today, and I look forward to answering any questions you may have.

Chairman CARPER. Dan, thank you very much. Thanks for your testimony, and thank you for the seven "S"s.

All right, Karen. Please proceed.

**TESTIMONY OF KAREN S. EVANS,<sup>1</sup> PARTNER, KE&T PARTNERS, LLC**

Ms. EVANS. Good morning, Chairman Carper and Ranking Member Coburn, when he returns, and Committee staff members. I am pleased to be invited back to share my views on identifying critical factors for success in information technology acquisitions. My remarks today will describe best practices and success factors for managing information technology systems that the government can learn from industry.

The Federal Government will spend nearly \$80 billion on information technology this year, and despite guidance and oversight from Congress, GAO, and OMB, the Federal IT projects too frequently incur cost overruns and schedule delays and end up contributing little to agency mission outcomes. Frequently, these failures result from well-known hazards that experienced practitioners have learned to avoid by adopting specific procedures, best practices, that circumnavigate these pitfalls.

Other times, the project failure could be traced to someone not doing what they were supposed to do. The technology did not play a trick on them. This was not an unforeseen outside force dooming the project. No, in every case, someone missed their block and let a defender sack the quarterback. The reflexive response is to add another layer of rules to prevent someone from making that bad decision again. This is the wrong way to go, as it adds layer upon layer of bureaucracy and eventually grinds the process to a halt.

One cannot mandate good outcomes, nor can Congress legislate to preclude failure. Rather, the IT acquisition system must foster a culture that allows and tolerates a continuing learning cycle to improve overall performance. Results, whether they are good or bad, provide important feedback that needs to be integrated into an overall management framework. The goal must be to enable success, not to preclude failure.

My written testimony included critical success factors that the Committee could easily influence, should it choose to do so. However, I would like to highlight one factor in particular, which is the need for leadership at the departments and the agencies.

The Chief Information Officer is the person in the C-suite who should have the capacity to translate technology issues into business-speak for other business leaders. The CIO position is currently

<sup>1</sup>The prepared statement of Ms. Evans appears in the Appendix on page 99.

under scrutiny, as the original purpose of the position is not necessarily working as envisioned, both in private sector and in government.

Whether this person is a CIO, a Chief Risk Officer, a Chief Innovation Officer, or a Chief Strategist, or some other chief, it is necessary to have a leader who can speak to senior executives in terms that are relevant to them and can state the potential consequences in terms of political and policy values. For example, the public opinion impact on promised level of service or unfavorable news stories, declines in earnings per share. Right now, the CIO is in a unique position to ensure that this happens and needs to provide the leadership in order to avoid the mistakes of the past.

Overall, Federal CIOs and commercial CIOs are similar, with the same job description: To be the technology-savvy member of the executive team, to provide value through innovation, to manage data as a strategic asset, and to lead a team of technologists and enable organizational greatness.

There is widespread perception that the government is inherently incompetent at implementing IT systems, not just because of the recent high-profile failure, but because that follows a string of high-profile failures. However, I have also seen a lot of IT projects that were tremendously successful, that delivered on time and within budget, that are helping the American Government to serve the American people, that did not get newspaper stories written about them. So, rather than trying to prevent failure, we should try to promote success by implementing best practices, assigning qualified program managers, and monitoring with accurate metrics. IT is a neutral enabler for program delivery, and good management is nonpartisan and can support all policies.

I thank you for the opportunity to testify today and I look forward to answering questions.

Chairman CARPER. And I look forward to asking them and hearing your answers.

We have a series of four votes in a row. Dr. Coburn has gone to vote on the first vote, and then come back. We are going to take turns here. We do not want to have a lot of downtime. He will be presiding for part of the time; I will be presiding for part of the time. Between the two of us, we hope to provide some good questions for you and have a good conversation.

That having been said, we are going to recess just for a very short period of time. When Dr. Coburn returns, he will take up the gavel and begin asking questions.

So, thank you very much. With that, we are in recess.

[Recess.]

Senator COBURN. [Presiding.] I did not get to hear your statements, but I have been briefed by my staff. First of all, thank you for being here.

My first question is, what did you think? Did you hear the testimony? What are your thoughts? Go ahead, Dan.

Mr. CHENOK. From the first panel?

Senator COBURN. Yes.

Mr. CHENOK. So, I think it is important that there was wide agreement that this is not simply a technology issue, that it is an issue that crosses multiple functions in agencies, including acquisi-

tion, finance, budget, as well as mission leadership, and that is really, I think—it was implied in the statement, but the purpose of technology to support agencies, just like it is in a private sector organization, is to improve the mission and service of that organization. And so—

Senator COBURN. So, management.

Mr. CHENOK. Improving management to improve the outcome for either citizens or the customers of a company is really the reason why technology exists. So, it is important to talk further, I think, about that integration.

Senator COBURN. OK. Karen, what were your thoughts?

Ms. EVANS. What I heard was a debate between what is happening today, so a tactical approach, so that is a lot of what GAO is putting forward—things that have already launched, the tactical, we have to bring them to conclusion—and then the strategic outlook of how do you fix this in the long term, which was described by Steve and the GSA Administrator about how do you fix this so that it does not occur in the long term. And that you are trying to fix the systemic issues so that you can then launch new projects with a certain level of confidence that you know that rigor is going to be there.

But, there is the concern that GAO has, that you cannot lose sight of what you have already launched because it is \$80 billion, and in their particular case, they outlined very specifically about projects and programs that are in the pipeline that you want to make sure that those dollars actually achieve results.

Senator COBURN. My take-away, and actually, it is pretty well governmentwide—one of the reasons I am a big Jeh Johnson fan is I think he is a good manager. I think he has good leadership skills, and we are already starting to see some of those changes at Homeland Security. But, the big thing I have observed all my time in government is a deficit in leadership, a deficit in management skills. And, I think you heard from Steve today—he is an impressive guy, and he gets the big picture and the short picture, and he is kind of transitioning from the “fix it” to prepare to make sure it stays that way. All right.

You have been a CIO in the Federal Government. You have tried to manage IT at OMB before. Based on your experience, what should be our expectations?

Ms. EVANS. For IT performance overall?

Senator COBURN. Yes.

Ms. EVANS. So, as Dan said and as I indicated in my testimony, IT is an enabler, so it is a means to an end. It should not be the whole thing itself, which I do believe, and this is a management issue that you are bringing up, is that the government has a tendency to really get focused around the IT solution itself versus what it is actually trying to accomplish.

That is one of the biggest differences that I see now that I am on the outside, and areas that I maybe could have helped more when I was on the inside is really stressing what is the outcome that you are trying to achieve with that investment and how soon will you get there, versus, well, we have to have a Human Resource (H.R.) system, or we have to have a financial management—

Senator COBURN. A metric measurement. OK. How often, when you were at OMB, did you use the budget to enforce management changes, in other words, a real hammer?

Ms. EVANS. All the time. [Laughter.]

I would say, all the time, consistently. And some of the things that were discussed earlier and some of the challenges with agile development or breaking things into modular development, and Dan highlighted that, is that the appropriation process within the government, you are always working at least on a 24-month if not 30-month cycle. So, in private industry, that is not the case. It is 12 months. So, to deliver in 6 months or 12 months is realistic within private industry because they already think in those terms. The government people are thinking in 2-to 3-year increments because that is the way the appropriations process works.

So, what is critical is being able to break it down into smaller increments and then use the tools that OMB has available to them to either make sure that a spend plan comes in that clearly outlines and that you have an agreed upon implementation plan so that you can hold them accountable to those milestones.

Those are the types of things that we did on what we called—which you are very familiar with—the Management Watch List, the High-Risk List—

Senator COBURN. Yes.

Ms. EVANS [continuing]. That we used those types of tools so that we could make sure that the money that Congress appropriated for that big outcome was actually being achieved with steps in between. It is hard to see a lot of those deliverables, especially if it is an internal project, like a financial management system or an H.R. system, because those deliverables are not publicly available for everyone to see.

Senator COBURN. Yes. OK. What did you do with the failing IT programs?

Ms. EVANS. We would have to evaluate what the program is for. So, for example, Senator Carper highlighted the Sentinel program, and we have had these discussions before. When a program starts, or a project starts in the first place, it is usually in response to some type of business need. So, the business need really does not go away. Like, in the case of the Sentinel project, the business need did not go away to have a good case management system and to be able to manage law enforcement data. That IT project called Sentinel went the wrong way.

If it is failing, you still need to meet that business need, and what you have to do is either stop the work, which we stopped the work that was happening on that and redirected it, brought it back into smaller pieces, and then said, you have to move out and you have to have a go/no-go decision. And if it is not meeting the requirements, then you cannot fully implement it and you cannot keep throwing money at it.

Senator COBURN. Yes.

Ms. EVANS. And so that gets to the project management portion of this and the requirements associated with it, is that those requirements have to be clearly understood, because you are still always going to have that business need. It is how you go about implementing and achieving that need.

Senator COBURN. Dan, your testimony highlighted seven critical success factors in IT management. Where, in your estimate, has the Federal Government fallen short, in order, of those seven things? Where do you see us not up to par?

Mr. CHENOK. So, I think there are elements of each of the factors where there are successes, but there are also areas where there is progress to be made.

One of the points that we make in the report and that I spoke about in my written testimony is that it is not as though there are seven independent factors.

Senator COBURN. Yes, they are all interrelated.

Mr. CHENOK. These are interrelated and they are elements of strong management. And I think you heard in the first panel about some of the approaches to how to approach strong management.

The other thing I would point out is that the question that you asked about what can Congress and what can this Committee do is to highlight that importance through oversight, as you are doing today, and also look at opportunities where there are—I think it was Administrator Tangherlini who talked about multiple laws and rules that are basically having agencies focus more on compliance than on how to essentially bring good management to achieve mission outcomes.

Senator COBURN. Yes.

Mr. CHENOK. And so, focusing on that, looking at those interconnections where there might be areas to clarify is something that I think Congress can do, as well.

Senator COBURN. You saw Steve testified about how he put a package together. Here is the acquisition—if you want to do this, here are the acquisition rules. Here are the compliance rules. In other words, they are building some of the packet to give reference to some of the people in the different agencies that want to do that, and I think that is a positive step. Would you concur?

Mr. CHENOK. Yes, I would agree with that. I think that the TechFAR, as Steve referred to it, also resulted from some of those consultations that Steve did with our association, ACT-IAC, as well as some other industry associations, and it is really an advancement on the Mythbusters program that the administration initiated, and it will lead, I think, to the identification of some requirements in the the Federal Acquisition Regulation (FAR), that could be reformed to provide for more agile and more incremental development.

Senator COBURN. Yes. Give me your assessment on what you see in private industry on how IT is managed and what you see in the government. Note my critical note of some big businesses, because they wrestle with this when they are out purchasing IT, as well, in terms of costs and completion dates and functionality. Contrast that for me for a minute.

Mr. CHENOK. So, as an association that has both government and industry members, I think we have a lot of experience looking across the two sectors. And, I think one thing in industry—we talked before, and I think it was mentioned by Steve VanRoekel, and Karen repeated this—the funding cycle is much shorter, so that in industry, when you have an issue that comes up, and there

are issues that come up multiple times in any large IT, complex IT migration, whether it is government or industry—

Senator COBURN. Right.

Mr. CHENOK [continuing]. You have the ability to more quickly pivot through providing resources. And in industry, it is often on a quarterly type of consideration, even more quickly than a yearly consideration, as management teams look to manage their assets looking across their enterprise.

It is more of a challenge for government leaders, whether they are Chief Information Officers, budget officials, or program officials looking to correct problems, to say, all right, we see a problem. We are going to redirect resources. We are going to use a flexible funding arrangement with accountability and transparency to our stakeholders and to oversight organizations, including the Congress and GAO, to make those changes.

And I think that is one area where, again, if there are opportunities to examine where working with authorizers and the appropriations process, where there are reforms that could be brought, it is bringing government spending for technology more in line with that industry best practice through flexible funding arrangements. Things like working capital funds or franchise funds, which do exist in government, but they are not pervasive, and to some extent—

Senator COBURN. They are not utilized much in IT.

Mr. CHENOK. Right. To some extent, I think that there needs to be more transparency about results in those settings. So, that is one area that I would draw as a significant contrast.

Senator COBURN. Of all the billions that we have wasted in IT, not once have I ever found where we went after the supplier for non-performance, which begs the question, did we know what we wanted? If, in fact, we knew what we wanted and somebody did not supply it, we have a basis for contract non-performance, and yet I have never seen that happen once. Any comments on that? Karen.

Ms. EVANS. So, in my experience, as you know, I have been an operational CIO, and this is where I allude to this in my testimony, about good decisions and bad decisions need to inform the process. So, in my experience, if you are clear about your requirements, you can use those tools. There are tools. The acquisition rules allow for those tools to be there.

There are things that I have done in my experience where there was clear non-performance, and so, therefore, when an option year comes up—and contracts are done this way—that you do not exercise the option year, and that usually sends huge ripple effects. And so those are things that the government does do, but you do not necessarily hear about, that they do not exercise the option years on those contracts. The biggest part is making sure that the way that you write the contracts, so in this acquisition, as we talk about acquisition best practices, is that the way that you transition out from one contractor to another, that you actually think about the possibility that the contractor would have non-performance.

Senator COBURN. Well, but that is my point.

Ms. EVANS. Right.

Senator COBURN. Your tool is not exercising the option for them to continue to non-perform, and my question is about non-performance and them paying the government for non-performance.

Ms. EVANS. Well, and that has happened, and actually on the Sentinel project itself, although we did not highlight a lot of this, that is—and these contracts were done through GSA, and so this is where GSA is great because of the way that the contracts are set up—that that was documented as non-performance on the contractor's part. They did try to argue back and forth that the FBI did not know its requirements and loosey-goosey—

Senator COBURN. Yes.

Ms. EVANS. And there was a certain amount of that, OK, and there was also the finger pointing between the two contractors saying, you were supposed to do this and you were supposed to do that. But GSA stepped in on that particular effort, and because of the way the FBI had contracted for that service, they could exercise certain things and they did not accept deliverables. And then those contractors also gave money back to the government and also agreed, in order to be able to go forward, that they would only do certain cents on the dollar until the project was back on track.

So, there are tools that are available to the government. When you asked, did we use our authorities in partnership with GSA in order to move the contract—

Senator COBURN. Do you think that happens often enough?

Ms. EVANS. I do not think it happens as much as you would like for it to happen, sir.

Senator COBURN. Sort of like incremental development, I mean—

Ms. EVANS. Yes.

Senator COBURN [continuing]. If, in fact, you get there and if you have not met the milestone, where do you go next?

Ms. EVANS. And you have to say, no, that you do not go. The other issues that happen a lot of times, and this happens in the government, not so much in industry, is that a government will launch a pilot, and—

Senator COBURN. Yes. They never die.

Ms. EVANS [continuing]. And they never die. So, during our tenure and OMB's oversight, what we attempted to do was call them, like, initial operating capabilities and really looked to see if it was really meeting the need to do it and then see if you could build off of it. But, there were pilots that we had to shut down because it cost too much to maintain the pilot while you were doing the other projects, so you would have to shut down the pilots, and those were really difficult, because the group who volunteers up front is the one who says, well, I am really using this now for business needs, so where do I go, because I shut down this other effort that I was doing manually.

So, when you start looking at what industry does well, where government could improve, is industry really looks at the same metrics that we ask for, the earned value, management data, cost schedule, and performance. They look at that data. Their organization is very sensitive to the variances because it affects the dollar amounts in the profitability of a company.

Senator COBURN. And the bonus.

Ms. EVANS. Well, and the bonus, absolutely, right, because they get performance bonuses. So, they respond to the sensitivity a lot faster and so they will fail faster. I mean, if that is really what we want to talk about, they will fail fast, learn from that, do a course correction, and then hit on success. So, even when they have big failures in industry, it is not at the same cost level as ours because we tolerate a longer time. The government will tolerate a longer time because they want to get to that success.

Senator COBURN. OK. Dan.

Mr. CHENOK. One of the things that makes it difficult in government, per your question earlier, Dr. Coburn, is that the aligned incentives are not consistent across the stakeholder groups, and we talk about this a little bit in our paper. But, the acquisition process does not necessarily make it clear, what are the performance standards that the contractor should provide and achieve that are related to the mission elements of the program.

For example, in the GPRA Modernization Amendments, the strategic agency goals and priorities are not necessarily linked to the performance of the IT organization and they are not necessarily translated to the contract that then provides the incentives for the company to produce. And so that is where you get some of this disconnect, where it is hard to react in a manner that you are describing, to basically understand, what are the successes that can be rewarded for good performance with a contractor and where are there problems that need to be corrected quickly. And that is why we talk about aligning incentives as one of the key elements of the framework.

Senator COBURN. One of the things you cited in your testimony was the necessity of having a skilled program manager and a skilled team. Turnover of project managers is a big problem within the Federal agencies. How do we address that?

Mr. CHENOK. So, it is—and I spent a long career in the government. I had the good fortune at the end of my time as the OMB Senior Career Official for IT Policy to work with Karen at the beginning of her tenure as the Administrator. And I saw both great examples in government of long-tenured, very successful program managers and, as you say, elements where project managers were either not in sufficient quantity or skill or switched out quickly.

I think some of the reforms that OPM is now engaged in, in terms of bringing in people more quickly and through authorities like direct hire, as well as improving the training process for program managers so that very talented Federal employees can understand what it is to incorporate things like the GAO Critical Success Factors or the 7-S for Success elements into their management structure, helps them to understand the point that we made earlier.

Most government employees, and especially government managers who have been with agencies for a long time, are passionate about the mission of the programs that they implement and the key is to help them understand how good management can support better outcomes for that mission. That can be a powerful enabler to encourage Federal leaders to stay and carry through on their responsibilities.

Senator COBURN. I see some of that in Steve. Do you agree?

Mr. CHENOK. I would. I have had the good fortune of working with Steve over a number of years, both when he was with an agency, the Federal Communications Commission, and with OMB, and I think that he is doing an excellent job through the program that he laid out today in creating that foundation for improvement.

Senator COBURN. OK. One of the things, it seems to me, is if you have a really skilled manager with really capable leadership but you do not empower them to actually manage and lead, they are not going to succeed. So, in your mind, both Karen and you, Dan, how is the role of CIO in the Federal Government different from CIOs in private industry?

Mr. CHENOK. So, let me actually talk about Karen for a moment. I worked with Karen when she was a CIO, both at the Justice Department at a bureau level and at the Energy Department, and then when Karen was the Vice Chair of the Federal CIO Council. And in all three roles—the authorities differed, and that is true for other CIOs that I worked with in government then and it is true today—Karen was able to bring forward some of the best practices that she has spoken about here in those different roles. And I think a private sector CIO would also bring in those types of integrating technology quickly, doing significant program reviews with a project team, linking those program reviews to outcomes. Those are some of the similarities of strong CIOs in government and industry, and that is hard to legislate per se. I think you can clarify authorities, whether that is in legislation or through oversight and through understanding and expectation.

But, I will come back to the first “S” in our framework. In industry, you have a strong governance team, a C suite team, who pulls together as a mission team the CIO and other leaders to say, how are we going to deliver our product or service to make revenue this quarter, increase our customer service expectation, et cetera, and really drive to those mission goals and objectives. And in government, CIOs are often more focused around compliance because of the many different rules and laws that we spoke about earlier, and it is harder. Good CIOs will find a way to leverage those laws and rules. Sometimes, it can become overwhelming.

And it is not to say that there are not laws and rules that exist in companies, because there are regulations that companies follow, as well, things like Sarbanes-Oxley and Gramm-Leach-Bliley, for example, in the financial services industry. But, again, they are built into a risk program, and that is—the last thought I will have here is that CIOs in industry will often understand the balance between risks that an agency faces from a technology infrastructure and the benefits that they can implement through technology, and so they can balance those risks against the benefits and move forward. That is a harder conversation to have in government because risks tend to get magnified quickly and it is harder to react quickly.

Ms. EVANS. So, I think we are at the point where you are starting to see a lot of evolution about information technology, and you are really seeing this play out—should I say this—in the Target situation, all right, because through the point that Dan is saying with risk, CIOs, if they are operational in focus, will never be able to rise to the board room, will never come in—and I see it now, be-

cause I sit on several boards—the CIOs are not part of the senior leadership team that are briefing about what is happening within an organization.

They are moving more toward the risk model because information technology is an enabler. So, they are providing services, and whether they are providing Internet online services, you see risk, cybersecurity, all those types of things, threat, all that is rolling up now through what is, like, the audit committee, because they look at the risk profile for the company.

Now, either the CIO can jump in there and say, this is how we are doing things and this is how we are managing it and then they do what I had outlined here, where they talk about this is the impact that it will have on the business if we do not do X, Y, and Z. That is, in OPM-speak or senior executive-speak, it is business acumen, right. It is either the CIO has business acumen and can translate what the technology risk implications are to the business of that agency, and either we have CIOs that have the business acumen to be able to do that or we have CIOs that are very technology operational focused and they will not be viewed as that strategic partner.

And so you are seeing that evolution. Industry recognizes that they need it. They know they need innovation, so they started laying out Chief Innovation Officers. They know they have to have risk, so they have a Chief Risk Officer. They know they need to manage information from a strategic standpoint, so they have a Chief Strategist.

All of those were envisioned, if you look back at Clinger-Cohen, Senator Cohen's initial vision, that is what a CIO was supposed to do, the strategic management of information to enable mission outcomes. And that is also what was supposed to happen in private industry. But, because of the way the environment is, either they step up to the bat and they can do it or business is going to compensate for it because it is a need that needs to be addressed.

Senator COBURN. OK. Thank you.

Chairman CARPER. [Presiding.] Dr. Coburn, thanks.

I want to go back to the first panel for a little bit. They are not here anymore, so they will not know what you are saying. But, just go back and think about their testimony, some things that you especially agreed with, maybe some things you have questions about, and just share both of those. Where you have strong agreement, it would be helpful for us to know that. Maybe some questioning would be helpful, as well.

Mr. CHENOK. So, again, the relationship, I think, but one thing we heard that was common was the relationship across multiple functions in an agency; that good IT management involves mission leaders, CFOs, Chief Acquisition Officers and creating a governance framework. The first of the "S"s in our model that works across these entities I think is important, and I think you heard that from the panel.

I think that some of the solutions and recommendations that were discussed that OMB is laying out, that Steve VanRoekel laid out in his testimony, will provide some of the infrastructure to be able to move more quickly.

One of the things that we talked about with Dr. Coburn was aligning the funding processes in government to match that need for speed such that it is not a 30-month delay and you have to build in response to something that is happening this year into your budget plans that then go and get appropriated 2 years later when September of the fiscal year comes around, that we create flexible funding mechanisms to allow faster response through a technology infrastructure. And I think that is something that certainly the industry, ACT-IAC, would welcome the opportunity to work with the Committee and Congress to move forward on.

Chairman CARPER. OK. Thanks. Ms. Evans.

Ms. EVANS. So, what I agree with is the way that Steve laid out PortfolioStat and the way to move forward with PortfolioStat. And if you look at what he said and then look up at the success factors, what he is really doing is building and integrating the management framework that would allow for the success of programs through the use of technology. So, he is talking about performance indicators, bringing in the key stakeholders, then asking for that on a quarterly basis and really looking at what are the mission outcomes that you are trying to achieve and put the parameters around it. But looking at the agency as a whole, or looking at the department as a whole, because if you have to make tradeoffs, you cannot do that within one project. The agency leadership is going to have to look at the portfolio across the board and how is it performing across the board, or do you have to, like, stop something because this other one is more important and it is taking more resources than you had anticipated.

So, I think the way to move forward, the way that he has performance indicators, that is the way that is going to institutionalize the success that you need or allow for the failures that are happening to be corrected in that framework. So, that is a great thing.

The other part that I think we need to really still stay focused on is that there are activities that are happening now that need to catch up to what he is building institutionalized, and you cannot lose sight of those activities, like the data center consolidation, or several of the cross-agency performance goals that they have related to cyber or workforce issues. Because if those things are launched and what you want to try to do is change them in mid-stream so that they can then get on this same path of the PortfolioStat in order to achieve the results. And that part, I think, needs to really be looked at from an oversight perspective, of how are you going to transition these existing things that are happening into a PortfolioStat environment.

Chairman CARPER. OK. Good. One of the questions I asked of—in fact, a couple of questions of the earlier panel dealt with what is the appropriate role for us in the Legislative Branch to move this along and to get a better result maybe for less money. We try to do oversight. We try to do good oversight, not “gotcha” oversight, but constructive oversight, and, Karen, you have been before us enough to know that that is really the way we operate here. Whether Tom is the Chairman or I am the Chairman, that is our attitude.

We have this legislation reported out of the House, FITARA, with bipartisan support. We are going to try to get it hotlined and

passed by unanimous consent, our data center legislation that Dr. Coburn and I and others have worked on here in the Senate and see if we cannot move that. I understand a piece of FITARA, the House bill, actually focuses on data center.

Just talk to us, if you would, about—again, similar to the question I asked the first panel—what is our responsibility? What is our opportunity on the legislative side? What are some things we ought to be doing in terms of legislation? What are some things we ought not to be doing?

Ms. EVANS. So, in my testimony, I did outline some of those things, and I do realize that there are a lot of good pieces of FITARA that I think really should go forward, like the data center consolidation. They have the Center for Innovation. There are additional things that I think if you—

Chairman CARPER. What are some other pieces besides the data center in FITARA—

Ms. EVANS. Well, they have—

Chairman CARPER [continuing]. That you think should go forward, maybe with some modification, but should go forward?

Ms. EVANS. And they have things in there dealing with the Innovation Center, which is very similar in line to things that GSA has talked about with the 18F, as well as what Steve has talked about with the Digital Services. So, you could combine those three ideas together, which would get to what I believe you and Senator Coburn had put together a long time ago, which was also the ability for OMB, from an oversight and proactive approach, to be able to go in and help agencies fix things, right the ship before it goes too far astream, and also create some of the innovation that you need for these seed projects so it can then go out. You create it once and it can be used by many agencies over and over again. So, those concepts are already being deployed by the administration and are also included in the legislation.

There are some other things, though, where the legislation is specifically looking at the CIO and things like the budget authority that could be tweaked. For example, I outlined that maybe one of the things, when they are talking about personnel issues and that all component CIOs should be reporting to the CIO at the department, that program managers in component organizations should also be part of the CIO organization, because then you bring that expertise of how to implement the system in conjunction with a program executive.

And so those, if you put a little bit more detail, and I am usually not one to say, put more detail in there and give agencies flexibility, but if you kind of spelled out those two roles in the legislation, that would get to a lot of this commitment of the stakeholders, the collaborative governance that you need, because you are specifically saying the program manager belongs to an IT function, so that is the implement, and the program executive belongs to the program function, which allows the integration of those two things together. And you could input that into the legislation and that would get to several of these pieces that are in the governance structure that both GAO and IAC and everyone has recognized that needs to be done.

And then the other part that I am suggesting is that through the Exhibit 300 process or through reporting process when it is asking for reports, is that there is a program manager. If a program manager is put in charge of a project, we used to, we say that they have to have the skills. If you look at the Exhibit 300 right now, it is not there, because I actually printed one off to make sure I was right before I came. But, you need to see who that is from an oversight perspective, and you need to know, in essence, what their resume is. Did they manage to completion a project of this nature? And if they did not, then do they have the adequate training and the certification so that they can?

And some of those types of things, you could get visibility down into it, which would then at least put the project on a path that would show that it at least would get success from that perspective.

Chairman CARPER. OK. Good. Thanks so much.

Mr. CHENOK, do you agree with anything that Karen has said? [Laughter.]

Mr. CHENOK. I do, Senator Carper.

Chairman CARPER. Oh, good.

Mr. CHENOK. I think Karen raises excellent points. I would note that, with regard to specific legislation, the Industry Advisory Council is a non-lobby—

Chairman CARPER. I understand.

Mr. CHENOK [continuing]. So we do not officially take positions on legislation. With regard to—

Chairman CARPER. I understand that. What she said was helpful in terms of these are the provisions that we think are really worthy, should be pretty much—

Mr. CHENOK. Right. I think—

Chairman CARPER [continuing]. And here are a couple that should be tweaked, so that is very helpful. I find these are not really—a lot of stuff around here, we just get bogged down forever. They are partisan issues. This is one that should not be very partisan. Nobody wants to waste money. We all want to get better results. So, just with that in mind, go ahead.

Mr. CHENOK. So, I do think that there are a number of elements that this Committee and Congress can do to promote the goals that you are espousing in this hearing.

One is, as you talked about, constructive oversight, and that is highlighting both successes and issues to be addressed and understanding that agencies do take risks, just as companies take risks, in implementing programs. The world is not a riskless world. So, helping to have a conversation that is a more mature conversation about how agencies can proceed in implementing programs where things will not always be perfect, but the larger goal of serving citizens, just like when a company has the larger goal of serving customers, it makes it worth taking those risks, and there is an accountability structure. So, providing oversight on that balance, I think, is an important role that this Committee can take.

In addition, I think that the funding alignment issue is something that authorizers and appropriators, as you heard Steve VanRoekel talk about earlier, can review. The budget process now—and having had a career at OMB, I was all too familiar with this—does work where the planning occurs 2 years or more before

spending occurs, and so it is much harder to pivot in response. Through legislation, through expanding authorities for things like franchise funds and working capital funds, I think there is an interesting way to look at those as pilot elements. As I said, they do exist in places in government, but in other places require additional authorization to implement.

The last point I would make is, from my experience working on the E-Government Act of 2002, when I was at OMB as a staffer working with staff from this Committee, that statute did not necessarily legislate in new areas, but it did state Congress's—it did, in a number of cases, actually introduce new provisions and, of course, created the office that Karen headed and that Steve VanRoekel heads now. It also reinforced some of the productive and instructive activities that were going on in government and ensured that those activities were recognized as things that Congress endorsed, which supported agencies to expand those productive activities that were going on at the time, whether they were things like expanding digital signatures, expanding the use of portals as mechanisms to look into agencies to get better services, or other elements that that Act pointed out.

Chairman CARPER. All right. Thank you.

A different kind of question, if I could, Ms. Evans, for you. As you know, cybersecurity is a very important issue. It continues to be. It is going to be with us for a long time, I fear. You serve as the National Director for the U.S. Cyber Challenge. I was hoping that you could tell us a little bit about how cybersecurity and IT management are linked and maybe share with us any advice you might have on that matter, that linkage.

Ms. EVANS. So, from the inception of the projects, whenever you do this, you always need to be assessing, what is the risk associated with that service that you are getting ready to provide? Again, this is another area that is really being looked at. Should the Chief Information Security Officer be pulled out from the CIO organization? Should they be equal? Should they be separate? I personally believe that they need to be integrated, because it is about managing the information, and it also needs to be integrated into the budget process so that it is specifically resourced in order to be able to do it.

But, to Dan's point, the discussion that has to happen is how much risk is an agency willing to live with. The best example that I can give that is relevant to this Committee is when we had an IT failure in the Census program. Remember that project?

Chairman CARPER. I do remember that.

Ms. EVANS. Yes, I figured you did. And one of the ways—

Chairman CARPER. I live a hundred more years—

Ms. EVANS. Yes, and we have 10 years now. OK. But, part of what was also happening in that environment was a cybersecurity incident, and a recurring incident within the Department of Commerce. And so you had to look at, were you really going to fix the IT project? How did you balance this cybersecurity problem that they had with exfiltration of data? They had this failure that was happening with IT. And, what was really the goal? The goal was to have quality data so that we could really rely upon that in order to be able to make decisions about representation for the Nation.

So, that is how the plan was then structured, to come back and say, the best way for us to rely on the data is to go back to a big portion of this being manual, because we do not know what is happening on our networks. If we went to a data collection that was online, we would not be able to really certify that this data has not been touched or messed with in any way.

That has to happen on every program, that type of analysis as we go forward, whether you are collecting personally identifiable information, what types of services you move online, how you do that, and then how are you going to validate the individuals to assure that they actually did what you needed them to do in that program. That has to be comprehensive, and IT is a solution that provides for that and enables that, but it is really a risk management of services that a Secretary has to decide, what level am I really willing to live with. And they may decide that IT may not necessarily be the way to go because the cyber risk is too high for online services.

Chairman CARPER. OK. We have our third vote underway, and Dr. Coburn, I think, was going to vote in the second and third vote. Let me see, it started at 12:05 and it is about 12:10, so we are 5 minutes into a 15-minute vote, so that helps me keep it straight.

I will ask you one more question—I guess this would be more for Mr. Chenok—if I could. The framework that the IAC released today stresses the importance of getting good people involved in government IT projects to hopefully ensure their success. Could you just discuss with us for a couple of minutes what you believe are the biggest challenges that our government faces in getting the right people into these positions and keeping them there and any recommendations you might have to address those challenges.

Mr. CHENOK. So, it is an interesting question, especially in an era when my children, for example, use IT and think about it as second nature to the work that they do, and—

Chairman CARPER. How old are your kids? Do not tell me they are three and four.

Mr. CHENOK. They are school-age.

Chairman CARPER. OK.

Mr. CHENOK. So, they use it for school. But, when they enter the workforce and the newest generation of Federal employees who will become the leaders of tomorrow use technology, they do not think about it necessarily as, “I am going to be a technology worker,” or “I am going to be a Federal worker.” They think about it as, “I am going to work because I am passionate about government service and technology is a key lever and it is almost second nature to how I do my work.”

And if we think about, from a workforce perspective, channeling that approach and encouraging workers at all levels of seniority in their Federal career to think about technology, as we talked about earlier, not as a separate sort of compliance activity, but as something that, if done properly, is integrally related to achieving the mission outcomes that so many Federal employees are passionate about, I think it will get people excited about doing the hard work of understanding what it takes to manage programs well, because it does take work. Implementing frameworks like the 7-S Framework or the GAO Success Factors or those that Karen rec-

ommended in her testimony, it takes time. It does not come naturally, either in government or industry.

So, I think part of the challenge is, as you heard from the first panel, bringing in terrific people, bringing in the best people from industry, currently working with government, from new entrants into the government space. And part of the challenge is helping current Federal employees understand that technology is an enabler to helping them achieve and contribute to their mission to serve citizens. And taken from that perspective, technology becomes an exciting part of, I think, a Federal employee's career development, and it is not just about the CIO or their immediate staff, but it is the program and mission staff who are leveraging that to achieve results, just like the best companies are using technology to achieve results.

Chairman CARPER. Good. I think we will call a halt there. If I leave in 1 minute, I can probably make this third vote and keep my perfect attendance record. Well, it is not quite perfect, but it is not bad.

I want to really thank you both. It is great to see you, and thank you for all you do for us and have done for our country. Some day, I would just love it if we held a hearing and the private sector shows up on these IT projects and says, we could really learn a lot from the government and maybe we could mentor them, or school them. We learn a lot from them, and hopefully, we are learning a lot from one another now. But, I am encouraged that we are on the right track. We still know we have a lot to do, a lot of ways we can do better, and with your help, we will.

In the meantime, Dr. Coburn and I and our colleagues, our staff, want to make sure that we stay attuned, tuned in, interested, and providing the kind of oversight that is constructive to get us to where we need to go.

The hearing record is going to remain open for 15 days—that is until May 23 at 5 p.m.—for the submission of statements and questions for the record. I expect we will have some. If you receive those, if you could respond to them promptly, we would be most grateful.

Again, our thanks to you both. Good to see you, and take care. Thanks so much.

Mr. CHENOK. Thank you.

Ms. EVANS. Thank you.

Chairman CARPER. This hearing is adjourned.

[Whereupon, at 12:15 p.m., the Committee was adjourned.]



## A P P E N D I X

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**Opening Statement of Chairman Thomas R. Carper  
“Identifying Critical Factors for Success in Information Technology Acquisitions”  
May 8, 2014**

Good morning. Our thanks to today’s witnesses and guests for joining us today to examine the critical factors for success in developing and managing information technology, or IT, systems. My thanks as well to Dr. Coburn and his staff for their help in putting this hearing together.

Today’s hearing is part of this committee’s ongoing efforts to improve how federal agencies acquire, implement and manage information technology. This is a topic that is near and dear to my heart and something that I have worked on for years with Dr. Coburn since he and I led the former Federal Financial Management subcommittee.

During my time in the Senate, I’ve heard about – and chaired hearings on – a number of successful IT projects. I’ve also, unfortunately, worked with my colleagues to determine what went wrong with some failed projects.

One example of a successful government IT project is the Western Hemisphere Travel Initiative, which went into effect in 2007. The program addressed one of the main 9/11 Commission findings—that before 9/11 people could show a border official one of hundreds of different kinds of documents in order to enter the U.S. at a land border port of entry, making it difficult for officials to identify fraudulent documents.

Since 2007, people trying to enter at land ports must present a DHS-approved secure card that communicates with Customs and Border Protection equipment to prove their citizenship. The project required that Customs and Border Protection modernize its port of entry infrastructure and IT systems in order to enable the use of technology, which it did successfully within two years. The program is still going strong today and has proven to be a very smart investment

Some examples of failed projects include USAJobs, which is run by the Office of Personnel Management, the FBI’s digital case management system called Sentinel, and of course the failed launch of HealthCare.gov. With regard to Healthcare.gov, the Administration was fortunately able to get things turned around quickly and millions of Americans – today more than 8 million – have signed up for insurance, many of them through HealthCare.gov.

But most struggling IT projects do not get the type of response – or media attention -- that we saw with Healthcare.gov, with a team of experts rushing in to set things straight. Rather, what typically happens is that we continue to sink more money into these programs as they sputter along.

Now the simple truth is that every organization, be it a federal agency or a Fortune 500 company, faces a host of challenges in implementing large IT projects. But from where I sit, it appears to me that the federal government seems to have more problems than the private sector. Or it may

seem that way because the government's problems are more frequently on the front page of the paper given that they are paid for with tax dollars.

Today's hearing will explore the challenges organizations, both in government and in private industry, face in implementing IT systems. It will also examine the steps agencies need to take in order to be successful.

Several of our witnesses today have significant experience working in the private sector so I'm interested in hearing about the similarities and differences between government and industry. More importantly, I'm also interested in hearing about what lessons federal agencies can learn from how industry implements IT.

I also want to hear from our witnesses about what success looks like and what our agencies need to do to increase the likelihood that an IT project will succeed. As former Federal Reserve Vice Chairman Alan Blinder once advised my colleagues and I at a Finance Committee hearing, we need to "find out what works and do more of that."

Agencies need to get to a point where they succeed more often than not. But all of us need to acknowledge that there will always be projects that, despite our best intentions, wind up failing. When that happens, we need to make sure agencies know to pick up the pieces and avoid squandering the money we entrust to them on projects that should be scrapped.

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STATEMENT OF  
THE HONORABLE DANIEL M. TANGHERLINI  
ADMINISTRATOR FOR GENERAL SERVICES ADMINISTRATION  
BEFORE THE  
COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS  
UNITED STATES SENATE

May 8, 2014

Good morning Chairman Carper, Ranking Member Coburn, and Members of the Committee. My name is Dan Tangherlini, and I am the Administrator of the U.S. General Services Administration (GSA).

The challenges of technology procurement and delivery facing the government have been a focus for better management and oversight throughout this Administration. They present an opportunity to deliver better outcomes for the American people in a more efficient manner. Given the U.S. General Services Administration's mission to deliver the best value in real estate, acquisition, and technology services to the government and the American people, we believe we are uniquely positioned to help make a difference in these efforts. Through better management of our own IT investments, as well as offerings GSA provides government-wide, GSA can support the Administration's efforts to better manage IT and help to continue improving some of these longstanding challenges.

*GSA Information Technology –*

Empowering the Chief Information Officer (CIO)

Since my arrival at GSA, we have been focused on consolidating and streamlining major functions within the agency to eliminate redundancy, improve oversight, and increase accountability. Consistent with the Administration's push to strengthen CIO authorities, GSA brought together all IT functions, budgets, and authorities from across the agency under an accountable, empowered GSA CIO, in line with the best practices followed by most modern organizations today. GSA has moved from 17 different regional and bureau CIOs to one enterprise CIO office. To improve management and accountability, GSA established the Investment Review Board co-chaired by the GSA CIO and Chief Financial Officer (CFO) with oversight and authority over all GSA IT spending. Prior to this consolidation, GSA's business lines and often the regions had separate IT systems and budgets, providing limited visibility and oversight into proposed investments and creating significant redundancy and inefficiency.

#### Enterprise Planning

GSA now has one enterprise-wide process for making IT investments, which ensures that investments are geared toward the highest priorities in support of the agency's strategic goals. We are now able to more comprehensively look at the portion of spending that is focused on operating and maintaining existing systems. We have set internal goals to reduce ongoing operating costs to allow the organization to make better long-term investments using our enterprise-wide, data driven zero-based IT budgeting process.

#### Zero-based IT budgeting (ZBB)

GSA is beginning to leverage an internal ZBB process to develop the IT budget. ZBB is a budgeting method that requires justification for all expenses in each new fiscal period. This method will ensure budgeting processes align to the organization's strategy by tying budget line items to specific strategic goals and initiatives. For instance, GSA used to maintain multiple systems to track engagements with partner Federal agencies. Through these changes, GSA's major business lines will share these tools, facilitating a two-fold win. From an IT perspective, we eliminated the cost of maintaining redundant systems, resulting in lower operations and maintenance costs. From the mission execution side, we improved engagement with partner Federal agencies by putting a more complete picture of who we work with in the hands of our staff.

#### Enhanced Use of Cloud Computing and Consolidation of Data Centers

Consolidation also provides an opportunity to adopt the best forward-leaning practices not just in where and what IT investments are made, but also how we support these investments. In recognition of the need to modernize not just applications but how we support IT, and consistent with broader Federal efforts, GSA instituted a "cloud first" policy that prompts all application development initiatives to look first to the GSA cloud platforms available as technology solutions before evaluating legacy platforms with higher operational costs. In doing this, GSA has saved money not only in the areas of reduced infrastructure costs, but also through the reuse of previously developed functionality. This initiative in part has also allowed us to consolidate 1,700 legacy applications into fewer than 100 cloud-based applications between 2011 and 2013. GSA's use of cloud services has saved \$15 million dollars<sup>1</sup> over the past five years. GSA has also been aggressive in shutting down unneeded data centers as part of the Federal Data Center Consolidation Initiative. In Fiscal Year 2013, GSA shut down 37 data centers, meeting our goal, and we intend to shut down an additional 24 this fiscal year.

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<sup>1</sup> Savings resulting from use of cloud services, such as Salesforce Platform as a Service, and E-mail as a Service.

#### Agile Development

The focus of our transition has not been limited to what we build, but also how we build. GSA IT has moved away from the world of waterfall application development methodologies that have historically led to higher costs and poor product quality, to an agile methodology which allows us to work better, faster, and leaner than we ever have before. Our move to an agile development shop has resulted in a significant increase in our ability to rapidly deploy and scale. As a result, beginning in 2013, GSA's development cycle time has been reduced to six to eight weeks from eight to twelve months.

These IT reform initiatives have resulted in more efficient allocation of IT resources. In FY 2013, GSA spent \$698 million in IT spending. In FY 2015, GSA requested \$572 million, a reduction of nearly 18 percent. We have cut 45 Full Time Equivalent positions in the IT area and identified several duplicative systems in the regions and between various offices that are now being consolidated. In addition, GSA's strategic hiring plan is focused on obtaining IT skills through government hires to allow us to decrease the reliance on contractors in some areas.

Consolidated IT governance helps GSA realize a high-performing IT environment as effectively and efficiently as possible. Enterprise IT governance will ensure GSA is investing in the right initiatives at the right time, allow greater oversight of key IT investments, and promote interoperability and transparency through the GSA enterprise. It also allows a level of transparency and accountability that will lead to continuous ongoing improvement.

#### *IT Acquisition Solutions –*

In addition to our efforts to better manage internal GSA IT investments and policies, we also offer acquisition solutions to agencies that deliver savings and enable them to focus more on core mission activities.

GSA aggregates and leverages the Federal government's buying power to obtain a wide range of information technology and telecommunications products and services in support of agency missions across government through contract vehicles like Schedule 70 and Networx. Schedule 70 is an indefinite delivery/indefinite quantity (IDIQ) multiple award schedule that provides direct access to products, services, and solutions from more than 5,000 certified industry partners. Networx provides cost-effective solutions for partner agencies' communications infrastructure and service needs. Through better pricing of these and other similar acquisitions, GSA helped agencies save more than \$1 billion in Fiscal Year 2013, and will help them save an additional \$1 billion in Fiscal Year 2014 on these acquisitions.<sup>2</sup>

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<sup>2</sup> Compared to commercial pricing for comparable services and terms and conditions

Additionally, GSA is currently developing the Prices Paid Portal. This proof of concept tool is intended to provide greater visibility into the prices paid by government agencies for commonly purchased goods and services. Currently, the system is being populated with initial data on simple commodities such as office supplies, with data on more complex items to follow. Allowing the federal acquisition community to see and analyze the cost of these goods and services is intended to drive better pricing for all future federal procurements. Our hope is to replicate our purchasing experience as individuals where comparative market pricing information is widely available, such as many e-commerce, travel and secondary market portals.

*Innovative Technologies and Digital Services –*

GSA also looks for opportunities to help agencies adopt new technologies and take advantage of digital services that improve mission delivery, and enhance their interactions with the public. For example, the Federal Risk and Authorization Management Program (FedRAMP) is a government-wide program that accelerates adoption of cloud computing across government by providing a standardized approach to security assessment, authorization, and continuous monitoring for cloud products and services. This mandatory approach, which uses a “do once, use many times” framework, is saving cost, time, and staff required to conduct redundant agency security assessments.

GSA helps to ensure that we have tools that allow the Government to access the ingenuity of the American people to help solve Government’s challenges. GSA manages Challenge.gov, an award-winning platform to promote and conduct challenge and prize competitions government-wide. Challenge.gov seeks to involve more Americans in the work of government. Eighty contests were hosted in FY 2013, covering a wide range of technical and creative challenges. For instance, the Federal Trade Commission (FTC) hosted a robocall challenge, which asked innovators to create solutions to block illegal robocalls on landline or mobile phones. The FTC received nearly 800 entries and selected two winners in a tie for the best overall solution. One winning solution, Nomorobo, went to market on September 30, 2013, and has blocked nearly 1.3 million calls for consumers.

GSA also is leading efforts to open government data to entrepreneurs and other innovators to fuel development of products and services that drive economic growth. GSA operates Data.gov, the flagship open government portal, which enables easy access to and use of more than 90,000 data collections from over 180 government agencies. By facilitating information

transparency and access, GSA allows anyone, whether an individual or a business, to take public information and apply it in new and useful ways. A snapshot of the power of open data can be seen on [Data.gov/Impact](https://www.data.gov/impact), which provides a list of companies leveraging open government data to power the economy.

GSA is also committed to helping agencies through smarter delivery of IT projects. In collaboration with White House Office of Science and Technology Policy, GSA manages the Presidential Innovation Fellows (PIF) program. The PIF program recruits and sources some of our nation's brightest individuals to specific agencies and challenges them to implement solutions that save money and make the Federal government work better for the American people. The program is set up to deliver results in months, not years, and has already demonstrated its value through solutions like USAID's Better than Cash and VA's Blue Button.

Building on this approach, and in coordination with the Digital Service at OMB, GSA recently announced the creation of 18F— a digital delivery team within GSA that aims to make the government's digital and web services simple, effective, and easier to use for the American people. By using lessons from our Nation's top technology startups, these public service innovators are looking to provide support for our federal partners in delivering better digital services at reduced time and cost. 18F is structured to develop in an agile manner, building prototypes rapidly and putting them in the hands of users for feedback; measure success not in terms of completion of a system, but through customer use; build core capacity so that the government can build and deliver technology solutions; and scale what works iteratively.

18F is already engaged in various initiatives to improve services GSA provides to our constituents. As an example, the 18F team helped develop a new, innovative tool called FBOpen ([fbopen.gsa.gov](https://fbopen.gsa.gov)) that allows small and innovative businesses to quickly access federal contracting and grant opportunities by using simple search queries. This open source search tool makes it easier for small businesses and less traditional federal contractors to better find and bid on government opportunities, while increasing competition and delivering a simpler way to find all of the opportunities the federal government makes available. By pairing innovative technologists with agency procurement experts and reaching out to small businesses to understand their needs, GSA was able to successfully test [and deploy] a viable product in less than six months. FBOpen is just one example of how use of smarter IT practices can shorten the time to value, whether work is performed by federal employees, contractors, or both.

*Conclusion –*

GSA's internal IT reforms, acquisition solutions, and digital services are in keeping with our mission to deliver the best value in information technology solutions to government and the American people. GSA still has a lot of work ahead of us, and I appreciate the Committee's support of our reform efforts.

I appreciate the opportunity to appear before you today and I am happy to answer any questions you have. Thank you.

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

May 8, 2014

**STATEMENT OF STEVEN VANROEKEL  
FEDERAL CHIEF INFORMATION OFFICER,  
ADMINISTRATOR FOR E-GOVERNMENT AND INFORMATION TECHNOLOGY,  
OFFICE OF MANAGEMENT AND BUDGET**

**BEFORE THE COMMITTEE ON HOMELAND SECURITY AND  
GOVERNMENT AFFAIRS  
UNITED STATES SENATE**

Chairman Carper, Dr. Coburn, and Members of the Committee, thank you for the opportunity to testify before you about the best practices and factors for successful acquisition of information technology (IT) investments.

During my 20 years in the private sector, I woke up every day focused on improving and expanding core services and customer value while also cutting costs. I brought this focus with me to the Federal Government. When I joined the Administration in 2009, and the Office of Management and Budget (OMB) in 2011, I found willing partners in this mission and have spent the past 3 years at OMB focused on driving innovation to meet customer needs, maximizing our return on investments in Federal information technology, and establishing a trusted foundation for securing and protecting our information systems.

**Focus on Efficiency**

Constantly improving the state of Federal technology is a priority for this Administration, and is a mission that OMB takes seriously. In these times of fiscal constraint, this means we must drive innovation while controlling spending—by maximizing effectiveness and efficiency in everything we do. The Administration's first term efforts largely focused on establishing mechanisms to stop out of control IT spending, promoting new technologies such as cloud computing and mobile, opening up Federal Government data for private sector use, enhancing cyber capabilities, and deploying Federal technology as a tool to increase efficiency to allow government to do more with less.

In the decade prior to this Administration, the Federal IT Budget increased at the Compound Annual Growth Rate of 7.1 percent. If spending increased at the same rate during this Administration, our current IT budget request would total \$117 billion. However, through PortfolioStat data-driven accountability sessions, and with the help of this Committee, Federal agencies enhanced analytical approaches to more effectively manage Federal IT portfolios and improve IT cost oversight. The Office of E-Government established a rigorous, continuous process for agencies to drive and measure information technology savings through the consolidation of duplicative services and other tactics to fund investment in innovation.

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The result is over \$2.5 billion of identified cost savings and \$1.9 billion of realized savings through the PortfolioStat process and a consolidation of commodity IT. During this Administration, we flat-lined Federal IT spending, driving efficiencies and fueling innovation across the Federal technology portfolio, through initiatives like data center consolidation, cloud computing and the Administration's Digital Government strategy, all the while working to keep Federal data safe and secure. Through these efforts and others, Federal agencies began to seize upon productivity gains seen in the private sector and apply technology to improve efficiency of our Government.

### **Focus on Effectiveness**

One of the pillars of the President's Management Agenda is a focus on increasing effectiveness - finding ways to deliver world class customer service to citizens and businesses. Our efforts underway on Smarter IT delivery are a key part of this work. With our actions to drive efficiency across IT portfolios firmly underway, we are increasing these efforts to deliver smarter, more effective applications of technology to improve the delivery of Federal services, information, and benefits. In doing so, we are applying the same rigor and data-driven analytical capabilities we used to drive efficiency across Federal IT to ensure agencies use IT effectively to deliver on their core missions.

To deliver citizens the services they expect from their Government, we must shift the focus of Federal Government IT projects from compliance and process to meeting user needs. We must be intensely user-centered and agile, involve top talent from the private sector in Government IT projects, and ensure agency leadership is actively engaged and accountable to the public for the success of the digital services of their agency. To support this effort, the Administration's Smarter IT Delivery Agenda seeks to improve the value we deliver to citizens through Federal IT, and the speed and cost-effectiveness with which it is delivered.

The work of the Smarter IT Delivery Agenda builds upon the progress of reshaping the delivery of information technology already underway, as well as introduces new approaches and tools to transform the Government IT landscape. To do this, we are focused on a three-part Agenda focused on ensuring the Federal Government has: (1) the best talent working inside Government; (2) the best companies working with Government; and, (3) the best processes in place to make sure everyone involved can do their best work and be held accountable for delivering excellent results for our customers, the American people.

The Smarter IT Delivery Agenda aims to increase customer satisfaction with top Government digital services; decrease the percentage of Federal Government IT projects that are delayed or over-budget; and increase the speed with which we hire and deploy qualified talent to work on Government IT projects.

There are several key projects already underway, and we will undertake additional projects in the coming months as the agenda continues to evolve.

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**Focus Area 1: Get the Right Talent Working Inside Government**

IT excellence starts with having the best people executing IT in Government. While there are many talented IT professionals across Government, it is clear that we need to broaden and deepen this talent pool to meet present and future needs.

We must also work to solve the current challenges facing Government when it comes to quickly hiring qualified technical talent. IT is already one of the most competitive job markets in our economy, but Government hiring processes make competing for that talent even more challenging. Today, the average hiring cycle for IT specialist in the Federal Government is over 100 days. The norm for leading private sector companies is 7-14 days. Given the competitive markets for technical talent, Government is often unable to acquire top candidates given the current hiring process.

*The Digital Service*

To accelerate the pace of change, we are standing up a Digital Service—a centralized, world-class capability that is part of the Federal CIO Team made up of our country's brightest digital talent, which we will pilot with existing funds in 2014, and scale in 2015 according to the President's FY15 budget. The team will be charged with removing barriers to exceptional Government service delivery and remaking the digital experiences that citizens and businesses have with their Government.

Through a modest team of people housed within the E-Government office at OMB, the Digital Service will establish standards to bring the Government's digital services in line with the best private sector service experiences, define common platforms for re-use that will provide a consistent user experience, collaborate with agencies to identify gaps in their delivery capacity to design, develop, and deploy excellent citizen-facing services, and provide oversight and accountability to ensure we see results. The Digital Service is a close partnership with the 18F delivery team at U.S. General Services Administration (GSA), and will work side-by-side with agencies to ensure they have the resources and talent needed to deliver great services on time, on spec. on budget, and with optimal user-functionality.

*Flexible Hiring Authority Options for IT Talent*

Building on the success of the Presidential Innovation Fellows program—a program that is delivering low-cost, innovative solutions like RFP-EZ, advancing open data initiatives at agencies and more—the Administration is pursuing flexible hiring authority options for IT talent, reducing barriers to the hiring of key digital experts in government. The program is being developed in partnership with the Office of Personnel Management, and would be phased in with agencies such as GSA.

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**Focus Area 2: Get the Best Companies Working with Government**

The Administration is also taking steps to reduce barriers and burdens in Federal procurement and increase the ability for innovative and non-traditional companies to work with the Federal Government with FBOpen—a new platform that allows easier access to Federal opportunities. In addition, OMB recently worked with GSA and procurement experts across Government on an open dialogue<sup>1</sup> to reduce barriers and burdens in Federal procurement.

**Open Dialogue**

The open dialogue was a joint effort between the Chief Acquisition Officers Council, OMB, GSA, and the Chief Information Officers Council to engage all stakeholders in the acquisition community to better understand the opportunities and challenges they face when doing business with the Federal Government. The focus of the dialogue was to generate solutions in three areas: streamlining reporting and compliance requirements, identifying industry best practices, and increasing participation by qualified non-traditional Government contractors. We anticipate that we will have recommendations for actions emerging from this work, and are eager to work with Congress on developing a whole-of-government approach to improving Federal acquisitions.

**Focus Area 3: Put the Right Processes and Practices in Place to Drive Outcomes and Accountability**

Complicated Federal IT projects often face similar challenges: (1) they lack visibility and real-time communication among the technical or IT staff, the mission or business owner, and the executive team; (2) they use the outdated waterfall approach to technology development, which includes long lead requirements setting rather than the agile approaches—where products are developed in rapid, iterative cycles—that have made the consumer Internet so successful; and (3) there is responsibility and accountability regarding compliance issues, but not enough end-to-end responsibility for the project actually working for its intended users at targeted investment levels. Taken together, these qualities can result in sub-optimal outcomes and high costs.

To address these issues, the Administration will focus its efforts on driving accountability for customer service, mission results and cost; sharing best practices; and guiding agencies and contractors in delivering great digital services.

**“Tech FAR” Guide**

The Administration will develop a compilation of the 21<sup>st</sup> Century, agile aspects of the Federal Acquisition Regulation (FAR) that will guide agencies in soliciting services in new ways—ways that more closely match techniques used by the private sector—such as using challenges and crowdsourcing approaches to involve citizens, writing requirements that allow for more flexible execution, or a pay-for-service model. In particular, the guide will include FAR-

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<sup>1</sup> <http://www.gpo.gov/fdsys/pkg/FR-2014-04-23/pdf/2014-09129.pdf>

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allowed processes used by agencies that have successfully implemented IT projects, many of which are currently underutilized.

"Digital Service Playbook"

The Administration will develop a "Digital Service Playbook" to share best practices for effective IT service delivery in Government. This playbook will build on successes both within and outside Government and will guide both technical and business owners within agencies. It will include best practices for building modern solutions across the implementation of the technology, how to measure customer input and manage customer expectations, and how to share solutions across Government.

PortfolioStat 2014

This spring, the Administration is implementing PortfolioStat 2014, the third year of this successful program. PortfolioStat 2014 will not only continue the rigorous data-driven focus on finding efficiencies in agencies that has resulted in \$1.9 billion in savings since 2012, but also adds a new focus on accountability around service delivery to ensure agencies are accountable for delivering on their highest impact IT investments. As I have testified previously, the PortfolioStat process brings together technology experts with the agency's senior accountable officials and Deputy Secretary to evaluate agency performance against measured outcomes and increase accountability and responsibility within agencies.

**The Information Technology Oversight and Reform Fund & Enhanced Cyber Security**

An important part of successful acquisition of IT investments is providing proper oversight. The FY 2015 Budget specifically requests \$20 million for the Information Technology Oversight and Reform (ITOR) fund. This fund, previously known as the Integrated, Efficient, and Effective Uses of Information Technology (IEEUIT), will use data, analytics and digital services to improve the efficiency, effectiveness and security of Government operations and programs.

However, before discussing the Administration's FY 2015 request for the Information Technology Oversight and Reform (ITOR) fund and Office of E-Government, I want to raise OMB's overall FY 2015 budget request. The President's FY 2015 Budget for OMB requests \$93.5 million and 480 full-time equivalents to address growing workloads while making targeted investments to enable OMB to more effectively oversee program management and funding across more than 100 agencies and departments throughout the Federal Government. This is a critical investment with large returns in the form of improved program management, budgetary savings, and smarter regulations – some of the many critical outcomes that the Administration, Congress, and the American people look to OMB to help ensure.

The requested ITOR funding will allow OMB to continue to play a central role in supporting the development and execution of a wide range of crucial programs and policies and managing critical Government functions. Today more than ever, OMB has a central role to play

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in our efforts to move our economy forward by creating jobs, growing the economy, and promoting opportunity for all.

With the funding requested for FY 2015, OMB would continue the work of PortfolioStat and enhance cybersecurity capabilities that will ensure we can protect our country's national digital assets. The additional funding represented in ITOR will enable OMB to better leverage analytics and industry expertise to conduct targeted, risk-based oversight reviews of agencies' cybersecurity activities. The result of these efforts will inform future Federal information security policies, metrics, and Cross Agency Priority (CAP) goals, and will ensure successful implementation of important policy work underway with continuous diagnostics, anti-phishing, and identity management initiatives. The FY 2015 ITOR request represents a modest investment in comparison to the total Federal IT spending of approximately \$80 billion annually. Through the ITOR fund and the help of the Committee, we have delivered tangible results in Government technology efficiency. We look forward to delivering the same return on investment from these funds as we apply them to effectiveness of technology in FY 2015.

#### **Conclusion**

In conclusion, it is apparent that in today's world we can no longer separate the effectiveness of our Federal programs from the smart use of IT. By increasing emphasis on customer needs and making it faster and easier for individuals and businesses to complete transactions with the Government—online or offline—we can deliver the world-class services that citizens expect. To do this it is imperative that we get the best talent working inside Government, the best companies working with Government, and the best processes in place to deliver results for our customers, the American people.

Mr. Chairman and Members of the Committee, thank you for holding this hearing and inviting me to speak today. I appreciate this Committee's interest and ongoing support and I am excited to continue working with the Committee on our shared goal of improving the efficiency and effectiveness of our Government. I would be pleased to answer any questions you may have at this time.

United States Government Accountability Office

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Testimony  
Before the Committee on Homeland  
Security and Governmental Affairs,  
U.S. Senate

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For Release on Delivery  
Expected at 10:00 a.m. ET  
Thursday May 8, 2014

## INFORMATION TECHNOLOGY

### Implementing Best Practices and Reform Initiatives Can Help Improve the Management of Investments

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

# GAO Highlights

Highlights of GAO-14-596T, a testimony before the Committee on Homeland Security and Governmental Affairs, U.S. Senate

## Why GAO Did This Study

The federal government reportedly plans to spend at least \$82 billion on IT in fiscal year 2014. Given the scale of such planned outlays and the criticality of many of these systems to the health, economy, and security of the nation, it is important that OMB and federal agencies provide appropriate oversight and transparency into these programs and avoid duplicative investments, whenever possible, to ensure the most efficient use of resources.

GAO has previously reported and testified that federal IT projects too frequently fail and incur cost overruns and schedule slippages while contributing little to mission-related outcomes. Numerous best practices and administration initiatives are available for agencies that can help them improve the oversight and management of IT acquisitions.

GAO is testifying today on the results and recommendations from selected reports that focused on how best practices and IT reform initiatives can help federal agencies better manage major acquisitions and legacy investments.

## What GAO Recommends

GAO has previously made numerous recommendations to OMB and federal agencies on key aspects of IT management, including the IT Dashboard and efforts to consolidate federal data centers. Additionally, in its report being released today, GAO also recommended that agencies take actions to improve their incremental development approaches.

View GAO-14-596T. For more information, contact David A. Powner at (202) 512-9285 or [pownerd@gao.gov](mailto:pownerd@gao.gov).

May 9, 2014

## INFORMATION TECHNOLOGY

### Implementing Best Practices and Reform Initiatives Can Help Improve the Management of Investments

#### What GAO Found

GAO recently reported on nine critical factors underlying successful major information technology (IT) acquisitions. Factors cited included (1) program officials were actively engaged with stakeholders and (2) prioritized requirements.

One key IT reform initiative undertaken by the Office of Management and Budget (OMB) is the IT Dashboard, which provides information, including ratings of risk, on 760 major investments at 27 federal agencies. As of April 2014, according to the Dashboard, 559 investments were low or moderately low risk, 159 were medium risk, and 42 were moderately high or high risk.

GAO has issued a series of reports on Dashboard accuracy and, in 2011, found that, while there were issues with the accuracy and reliability of cost and schedule data, the accuracy of these data had improved over time. However, a recent GAO report found that agencies had removed major investments from the Dashboard, representing a troubling trend toward decreased transparency. GAO also reported that, as of December 2013, the public version of the Dashboard was not updated for 15 of the previous 24 months. GAO made recommendations to ensure that the Dashboard includes all major IT investments and increase its availability. Agencies generally agreed with the report or had no comments.

An additional key reform initiated by OMB emphasizes incremental development in order to reduce investment risk. In 2010 it called for agency investments to deliver functionality every 12 months and since 2012 has required investments to deliver functionality every 6 months. However, in its report released today, GAO found that almost three-quarters of investments reviewed did not plan to deliver capabilities every 6 months and less than half planned to deliver capabilities in 12-month cycles. GAO recommended that OMB develop and issue clearer guidance on incremental development and that selected agencies update and implement their associated policies. Most agencies agreed with GAO recommendations, while others disagreed or had no comment. GAO continues to believe that its recommendations are valid.

In an effort to consolidate the number of federal data centers, OMB launched a consolidation initiative intended to close 40 percent of data centers by 2015, and in doing so, save \$3 billion. GAO reported that agencies planned to close 1,055 data centers by the end of fiscal year 2014, but also highlighted the need for continued oversight. Among other things, GAO recommended that OMB improve the execution of important oversight responsibilities, with which OMB agreed.

To better manage the government's existing IT systems, OMB launched the PortfolioStat initiative, which, among other things, requires agencies to conduct annual reviews of their IT investments and make decisions on eliminating duplication. GAO reported that agencies continued to identify duplicative spending as part of PortfolioStat and that this initiative has the potential to save at least \$5.8 billion by fiscal year 2015, but that weaknesses existed in agencies' implementation of the initiative's requirements. Among other things, GAO made several recommendations to improve agencies' implementation of PortfolioStat requirements. OMB partially agreed with these recommendations, and most of the other 20 agencies agreed to implement them.

United States Government Accountability Office

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Chairman Carper, Ranking Member Coburn, and Members of the Committee:

I am pleased to be here today to discuss how best practices and major information technology (IT) reform initiatives can help the federal government better acquire and manage IT investments. As reported to the Office of Management and Budget (OMB), federal agencies plan to spend at least \$82 billion on IT in fiscal year 2014. Given the scale of such planned outlays and the criticality of many of these systems to the health, economy, and security of the nation, it is important that OMB and federal agencies provide appropriate oversight and transparency into these programs and avoid duplicative investments, whenever possible, to ensure the most efficient use of resources.

However, as we have previously reported and testified, federal IT projects too frequently fail and incur cost overruns and schedule slippages while contributing little to mission-related outcomes.<sup>1</sup> During the past several years, we have issued multiple reports and testimonies on best practices for major acquisitions and federal initiatives to acquire and improve the management of IT investments.<sup>2</sup> In those reports, we made numerous

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<sup>1</sup>See, for example, GAO, *Information Technology: OMB and Agencies Need to More Effectively Implement Major Initiatives to Save Billions of Dollars*, GAO-13-796T (Washington, D.C.: July 25, 2013); *Secure Border Initiative: DHS Needs to Reconsider Its Proposed Investment in Key Technology Program*, GAO-10-340 (Washington, D.C.: May 5, 2010); and *Polar-Orbiting Environmental Satellites: With Costs Increasing and Data Continuity at Risk, Improvements Needed in Tri-agency Decision Making*, GAO-09-564 (Washington, D.C.: June 17, 2009).

<sup>2</sup>See, for example, GAO, *Information Technology: Leveraging Best Practices to Help Ensure Successful Major Acquisitions*, GAO-14-183T (Washington, D.C.: Nov. 13, 2013); *Information Technology: Additional Executive Review Sessions Needed to Address Troubled Projects*, GAO-13-524 (Washington, D.C.: June 13, 2013); *Data Center Consolidation: Strengthened Oversight Needed to Achieve Billions of Dollars in Savings*, GAO-13-627T (Washington, D.C.: May 14, 2013); *Data Center Consolidation: Strengthened Oversight Needed to Achieve Cost Savings Goal*, GAO-13-378 (Washington, D.C.: Apr. 23, 2013); *Information Technology Dashboard: Opportunities Exist to Improve Transparency and Oversight of Investment Risk at Select Agencies*, GAO-13-98 (Washington, D.C.: Oct. 16, 2012); *Data Center Consolidation: Agencies Making Progress on Efforts, but Inventories and Plans Need to Be Completed*, GAO-12-742 (Washington, D.C.: July 19, 2012); *Information Technology: Critical Factors Underlying Successful Major Acquisitions*, GAO-12-7 (Washington, D.C.: Oct. 21, 2011); *Information Technology: Continued Attention Needed to Accurately Report Federal Spending and Improve Management*, GAO-11-831T (Washington, D.C.: July 14, 2011); and *Information Technology: Investment Oversight and Management Have Improved but Continued Attention Is Needed*, GAO-11-454T (Washington, D.C.: Mar. 17, 2011).

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recommendations to federal agencies and OMB to further enhance the management and oversight of IT programs.

As discussed with committee staff, I am testifying today on the results and recommendations from our selected reports on how best practices and IT reform initiatives can help federal agencies better manage major acquisitions and legacy investments. This includes summarizing our report being released today on agencies' use of incremental development approaches.<sup>3</sup> All work on which this testimony is based was performed in accordance with generally accepted government auditing standards or all sections of GAO's Quality Assurance Framework that were relevant to our objectives. Those standards and the framework require that we plan and perform our audits and engagements to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives; the framework also requires that we discuss any limitations in our work. We believe that the information, data, and evidence obtained and the analysis conducted provide a reasonable basis for our findings and conclusions based on our objectives. A more detailed discussion of the objectives, scope, and methodology of this work is included in each of the reports on which this testimony is based.<sup>4</sup>

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## Background

Information technology should enable government to better serve the American people. However, despite spending hundreds of billions on IT since 2000, the federal government has experienced failed IT projects

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<sup>3</sup>GAO, *Information Technology: Agencies Need to Establish and Implement Incremental Development Policies*, GAO-14-361 (Washington, D.C.: May 1, 2014).

<sup>4</sup>GAO-14-361; GAO, *Information Technology: Additional OMB and Agency Actions are Needed to Achieve Portfolio Savings*, GAO-14-65 (Washington, D.C.: Nov. 6, 2013); *IT Dashboard: Agencies are Managing Investment Risk, but Related Ratings Need to Be More Accurate and Available*, GAO-14-64 (Washington, D.C.: Dec. 12, 2014); GAO-13-524; GAO-13-378; GAO-13-98; GAO-12-742; *Information Technology Reform: Progress Made, More Needs to Be Done to Complete Actions and Measure Results*, GAO-12-461 (Washington, D.C.: Apr. 26, 2012); *IT Dashboard: Accuracy Has Improved, and Additional Efforts Are Under Way to Better Inform Decision Making*, GAO-12-210 (Washington, D.C.: Nov. 7, 2011); GAO-12-7; *Data Center Consolidation: Agencies Need to Complete Inventories and Plans to Achieve Expected Savings*, GAO-11-565 (Washington, D.C.: Jul. 19, 2011); *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); and *Information Technology: OMB's Dashboard has Increased Transparency and Oversight, but Improvements Needed*, GAO-10-701 (Washington, D.C.: July 16, 2010).

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and has achieved little of the productivity improvements that private industry has realized from IT. Too often, federal IT projects run over budget, behind schedule, or fail to deliver results. In combating this problem, proper oversight is critical.

Both OMB and federal agencies have key roles and responsibilities for overseeing IT investment management, and OMB is responsible for working with agencies to ensure investments are appropriately planned and justified. However, as we have described in numerous reports,<sup>5</sup> although a variety of best practices exist to guide their successful acquisition, federal IT projects too frequently incur cost overruns and schedule slippages while contributing little to mission-related outcomes.

Agencies have reported that poor-performing projects have often used a “big bang” approach—that is, projects that are broadly scoped and aim to deliver capability several years after initiation. For example, in 2009 the Defense Science Board reported that the Department of Defense’s (Defense) acquisition process for IT systems was too long, ineffective, and did not accommodate the rapid evolution of IT.<sup>6</sup> The board reported that the average time to deliver an initial program capability for a major IT system acquisition at Defense was over 7 years.

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. As reported to OMB, federal agencies plan to spend more than \$82 billion on IT investments in fiscal year 2014, which is the total expended for not only acquiring such investments, but also the funding to operate and maintain them. Of the reported amount, 27 federal

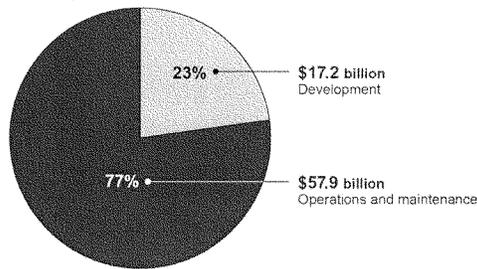
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<sup>5</sup>See, for example, GAO, *FEMA: Action Needed to Improve Administration of the National Flood Insurance Program*, GAO-11-297 (Washington, D.C.: June 9, 2011); GAO-10-340, *Secure Border Initiative: DHS Needs to Address Testing and Performance Limitations That Place Key Technology Program at Risk*, GAO-10-158 (Washington, D.C.: Jan. 29, 2010); and GAO-09-564.

<sup>6</sup>Defense Science Board, *Report of the Defense Science Board Task Force on Department of Defense Policies and Procedures for the Acquisition of Information Technology* (Washington, D.C.: March 2009).

agencies<sup>7</sup> plan to spend about \$75 billion: \$17 billion on development and acquisition and \$58 billion on operations and maintenance (O&M).<sup>8</sup> Figure 1 shows the percentages of total planned spending for 2014 for the \$75 billion spent on development and O&M.

**Figure 1: Percentages of Planned IT Spending for Fiscal Year 2014**



Source: GAO analysis of OMB data.

However, this \$75 billion does not reflect the spending of the entire federal government. We have previously reported that OMB's figure understates the total amount spent in IT investments.<sup>9</sup> Specifically, it does not include IT investments by 58 independent executive branch agencies, including the Central Intelligence Agency or by the legislative or judicial branches. Further, agencies differed on what they considered an IT

<sup>7</sup>The 27 agencies are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs; U.S. Army Corps of Engineers, Environmental Protection Agency, General Services Administration, National Aeronautics and Space Administration, National Archives and Records Administration, National Science Foundation, Nuclear Regulatory Commission, Office of Personnel Management, Small Business Administration, Smithsonian Institution, Social Security Administration, and U.S. Agency for International Development.

<sup>8</sup>According to the analytical perspectives associated with the President's fiscal year 2014 budget, the remainder is comprised of classified Defense IT investments.

<sup>9</sup>GAO, *Information Technology: OMB Needs to Improve Its Guidance on IT Investments*, GAO-11-826 (Washington, D.C.: Sept. 29, 2011).

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investment; for example, some have considered research and development systems as IT investments, while others have not. As a result, not all IT investments are included in the federal government's estimate of annual IT spending. OMB provided guidance to agencies on how to report on their IT investments, but this guidance did not ensure complete reporting or facilitate the identification of duplicative investments. Consequently, we recommended, among other things, that OMB improve its guidance to agencies on identifying and categorizing IT investments.

Further, over the past several years, we have reported that overlap and fragmentation among government programs or activities could be harbingers of unnecessary duplication.<sup>10</sup> Thus, the reduction or elimination of duplication, overlap, or fragmentation could potentially save billions of tax dollars annually and help agencies provide more efficient and effective services.

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#### OMB Has Launched Major Initiatives for Overseeing Investments

OMB has implemented a series of initiatives to improve the oversight of underperforming investments, more effectively manage IT, and address duplicative investments. These efforts include the following:

- *IT Dashboard.* Given the importance of transparency, oversight, and management of the government's IT investments, in June 2009, OMB established a public website, referred to as the IT Dashboard, that provides detailed information on 760 major IT investments at 27 federal agencies, including ratings of their performance against cost and schedule targets. The public dissemination of this information is intended to allow OMB, other oversight bodies, including Congress, and the general public to hold agencies accountable for results and performance. Among other things, agencies are to submit Chief Information Officer (CIO) ratings, which, according to OMB's instructions, should reflect the level of risk facing an investment on a scale from 1 (high risk) to 5 (low risk) relative to that investment's

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<sup>10</sup>GAO, 2013 *Annual Report: Actions Needed to Reduce Fragmentation, Overlap, and Duplication and Achieve Other Financial Benefits*, GAO-13-279SP (Washington, D.C.: Apr. 9, 2013); 2012 *Annual Report: Opportunities to Reduce Duplication, Overlap and Fragmentation, Achieve Savings, and Enhance Revenue*, GAO-12-342SP (Washington, D.C.: Feb. 28, 2012); and *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP (Washington, D.C.: Mar. 1, 2011).

ability to accomplish its goals. Ultimately, CIO ratings are assigned colors for presentation on the Dashboard, according to the five-point rating scale, as illustrated in table 1.

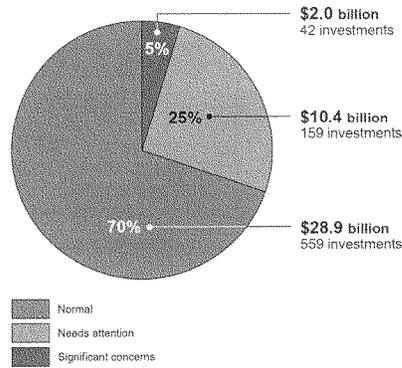
**Table 1: IT Dashboard CIO Rating Colors, Based on a Five-Point Scale for CIO Ratings**

Rating (by agency CIO)	Color
1-High risk	Red
2-Moderately high risk	Red
3-Medium risk	Yellow
4-Moderately low risk	Green
5-Low risk	Green

Source: OMB's IT Dashboard

As of April 2014, according to the IT Dashboard, 201 of the federal government's 760 major IT investments—totaling \$12.4 billion—were in need of management attention (rated "yellow" to indicate the need for attention or "red" to indicate significant concerns). (See fig. 2.)

**Figure 2: Overall Performance Ratings of Major Investments on the IT Dashboard, as of April 2014**



Source: OMB's IT Dashboard.

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- *TechStat reviews.* In January 2010, the Federal CIO began leading TechStat sessions—face-to-face meetings to terminate or turnaround IT investments that are failing or are not producing results. These meetings involve OMB and agency leadership and are intended to increase accountability and transparency and improve performance. Subsequently, OMB empowered agency CIOs to hold their own TechStat sessions within their respective agencies. According to the former Federal CIO, the efforts of OMB and federal agencies to improve management and oversight of IT investments have resulted in almost \$4 billion in savings.
  - *Federal Data Center Consolidation Initiative.* Concerned about the growing number of federal data centers, in February 2010 the Federal CIO established the Federal Data Center Consolidation Initiative. This initiative's four high-level goals are to promote the use of "green IT"<sup>11</sup> by reducing the overall energy and real estate footprint of government data centers; reduce the cost of data center hardware, software, and operations; increase the overall IT security posture of the government; and shift IT investments to more efficient computing platforms and technologies. OMB believes that this initiative has the potential to provide about \$3 billion in savings by the end of 2015.
  - *IT Reform Plan.* In December 2010, OMB released its 25-point plan to reform federal IT.<sup>12</sup> This document established an ambitious plan for achieving operational efficiencies and effectively managing large-scale IT programs. In particular, as part of an effort to reduce the risk associated with IT acquisitions, the plan calls for federal IT programs to deploy capabilities or functionality in release cycles no longer than 12 months, and ideally, less than 6 months. The plan also identifies key actions that can help agencies implement this incremental development guidance, such as working with Congress to develop IT budget models that align with incremental development and issuing contracting guidance and templates to support incremental development.

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<sup>11</sup>"Green IT" refers to environmentally sound computing practices that can include a variety of efforts, such as using energy efficient data centers, purchasing computers that meet certain environmental standards, and recycling obsolete electronics.

<sup>12</sup>OMB, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Washington, D.C.: Dec. 9, 2010).

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- *PortfolioStat*. In order to eliminate duplication, move to shared services, and improve portfolio management processes, in March 2012, OMB launched the PortfolioStat initiative. Specifically, PortfolioStat requires agencies to conduct an annual agency-wide IT portfolio review to, among other things, reduce commodity IT<sup>13</sup> spending and demonstrate how their IT investments align with the agency's mission and business functions.<sup>14</sup> PortfolioStat is designed to assist agencies in assessing the current maturity of their IT investment management process, making decisions on eliminating duplicative investments, and moving to shared solutions in order to maximize the return on IT investments across the portfolio. OMB believes that the PortfolioStat effort has the potential to save the government \$2.5 billion over the next 3 years by, for example, consolidating duplicative systems.

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### Opportunities Exist to Improve Acquisition and Management of IT Investments

Given the magnitude of the federal government's annual IT budget, which is expected to be more than \$82 billion in fiscal year 2014, it is important that agencies leverage all available opportunities to ensure that their IT investments are acquired in the most effective manner possible. To do so, agencies can rely on IT acquisition best practices, incremental development, and initiatives such as OMB's IT Dashboard and OMB-mandated TechStat sessions. Additionally, agencies can save billions of dollars by continuing to consolidate federal data centers and by eliminating duplicative investments through OMB's PortfolioStat initiative.

#### Best Practices Are Intended to Help Ensure Successful Major Acquisitions

In 2011, we identified seven successful acquisitions and nine common factors critical to their success and noted that (1) the factors support OMB's objective of improving the management of large-scale IT acquisitions across the federal government and (2) wide dissemination of

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<sup>13</sup>According to OMB, commodity IT includes services, such as enterprise IT systems (e-mail, identity and access management, IT security, web hosting, infrastructure, and content; and collaboration tools); IT infrastructure (desktop systems, mainframes and servers, mobile devices, and telecommunications); and business systems (financial management, grants-related federal financial assistance, grants-related transfer to state and local governments, and human resources management systems).

<sup>14</sup>OMB, *Implementing PortfolioStat*, Memorandum M-12-10 (Washington, D. C.: Mar. 30, 2012).

these factors could complement OMB's efforts.<sup>15</sup> Specifically, we reported that federal agency officials identified seven successful acquisitions, in that they best achieved their respective cost, schedule, scope, and performance goals.<sup>16</sup> Notably, all of these were smaller increments, phases, or releases of larger projects. The common factors critical to the success of three or more of the seven acquisitions are generally consistent with those developed by private industry and are identified in table 2.

**Table 2: Common Critical Success Factors**

Program officials were actively engaged with stakeholders.
Program staff had the necessary knowledge and skills.
Senior department and agency executives supported the programs.
End users and stakeholders were involved in the development of requirements.
End users participated in testing of system functionality prior to formal end user acceptance testing.
Government and contractor staff were consistent and stable.
Program staff prioritized requirements.
Program officials maintained regular communication with the prime contractor.
Programs received sufficient funding.

Source: GAO analysis of agency data.

These critical factors support OMB's objective of improving the management of large-scale IT acquisitions across the federal government; wide dissemination of these factors could complement OMB's efforts.

<sup>15</sup>GAO-12-7.

<sup>16</sup>The seven investments were (1) Department of Commerce's Decennial Response Integration System, (2) Defense's Defense Global Combat Support System-Joint Increment 7), (3) Department of Energy's Manufacturing Operations Management Project, (4) Department of Homeland Security's Western Hemisphere Travel Initiative, (5) Department of Transportation's Integrated Terminal Weather System, (6) Internal Revenue Service's Customer Account Data Engine 2, and (7) Veterans Affairs' Occupational Health Record-keeping System.

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**IT Dashboard Can Improve the Transparency into and Oversight of Major IT Investments**

The IT Dashboard serves an important role in allowing OMB and other oversight bodies to hold agencies accountable for results and performance. However, we have issued a series of reports highlighting deficiencies with the accuracy and reliability of the data reported on the Dashboard.<sup>17</sup> For example, we reported in October 2012 that Defense had not rated any of its investments as either high or moderately high risk and that, in selected cases, these ratings did not appropriately reflect significant cost, schedule, and performance issues reported by GAO and others. We recommended that Defense ensure that its CIO ratings reflect available investment performance assessments and its risk management guidance. Defense concurred and has revised its process to address these concerns.

Further, while we reported in 2011 that the accuracy of Dashboard cost and schedule data had improved over time,<sup>18</sup> more recently, in December 2013 we found that agencies had removed investments from the Dashboard by reclassifying their investments—representing a troubling trend toward decreased transparency and accountability.<sup>19</sup> Specifically, the Department of Energy reclassified several of its supercomputer investments from IT to facilities and the Department of Commerce decided to reclassify its satellite ground system investments. Additionally, as of December 2013, the public version of the Dashboard was not updated for 15 of the previous 24 months because OMB does not revise it as the President's budget request is being created.

We also found that, while agencies experienced several issues with reporting the risk of their investments, such as technical problems and delayed updates to the Dashboard, the CIO ratings were mostly or completely consistent with investment risk at seven of the eight selected agencies.<sup>20</sup> Additionally, the agencies had already addressed several of

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<sup>17</sup>GAO-14-64; GAO-13-98; GAO-12-210; GAO-11-262, and GAO-10-701.

<sup>18</sup>GAO-12-210.

<sup>19</sup>GAO-14-64.

<sup>20</sup>The eight agencies selected for the review were the Departments of Agriculture, Commerce, Energy, Justice, Transportation, the Treasury, and Veterans Affairs, and the Social Security Administration.

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the discrepancies that we identified. The final agency, the Department of Veterans Affairs (VA), did not update 7 of its 10 selected investments because it elected to build, rather than buy, the ability to automatically update the Dashboard and has now resumed updating all investments. To their credit, agencies' continued attention to reporting the risk of their major IT investments supports the Dashboard's goal of providing transparency and oversight of federal IT investments.

Nevertheless, the rating issues that we identified with performance reporting and annual baselining,<sup>21</sup> some of which are now corrected, serve to highlight the need for agencies' continued attention to the timeliness and accuracy of submitted information in order to allow the Dashboard to continue to fulfill its stated purpose. We recommended that agencies appropriately categorize IT investments and that OMB make Dashboard information available independent of the budget process. OMB neither agreed nor disagreed with these recommendations. Six agencies generally agreed with the report or had no comments and two others did not agree, believing their categorizations were appropriate. We continue to believe that our recommendations are valid.

**Agencies Need to Establish and Implement Incremental Development Policies to Better Achieve Cost, Schedule, and Performance Goals for IT Investments**

Incremental development can help agencies to effectively manage IT acquisitions and, as such, OMB has recently placed a renewed emphasis on it. In particular, in 2010 OMB called for IT investments to deliver functionality every 12 months, and since 2012 has required investments to deliver functionality every 6 months.

However, as discussed in our report being released today, most selected agencies have not effectively established and implemented incremental development approaches.<sup>22</sup> Specifically, although all five agencies in our review—the Departments of Defense, Health and Human Services (HHS), Homeland Security (DHS), Transportation (Transportation), and

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<sup>21</sup>At times, a project's cost, schedule, and performance goals—known as its baseline—are modified to reflect changed development circumstances. These changes—called a rebaseline—can be done for valid reasons, but can also be used to mask cost overruns and schedule delays.

<sup>22</sup>GAO-14-381.

VA—have established policies that address incremental development, the policies usually did not fully address three key components we identified for implementing OMB's guidance. Table 3 provides an assessment of each agency's policies against the three key components of an incremental development policy.

**Table 3: Assessment of Selected Agencies' Incremental Development Policies**

Component	Defense	HHS	DHS	Transportation	VA
Require delivery of functionality every 6 months	○	○	○	○	●
Define functionality	◐	○	○	○	●
Define a process for enforcing compliance	◐	◐	○	○	●

Key:

- =Fully met—the agency provided evidence that addressed the component.
- ◐=Partially met—the agency provided evidence that addressed about half or a large portion of the component.
- =Not met—the agency did not provide evidence that addressed the component or provided evidence that minimally addressed the component.

Source: GAO analysis of agency documentation.

Among other things, agencies cited the following reasons that contributed to these weaknesses: (1) OMB's guidance was not feasible because not all types of investments should deliver functionality in 6 months and (2) the guidance did not identify what agencies' policies are to include or time frames for completion. We agreed that these concerns have merit.

Additionally, the weaknesses in agency policies have enabled inconsistent implementation of incremental development approaches. Specifically, almost three-quarters of the selected investments we reviewed did not plan to deliver functionality every 6 months and less than half planned to deliver functionality in 12-month cycles. Table 4 shows how many of the selected investments at each agency planned on delivering functionality every 6 and 12 months during fiscal years 2013 and 2014.

**Table 4: Number of Selected Investments Planning to Incrementally Deliver Functionality**

Agency	Total number of selected investments	Investments planning to deliver functionality every 6 months	Investments planning to deliver functionality every 12 months
Defense	37	1	11
HHS	14	9	11
DHS	12	2	6
Transportation	20	5	7
VA	6	6	6
<b>Totals</b>	<b>89</b>	<b>23</b>	<b>41</b>

Source: GAO analysis of agency documentation.

Considering agencies' concerns about delivering functionality every 6 months and given that so few are planning to deliver functionality in that time frame, our report noted that delivering functionality every 12 months, consistent with OMB's IT Reform Plan, would be an appropriate starting point and a substantial improvement. Until OMB issues realistic and clear guidance and agencies update their policies to reflect this guidance, agencies may not consistently adopt incremental development approaches, and IT expenditures will continue to produce disappointing results—including sizable cost overruns and schedule slippages and questionable progress in meeting mission goals and outcomes. In the report being released today, we recommend that OMB develop and issue realistic and clear guidance on incremental development, and that Defense, HHS, DHS, and Transportation update and implement their incremental development policies, once OMB's guidance is made available. OMB stated that it agreed with our recommendation to update and issue incremental development guidance, but did not agree that its current guidance is not realistic. However, slightly more than one-fourth of selected investments planned to deliver functionality every 6 months—and less than one-half planned to do so every 12 months. Additionally, there are three types of investments for which it may not always be practical or necessary to expect functionality to be delivered in 6-month cycles. Thus, we continue to believe that delivering functionality every 6 months is not an appropriate requirement for all agencies and that requiring the delivery of functionality every 12 months, consistent with OMB's IT Reform Plan, is a more appropriate starting point. We therefore maintain that OMB should require projects associated with major IT investments to deliver functionality at least every 12 months.

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Four agencies—Defense, HHS, DHS, VA—generally agreed with the report or had no comments and one agency—Transportation—did not agree that its recommendation should be dependent on OMB first taking action. Specifically, the department explained that relying on another agency to concur with one of our recommendations before Transportation can take action leaves the department with the potential challenge of a recommendation that cannot be implemented. However, as previously stated, OMB agrees with our recommendation to update and issue incremental guidance, meaning that OMB has committed to taking the actions necessary to enable Transportation to begin addressing our recommendation. Accordingly, we continue to believe that our recommendations are warranted and can be implemented.

#### **TechStat Reviews Can Help Highlight and Evaluate Poorly Performing Investments**

TechStat reviews were initiated by OMB to enable the federal government to turnaround, halt, or terminate IT projects that are failing or are not producing results. In 2013, we reported that OMB and selected agencies had held multiple TechStats, but that additional OMB oversight was needed to ensure that these meetings were having the appropriate impact on underperforming projects and that resulting cost savings were valid.<sup>23</sup> Specifically, we determined that, as of April 2013, OMB reported conducting 79 TechStats, which focused on 55 investments at 23 federal agencies. Further, 4 selected agencies—the Departments of Agriculture, Commerce, HHS, and DHS—conducted 37 TechStats covering 28 investments. About 70 percent of the OMB-led and 76 percent of agency-led TechStats on major investments were considered medium to high risk at the time of the TechStat.

However, the number of at-risk TechStats held was relatively small compared to the current number of medium- and high-risk major IT investments. Specifically, the OMB-led TechStats represented roughly 18.5 percent of the investments across the government that had a medium- or high-risk CIO rating. For the 4 selected agencies, the number of TechStats represented about 33 percent of the investments that have a medium- or high-risk CIO rating. We concluded that, until OMB and

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<sup>23</sup>GAO-13-524.

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agencies develop plans to address these weaknesses, the investments would likely remain at risk.

In addition, we reported that OMB and selected agencies had tracked and reported positive results from TechStats, with most resulting in improved governance. Agencies also reported projects with accelerated delivery, reduced scope, or termination. We also found that OMB reported in 2011 that federal agencies achieved almost \$4 billion in life-cycle cost savings as a result of TechStat sessions. However, we were unable to validate OMB's reported results because OMB did not provide artifacts showing that it ensured the results were valid. Among other things, we recommended that OMB require agencies to report on how they validated the outcomes. OMB generally agreed with this recommendation.

**Continued Oversight Needed to Consolidate Federal Data Centers and Achieve Cost Savings**

In an effort to consolidate the growing number of federal data centers, in 2010, OMB launched a consolidation initiative intended to close 40 percent of government data centers by 2015, and, in doing so, save \$3 billion. Since 2011, we have issued a series of reports on the efforts of agencies to consolidate their data centers.<sup>24</sup> For example, in July 2011 and July 2012, we reported that agencies had developed plans to consolidate data centers; however, these plans were incomplete and did not include best practices.<sup>25</sup> In addition, although we reported that agencies had made progress on their data center closures, OMB had not determined initiative-wide cost savings, and oversight of the initiative was not being performed in all key areas. Among other things, we recommended that OMB track and report on key performance measures, such as cost savings to date, and improve the execution of important oversight responsibilities. We also recommended that agencies complete inventories and plans. OMB agreed with these two recommendations, and most agencies agreed with our recommendations to them.

Additionally, as part of ongoing follow-up work, we have determined that while agencies had closed data centers, the number of federal data centers was significantly higher than previously estimated by OMB.

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<sup>24</sup>GAO-13-378; GAO-12-742; and GAO-11-565.

<sup>25</sup>GAO-12-742 and GAO-11-565.

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Specifically, as of May 2013, agencies had reported closing 484 data centers by the end of April 2013 and were planning to close an additional 571 data centers—for a total of 1,055—by September 2014. However, as of July 2013, 22 of the 24 agencies participating in the initiative had collectively reported 6,836 data centers in their inventories—approximately 3,700 data centers more than OMB's previous estimate from December 2011. This dramatic increase in the count of data centers highlights the need for continued oversight of agencies' consolidation efforts.

We have ongoing work looking at OMB's data center consolidation initiative, including evaluating the extent to which agencies have achieved planned cost savings through their consolidation efforts, identifying agencies' notable consolidation successes and challenges in achieving cost savings, and evaluating the extent to which data center optimization metrics have been established.

#### **Agencies' PortfolioStat Efforts Have the Potential to Save Billions of Dollars**

OMB launched the PortfolioStat initiative in March 2012, which required 26 executive agencies<sup>26</sup> to, among other things, reduce commodity IT spending and demonstrate how their IT investments align with the agencies' mission and business functions.<sup>27</sup> In November 2013, we reported on agencies' efforts to complete key required PortfolioStat actions and make portfolio improvements.<sup>28</sup> We noted that all 26 agencies that were required to implement the PortfolioStat initiative took actions to address OMB's requirements. However, there were shortcomings in their implementation of selected requirements, such as addressing all required elements of an action plan to consolidate commodity IT and migrating two commodity areas to a shared service by the end of 2012. In addition, several agencies had weaknesses in selected areas such as the CIO's authority to review and approve the entire portfolio and ensuring a complete baseline of information relative to commodity IT. Further, we

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<sup>26</sup>Of the 27 previously mentioned agencies, 1 agency—the Smithsonian Institute—is not required to participate in the PortfolioStat initiative.

<sup>27</sup>OMB, *Implementing PortfolioStat*, Memorandum M-12-10 (Washington, D.C.: Mar. 30, 2012).

<sup>28</sup>GAO-14-65.

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observed that OMB's estimate of about 100 consolidation opportunities and a potential \$2.5 billion in savings from the PortfolioStat initiative was understated because, among other things, it did not include estimates from Defense and the Department of Justice. Our analysis, which included these estimates, showed that, collectively, the 26 agencies reported about 200 opportunities and at least \$5.8 billion in potential savings through fiscal year 2015—at least \$3.3 billion more than the number initially reported by OMB.

In March 2013, OMB issued a memorandum commencing the second iteration of its PortfolioStat initiative.<sup>29</sup> This memorandum identified a number of improvements that should help strengthen IT portfolio management and address key issues we have identified. However, we concluded that selected OMB efforts could be strengthened to improve the PortfolioStat initiative and ensure agencies achieve identified cost savings, including addressing issues related to existing CIO authority at federal agencies and publicly reporting on agency-provided data. We recommended, among other things, that OMB require agencies to fully disclose limitations with respect to CIO authority. In addition, we made several recommendations to improve agencies' implementation of PortfolioStat requirements. OMB partially agreed with these recommendations, and responses from 20 of the agencies commenting on the report varied.<sup>30</sup>

We have ongoing work looking at the second iteration of OMB's PortfolioStat initiative, including identifying action items and associated time frames from joint OMB-agency PortfolioStat meetings, determining agencies' progress in addressing these action items, and evaluating the extent to which agencies have realized planned savings.

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In summary, OMB's and agencies' recent efforts have resulted in greater transparency and oversight of federal spending, but continued leadership and attention are necessary to build on the progress that has been made.

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<sup>29</sup>OMB, *Memorandum for the Heads of Executive Departments and Agencies: Fiscal Year 2013 PortfolioStat Guidance: Strengthening Federal IT Portfolio Management*, M-13-09 (Washington, D.C.: Mar. 27, 2013).

<sup>30</sup>Of the 20 agencies commenting on the report, 12 agreed with our recommendations directed to them, 4 disagreed or partially disagreed with our recommendations directed to them, and 4 provided additional clarifying information.

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The expanded use of the common factors critical to the successful management of large-scale IT acquisitions should result in more effective delivery of mission-critical systems. Additionally, federal agencies need to continue to improve the accuracy and availability of information on the Dashboard to provide greater transparency and even more attention to the billions of dollars invested in troubled projects. Further, agencies need to implement incremental development approaches in order to increase the likelihood that major IT investments meet their cost, schedule, and performance goals. Additionally, agencies should conduct additional TechStat reviews to focus management attention on troubled projects and establish clear action items to turn the projects around or terminate them.

The federal government can also build on the progress of agencies' data center closures and reduction of commodity IT. With the possibility of over \$5.8 billion in savings from the data center consolidation and PortfolioStat initiatives, agencies should continue to identify consolidation opportunities in both data centers and commodity IT. In addition, better support for the estimates of cost savings associated with the opportunities identified would increase the likelihood that these savings will be achieved.

Chairman Carper, Ranking Member Coburn, and Members of the Committee, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

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### GAO Contact and Staff Acknowledgments

If you or your staffs have any questions about this testimony, please contact me at (202) 512-9286 or at [pownerd@gao.gov](mailto:pownerd@gao.gov). Individuals who made key contributions to this testimony are Dave Hinchman (Assistant Director), Deborah A. Davis (Assistant Director), Rebecca Eyer, Kaelin Kuhn, Meredith Raymond, Jamelyn Payan, Bradley Roach, Andrew Stavisky, and Kevin Walsh.



**Statement of  
Daniel J. Chenok  
Executive Vice Chair  
Industry Advisory Council  
before the**

**Committee on Homeland Security and Governmental Affairs  
U.S. Senate**

**May 8, 2014**

*Hearing on "Identifying Critical Factors for Success in Information Technology Acquisitions"*

Good morning, Chairman Carper, Ranking Member Coburn, and Members of the Committee.

Thank you for the opportunity to testify before the Committee on how the government can continue its efforts to manage information technology (IT) effectively and efficiently.

I am here in my capacity as the Executive Vice Chair of the Industry Advisory Council (IAC). IAC is an advisory body and the industry partner for the non-profit American Council for Technology (ACT), an organization led by government IT officials and established in 1979. ACT created the Industry Advisory Council in 1989 in order to improve communications and understanding between government and industry. Today, IAC is comprised of nearly 500 private sector firms that provide information resources, management products and services for and with government. Our member firms include hardware manufacturers, software companies, systems integrators, consulting service providers, telecommunications companies and professional services companies; the majority of our members are small businesses. I work for IBM, an IAC member company, and serve there as the Executive Director with the IBM Center for The Business of Government. I have worked previously for two other IAC member companies, Pragmatics and SRA International. However, as stated above, I am here today representing IAC and ACT.

This unique government-industry partnership, collectively referred to as “ACT-IAC”, was created to facilitate the strategic use of technology to improve the business and mission performance in the public sector. ACT-IAC provides services that promote education, communication and collaboration across all levels of government. ACT-IAC brings industry and government executives together to exchange information, support professional development, improve communications and understanding, solve issues, and build partnership and trust, thereby enhancing government’s ability to serve the nation. ACT-IAC provides an objective, vendor-neutral and ethical forum for the study and analysis of public sector management and technology issues, and by providing education and training on best practices to industry and government personnel. ACT-IAC is not an advocacy group, business development organization, or lobby; we are a non-profit whose goal is better government. More information about ACT-IAC is available on our website at [www.actiac.org](http://www.actiac.org).

Before addressing the subject of what government can learn from industry about the effective use of IT to improve performance, I would like to note that I am especially pleased to be appearing before this Committee given a historical connection: in 2001-2002, while still in government as the senior career official for information and IT policy and budget issues with the Office of Management and Budget (OMB) near the end of a 14-year OMB tenure, I spent much time working with Committee staff while coordinating Administration discussions with Congress around the E-Government Act of 2002. And it is an honor to join Karen Evans, with whom I worked at OMB at the beginning of her tenure as Administrator for the Office of E-Government and IT.

#### **Managing Complex Programs that Rely on IT**

As this Committee has highlighted over many years of focus, every Federal agency relies on information technology to provide services to the public and support its operations. The ability to manage these assets effectively and efficiently has a direct impact on agency success.

History tells us that any major program, project, or transformation involving IT brings great potential for positive change and benefits, but also brings risks that the program will not produce

the outcomes envisioned. Such risks can be introduced due to factors that include political pressures, interagency coordination, integration with legacy systems, multiple contractors, new software development, requirements creep, unexpected events.

Over the past several months, ACT-IAC has joined a number of stakeholder groups in a dialogue with OMB and Administration leaders regarding how best to improve the government's capacity to manage IT programs effectively. Accordingly, ACT-IAC has drawn upon many best practices and lessons learned across government and industry, and formulated an initial set of critical success factors for major IT programs. These factors broaden the focus from IT oversight to overall program management, and take into account the policy and political realities within which the Federal government operates. In this model, IT is a strategic centerpiece of a transformation toward the goal of better government.

ACT-IAC has captured these success factors in a Framework that we refer to as "*7-S for Success*" (we are providing the full Framework to the Committee for the record as well). The 7-S Framework evolved through a collaborative process that included both government and industry experts and executives, and reflects lessons learned through a true public-private partnership and real world experience with effective practices from both sectors. The Framework sets forth a set of principles and guidelines to be considered at the outset of any major IT project or program. We believe that the application of this Framework to a major IT program review should reduce risk and increase the likelihood of positive outcomes.

The 7-S Framework does not constitute a checklist for compliance purposes. Rather, it represents a management approach for large transformations, in which each of the seven "S" factors represents a key area of focus, but all of the "S's" enhance the potential for delivering successfully. We strongly believe that successful implementation of major IT programs requires an honest assessment by, and ongoing conversation among, program leadership and stakeholders regarding the health of the program. We also believe that how these leaders and organizations manage change as programs evolve, and support teams and individuals address needed change in a positive way, is a key element of success across the entire Framework. We hope that the 7-S

Framework will help contribute to more consistent, high-quality performance in managing IT programs across government.

Before delving into the elements of the 7-S Framework, I would again note that the Framework reflects is based on ACT-IAC's engagement with members from both the public and private sectors. Our experience indicates that government and industry share many common elements with regard to the implementation of large scale IT systems, as well as important differences. With regard to commonalities, leaders across government and industry recognize the value of information technology, and seek to apply IT to increase effectiveness and efficiency. Both government and industry benefit from many talented people who are committed to doing their best for their organizations. And there are factors that are consistent across large and complex IT programs in both sectors, such as multiple stakeholders, large and organizationally diverse project teams, and the need for agility in implementing technological change.

Managing large IT programs in Government does involve unique elements as well, including:

- Laws and rules that can require significant processes, time, and resources to revise if needed.
- A focus on compliance that can, if not implemented effectively, overwhelm efforts by leaders to view and manage IT as a strategic asset.
- Funding that emanates from a budget process where planning occurs up to 30 months before the money is actually spent on a program or contract.
- Lack of knowledge about how to leverage the acquisition process to facilitate rapid adoption and innovation.
- A comparatively large installed base of legacy systems can require large investments to replace.
- Regular and public attention that can magnify impacts more quickly than is often the case in industry.

Adapting commercial best practice to help improving how Government acquires and manages complex IT programs, through the 7-S Framework or similar approaches, must account for these

kinds of elements in order to succeed in the public sector. Agencies can learn much from industry – the key is how best to adapt these lessons in a government setting.

**Key Success Factors in Reviewing Major Programs that Leverage IT– The “7-S for Success” Framework**

The 7-S Framework addresses two sides of the strategic imperative for IT program management: the political/policy/oversight factors, which can support or sink an initiative from above and thus are grouped under “Managing Up and Out”; and the business/technical factors, which can promote or undermine an initiative from within and thus are grouped under “Managing Across and Down”. It is important to note that these factors do not always fall neatly in one category or the other; for example, the “Managing Up and Out” section discusses how teams will operate and communicate, which is also vital to “Managing Across and Down”.

The seven critical success factors include:

*Managing Up and Out*

1. Stakeholder Commitment and Collaborative Governance
2. Skilled Program Manager and Team
3. Systematic Program Reviews

*Managing Across and Down*

4. Shared Technology and Business Architecture
5. Strategic, Modular, and Outcomes-Focused Acquisition Strategy
6. Software Development that is Agile
7. Security and Performance Testing Throughout

*Managing Up and Out*

1. **Stakeholder Commitment and Collaborative Governance** – Most complex programs involve numerous stakeholders at political, policy, and management levels, and often multiple agencies, contractors, and other non-government constituencies. There should be clear lines of accountability and responsibility among these players, as well as a process that engages key stakeholders. Finally, there should be a shared commitment to the program's success across affected parties.

Establishing a collaborative and accountable governance structure – chaired by a senior official from the lead mission Agency who has access to the Agency head, and includes senior executives from other implementing Agencies and key contractors – incorporates the interests of each stakeholder group. This approach also focuses on each entity's responsibility area and contribution to the larger program goals, and establishes a way to review progress collectively and with accountability for results. Key elements of a collaborative governance process include:

- Ongoing interaction with -- and management of -- key stakeholder relationships, including users, contractors, relevant constituency groups, and oversight organizations like Congress, GAO, OMB, and IGs.
- Effective integration across key functions within the lead agency, including program, budget, contracts, HR, IT, and other relevant offices.
- Understanding of and accounting for political, legal, and policy imperatives that must be addressed.
- Clearly documented roles, responsibilities, and accountability structures.
- Early and ongoing identification of risks and development of mitigation strategies.
- A communications process to ensure that the key players talk to each other about the right issues at the right time, and that business, technical, policy and other changes are well-aligned.

- Key program performance metrics that are incorporated into annual performance plans for stakeholders, to promote shared accountability so that each stakeholder shares equity with the success of the program.
  - An approach that promotes ongoing, honest assessment and supports moving forward from failure to reach overall program success in business scope, technology advancements, and innovative delivery.
  - Sustained leadership commitment, as transformational or complex programs inevitably go through high and low points; key to success is a willingness to accept risks and learn from mistakes, and a continued focus on achieving long-term goals rather than becoming consumed by short-term but addressable problems.
2. **Skilled Program Manager and Team** – There must be an accountable, qualified, and properly positioned senior leader of the program, who reports to a Senior Agency governance leader. This Program Manager (PM) should ideally be highly proficient at technical, business (both government and commercial business processes), organizational, programmatic, and interpersonal levels. The PM could come from the technology, acquisition, or mission organization, so long as the person possesses skills across these areas and operates under a strong governance process. The PM should ensure that a sound Integrated Program Team (IPT) team includes the following elements:
- The PM should be empowered to bring on a strong team of leaders across disciplines who can maximize the likelihood of positive outcomes, and work together to course-correct for problems along the way. It is likely that there will be a hierarchy of teams and competency areas reporting to the PM, since a major program almost always consists of sub-projects that must be managed towards a common outcome.
  - The PM team must also include resources, whether direct report or matrixed, from relevant stakeholder groups, such as IT, policy and regulatory, strategic planning, the user community, acquisition, legal, outreach (public and congressional affairs), finance, and HR; cross-agency teams should include representatives from each agency.
  - The PM should ensure that all of the major program management disciplines -- such as Requirements, Financials, Acquisition, Communications, Risk, Earned Value,

Change, Integration and Release/Testing -- are properly staffed, with ongoing training offered across program areas.

- The PM should ensure that IPT members understand clear responsibilities that are documented, so that everyone knows who is doing what; and help members to approach their role through supporting the team to reach objectives, rather than simply through addressing process and compliance issues.
- Performance metrics for key individuals should include consistent measures related to achieving system and program milestones; this is especially true where a program cuts across organizational lines, so that performance metrics reflect the multi-organizational nature of the activity, rather than affecting only the organization for which the employee works.

3. **Systematic Program Reviews** – In addition to assessing progress against programmatic goals, governance leaders and the PM should ensure that all of the “S factors” are reviewed on a regular basis. As part of these reviews, success should be celebrated and actual or potential problems promptly and openly identified for correction. This will promote timely consideration of whether the program is 1) making progress against program goals, and 2) ensuring that all key “S for Success” factors are in place and working well to minimize risk; performance issues that are not corrected quickly then become accountability issues to be addressed as soon as possible. These reviews must be designed and implemented to ensure the following:

- All major aspects of the program, including IT, policy, acquisition, business process, and regulatory changes, are addressed. These areas should be assessed as part of status updates throughout the overall master cost/schedule/program goals, and should identify any needed risk mitigations along with responsible individuals and needed deadlines.
- Each key stakeholder should provide an update on what they have done since the last review to support the PM and the execution of program objectives. The PM should also make clear to each stakeholder what is needed from him or her between the current and the next review.

- Reviews should include senior representatives from key contractors where appropriate, to ensure unified agreements on status, risks, and necessary actions or changes.
- Reviews should be designed so that the agency can provide periodic program updates to oversight organizations, including Congress, GAO, OMB, and IGs.

*Managing Across and Down*

4. **Shared Technology and Business Architecture** – Major IT programs involve complex interfaces with internal and external users, back-end applications, operational processes, policies, and supporting infrastructure. It is vital that a business and technology architecture guide activities across the team. At a minimum, this architecture should:
  - Set goals for how interfaces and new business processes should work in practice, while remaining flexible enough to encourage changes during development and execution; ideally, a strong Chief Architect, reporting to the PM, would be assigned to this task.
  - Emphasize innovative but proven technologies (e.g., cloud computing, mobile) that preferably have a low threshold for adoption, as well as a strategy for how new technologies and related business processes will be integrated with legacy systems and business processes.
  - Include a focus on security and privacy of information as an integrated element in business process and system development, and not be managed as a separate activity.
5. **Strategic, Modular, and Outcomes-Focused Acquisition Strategy** – The PM must collaborate with the acquisition organization and other stakeholders in the IPT, and then work with the private sector early on, to define a set of strategic requirements, a program management model, and an acquisition strategy that supports the outcome-based goals associated with the program in a best-value approach. Other elements of this strategy include:

- An acquisition process that starts well before contract award (e.g., with market research, requirements identification, and RFIs), and lays out the goals, timelines, source selection and evaluation approaches for key contracts along with a synchronized contract award schedule. Project life cycle milestones should also influence when contracts must be in place; for example, contracts for more complex elements or infrastructure may need to be awarded first.
  - Procurements that have consistent incentives, milestones, and review processes to encourage collaboration toward a mutual objective. Commercial products or services should be acquired where feasible and appropriate, along with a strategy to ensure that they complement the target architecture during integration; commercially available IT and shared services should be preferred over building IT from scratch.
  - Available or potential contract vehicles that are objectively assessed; for existing vehicles, any relevant weaknesses or limitations should be addressed.
  - Clear roles for government and industry partners with specified interface points and information needs, as well as defined acquisition management processes to ensure coordinated, disciplined, and efficient and effective contract oversight.
  - Alignment with a program management plan that provides clear roles and responsibilities, integrates leadership, and manages processes and interactions among key organizations for successful post-contract award management.
  - A strategic funding strategy that is tied to programmatic and acquisition goals and objectives, with a modular approach so that value can be assessed on a regular basis to secure additional funding. This is especially important for contract awards that require funding over multiple budget years, so that funds for those project phases can be built into the budget request for those years.
6. **Software Development that is Agile** – Over the past several years there has been increased interest in a shift away from large-scale and long-term systems development that may take years before the first functionality is available for testing. A more innovative approach is found in agile software development, under which applications are developed in an iterative fashion whenever possible, with small-scale roll-outs, frequent feedback from end users, and communication with program management and governance leaders on changes needed

throughout. This approach reduces risk and increases the chances for program success. We believe it applies to major programs with varied business processes that involve IT applications. Other aspects include:

- Applications that take advantage of open source and reusable code whenever appropriate and cost-effective.
- Incorporation of “Human Design Frameworks” -- which account for how people actually perform their work -- as a component of the Agile model, to ensure that these elements of design are central to development.
- Resource commitments from the end user and customers. Key end users and customers should be embedded in the program team, and be matrixed back to their organization so that daily decisions/tradeoffs on functionality can be made, and that the IT and Program office can get input from the customer and end user as part of those decisions.

7. **Security and Performance Testing Throughout** – Modules should be tested and released in phases throughout design, development, and operations – both for individual components and collective (ultimately end-to-end) system performance. Key elements include:

- Security, privacy and testing objectives and strategies should be established before any development starts, so that these critical components are embedded into the DNA of the program; this should reduce issues during the testing cycle, helping improve speed to effective implementation.
- User acceptance, functional, and load testing must be planned for and implemented at each phase of the program rollout.
- Testing should align with independent validation and verification (IV&V) efforts as appropriate.
- Security testing should occur in parallel with performance testing. Security requirements and testing needs should be included as part of the program processes from inception.

Chairman Carper, Ranking Member Coburn, and Members of the Committee, on behalf of ACT-IAC we appreciate the opportunity to appear today. We believe that the 7-S for Success

Framework sets forth a management approach that can significantly increase the potential for success in major IT programs in the public sector. Thank you.



## **KEY SUCCESS FACTORS FOR MAJOR PROGRAMS THAT LEVERAGE IT**

### ***The “7-S for Success” Framework***

**May 2014**

This document sets forth a framework of critical success factors for large scale government IT projects. ACT-IAC believes that the application of the principles set forth in this framework will reduce risk and increase the likelihood of positive outcomes.

**American Council for Technology-Industry Advisory Council**

The American Council for Technology (ACT) is a 501(c)3 non-profit educational organization established in 1979 to improve government through the efficient and innovative application of information technology. The ACT-IAC mission is to *“facilitate the strategic use of technology to improve the mission of government.”* The organization’s strategic vision is to *“be the most trusted public-private partnership for cultivating a cost-conscious culture of ongoing innovation to improve government.”*

ACT was established by government employees, with the encouragement of OMB and GSA, to provide a forum where Federal, state and local government employees could communicate and collaborate. In 1989 ACT created the Industry Advisory Council (IAC) to provide an objective, ethical and vendor-neutral forum where government executives could communicate and collaborate with their industry peers. IAC has approximately 500 member companies of whom over 70% are small businesses. An Executive Committee of senior government executives establishes the strategic direction for ACT-IAC and ensures the objectivity and integrity of the ACT-IAC forum.

ACT-IAC has been described as *“a model of how government and industry can work together”* by the U.S. House of Representatives, Committee on Governmental Operations, Subcommittee on Governmental Management and Information Technology, in a report titled “Improving Government Performance Through Information Technology” (1998).

**Disclaimer**

The information presented in this document was developed through a collaborative process in which both government and industry executives participated. The views and recommendations contained herein are not intended to represent the views of any specific individual or organization that engaged in this initiative.

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**Further Information**

For further information, contact the American Council for Technology-Industry Advisory Council at (703) 208-4800 or [www.actiac.org](http://www.actiac.org).

**Key success factors for Major Programs that Leverage IT--  
The "7-S for Success" Framework**

Any major program, project, or transformation involving information technology (IT) brings great potential for positive change and benefits, but also risks that the program will not produce the outcomes envisioned. Such risks can be introduced due to political pressures, interagency coordination, integration with legacy systems, multiple contractors, new software development, requirements creep, or unexpected events.

ACT-IAC, an association of leaders in government and industry with significant experience in IT acquisition and management, has drawn upon many lessons learned and formulated an initial set of critical success factors for major IT programs. These factors broaden the focus from IT oversight to overall program management that accounts for policy and political realities. In this model, IT is a strategic centerpiece of any transformation toward the goal of better government.

Over the past several months, ACT-IAC has joined a number of stakeholder groups in a dialogue with OMB and Administration leaders regarding how best to improve the government's capacity to manage IT programs effectively. ACT-IAC recommends the "7-S for Success" Framework as a basis for the path forward, addressing the key success factors described below. Applying the Framework to a major IT program review should reduce risk and increase the likelihood of positive outcomes.

This Framework does not constitute a checklist for compliance purposes. Rather, it represents a management approach for large transformations, in which each "S" represents a key area of focus but all of the "S's" enhance the potential for delivering successful results. These factors should form the basis for an honest assessment by, and ongoing conversation among, program leadership and stakeholders regarding the health of the program. Such an assessment and conversation is reinforced by the fact that how these leaders and organizations manage change as programs evolve, and support teams and individuals address needed change in a positive way, is a key element of success across the entire Framework.

The Framework addresses two sides of the strategic imperative for program management: the political/policy/oversight factors, which can impact an initiative from above and thus are grouped under "Managing Up and Out"; and the business/technical factors, which can impact an initiative from within and thus are grouped under "Managing Across and Down". It is important to note that these factors do not always fall neatly in one category or the other – for example, the "Managing Up and Out" section discusses how teams will operate and communicate, which is also vital to "Managing Across and Down".

**Key Success Factors in Reviewing Major Programs that Leverage IT– The “7-S for Success” Framework**

*Managing Up and Out*

1. Stakeholder Commitment and Collaborative Governance
2. Skilled Program Manager and Team
3. Systematic Program Reviews

*Managing Across and Down*

4. Shared Technology and Business Architecture
5. Strategic, Modular, and Outcomes-Focused Acquisition Strategy
6. Software Development that is Agile
7. Security and Performance Testing Throughout

**Managing Up and Out**

1. **Stakeholder Commitment and Collaborative Governance** – Most complex programs involve numerous stakeholders at political, policy, and management levels, and often multiple agencies, contractors, and other non-government constituencies. There should be clear lines of accountability and responsibility among these players, as well as a process that engages key stakeholders. Finally, there should be a shared commitment to the program’s success across affected parties.

Establishing a collaborative and accountable governance structure – chaired by a senior official from the lead mission agency who has access to the agency head, and including senior executives from other implementing agencies and key contractors – incorporates the interests of each stakeholder group. This approach also focuses on each entity’s responsibility area and contribution to the larger program goals, and establishes a way to review progress collectively and with accountability for results. Key elements of a collaborative governance process include:

- Ongoing interaction with and management of key stakeholder relationships, including contractors, users, relevant stakeholder groups, and oversight organizations such as Congress, GAO, OMB, and IGs.
- Effective integration across key functions within the lead agency, including program, budget, contracts, HR, IT, and other relevant offices.
- Understanding of and accounting for political, legal, and policy imperatives that must be addressed.
- Clearly documented roles, responsibilities, and accountability structures.
- Early and ongoing identification of risks and development of mitigation strategies.

- A communications process to ensure that the key players talk to each other about the right issues at the right time, and that business, technical, policy and other changes are well-aligned.
  - Key program performance metrics incorporated into annual performance plans for stakeholders, to promote shared accountability so that each stakeholder shares equity with the success of the program.
  - An approach that promotes ongoing, honest assessment and supports moving forward from failure to reach overall program success in business scope, technology advancements, and new and innovative delivery approaches.
- ☞ Sustained leadership commitment, as transformational or complex programs inevitably go through high and low points; key to success is a willingness to accept risks and learn from mistakes, and a continued focus on achieving long-term goals rather than becoming consumed by short-term but addressable problems. Other elements of sustained commitment include:
- - Senior management of the involved agencies who work with oversight bodies to secure support for the program in advance, celebrate successes as they occur, and provide early warning about problems along with recommended mitigations.
    - The ability to “step back and refocus” when faced with a major issue, allowing time for the team to regroup and communicate revisions in tactics to key stakeholder groups.
    - Resilience in the face of small surprises that will inevitably occur – and the ability to quickly deal with them in order to make progress over the long term.
    - Leaders who carry through on priorities in an environment where political pressures can turn focus away from achieving strategic program goals, and who understand how new political imperatives can be addressed effectively through changes in program plans.
2. **Skilled Program Manager and Team** – There must be an accountable, qualified, and properly positioned senior leader of the program, who reports to a Senior Agency governance leader. This Program Manager (PM) should ideally be highly proficient at technical, business (both government and commercial business processes), organizational, programmatic, and interpersonal levels. The Program Manager could come from either the technology or mission organization, so long as the person possesses skills in both areas and operates under a strong governance process. The PM should ensure that a sound Integrated Program Team (IPT) team includes the following elements:
- The PM should be empowered to bring on a strong team of leaders across disciplines who can maximize the likelihood of positive outcomes, and work together to course-correct for problems along the way -- it is likely that there will be a hierarchy of teams and competency areas reporting to the Program Manager, since a major program almost always consists of sub-projects that must be managed towards a common outcome.

- The PM team must also include resources, whether direct report or matrixed, from relevant stakeholder groups, such as IT, policy and regulatory, strategic planning, the user community, acquisition, legal, outreach (public and congressional affairs), finance, and HR; cross-agency teams should include representatives from each agency.
  - The PM should ensure that all of the major program management disciplines -- such as Requirements Management, Financial Management, Communications, Risk Management, Earned Value, Change Management, Integration Management and Release/Testing Management -- are properly staffed, with ongoing training offered across program areas.
  - The PM should ensure that IPT members understand clear responsibilities that are documented, so that everyone knows who is doing what; and help members to approach their role through supporting the team to reach objectives, rather than simply through addressing process and compliance issues.
  - Performance metrics for key individuals should include consistent measures related to achieving system and program milestones; this is especially true where a program cuts across organizational lines, so that performance metrics reflect the multi-organizational nature of the activity, rather than affecting only the organization for which the employee works.
3. **Systematic Program Reviews** – In addition to assessing progress against programmatic goals, the Program Manager should ensure that all of the S factors are reviewed by Governance leadership on a regular basis, with success celebrated and actual or potential problems promptly and openly identified for correction. This will promote timely consideration of whether the program is 1) making progress against program goals, and 2) ensuring that all key “S for Success” factors are in place and working well to minimize risk; performance issues that are not corrected quickly then become accountability issues to be addressed ASAP. These reviews must be designed and implemented to ensure the following:
- All aspects of the program, including necessary actions in IT, policy, acquisition, business process, and regulatory changes, are addressed. These areas should be assessed as part of status updates throughout the overall master cost/schedule/program goals, and should identify any needed risk mitigations along with responsible individuals and needed deadlines.
  - Each key stakeholder should brief what they have done since the last review to support the Program Manager and the execution of program objectives, and should also seek out what the Program Manager needs from them between the current and the next review.
  - Reviews should include senior representatives from key contractors where appropriate, to ensure unified agreements on status, risks, and necessary actions or changes.
  - Reviews should be designed so that the agency can provide periodic program updates to oversight organizations, including Congress, GAO, OMB, and IGs.

**Managing Across and Down**

4. **Shared Technology and Business Architecture** – Major IT programs involve complex interfaces with internal and external users, back-end applications, operational processes, policies, and supporting infrastructure. A target business and technology architecture should guide activities across the team, including the following elements:
  - Set goals for how interfaces and new business processes should work in practice, while remaining flexible enough to encourage changes during development and execution; ideally, a strong Chief Architect would be assigned to this task, who reports to the Program Manager.
  - Emphasize innovative but proven technologies (e.g., cloud computing, mobile) that preferably have a low threshold for adoption, as well as a strategy for how newly introduced technologies and related business processes will be integrated with legacy systems and business processes.
  - Include a focus on security and privacy of information as an integrated element, not a separate activity.
  
5. **Strategic, Modular, and Outcomes-Focused Acquisition Strategy** – The Program Manager must work with the acquisition organization and other stakeholders in the IPT, and then work with the private sector early on, to define a set of strategic requirements, a program management model, and an acquisition strategy that supports the outcome-based goals associated with the program in a best-value approach. Other elements of this strategy include:
  - An acquisition process that starts well before contract award (e.g., with market research, requirements identification, RFIs, etc.), and lays out the goals, timelines, source selection and evaluation approaches for key contracts along with a synchronized contract award schedule. The project life cycle milestones should also consider when contracts must be in place; for example, contracts for more complex elements or infrastructure may need to be awarded first.
  - Procurements that have consistent incentives, milestones, and review processes to encourage collaboration toward a mutual objective. Commercial products or services should be acquired where feasible and appropriate, along with a strategy to ensure that they complement the target architecture during integration; commercially available IT and shared services should be preferred over building IT from scratch.
  - Available or potential contract vehicles that are objectively assessed; for existing vehicles, any relevant weaknesses or limitations should be addressed.
  - Clear roles for government and industry partners with specified interface points and information needs, as well as defined acquisition management processes to ensure coordinated, disciplined, and efficient and effective contract oversight.

- Alignment with a program management plan that provides clear roles and responsibilities, integrates leadership, and manages processes and interactions among key organizations for successful post-contract award management.
  - A strategic funding strategy that is tied to programmatic and acquisition goals and strategies, with a modular approach so that value can be assessed on a regular basis to secure additional funding – especially for contract awards that require funding over multiple budget years, ~~when they are that~~ funds for those project phases are built into the budget request for those years.
6. **Software Development that is Agile** – Over the past several years there has been increased interest in a shift away from large-scale and long-term systems development that may take years before the first functionality is available for testing. A more innovative approach is found in agile software development, under which applications are developed in an iterative fashion whenever possible, with small-scale roll-outs, frequent feedback from end users, and communication with program management and governance leaders on changes needed throughout. Other aspects include:
- Applications that take advantage of open source and reusable code whenever appropriate and cost-effective.
  - Incorporation of “Human Design Frameworks” -- which account for how people actually perform their work -- as a component of the Agile model, to ensure that these elements of design are central to development
  - Resource commitments from the end user and customers. Key end users and customers should be embedded in the program team, and be matrixed back to their organization so that daily decisions/tradeoffs on functionality can be made, and that the IT and Program office can get input from the customer and end user as part of those decisions.
7. **Security and Performance Testing throughout** – Modules should be tested and released in phases throughout design, development, and operations – both for individual components and collective (ultimately end-to-end) system performance. Key elements include:
- Security, privacy and testing objectives and strategies should be established before any development starts, so that these key IT components are embedded into the DNA of the program – this should reduce issues during the testing cycle, helping speed to market.
  - User acceptance, functional, and load testing must be planned for and implemented at each phase of the program rollout.
  - Testing should align with independent validation and verification (IV&V) efforts as appropriate.
  - Security testing should occur in parallel with performance testing. Security requirements and testing needs should be included as part of the program processes from inception.

STATEMENT OF  
KAREN S. EVANS  
FORMER ADMINISTRATOR FOR ELECTRONIC GOVERNMENT AND  
INFORMATION TECHNOLOGY  
OFFICE OF MANAGEMENT AND BUDGET  
BEFORE THE  
COMMITTEE ON HOMELAND SECURITY AND GOVERNMENTAL AFFAIRS  
May 8, 2014

Good morning Chairman Carper, Ranking Member Coburn, and Members of the Committee. I am pleased to be invited back to share my views on, "Identifying Critical Factors for Success in Information Technology Acquisitions." My remarks today will describe best practices and success factors for managing information technology (IT) systems that the government can learn from industry.

The federal government will spend over \$80 billion on information technology (IT) this year. Despite guidance and oversight by Congress, General Accountability Office (GAO), and Office of Management and Budget (OMB), Federal IT projects too frequently incur cost overruns and schedule delays, and end-up contributing little to agency mission outcomes. Frequently these failures resulted from well know hazards that experienced practitioners have learned to avoid by adopting specific procedures – best practices – that circumnavigate these pitfalls. Other times the project failure could be traced to someone not doing what they were supposed to do. The technology did not play a trick on them. There was not an unforeseen outside force dooming the project. No, in every case, someone missed their block and let a defender sack the quarterback. The reflexive response is to add another layer of rules to prevent someone from making that bad decision again. This is the wrong way to go, as it adds layer upon layer of bureaucracy that eventually grinds the process to a halt.

One cannot mandate good outcomes, nor can Congress legislate to preclude failure. Rather, the IT acquisition system must foster a culture that allows and tolerates a continuing learning cycle to improve overall performance. Results, whether they are good or bad, provide important feedback that needs to be integrated into the overall management framework. The goal must be to enable success, not to preclude failure.

**Government and Industry – Similar Challenges**

Government and industry face many similar challenges in planning, acquiring, and deploying IT systems. While today's hearing is focused on improving the Federal Government's management of IT by learning best practices from industry, it is worth noting that the private sector does not have a perfect batting average. A 2012 report<sup>1</sup> from the Standish Group International found that 18 percent of private sector IT projects failed. That is, they were either canceled prior to completion, or delivered and never used.

The causes of such failures are not unique to the private sector. Government IT and acquisition professionals face similar issues. This is not meant to excuse the Government's failures, but rather to demonstrate why industry best practices are applicable to the Government. The Standish Group also

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<sup>1</sup>The Standish Group International, Incorporated. Chaos Manifesto. 2013.

reported that the number of software development projects that were completed successfully on time and on budget, with all features and functions as originally specified, rose from 29 percent in 2004 to 39 percent in 2012, a significant improvement. Government should adopt these practices that enabled this success.

**Government and Industry – Different goals lead to different challenges**

The very obvious differences between the goals and priorities of Government and the private sector create different challenges for each. Government and industry have very different time horizons. Businesses focus on short-term results even as they pursue long-term strategies for their organizations; quarterly earnings, next season's fashions, or the new model year. Their long-term strategies are not to develop IT systems – IT is a means to an end, not the end itself. Government, on the other hand, will tolerate a very long time to fruition for a project and chooses to be measured by their level of effort to pursue their mission/program goals – to end homelessness, to cure cancer, to fight poverty. And whereas businesses seek low turn-over in their executive ranks, Government senior leaders are inherently transitory. The Executive Branch compensates for this characteristic with the career Senior Executive Service (SES) managers providing stability and long-term perspective, while supporting short-term objectives for their political leadership's priorities and policy initiatives.

The clear performance indicator of profit and loss makes some aspects of IT management easier in the commercial world. A business only spends money to make more money. So, if an IT project will increase profits, then it gets a green light, and if the project begins to overrun its budget so much that it won't make money, then it is cancelled.

Whereas a business earns money to meet its goals, Government spends money to meet its goals. If an IT system will help accomplish the goal, then money is spent on that IT system. Government employees are often passionate about their agency's mission, and perhaps a little less sensitive to cost overruns than the private sector. As such, OMB and Congress have instituted a regimen of compensating controls – indicators, alarm bells, and processes to alert management if a project is in trouble.

Finally, business has little tolerance for failure – mismanaging a project or selecting the wrong vendor can bring serious financial consequences or even cost a job. Established metrics are closely monitored, especially for high risk, high visibility IT projects.

Conversely, Government leaders pursue very long-term goals, with sometimes ill-defined performance measures, and it is difficult to hold people accountable for their performance. IT Project Managers should be different. These roles have clearly defined competency requirements, and projects have standardized metrics, frequent performance evaluations and feedback. Yet, when a project fails and tens of millions of dollars are wasted, the person who was supposed to prevent that is not held accountable appropriately. Many times, they go on to manage (or mismanage) subsequent projects.

Conversely, PMs viewed as competent are often pulled midstream from a major project to go manage another project midstream. The result is now old project goes of schedule and performance under inferior management.

The Committee should consider whether it would be appropriate for providing incentives for the quality PMs to stay with their major project through successful completion and ensuring PMs

demonstrated from training completed and/or successfully delivering results on smaller scaled projects before managing major large scale IT projects.

Yet, accountability cannot be implemented in a way that creates a culture of fear. If such a culture takes root, IT managers and acquisition professionals will adopt strategies that stifle innovation and become less responsive. They will take steps to try to eliminate risk altogether. Risk cannot be eliminated in any project that has meaning. Rather, risks have to be *reasonably* mitigated and balanced with goals related to cost, timeliness, and effectiveness.

This is a delicate balance. Managers who routinely make bad decisions must be held accountable. But by the same token, they also need to have the ability and authority to exercise good judgment. Only by doing so can IT managers actually achieve positive results.

### **Lessons Learned**

#### **Oversight – Surveillance, not Inspection**

While I was at OMB, one of the statutory roles assigned was oversight and leadership of the Department and Agency Chief Information Officers (CIOs). I can appreciate the balance the Committee must strike in assessing without inhibiting, and the enormous amount of time that adequate and appropriate oversight can absorb.

Like the Committee, we had a small staff, so we needed to be efficient while being effective. I gave my staff an analogy -- they had to be like a teacher -- grading papers but not correcting errors. To do this, we required agencies to submit evidence of having completed a task rather than documentation of the task results -- allowing the staff to perform surveillance rather than inspection. For example, agencies are required to perform a cost-benefit analysis when proposing a new IT system. Rather than having the agency submit the documentation of the cost-benefit analysis, the requirement was for the CIO to affirm that they had performed the analysis and the date. Therefore, during review meetings, questions were posed regarding the decisions made based on the analysis.

In reviewing the House-passed *Federal Information Technology Acquisition Reform Act*<sup>2</sup> (FITARA), I saw several oversight provisions that could create unintended consequences -- burdening the Congress with inspection rather than oversight. For example, requiring the Agencies to submit a report to the House and Senate Oversight Committees is intended to provide information to the Committees, and to force the agency to look at their own data periodically and subsequently manage their projects in the course of preparing that report. Unfortunately, Peter Drucker was right when he said, "What gets measured gets managed." If you ask for reports, you'll get reports -- not necessarily better management. For example, the Federal Information Security Management Act (FISMA) was intended to improve the security of IT systems. The annual reporting process of FISMA created the emergence of a cottage industry to generate these reports but the result was not reduction of risk or improved risk management and security of IT systems. If you ask for a report, the agencies will dutifully comply and provide the reports. And having received the report, if a Committee's prescribed report format does not contain a piece of data necessary to diagnose a problem, the risk has now shifted because the Committee did not identify appropriate data necessary to ensure successful implementation.

<sup>2</sup>H.R.1232 - Federal Information Technology Acquisition Reform Act

Similarly, requiring meetings will yield meetings and not necessarily the outcome you're after. Ideally, you really want agencies to manage themselves to agreed-upon outcomes for programs and projects where oversight as in this Committee can provide a red-light or green-light.

#### **Oversight - Focus Management Attention**

In addition to verifying compliance with statute and policy, the E-Government Act<sup>3</sup> directs the Administrator to help improve the management of IT in the agencies. During my tenure, we published a quarterly list of projects that warranted extra management attention. The Management Watch List included projects which were either not well planned or not being well managed and projects which exhibited unusual risks because of their size or complexity. By distilling volumes of data down to a simple list, agency senior executives, who might not have expertise leveraging IT management tools (*e.g.*, earned value management), would readily know the status of projects in their agency, and could, call our office if they had questions. And we were able to flag suspicious or obviously incorrect data for further investigation of those projects such as no variance in the data – where planned data exactly matched actual data.

As a result of this approach, we saw a 62% improvement in the planning and management of major IT capital investment projects over the six year period during which I served.<sup>4</sup> The oversight has continued in this Administration through their process of TechStat Accountability Sessions (TechStats) and now PortfolioStats. I would note that we released the Management Watch List on a quarterly basis, and I would strongly encourage the Administration to do the same. In particular, relevant data should be updated regularly and that which is related to the Portfolio Stats meetings should be posted on the IT Dashboard.

#### **Oversight – Collaboration**

While we used the Management Watch List to help direct the attention of agency senior executives, that same list of projects informed both GAO and the Agencies' Inspectors General (IGs) of what projects they should focus their attention on as well. Now, with the alignment of high priority goals, cross-agency priority goals, strategic plans, and budgets as required by Government Results and Performance Modernization Act, the GAO and IGs audits and evaluations are focused on the agencies' performance in achieving these aligned goals.

#### **Critical Success Factors**

Numerous books and articles have been written on to improve the management of IT acquisition projects. For example, the Software Engineering Institute has developed their highly regarded Capability Maturity Model Integration (CMMI) program, and GAO has issued numerous reports on IT management practices. Interestingly, most of these reports agree on the essence, if not the details, of requirements for project success. And my experience confirms their conclusions. Below is not a complete list of critical success factors as there are factors ingrained into the agency culture affecting success, but rather the factors that the Committee could easily influence, should it choose to do so.

<sup>3</sup>E-Government Act of 2002, PL107-347

<sup>4</sup> Executive Office of the President. Budget of the United States Government: Analytical Perspectives. Budget Year 2009. Washington, DC. U.S. Government Printing Office, 2008.(Table 9-7).

### 1. Qualified Project Manager

A good Project Manager (PM) is absolutely essential for project success. Indeed, a strong PM can compensate for shortcomings elsewhere, but nothing can compensate for a weak PM. The PM has a multi-faceted job. The PM leads the technical staff, manages financial resources, oversees contracts, and makes hundreds of decisions on priorities and trade-offs.

Industry best practice assigns the CIO the responsibility for supplying trained, certified PM's. The CIO establishes the policies and procedures for managing IT projects, and establishes the standards for certifying PM's as being qualified to manage projects of a certain size or complexity. These certifications attest that the PM has demonstrated a designate scope of knowledge, and had demonstrated success managing programs of a specified size or complexity.

An example is the Project Management Professional (PMP) certification from the Project Management Institute (PMI). Major consulting firms commonly establish their own certifications which build upon the PMP program, adding knowledge of their proprietary tools or methodologies.

The Federal Government followed this industry best practice in establishing the FAC-P/PM certification. This certification was recently updated on December 16, 2013, by Office of Federal Procurement Policy<sup>5</sup>. The FAC-P/PM combines IT project management and Federal contracting to yield an individual with knowledge and experience necessary to manage the entire acquisition life cycle. The FAC-P/PM can be certified at three levels, affirming knowledge and experience at progressively higher levels of accomplishment.

The strength of the FAC-P/PM certification significantly reduces the risk of a project. Conversely, knowing that the PM is not qualified would be reason for concern and extra management attention. Because this information is essential to assess the risks of an IT project, OMB requires Agencies to submit the name and qualifications of the PM for every major project. Unfortunately, this information is not made available on the IT Dashboard, preventing users from assessing the project risk.

### 2. Shortage of Qualified Program Managers

While OMB requires a qualified PM, agencies sometimes do not follow this guidance – assigning instead an unqualified PM. Either the CIO was not consulted on the selection, or they simply couldn't find a qualified PM. The E-Government Act assigns Agency CIOs the responsibility for planning and training their Agency's IT workforce. The Clinger-Cohen Act and the E-Government Act (Section 209) both require an Annual IT Workforce Assessment by the Federal CIO Council under the leadership of OMB and the Office of Personnel Management (OPM). This report has consistently stressed the need for additional training to develop more qualified PMs<sup>6</sup>.

The Committee should consider whether it would be appropriate for Agency CIOs to have additional flexibility to help alleviate the chronic shortage of qualified PMs. Although there are human resources tools available such as direct hiring authority and transfers or details, additionally flexibility may be useful in adjusting existing policies to allow hiring a contractor to be the PM with the authority to direct other contractors.

<sup>5</sup> [http://www.fai.gov/drupal/sites/default/files/FAC%20PPM%20Policy\\_121613.pdf](http://www.fai.gov/drupal/sites/default/files/FAC%20PPM%20Policy_121613.pdf)

<sup>6</sup> [https://cio.gov/wp-content/uploads/downloads/2012/09/2011\\_ITWCA\\_Results\\_Report\\_Final\\_5.31.11.pdf](https://cio.gov/wp-content/uploads/downloads/2012/09/2011_ITWCA_Results_Report_Final_5.31.11.pdf)

### 3. Actively Engaged Project Executive

The other person essential for the success of an IT project is the Project Executive (PE). Assigning a PE to an IT project is an Industry best practice. While the CIO is responsible for providing a qualified PM, the PE represents the organization that will pay for and use the IT system. The PE has two roles: overseeing the PM in all aspects of managing the project, and supporting the PM in interacting with the PE's organization by securing the cooperation and support of the organization.

The government frequently disregards this model because of the appropriations process. The scenario is as follows: The CIO has the responsibility to manage the IT projects. An Assistant Secretary will request funding for a new program which includes the supporting IT systems. The Assistant Secretary wants to ensure "control and accountability" and therefore, appoints a PM, which is usually a member of the program team without the appropriate qualifications or PM certification for the scope and complexity of the project.

The result is certain failure. Not only does the project not have a qualified PM, it also has an ineffective PE who is neither independent nor able to manage the PM. Because the Assistant Secretary has selected the PM – he is conflicted. Congress should consider the requirement that PMs work for the CIO of the organization versus taking all the budget/appropriations authority and giving it to the CIO. In this manner, the Assistant Secretary is still responsible for their portfolio and program outcomes but gains the experience and expertise of the CIO organization for implementation of IT systems.

### 4. Mature Enterprise Architecture (EA)

In the E-Government Act, Congress sought to enable agencies to align internally with the development of their enterprise architecture. Additionally, OMB sought to align the government as whole with the efforts surrounding the development of the Federal Enterprise Architecture (FEA). These initiatives are not to just standardize hardware and software but to share and re-use investments. The issuance of the "Common Approach to Federal Enterprise Architecture," seeks to address the use of EA to "include principles to help agencies eliminate waste and duplication, increase shared services, close performance gaps, and promote engagement among government, industry, and citizens."<sup>7</sup>

By having a mature process involving the development of EA artifacts, the CIO sees the world "as it is" and "how it could be" and should establish the necessary transition plans to accomplish the outcomes necessary to support the agency mission. These artifacts should be used by OMB and Congress in order to ensure the outcomes are understood and adequately resourced. Therefore, departments and agencies should be required to submit as part of the Congressional Budget Justifications the appropriate artifacts to illustrate adequate planning for the "to be" architecture and transition plans that are reflected in their request.

### 5. Requirements Management

From an IT implementation standpoint, IT project failure happens all too frequently. Many speculate after the fact that the failure was due to complexity in the procurement, lack of testing, or lack of

<sup>7</sup> [http://www.whitehouse.gov/sites/default/files/omb/assets/egov\\_docs/common\\_approach\\_to\\_federal\\_ea.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/common_approach_to_federal_ea.pdf)

requirements definition. However, most federal government IT project failures are due to inadequate management decisions.

In private industry, all levels of management are engaged reviewing data such as “earned value management” (EVM) in order to assess the project’s progress. By using such as tool, all levels of management become sensitive to the variances produced by early warning signs of impending schedule delays and cost overruns. This approach also allows individuals outside the project to see a standardized metric describing the cost and schedule performance of that particular project and compare it consistently with other projects. IT projects are particularly good at highlighting management failings because they require coordination between many different parts of the organization.

EVM has evolved from an industrial engineering tool to a government and industry best practice, providing improved information to conduct oversight of acquisition programs. As such, it is guided by industry best practices and standard, and is required by regulations and requirements at the federal government as demonstrated by the TechStats and now the Portfolio Stats sessions with OMB.

#### **6. Public-Private Partnerships**

In order to address actual procurement issues and potential reform, the federal acquisition model needs to truly have a process which allows for shared risk between the government and the contractors supporting them. All too often, when an IT project fails, the contractor states the government failed to provide adequate requirements and the ‘finger pointing’ begins. All levels of both organizations need to be willing to be involved and understand the intricate aspects of management and implementation.

Instead of revisiting the Federal Acquisitions Regulations (FAR) as whole, the public-private model should be re-evaluated allowing new models to be deployed within the federal government. Taking an example from the state governments which is more of a “no-cost model,” it is possible to significantly reduce the risk of the project by having the service provider invest in the large up-front costs of building an IT system and manage the project through the entire life cycle.

In states such as Oklahoma, Arkansas and Montana, online services are delivered at no cost to government agencies through a transaction-based, self-funding model. In this model, the contractor assumes the cost of building and managing services, and then the contractor recoups its investment through modest fees paid by citizens or businesses electing to use the service. This type of performance-based contracting approach ensures the contractor is motivated to quickly deploy service that citizens and businesses want to use. It also shifts financial risks from the government to the private sector.

Currently, the Department of Transportation (DOT) is using this model to provide trucking companies with access to important driver safety data. Since 2009, over 2.5 million driver records have been accessed through a secure online service that costs DOT nothing to build, operate or maintain. It may be possible to apply this model across other federal government agencies.

Similarly, the “share-in-savings” model has the contractor pay for the capital costs of things like energy efficiency projects. After negotiating a baseline, the contractor recoups its investments by sharing in the savings attributable to the reduced energy consumed. Not only does this reduce capital outlays otherwise borne by the taxpayer, it shifts the risk of project failure to the contractor.

Congress has granted certain agencies specific authorities to develop similar public-private partnerships and these should be expanded. The Committee should consider whether to encourage wider use by eliminating hurdles such as cost scoring and budget treatment of such collaborations.

#### **7. Need for Leadership at the Departments and Agencies**

The CIO is the person in the C-Suite who should have the capacity to translate technology issues into business-speak for the other business leaders. The CIO position is currently under scrutiny as the original purpose of the position is not necessarily working as envisioned both in private sector and government. Whether this person is the CIO or the Chief Risk Officer, Chief Innovation Officer, Chief Strategist, or some other “chief,” it is necessary to have a leader who can speak to senior executives in terms that are relevant to them, and can state the potential consequences in terms of political and policy values (*e.g.*, public opinion, impact on promised level of service, unfavorable news stories, decline in earnings per share, etc.). Right now, the CIO is in the unique position to ensure that this happens and needs to provide the leadership in order to avoid the mistakes of the past.

Overall federal CIOs and commercial CIOs are similar---with the same job description: to be the technology savvy member of the executive team, to provide value through innovation, to manage data as a strategic asset, and to lead a team of technologists and enables organizational greatness.

There is a widespread perception that the government is inherently incompetent at implementing IT systems – not just because of the recent high-profile failure, but because that follows a string of high profile failures. However, I’ve also seen lots of IT projects that were tremendously successful – that delivered on time and within budget – that are helping the American Government to serve the American people, and that did not get newspaper stories written about them. So rather than trying to prevent failure, we should promote success by implementing best practices, assigning qualified program managers, and monitoring with accurate metrics. IT is a neutral enabler for program delivery. Good management is nonpartisan, and can support all policies.

Thank you for this opportunity to testify today. I look forward to answering the Committee’s questions.

**The “7-S for Success” Framework:**

*Managing Up and Out*

1. Stakeholder Commitment and Collaborative Governance
- 2 Skilled Program Manager and Team
3. Systematic Program Reviews

*Managing Across and Down*

4. Shared Technology and Business Architecture
5. Strategic, Modular, and Outcomes-Focused Acquisition Strategy
6. Software Development that is Agile
7. Security and Performance Testing Throughout

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**Common IT Investment Acquisition Critical Success Factors**

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1 Program officials were actively engaged with stakeholders

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2 Program staff had the necessary knowledge and skills

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3 Senior department and agency executives supported the programs

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4 End users and stakeholders were involved in the development of requirements

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5 End users participated in testing of system functionality prior to formal end user acceptance testing

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6 Government and contractor staff were consistent and stable

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7 Program staff prioritized requirements

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8 Program officials maintained regular communication with the prime contractor

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9 Programs received sufficient funding

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# **COMPUTER CHAOS:**

**Billions Wasted Buying  
Federal Computer Systems**

**Investigative Report of  
Senator William S. Cohen**

**October 12, 1994**

Ranking Minority Member  
Subcommittee on Oversight of Government Management  
Senate Governmental Affairs Committee

**“The federal government continues to operate old, obsolete computer systems while it has wasted billions of dollars in failed computer modernization efforts. Replacing antiquated computer systems has met with little success because of poor management, inadequate planning, and an acquisition process that is too cumbersome to competitively purchase computer technology before it is obsolete. Efforts by the government to provide greater efficiency and services to the American people will certainly fail unless the process for buying information technology is improved.”**

**Post-Hearing Questions for the Record  
Submitted to The Honorable Daniel Tangherlini  
From Senator Tom Coburn**

**“Identifying Critical Factors for Success in Information Technology Acquisitions”  
May 8, 2014**

- 1) **Are the Information Technology Dashboard ratings for all of GSA’s investment complete and accurate?**

**GSA Response:**

The IT Dashboard ratings for all of GSA's investments are complete and accurate as of April 24, 2014. The next Chief Information Officer rating is scheduled to be updated in June.

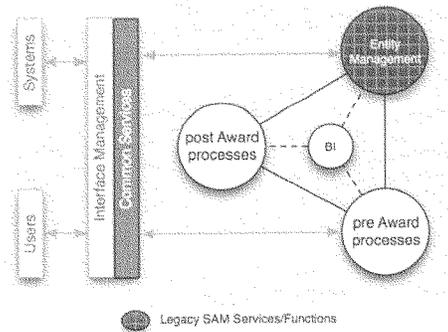
- 2) **One of the TechStat reviews that the Office of Management and Budget conducted last year was on GSA’s Integrated Award Environment.**

- a. **What specific information was provided to OMB to facilitate this review?**

**GSA Response:**

On May 23, 2013, the Office of Management and Budget (OMB) held a TechStat session with GSA to address concerns following the launch of the System for Award Management in July 2012, as well as a technically and fiscally sound path forward for the operation and enhancement of the Integrated Award Environment’s systems (see chart below).

**SAM 3-Core API: Extracting common requirements from existing SAM**



- b. **Who participated in the TechStat?**

**GSA Response:**

The following officials participated in the TechStat session (The titles are appropriate to May 23, 2013):

- Mr. Daniel Tangherlini, GSA Administrator
- Mr. Thomas Sharpe, GSA FAS Commissioner
- Mr. Sonny Hashmi, GSA Deputy CIO
- Ms. Amanda Fredriksen, Acting FAS Assistant Commissioner, Integrated Award Environment.
- Mr. Joseph Jordan, Administrator, Office of Federal Procurement Policy, OMB
- Mr. Steven VanRoekel, Acting Deputy Director for Management, Federal Chief Information Officer, OMB

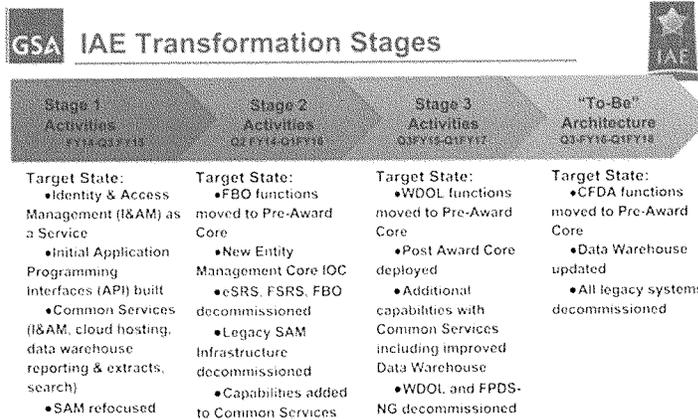
**c. What were the results of the TechStat, including any specific decisions, or action items?**

**GSA Response:**

The results of the May 23, 2013, TechStat session were that:

1. OMB concurred with GSA's approach of a "three-core API" model that will be developed in a modular fashion;
2. GSA developed a project plan, acquisition strategy, and an approach to developing requirements.
3. OMB and GSA agreed on the need to stabilize leadership for the program and move quickly to develop and execute the operational plans needed for SAM."

Below is the overarching project plan provided:



**3) You've talked about the 18F initiative as an innovative way to start to change the way the federal government approaches information technology projects.**

- a. **Besides using the Presidential Innovation Fellows, what specific positions, including job series and salary levels, will be utilized to staff this effort?**

**GSA Response:**

18F has leveraged an "Innovation Specialist" job title at the GS 13, 14, and 15 Levels. Positions include, but are not limited to, designers, developers, product managers, and user experience (UX) professionals. The corresponding occupational series is 0301.

- b. **How is able to hire the talent you need, given that so many agencies say they can't hire adequate information technology-related staff?**

**GSA Response:**

To date, the 18F program has used standard pay schedules and existing hiring authorities to build the team. GSA feels that an attractive mission and work that is highly valued across the organization can be an excellent recruiting tool for talent.

GSA has worked to improve the time to hire for the 18F organization as long hiring times dissuade many highly qualified candidates from taking positions in both the private and public sector. Technical talent does not stay on the market long.

- c. **What specific hiring authorities is GSA able to utilize to get the staff it needs?**

**GSA Response:**

GSA utilizes numerous existing hiring mechanisms to provide its programs with the staff that it needs. Primarily the hiring is done through Schedule A fellowship authorities.

- d. **How many agency "clients" have signed on to this initiative at this point, and what projects will you work on with them?**

**GSA Response:**

Currently, 16 agencies have made serious inquiries with 18F on projects that would benefit from the partnership. 8 of those agencies have either signed, or are in the process of signing, an interagency agreement. 18F is in various stages of business development on 24 projects across those agencies.

- 4) **Besides the 18F initiative, what kind of expertise does GSA have in house to help agencies develop information technology requirements better, not just to contract for them?**

**GSA Response:**

GSA partners with agencies in numerous ways to help Government develop better requirements. We form agency working groups in each of our technology program areas. Working group membership typically consists of 8 to 15 agencies often

represented by acquisition, program, and technical staff. This group provides an ongoing forum for agencies to discuss needs, challenges, best practices, and lessons learned and around a specific type of IT/telecom. For instance, ITS has hosted or currently hosts agency working groups for cloud, satellite, wireless, telecom, mobility, software, identity management, and security. We also work closely with technology-focused industry associations in our research and planning and these discussions often include customer agency participation. These teams not only help GSA develop new government wide solutions but serve as a way for agency staff to receive input from industry experts.

In addition, FAS offers training on requirements development using our contracts, we offer scope reviews, templates and technical expertise. If an agency needs more comprehensive support, the Assisted Acquisition Services (AAS) organization provides expertise to help agencies through value-added, customized, acquisition project management, and financial management services for large and/or complex Information Technology and Professional Services solutions.

**5) What steps need to be taken to improve the capabilities of the Integrated Technology Service specifically?**

**GSA Response:**

The Interagency Strategic Sourcing Leadership Council chaired by OMB has recently designated the GSA as the manager for the pilot information technology category under the new GSA category management approach. GSA is working with OMB to further define the specific role of the category manager but anticipates GSA as the category manager will work to reduce duplication in Federal IT contracts; provide analysis and advice with respect to smarter ways to buy IT; gather and analyze data on IT spending; and lead collaborative efforts across agencies to leverage the Federal government's buying power in IT through ; standardizing terms and conditions across contracts for like items; providing a source of data and analysis on prices paid and spend, reducing total cost of ownership; and leading collaborative efforts across agencies who may be managing subcategories and/or conducting acquisitions for specific kinds of information technology.

Agencies are asking for more technical expertise to help them improve how they buy and implement IT. Emerging technologies such as cloud, mobile, and complex topics such as security and telecommunications are examples where agencies are asking for more help. As we develop the technical expertise we can also do more to help train agency staff in these areas.

Meanwhile, GSA is working to develop a common acquisition platform that is intended to be a critical resource for Federal buyers. It will contain a variety of tools and capabilities including governmentwide information and data on acquisition vehicles to help agencies make better buying decisions, provide access to market-specific (e.g., software, hardware, and telecommunications) intelligence, and prices paid.

In addition to the governmentwide category manager role described above, GSA is also making internal shifts to a category management focus. For ITS, this means creating a strategy and organizing principle around IT markets. This will enable ITS to develop greater subject matter expertise in technology and serve as subject matter and acquisition experts to customers; increase transparency and provide Federal buyers access to purchase and pricing data; building data analysis capabilities for more enhanced decision making; and generate strategies that guide contract development using market drivers and savings levers.

**Post-Hearing Questions for the Record  
Submitted to Steven VanRoekel  
From Senator Tom Coburn**

**“Identifying Critical Factors for Success in Information Technology  
Acquisitions”  
May 8, 2014**

**1. In your view, what are ten highest risk information technology (IT) investments across federal agencies at present, and why?**

We are continuing work to identify the highest impact IT programs in the Federal Government. A program can be called high impact if it is critical to an agency’s mission, is a Federal shared service or has national security impacts. Programs can also be defined as high impact if they are citizen-facing and have a broad public impact, such as SSA’s IT services modernization, which is working to bring more citizen facing services online or the IT systems that support Federal student aid and the census. Each one has varying degrees of risk, thus the Office of Management and Budget (OMB) would not label these as high-risk programs. Instead, recognizing that they are high-impact is important because it is crucial that OMB and the agency with the IT program work collaboratively and engage proactively so that there is accountability, the proper governance is in place, and the agency is responsive to and delivering results to their customers.

**a. What steps are the Office of Management and Budget (OMB) taking, in conjunction with the respective agencies, to help mitigate those risks?**

The agencies running high impact IT programs have the primary responsibility for identifying and mitigating any associated risks. OMB’s role includes oversight (such as using our convening power to connect agencies with best practices) reflecting program needs accurately in the President’s Budget, and understanding the various policy frameworks around these investments to help agencies deliver functionality on time, on budget, and meeting expected needs.

OMB meets regularly with the agencies running these investments and looks for evidence that they are implementing the fundamentals of effective IT program management. To do so, OMB asks questions, such as:

- Is the agency getting feedback from the customers frequently?
- Does the agency have skilled people managing the program and are those people empowered to make decisions?
- Is the agency delivering small capabilities frequently or are they building larger systems?
- Does the agency have security testing early in the development process?
- Is the data open and available to people in the organization or the public?

By working through these and other questions OMB is giving feedback to agencies about how they plan, develop, and maintain their IT programs and what we have seen that was successful at other agencies.

As mentioned in my testimony, OMB is also establishing a centralized digital services capability which will work with agencies on these high-impact IT programs. The team will consist of experts in a number of IT disciplines and will help agencies identify ways to design and deploy citizen-facing services.

- 2. The Chief Information Officer (CIO) ratings on the IT Dashboard show that there are only 42 high-risk major IT projects, out of a total of 760 major projects. Is that number accurate in reflecting the number of high risk investments?**

The CIO rating is one indicator among many used to determine the state of an IT investment. There are many measurable indicators that help OMB and the agencies to gauge the health of an IT investment. The CIO rating is one, budget and schedule performance are others, customer satisfaction is yet another, and so on.

The IT Dashboard currently has 759 major investments. OMB proactively engages the agencies managing the highest impact programs so that we can work with them toward successful delivery. We want to work with agencies up front so that investments do not have unanticipated challenges which impact delivery, as it requires more effort and funding to remediate a program that is off track than it does to keep one on track. The intent is that agencies will learn from this engagement and apply the strategies and techniques that we use on these high-impact programs to a wider variety of programs throughout their organizations. More broadly, OMB will work with agencies in PortfolioStat to ensure that they are running the overall IT program well.

- 3. GAO has reported that several agencies misclassify IT projects as ‘facilities’ or other non-IT investments, thus avoiding having them listed on the IT Dashboard. For example, the Department of Commerce and the Department of Energy removed their satellite and supercomputer investments, respectively, from the Dashboard by reclassifying them as non-IT. Please explain why satellites and supercomputers should not be counted and reported as IT investments on the Dashboard.**

The PortfolioStat Integrated Data Collection Common Definitions, available to all agencies, lists the following definition for IT: –

This term refers to any equipment or interconnected system or subsystem of equipment that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information by an executive agency. IT is related to the terms capital asset, IT investment, program, project, sub-project, service, and system. It also includes computers, ancillary equipment (including imaging peripherals, input, output, and storage devices necessary for security and surveillance), peripheral equipment designed to be controlled by the central processing unit of a computer, software, firmware and similar procedures, services

(including support services), and related resources; but does not include any equipment acquired by a Federal contractor incidental to a Federal contract (40 USC 11101 ); however OMB policy includes in this supercomputers, software for mission systems, telecommunications, and satellite signal processing. OMB recently re-clarified this subsequent to the issuance of the GAO Report to clear up any remaining ambiguity across the USG.

**4. The IT Dashboard lists 42 high-risk major information technology projects. Yet, GAO reports that there were only 2 OMB-led TechStat review sessions in 2013.**

**a. Have the agencies done their own TechStats for each of the 42 high-risk projects on the Dashboard? If so, when were the most recent TechStats completed for each?**

As part of OMB's 25 Point Plan to Improve Federal IT<sup>1</sup>, a template (known as the TechStat toolkit) was created as a way to transition TechStats to agencies. The agencies themselves are much closer to the actual performance of the investments and are better equipped to rapidly take decisive action if necessary.

**b. What specific information do the agencies provide to OMB when they conduct TechStats?**

After an agency performs a TechStat, they provide OMB with the investment title, the date the TechStat was held, the reason for the TechStat, and the primary and secondary outcomes.

**c. What responses or direction does OMB provide to the agencies in response to the TechStat findings? Please provide examples.**

The outcome of TechStat reviews is one of the aspects of performance considered during PortfolioStat sessions. OMB considers the number of TechStat sessions held given the number of major investments, the outcomes of those sessions and how the internal TechStat processes relate to the Investment Review Board (IRB). One way that OMB monitors the use of agencies TechStat processes is through PortfolioStat. In this year's PortfolioStat session with EPA, for example, OMB is highlighting that EPA has not held a TechStat since May 2012 and recommending that EPA should engage struggling projects to identify root problems and implement corrective actions.

**5. OMB's February 2014 Integrated, Efficient, and Effective Uses of Information Technology (IEEUIT) report identified \$312 million in data center cost savings and avoidances for FY 2012 and FY 2013. For that same period, agencies reported to GAO cost savings and avoidances totaling \$1.1 billion.**

<sup>1</sup> <https://cio.gov/wp-content/uploads/downloads/2012/09/25-Point-Implementation-Plan-to-Reform-Federal-IT.pdf>

**a. What accounts for the discrepancy?**

OMB is unable to confirm or validate information provided by agencies to GAO. Our understanding is that the information provided to GAO by agencies includes dated information about planned savings estimates generated at varying points in the past. GAO engagements on data center consolidation, past and present, occur in between agency reporting cycles to OMB and therefore information contained within is only a “point in time” measure. OMB has stated that data center optimization and consolidation, the supporting elements, inventorying agency data center assets, and requiring data center consolidation to be a part of agency Information Resources Management (IRM) Strategic plans and agency enterprise roadmaps, working with agency components and bureaus to optimize and consolidate their data centers consistent PortfolioStat and the FDCCI key performance indicators, is an ongoing, iterative process. OMB works continuously with agencies to gather the most up-to-date information regarding cost savings and avoidances for data center consolidation, as well as other Federal IT Reforms, to report that information in the quarterly Portfolio Integrated Data Collection (IDC). OMB then works to validate that information with agencies and validated information is reported quarterly to Congress via the Information Technology Oversight & Reform (ITOR) Report.

**b. What incentives do agencies need to fully report cost savings and avoidances to OMB?**

Agencies have not reported any need for additional reporting incentives. In fact, OMB has been collecting figures on cost savings and cost avoidance from agencies quarterly as part of the PortfolioStat Integrated Data Collection.

- 6. GAO has identified the following open recommendations from recent reports on federal information technology management. For each of the recommendations listed below, please indicate whether OMB plans to implement the recommendation and the date by which the required actions will be completed. If OMB does not plan to implement the recommendation, please indicate the reason why.**

**a. Information Technology Dashboard:**

**That OMB make accessible regularly updated portions of the public version of the Dashboard (such as CIO ratings) independent of the annual budget process.**

**That OMB analyze agency trends reflected in Dashboard CIO ratings, and present the results of this analysis with the President’s annual budget submission.**

OMB agrees with these recommendations and is working to develop increased capabilities within the IT Dashboard. These capabilities will likely affect how agency IT performance is measured and managed and will provide a new level of

transparency. The modular approach to develop and deliver these capabilities is already underway.

**b. TechStats:**

**That OMB require agencies to conduct TechStats for each IT investment rated with a moderately high- or high-risk CIO rating on the IT Dashboard, unless there is a clear reason for not doing so.**

OMB works on a continual basis with agencies to conduct TechStats, be they led by the agency or by OMB itself. Additionally, as part of the Smarter IT Delivery Initiative, OMB is reshaping the delivery of information technology already underway, as well as introducing new approaches and tools to transform the Government IT landscape. To do this, we are focused on a three-part agenda focused on providing the Federal Government with: (1) the best talent working inside Government; (2) the best companies working with Government; and, (3) the best processes in place.

As part of the last pillar, OMB has evolved PortfolioStat in FY 2014 to not only include driving efficiencies by measuring progress on strengthening IT portfolio management and consolidating commodity IT through the analysis of the IT key performance indicators, but PortfolioStat will also focus on IT effectiveness by identifying and assessing high impact investments. In doing so, PortfolioStat will drive progress on the President's Management Agenda by focusing on having critical IT investments deliver their intended impact while meeting customer needs.

This blended approach applies lessons learned from the TechStat model, which is largely reactive, and applies it in a proactive lens such that the Federal Government deliver important IT investments on cost and on time, with the intended functionality that the customer needs and expects.

**That OMB require agencies to report to OMB on efforts to validate the outcomes, cost savings, and cost avoidances resulting from TechStat sessions; this information should be summarized when OMB reports on government-wide outcomes.**

Where relevant, cost savings from TechStats outcomes are reported to OMB by agencies quarterly via the PortfolioStat Integrated Data Collection (IDC). OMB then works to validate that information with agencies and validated information is reported quarterly to Congress on a quarterly basis via the Information Technology Oversight & Reform (ITOR)<sup>2</sup> Report.

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<sup>2</sup> Previously known as the IEEUIT Report.

c. **Data Centers**

**That OMB ensure that all future revisions to the guidance on data center consolidation inventories and plans are defined in OMB memorandum and posted to the FDCCI public website in a manner consistent with the guidance published in 2010.**

All material related to the FDCCI is available at <https://cio.gov/deliver/data-center-consolidation/>.

**That OMB track and annually report on key data center consolidation performance measures, such as the size of data centers being closed and cost savings to date.**

The size of data centers being closed is available on Data.gov at: <https://explore.data.gov/Federal-Government-Finances-and-Employment/Federal-Data-Center-Consolidation-Initiative-FDCCI/d5wm-4c37>.

Cost savings from data center consolidation, as well activities related to data center consolidation (for example work to optimize servers, networks, or storage) via PortfolioStat, are reported to OMB by agencies quarterly via the PortfolioStat Integrated Data Collection (IDC). OMB then works to validate that information with agencies and validated information is reported quarterly to Congress on a quarterly basis via the Information Technology Oversight & Reform (ITOR) Report.

d. **PortfolioStat**

**That OMB require that agencies (1) state what actions have been taken to ensure the completeness of their commodity IT baseline information and (2) identify any limitation with this information as part of integrated data collection quarterly reporting.**

OMB acknowledges the value in ensuring the completeness, and in understanding the limitations of agency-produced artifacts. However, given the scope of agency data submitted to OMB, OMB must therefore depend on agency processes to produce quality and complete information. It is important to note that the commodity IT baseline was simply one component of the FY 2012 PortfolioStat process, and OMB must prioritize when verifying agency information. OMB will continue to dedicate resources to validating agency savings associated with Federal IT reform efforts prior to presenting these savings to Congress. These reported savings include commodity IT consolidation. This savings data is reported to OMB quarterly through the integrated data collection and agencies should include any possible limitations to its completeness or accuracy in the savings description at time of submission. However, OMB encourages agencies to only report finalized cost savings and avoidance decisions. Where there are

any discrepancies or questions regarding the reported savings, OMB follows up directly with the agency.

Moreover, OMB recognizes that limitations are inherent in all self-reported data. In order to address this issue, last year OMB modified its analytical process to cite these limitations in its PortfolioStat reports. This year, we have further refined our processes to include data quality reports on all data used in the PortfolioStat sessions and by documenting our methodology in all reports and related material given to agencies as part of PortfolioStat.

**That OMB improve the transparency of and accountability for PortfolioStat by publicly disclosing planned and actual data consolidation efforts and related cost savings by agency.**

When PortfolioStat savings are identified, they are validated with agencies and OMB then reports these savings to Congress through the quarterly report on the Information Technology Oversight and Reform (ITOR) fund. OMB is currently working with agencies through the Federal CIO Council on releasing all KPI metrics used in PortfolioStat in FY 2014 as well as the FDCCI optimization KPIs and savings figures that OMB provides in the ITOR report to Congress.

**7. Has OMB ever withheld funding from new programs that aren't adequately implementing incremental development? Please provide specific examples.**

Incremental development practices, which are broadly part of agency software development lifecycle approaches, are one of many components of agency IT budgets which OMB evaluates each year. Budget decisions around IT take into account their incremental development practices as well as a suite of other things agencies need to do in order to deliver capabilities and services to their customers. More importantly, incremental is only one of many software development methodologies. And while recent best practices have shown the value that agile and incremental approaches can bring to delivering a solid product and mitigating risk, the efforts to evolve agency teams, and respective contracts, skillsets and cultures to this approach is a multi-year journey which will evolve over time.

**8. Microsoft stopped providing patches for Windows XP in April. Yet, many federal computers continue to run Windows XP, and may do so for some time.**

**a. Does OMB maintain an awareness of where agencies are in phasing out Windows XP?**

The role of OMB in this area is to set government-wide Federal IT policy, monitor Federal IT budgets, and help coordinate cybersecurity efforts. Each Federal agency CIO is responsible for making sure the breadth of their systems, devices and solutions are up to date and secure, and meet government-wide guidelines. We have been fully aware of the Windows XP issue and have been working with agencies to address it, including updating government-wide

guidance in 2013 to remind agencies focused on migrating away from unsupported or outdated systems. From our dialogues with agencies, including discussions at Federal CIO Council meetings, we have received no indication that agencies require any additional OMB intervention at this time, as they are already working and making progress on addressing the matter. Also, an aspect of the DHS Continuous Diagnostics and Mitigation program is the ability to provide visibility into each agency's performance with respect to legacy operating systems.

**b. What is the status of each agency, and can that be shared with the Committee?**

Agencies have made significant progress in moving off Windows XP and the Federal Government is ahead of the private sector in this regard. There are cases where agencies have made a risk-based decision to continue operating XP, and have put in place contingency plans to ensure that the risks associated with maintaining XP are mitigated.

**c. Last week researchers revealed an exploit that targeted Internet Explorer. What role did OMB play in federal agencies' reactions to that vulnerability?**

When vulnerabilities are discovered, the U.S. –Computer Emergency Readiness Team (CERT) issues an alert to all agencies of the risk and the amount of time an agency should plan in order to test and deploy a change to avoid or mitigate the risk. OMB monitors the agencies when necessary through oversight initiatives such as PortfolioStat and CyberStat. When issues are identified with an agency, OMB conducts a dedicated review with the agency in conjunction with DHS to identify and establish remediation plans.

**d. The U.S. Computer Emergency Readiness Team (US-CERT) recommended users stop using Internet Explorer until it was patched. Did federal agencies follow this advice? How?**

Each agency must consider the risk posed by the software it uses within its organization and make a decision. Consistent with the Federal Information Security Management Act (FISMA), agencies follow the National Institute of Standards and Technology's Risk Management Framework (RMF)<sup>3</sup> to secure Federal systems and data. The RMF instructs agencies to take a comprehensive approach, considering a multitude of factors, including, patch management. Thus, the decision about what software to use within an agency is made by the agency itself. While DHS and OMB may provide guidance, agencies are required to make risk-based decisions, and as long as they are aware of the risks imposed, they can make a decision that meets the agency's needs.

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<sup>3</sup> <http://csrc.nist.gov/publications/nistpubs/800-37-rev1/sp800-37-rev1-final.pdf>

- e. **I understand the Internal Revenue Service and possibly other agencies have made financial arrangements with Microsoft to continue to receive patches and updates for XP. How much overall are federal agencies spending to maintain support of this obsolete operating system?**

OMB does not possess nor has it collected this data.

**Post-Hearing Questions for the Record  
Submitted to Steven L. VanRoekel  
From Senator Claire McCaskill**

**“Identifying Critical Factors for Success in Information Technology  
Acquisition”  
May 8, 2014**

You talked at the hearing about moving federal IT procurement to small, continuous system updates rather than large, systemic overhauls. You made the analogy that, every time someone signs on to Facebook or Amazon, that person is likely looking at a new version of the website even if the person does not realize it. But Facebook and Amazon originally set up systems that were far more advanced than many of the federal government’s legacy IT systems, and therefore easier to update. In some cases the federal government is still looking for an IT solution to a paper-based system like the Office of Personnel Management’s (OPM) federal retiree benefit system.

- 1) **How do you put the government in a position to make those smaller continuous updates when we’ve already fallen so far behind, or, in many cases, have not even transitioned to IT-based solutions?**

Federal agencies have traditionally taken a multi-year “grand design” approach for developing, modernizing, and enhancing investments in IT. This approach is grounded in the common notion that responsible development necessitates a full detailing of requirements before work can start. Although a seemingly reasonable assumption, practical evidence and private sector experience has shown that large and complex IT implementations often encounter cost and schedule overruns, as the painstaking process of requirements gathering too frequently takes years to complete. Subsequently, agencies lose visibility into the performance of these multi-year IT development investments, which affects their ability to implement corrective actions that reduce risk or mitigate financial exposure. The government increases investment risk in these situations because: (1) the IT solutions that had once addressed agency requirements may no longer be pertinent or a priority; (2) substantial funds are allocated towards outdated solutions without any returns on the investments; or (3) agencies encounter budgetary constraints before substantive work is completed.

To help resolve these issues, we released [modular development and contracting guidance](http://www.whitehouse.gov/sites/default/files/omb/procurement/guidance/modular-approaches-for-information-technology.pdf)<sup>4</sup> to improve the development of solutions that can be defined, developed, and deployed within months instead of several years.

In the future, we will also be releasing a “Digital Services Playbook” to share best practices for effective IT service delivery in government. This playbook will build on

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<sup>4</sup> This guidance is available at <http://www.whitehouse.gov/sites/default/files/omb/procurement/guidance/modular-approaches-for-information-technology.pdf>

successes both within and outside government and will guide both technical and business owners within agencies. It will include best practices for building modern solutions across the implementation of the technology, how to measure customer input and manage customer expectations, and how to share solutions across government.

- 2) **Are you aware of any plans by OPM to attempt another transition from its paper-based process for federal retiree benefits to an IT solution? If so, do you know where OPM is in the process? Do you believe that this is something that can be done in smaller pieces to make it more manageable? Is OMB involved in the procurement process at all?**

The Office of Personnel Management (OPM) recognizes the need for urgent action to reduce the retirement backlog and has made substantial progress. As of May 2014, OPM's claims have fallen to below 15,000 -- down from 44,679, as reported in July of 2012<sup>5</sup>. This backlog reduction was accomplished through:

- **Human capital realignment** (adding staff, examining work distribution and utilizing existing staff with greater efficiency);
- **Process improvements** (improving metrics to better capture production efforts, creating performance incentives and employing mitigation strategies for poor performance);
- **Partnering with agencies** (training agencies in efficient file preparation and improving communication through liaison relationships); and
- **IT improvements** (leveraging automation including: empowering retirees to manage their accounts online and automating data collection from payroll providers).

The overarching goal was to shift OPM's efforts away from "paper-pushing" and focus on efficient, timely customer service, aided by automation. As stated in the hearing, OPM is working to put a case management system online by the end of fiscal year 2015. Where possible, OMB supported OPM in this effort by providing information drawn from cross-government and industry best-practices. OMB will continue to support OPM until the backlog is effectively eliminated.

- 3) **Who generally manages major IT acquisition programs? Are they run by the manager in charge of the program or someone with IT expertise?**

All major IT acquisition programs fall under OMB's IT budget guidance requirements for major IT investments (see [FY 2016 IT Budget -- Capital Planning Guidance](#))<sup>6</sup>. Included in this guidance are the Major IT Business Case and Major IT Business Case Details,

<sup>5</sup> Source: [OPM Retirement Processing Status \(PDE file\)](#)

<sup>6</sup> The guidance is available for download at [http://www.whitehouse.gov/sites/default/files/omb/assets/egov\\_docs/fy\\_2016\\_guidance\\_06272014.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/fy_2016_guidance_06272014.pdf)

which are documents intended to provide the budgetary and management information necessary for sound management and governance of IT investments. These documents require agencies to implement IT reforms such as the requirement to establish an Integrated Program/Project Team (IPT) prior to funding an IT investment. The IPT requires a full-time program/project manager and an IT acquisition specialist to be in place for all major IT acquisition programs. The purpose of this requirement is to help those who manage major IT acquisition programs understand the business requirements as well as the technical requirements.

To help strengthen the skills and development of Federal program/project managers, the Federal Acquisition Certification (FAC) for project/program managers was issued in April 2007. This program requires appropriate certification for all acquisition program/project managers, specifies training requirements, and outlines the level of experience required of senior-level program/project managers. Revisions to the [Federal Acquisition Certification](#)<sup>7</sup>, which were issued in December 2013 and became effective March 31, 2014, update the certification program to allow for better management of high-risk programs and added a core-plus specialization certification in the area of IT. This [Information Technology Core-Plus Competency Model](#) identifies the minimum competencies required to specialize as a federally certified program/project manager performing acquisition of IT capital assets. The specialization is based on the technical competencies identified in the 2210 series [Competency Model for IT Program Management](#)<sup>8</sup>, one of the initiatives from the [25 Point Implementation Plan to Reform Federal Information Technology Management](#)<sup>9</sup>.

- 4) Is there a mechanism to ensure that someone with knowledge of IT systems is assisting in drafting the requirements and involved in the test and evaluation phases? If not, how can we ensure that requirements for a procurement and management of the procurement involve personnel that actually understand the technology that we are seeking to procure?**

The successful delivery of IT programs requires business process owners who have a clear vision of the problem they are solving, IT professionals who understand the full range of technical solutions, and acquisition professionals who plan and procure the needed labor and materials.

To ensure that teams with the appropriate expertise are involved in procuring IT systems, OMB issued guidance requiring an Integrated Program/Project Team led by a dedicated, full-time program manager and supported by an IT acquisition specialist, to be in place for all major IT programs. To fulfill this requirement, agencies have been mandated to

<sup>7</sup> Memo available at <http://www.whitehouse.gov/sites/default/files/omb/procurement/memo/fac-ppm-revised-dec-2013.pdf>

<sup>8</sup> Available at <http://www.chcoc.gov/transmittals/TransmittalDetails.aspx?TransmittalID=4058>

<sup>9</sup> The plan is available at <https://cio.gov/wp-content/uploads/downloads/2012/09/25-Point-Implementation-Plan-to-Reform-Federal-IT.pdf>

provide the names and contact information for Integrated Program Teams members for all major IT investments as part of its OMB Circular A-11 Major IT Business Case<sup>10</sup> (formerly Exhibit 300) submissions since FY 2013. The Integrated Project/Program teams should consist of an IT Project or Program Manager (PM), business process owner/Subject Matter Expert (SME), Contracting Specialist, IT Specialist and IT Security Specialist.

**5) How do you ensure that this is a priority for agencies, and that agencies continue to fund small scale IT updates even though the benefits are hard to measure and demonstrate?**

As part of the annual budget process, OMB works with agencies to assess how they plan, acquire, architect, build, develop and operate IT systems, including “small scale” IT updates. In recent years, OMB has issued annual guidance which requires the delivery of IT functionality at intervals no more than six months<sup>11</sup>, which enables the proper discussion over the benefits of planned functionality and any associated return on investment.

**6) What can Congress do to focus senior executives on the types of continuous IT updates so that we don't find ourselves in situations where large-scale overhaul projects become necessary? Are there incentives that can be put in place to ensure that this occurs?**

The most important thing is for both the Executive and Legislative Branches to acknowledge and amplify the importance of technology as a strategic asset to Government operations. In the past, an agency or institution could decide whether or not it wanted to use technology to create a capability. Today, the landscape has changed, and technology is the foundation for the vast majority of everything we do in the world. The rate of the change in technology, generally speaking, evolves more quickly than other fields. As a result, there is a constant and urgent need to get the best people, best companies and best processes (as our Smarter IT Delivery effort is doing) to design and deploy technology that is responsive to customer needs in Government. These things are needed in every agency, no matter the mission, no matter the program, no matter the size.

That being said, there are some general tenets that senior executives can keep in mind as they work with their Department CIOs to avoid challenges with large-scale projects:

**Governance** – As OMB M-13-09 (FY 13 PortfolioStat) states, “IT solutions are most effective when they result from a strong partnership between program and mission officials and empowered CIOs. Program and mission officials are responsible for understanding customer needs and establishing business requirements. Agency CIOs must support mission programs by providing secure and effective commodity IT and

<sup>10</sup> The Major IT Business Case guidance starts on page 21 of the FY 2016 Guidance available at [http://www.whitehouse.gov/sites/default/files/omb/assets/egov\\_docs/fy\\_2016\\_guidance.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/fy_2016_guidance.pdf)

<sup>11</sup> [http://www.whitehouse.gov/sites/default/files/omb/assets/egov\\_docs/fy\\_2016\\_guidance\\_06272014.pdf](http://www.whitehouse.gov/sites/default/files/omb/assets/egov_docs/fy_2016_guidance_06272014.pdf)

business systems that take enterprise needs into account.” Further, PortfolioStat and TechStats have demonstrated challenges with large scale technology deployment that are rarely technology issues alone. In order for any technology deployment to work, there must be an integrated program team composed of technology, program and mission, acquisition, legal, regulatory (if necessary) and human capital offices which constantly work to ensure that the technology deployment is responsive to the intended customer and responsible to the interests of vested stakeholders. Agencies should seek to ensure their Department-level as well as bureau investment review boards include accountable officials across their agency in these roles, which review the cost, schedule, performance and effectiveness of the agency’s IT portfolio on a continual basis.

**Investment Focus** – For too long, the Federal Government has viewed IT merely as a cost, not as a strategic asset. Further, budget processes have de-emphasized the role IT played, and looked to IT cuts as an easy way to reduce agency expenditures. But as the private-sector has demonstrated, and as we are beginning to do in government, the strategic use of IT provides a competitive advantage by improving delivery of services, creating value, and optimizing operations. The Federal Government must further its efforts in applying the same rigor to IT. This means developing and using valuation models that drive return-on-investment and applying accounting concepts like depreciation and amortization to inform and optimize technology refresh cycles. CIOs must be investment owners, empowered to make business-focused, value-based decisions.

**Innovate with Less** – It is important we view our current fiscal situation as an opportunity to fundamentally rethink how we approach technology. Consider, for example, the fact that more than half of the Fortune 500 companies were founded during an economic downturn.<sup>12</sup> In tough times, visionaries and risk-takers tap into underutilized human capital, technology, information, and other resources, picking up the pieces to transform them into something completely new. By making use of lightweight, emerging technologies, opening our data to leverage an army of citizen developers, and adopting agile methodologies, we can increase the quality of service while curbing costs – in effect, we can innovate with less.

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<sup>12</sup> <http://www.economist.com/node/21542390>

Post-Hearing Questions for the Record  
Submitted to David Powner  
From Senator Tom Coburn

“Identifying Critical Factors for Success in Information Technology Acquisitions”  
May 8, 2014

1. **GAO has recommended that the Office of Management and Budget (OMB) implement mandatory, standardized, initiative-wide cost-savings metrics for the Federal Data Center Consolidation Initiative (FDCCI). Does OMB’s FY 2014 PortfolioStat guidance (or any previous guidance) implement this recommendation? If not, has OMB provided you with an explanation?**

OMB has not yet developed and implemented metrics to track and report on agencies’ progress in achieving cost savings, as we have previously recommended. OMB’s fiscal year 2014 PortfolioStat guidance<sup>1</sup> contains a set of data center performance metrics, but these measures do not address savings.

In 2013, we reported<sup>2</sup> that OMB had not determined a consistent and repeatable method for tracking consolidation cost savings and subsequently recommended that it track and annually report on key data center consolidation performance measures, such as cost savings to date. OMB concurred with this recommendation. However, these new metrics, consistent with OMB’s fiscal year 2013 PortfolioStat guidance<sup>3</sup> and statements from OMB staff from the Office of E-Government and Information Technology, focus on measuring data center optimization rather than consolidation savings. Specifically, OMB’s fiscal year 2013 guidance states that, to more effectively measure the efficiency of an agency’s data center assets, agencies would be measured by the extent to which their data centers are optimized for total cost of ownership by incorporating metrics for data center energy, facility, labor, storage, virtualization, and cost per operating system.

While we have not yet discussed the May 2014 metrics with OMB, in 2013 OMB staff told us that while OMB recognized the importance of tracking cost savings and was working to identify a consistent and repeatable method for tracking cost savings, there was no time frame for when this would occur. We have ongoing work for this committee evaluating the extent to which agencies have achieved planned cost savings through their consolidation efforts and identifying agencies’ notable consolidation successes and challenges. We expect to issue our report this fall.

2. **GAO has repeatedly recommended that OMB clarify guidance on what projects should be included on the Information Technology Dashboard. Does OMB’s FY 2014 PortfolioStat guidance (or any previous guidance) implement this recommendation? Please explain why clearer guidance is necessary.**

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<sup>1</sup>OMB, *Fiscal Year 2014 PortfolioStat*, Memorandum M-14-08 (Washington, D.C.: May 7, 2014).

<sup>2</sup>*Data Center Consolidation: Strengthened Oversight Needed to Achieve Cost Savings Goal*, GAO-13-378 (Washington, D.C.: Apr. 23, 2013)

<sup>3</sup>OMB, *Fiscal Year 2013 PortfolioStat Guidance: Strengthening Federal IT Portfolio Management*, Memorandum M-13-09 (Washington, D.C.: Mar. 27, 2013).

OMB's fiscal year 2014 PortfolioStat guidance<sup>4</sup> does not clarify what should be included on the IT Dashboard. The Dashboard serves an important role in allowing OMB and other oversight bodies to hold agencies accountable for results and performance. For example, OMB uses CIO ratings from the Dashboard, among other sources, to select at-risk investments for reviews known as TechStats.<sup>5</sup> However, while a May 2014 addendum to OMB's fiscal year 2016 IT Budget Guidance<sup>6</sup> does note that OMB policy on IT includes "supercomputers, software for mission systems, telecommunications, and satellite signal processing," a lack of transparent reporting by agencies increases the risk of OMB not being able to fulfill its oversight responsibilities.

Through a series of reports on this subject, we have highlighted deficiencies with agencies' identification of investments for inclusion on this important transparency tool. In September 2011, we reviewed OMB's guidance to agencies for reporting their IT investments and found that this guidance did not ensure complete reporting.<sup>7</sup> Specifically, we found that OMB's definition of an IT investment was broad, and that the 10 agencies we evaluated differed on what systems they included as IT investments. Consequently, we recommended that OMB clarify its guidance on reporting IT investments to specify whether certain types of systems—such as space systems—were to be included. OMB did not agree that further efforts were needed to clarify reporting in regard to the types of systems. Two years later, in December 2013, we found that agencies had removed investments from the Dashboard by reclassifying their investments.<sup>8</sup> Specifically, the Department of Energy reclassified several of its supercomputer investments from IT to facilities and the Department of Commerce decided to similarly reclassify its satellite ground system investments. We noted that these recategorizations run contrary to the Clinger-Cohen Act of 1996,<sup>9</sup> but a staff member from the Office of E-Government stated that OMB could not stop agencies from making such recategorizations and that OMB had no control over such decisions. Among other things, we recommended that agencies appropriately categorize IT investments. OMB neither agreed nor disagreed with this recommendation.

In the absence of clear guidance from OMB and absent oversight efforts to ensure that agencies are transparently reporting the performance of all their IT investments, there will continue to be a risk of insufficient IT investment oversight, of agencies making inefficient and ineffective investment decisions, and of Congress and the public being misinformed regarding the performance of federal IT investments.

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<sup>4</sup>OMB, M-14-08.

<sup>5</sup>TechStat sessions are face-to-face meetings to terminate, halt, or turnaround IT investments that are failing or are not producing results.

<sup>6</sup>OMB, *FY16 IT Budget - Capital Planning Guidance* (May 23, 2014).

<sup>7</sup>GAO, *Information Technology: OMB Needs to Improve Its Guidance on IT Investments*, GAO-11-826 (Washington, D.C.: Sept. 29, 2011).

<sup>8</sup>GAO, *IT Dashboard: Agencies Are Managing Investment Risk, but Related Ratings Need to Be More Accurate and Available*, GAO-14-64 (Washington, D.C.: Dec. 12, 2013).

<sup>9</sup>Clinger-Cohen Act of 1996 (40 U.S.C. § 11101(6)).