REVIEWING CHALLENGES IN FEDERAL IT ACQUISITION

JOINT HEARING

BEFORE THE

SUBCOMMITTEE ON
INFORMATION TECHNOLOGY

AND THE

SUBCOMMITTEE ON
GOVERNMENT OPERATIONS

OF THE

COMMITTEE ON OVERSIGHT
AND GOVERNMENT REFORM
HOUSE OF REPRESENTATIVES

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REVIEWING CHALLENGES IN FEDERAL IT ACQUISITION

Tuesday, March 28, 2017

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON INFORMATION TECHNOLOGY, JOINT
WITH THE SUBCOMMITTEE ON GOVERNMENT OPERATIONS,
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM,
Washington, D.C.

The subcommittees met, pursuant to call, at 2:04 p.m., in Room 2154, Rayburn House Office Building, Hon. Will Hurd [chairman of the Subcommittee on Information Technology] presiding.

Present from Subcommittee on Information Technology: Representatives Hurd, Issa, Russell, Kelly, Connolly, and Krishnamoorthi.

Present from Subcommittee on Government Operations: Representatives Meadows, Blum, Hice and Connolly.

Mr. HURD. The Subcommittee on Information Technology and the Subcommittee on Government Operations will come to order. And without objection, the chair is authorized to declare a recess at any time.

We are expecting a vote series at three o'clock, so we will get through as much as we can in this hour.

I want to say, first off, good afternoon and welcome. This is the first IT Subcommittee of the 115th Congress. I am pleased to have my friend and colleague Robin Kelly at my side once again as the ranking member.

In the 114th Congress, the subcommittee held hearings on a wide variety of technology issues, including encryption, cloud computing, health IT, the Federal IT workforce, and the cybersecurity of our election systems, among many others. We worked to establish a tone and a culture of bipartisanship on the subcommittee, and I am excited to work with the ranking member on a host of additional issues this Congress.

This is also the first of what I am sure will be many joint subcommittee hearings between the IT Subcommittee and the Subcommittee on Government Operations. I have appreciated working with the Government Operations Subcommittee, Mr. Meadows and Mr. Connolly on the FITARA scorecard and the DATA Act and on numerous other issues.

Reforming our outdated acquisition laws and regulations to reflect the realities of commerce in the digital age is a priority for this subcommittee this Congress. Today's hearing will set the foundation for additional, more targeted oversight. It is time that we

align the best practices of industry with the Federal Government when it comes to IT acquisition and deployment.

The stated purpose of the Federal acquisition system is to, and I quote, "to provide the Federal Government with an economical and efficient system," end quote, to procure goods and services. Today, the complexity of the Federal acquisition system fails to meet this objective.

Some examples: As of July 2014, the Federal Acquisition Regulation, or FAR, had over 2,000 pages. In addition to the FAR, individual agencies have supplemental acquisition regulations, guidance, instructions, and policy directives. For example, GSA has the GSAM, GSA acquisition manual; and DOD has Instruction 5000 on operation of the Defense Acquisition System. And there have been multiple executive orders imposing additional requirements on the private sector, further increasing compliance costs. It is no wonder that the number of first-time Federal vendors has fallen to a 10-year low down from 24 percent in 2007 to only 13 percent in 2016.

And penalties for even inadvertent violations of this morass of red tape can be steep, including audits, lawsuits, multimillion-dollar settlements, inspector general investigations, and bad publicity. Companies of any size who may initially have an idea or product of use to the Federal Government get discouraged trying to navigate the red tape and direct their energies elsewhere. Startups often don't even try. They can't afford the lawyers.

These inefficiencies are costly to American taxpayers and prevent innovative technology from being property utilized in the Federal Government. Yet with great challenges come great opportunities. Reforming our acquisition system so that the Federal Government can properly adopt a buy, not built, approach will result in cost savings, technological advancement, and improved security for our Federal systems.

I thank the witnesses for joining us here today, and I look forward to their testimony.

Mr. HURD. I would like to now recognize Ms. Kelly, the ranking member of the Subcommittee on Information Technology, from the great State of Illinois for her opening statement.

Ms. KELLY. Thank you, Mr. Chairman. And I look forward to another two years of great productivity from our very bipartisan committee. And thank you, Chairman Meadows and Ranking Member Connolly, for your continued leadership and partnership as our subcommittees continue working together to improve how Federal agencies manage their information technology projects.

The Government Accountability Office's 2017 high-risk report makes clear the continued challenges agencies are facing when managing their IT acquisitions. GAO states, and I quote, "Federal IT investments too frequently fail or incur cost overruns and schedule slippages while contributing little to mission-related outcomes." GAO's report highlights the need for President Trump's administration to strengthen, not hinder, IT acquisition reform.

The President's action and inaction in certain key areas is likely to have the opposite effect and threaten to undermine agency efforts to improve in their management of IT investments. First, on January 23rd, 2017, President Trump issued an order freezing Federal employee hiring. GAO has reported in the past that hiring

freezes have, and I quote, "disrupted agency operations and in some cases increased cost to the government." A hiring freeze impairs the ability of agencies to attract new and talented computer programmers and engineers that could help close any of the skill gaps currently existing at the agencies. It will likely exacerbate rather than remedy the challenges agencies report facing when it comes to hiring the most skilled tech-savvy workforce, making these agencies not only less productive but less effective.

Second, the President's continued delay in filling key IT leadership positions deprives the government of the leadership commitment needed to carry out IT acquisition reform. Notably, to date the President has not named a new Federal chief information officer to replace Tony Scott, who departed from the position earlier this year. As GAO's high-risk report makes clear, having a Federal CIO in place is critical to ensuring that agencies are being provided the necessary guidance to improve in their management of IT investments.

Nor has the President nominated a director of the Office of Personnel Management, an agency that plays a critical role in securing highly sensitive information and background data on over two million Federal employees. Last month, this committee sent a bipartisan letter to the President urging him to, and I quote, "nominate without delay a highly qualified director to lead the Office of Personnel Management." To date, the President has not acted in response to this committee's request.

Finally, it is unclear whether the Trump administration will follow through with issuing critical guidance that would assist agencies in improving the scope of cybersecurity protections in Federal acquisitions. This guidance was first developed under the Obama administration and reportedly close to being finalized by the Office of Management and Budget last year. Earlier today, myself along with Chairman Hurd and Ranking Member Connolly, wrote to OMB to request information on the status of issuing this important guidance. We look forward to receiving OMB's response.

I want to thank the witnesses for testifying today. We have a lot of work ahead to improve upon our Federal IT acquisition processes. Your expertise and recommendations will be invaluable to our committee as we examine ways in which to help the Federal Government improve in its management of IT acquisitions and operations. Thank you much, Mr. Chair.

Mr. HURD. Thank you. I now recognize Mr. Hice, the vice chairman of the Subcommittee on Government Operations, for his opening statements.

Mr. HICE. Thank you very much, Mr. Chairman. It is an honor to be here with you and with Ranking Member Ms. Kelly and Mr. Connolly, ranking member of the Government Operations Subcommittee.

This whole issue of Federal acquisition system is complicated, slow to deliver, does not encourage innovation. I have got a quote here that I would like to read. It says, "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 acquisi-

tion process that is too cumbersome to competitively purchase computer technology before it is obsolete. Efforts by the government to provide greater efficiency and service to the American people will certainly fail unless the process for buying information technology is improved."

Now, any of us could probably take a stab at who made that statement. It certainly applies incredibly to our situation today, but that is a quote from 1994, a report by then-Senator Cohen called "Computer Chaos: Billions Wasted Buying Federal Computer Systems." This state of affairs has led to what is widely known as the Clinger-Cohen Act of 1996 to improve the way the government bought IT. There certainly has been progress since 1996, but today, we face similar challenges in the IT acquisition process.

Large Federal Government IT investments can take years to execute while private sector rewards speed and innovation. William Lynn, former DOD Deputy Secretary, estimated that the Pentagon can take 81 months to develop and make operational a new computer system once it was funded while the iPhone was developed in just 24 months. It is amazing.

The failure to deliver innovation in a timely manner cannot continue. The failure to encourage innovation puts our country at risk in a variety of ways and particularly so in securing our Federal IT systems. We spend over $80 billion annually on IT, but 75 percent of this spending is for legacy IT. This just can't continue. Failure to modernize Federal IT means that we will continue to spend more on outdated IT, and our Federal IT will be subject to security vulnerabilities.

This committee has spent significant time making sure that agencies implement the Federal IT Acquisition Reform Act, FITARA, because it does empower agency CIOs to make them more accountable for budget and acquisition decisions. FITARA implementation is a big part of IT acquisition reform, but it will not fix all things wrong with the Federal acquisition system.

And that is why I am pleased, Mr. Chairman, to be here today and to hear more from our experts about IT acquisition challenges that they see and what Congress can do to improve the situation. I thank each of our witnesses for being here with us today. I look forward to hearing from you.

And with that, Mr. Chairman, I yield.

Mr. HURD. Thank you. I would now like to thank again the witnesses for being here. And I am going to hold the record open for five legislative days for any members who would like to submit a written statement.

And I would also like to thank the panelists. This was a rescheduled hearing, and I know, Ms. Lee, you flew up from South Carolina to be here and the meeting didn't happen, but thank you for being here again.

I would now recognize our panel of witnesses. And when Gerry Connolly gets here, we will let him do his opening remarks.

One of my favorite witnesses—I know I am not supposed to have favorites—but David Powner, director for IT Management Issues at the U.S. Government Accountability Office. Thanks for your leadership at GAO and all that you do.

Another person that is not a stranger to this committee, Richard Spires, chief executive officer and director at Learning Tree International, Incorporated; and former CIO for the IRS and Department of Homeland Security.

Mr. Venkatapathi Puvvada, or P.V., is the president of Unisys Federal Systems. He also currently served on the Board of Directors of the Professional Services Council. Thank you for being here.

Trey Hodgkins, III, another repeat offender, senior vice president for the Information Technology Alliance for Public Sector, ITAPS, which is part of the Information Technology Industry Council.

And last but not least, Ms. Deidre "Dee" Lee, director of IT Management Issues and the chair of the Section 809 Panel. Previously, Ms. Lee was also a senior procurement official at NASA, DOD, and DHS.

Welcome to you all. And pursuant to committee rules, all witnesses will be sworn in before they testify. So please rise and raise your right hand.

[Witnesses sworn.]

Mr. HURD. Thank you. Please be seated.

And let the record reflect that the witnesses answered in the affirmative.

In order to allow for discussion, we would appreciate if you would please limit your opening testimony to five minutes, and your entire written statement will be made part of the record.

We will go ahead and go with Mr. Powner and then maybe to Mr. Connolly. Oh, you want to go now. You ready?

Mr. CONNOLLY. Whatever the pleasure of the chairman.

Mr. HURD. Well, let's go to Mr. Connolly then. Mr. Connolly, you are now recognized for your opening five minutes before we turn the show over to Mr. Powner.

Mr. CONNOLLY. Thank you, Mr. Chairman. And I am sorry I was delayed. I am meeting with a huge number of constituents from APEC. You probably are both experiencing the same. And it just went over. So I am so sorry.

Welcome to our panel. And thank you, Mr. Chairman and Ranking Member Kelly and my counterpart Mr. Meadows and good friend, for holding a hearing to examine the challenges we face with respect to IT acquisitions.

As I have pointed out before, the Federal Government lags behind the private sector in many if not most aspects of IT modernization and the management of IT investments. As the ranking member on Government Ops here in this committee, I have worked to introduce and pass several types of legislation aimed directly at trying to address those shortcomings, most notably, of course, FITARA, or as it is commonly called, Issa-Connolly.

[Laughter.]

Mr. CONNOLLY. Connolly-Issa even has a better ring, but I am not going there. That is for you to say, Mr. Powner, not for me.

Since the passage of FITARA, our subcommittees have issued three biannual scorecards to ensure that it is properly implemented. As I firmly believe, this legislation will provide agencies with greater support for making the necessary improvements in how they buy and deploy technology. It is rather unfortunate that instead of providing agencies with additional tools to strengthen

their management of IT acquisitions, we have a hiring freeze now that would make I think it more difficult for agencies to improve in this area.

A talented and highly skilled Federal workforce is needed to tackle the difficult challenge of modernizing Federal IT, and there is a skillset that goes along with that. A hiring freeze does nothing but I think damage agencies in their efforts to recruit and retain individuals with the knowledge, skills, and experience to manage many of today's IT investments. When even the private sector reports facing a critical challenge in hiring qualified IT personnel and cybersecurity professionals, it is difficult to see how a hiring freeze works to our advantage at least in this realm.

The irony is the hiring freeze comes at a time when the White House announced just yesterday the creation of a new office, the White House Office of American Innovation. According to the Washington Post, one of the key areas that new office would be responsible for handling would be, and I quote, "modernizing the technology and data infrastructure of every Federal department and agency," something this committee and these two subcommittees have been preoccupied with for quite some time.

And, by the way, we welcome that. I mean, that would be great. And if it is Jared Kushner and we can sit down with him and talk about our goals and his goals, I think there is a real opportunity for bipartisan common ground as we have achieved here in this committee.

In 1982 the GAO determined that Federal hiring freezes instituted by former Presidents Carter and Reagan were not particularly effective and tended to disrupt agency operations and in some cases even increase cost to government.

So we need to be careful. We need to make selective exceptions if we are going to have an across-the-board hiring freeze. And I think IT management and procurement and acquisition is one of them. It is a skillset that is badly needed, and we need to be frankly bulking up with both the modernization of IT management and procurement and on the cybersecurity front.

So I look forward to hearing from our witnesses today, glad to be back with my partners, Mr. Meadows, Mr. Hurd, and Ms. Kelly, and look forward to your testimony. Thank you, Mr. Chairman.

Mr. HURD. Thank you, Mr. Connolly.

Now, I would like to recognize Mr. Powner for his five-minute opening statement.

WITNESS STATEMENTS

STATEMENT OF DAVID A. POWNER

Mr. POWNER. Chairman Hurd, Chairman Meadows, Ranking Members Kelly and Connolly, and members of the subcommittees, thank you for inviting us to testify on Federal IT acquisitions.

Failed acquisitions are well documented over the years, and the reasons are clear: unclear accountability, big-bang waterfall approaches, OMB not playing a critical role, agencies' insufficient oversight, and the government's inability to effectively leverage industry.

This afternoon, I'd like to discuss practical solutions to each of these areas, many of which are grounded in FITARA. I'd like to start by focusing on a recent IT acquisition success story with the November launch of NOAA's geostationary satellite. Despite some cost overruns and launch delays, this weather satellite is providing images and information that will greatly enhance our nation's weather warnings.

I'd like to note that most IT acquisitions do not have this level of complexity and that the Federal Government needs to build off of modernization efforts like this starting with accountability and authorities. In the latest FITARA self-assessments, more than half of the 24 CIOs reported that they do not have complete authority over IT acquisitions. This includes large departments like DHS, Energy, HHS, Transportation, and VA.

Only about one-third of the CIOs told us during our ongoing work for this committee that they have the authority to stop any project that is not going well. FITARA has clearly raised the profiles of some CIOs and improved their authorities, but many are still not viewed as part of the executive team. We need to keep making progress on CIO authorities, and this will only change significantly if CIOs have support from Secretaries and Dep Secretaries and solid relationships with CFOs and chief acquisition officers. Otherwise, agencies will continue to make modest progress on their authorities.

Turning to incremental development, our ongoing work for this committee shows that about 60 percent of the IT projects are taking an incremental approach, but this percentage is not improving since previous years. FITARA requires that CIOs certify adequate use of incremental development, but our work shows that only three of 24 agencies have a policy to do so. More agencies need a policy, and OMB needs to formalize this process so that more IT projects are tackling these deliveries in smaller increments. Having 40 percent of our IT projects not using an accepted practice is unacceptable.

Next, the importance of OMB leadership and the critical role of the Federal CIO. In addition to ensuring that agencies expand on their incremental development efforts, there are three additional areas where OMB can significantly help with the delivery of IT acquisitions. One, OMB needs to follow up on the FITARA self-assessments to ensure that the CIOs progress on authorities is continuing.

Two, OMB needs to bring back the tech stat reviews on IT acquisitions to ensure that agency executives can answer to the White House on our nation's most important IT acquisitions.

And three, OMB needs to provide to the Congress the list of the top IT acquisitions for the Nation and their current status.

Recent history tells us that when OMB is involved with this oversight, progress occurs. It's also fair to say that we've taken some steps backwards on progress in these areas towards the end of the prior administration and with the recent change in administrations. Congress needs to continue to push OMB to play this critical role, and GAO plans to do our part following up on our high-risk area and detailed reviews for this committee.

Next, agencies need to bolster the oversight of acquisitions in the IT workforce. We wholeheartedly agree with Mr. Spires' recommendations to strengthen agencies' governance and program management. In addition, our recent work for this committee on how agencies assess and address their IT workforce shows that much work is needed here, including how cyber needs are addressed. We would welcome the opportunity to review all 24 Departments' efforts to assess and address their IT workforce needs. In fact, this could be something incorporated into future scorecards.

Finally, the government needs to effectively leverage industry. Two areas to mention are, one, better integrating private sector expertise from teams like USDS and 18F into the Federal workforce more than what was previously done; and two, buying more and building less and going with more cloud solutions and proven commercial products.

In conclusion, Federal IT acquisitions need clear accountability tackled in smaller increments, OMB's help, stronger agency management, and better industry partnering to ensure more success. I would like to thank both subcommittees for your continued leadership on Federal IT issues.

[Prepared statement of Mr. Powner follows:]

United States Government Accountability Office

GAO

Testimony

Before the Subcommittees on Information Technology and Government Operations, Committee on Oversight and Government Reform, House of Representatives

For Release on Delivery
Expected at 2:00 p.m. ET
Tuesday, March 28, 2017

INFORMATION TECHNOLOGY

Implementation of IT Reform Law and Related Initiatives Can Help Improve Acquisitions

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

GAO Highlights

Highlights of GAO-17-494T, a testimony before the Subcommittees on Information Technology and Government Operations, Committee on Oversight and Government Reform, House of Representatives

Why GAO Did This Study

The federal government is projected to invest more than $89 billion on IT in fiscal year 2017. Historically, these investments have frequently failed, incurred cost overruns and schedule slippages, or contributed little to mission-related outcomes. Accordingly, in December 2014, IT reform legislation was enacted, aimed at improving agencies' acquisitions of IT. Further, in February 2015, GAO added improving the management of IT acquisitions and operations to its high-risk list.

This statement focuses on the status of federal efforts in improving the acquisition of IT. Specifically, this statement summarizes GAO's prior work primarily published between June 2013 and February 2017 on (1) key IT workforce planning activities, (2) risk levels of major investments as reported on OMB's IT Dashboard, and (3) implementation of incremental development practices, among other issues.

What GAO Recommends

Between fiscal years 2010 and 2015, GAO made 803 recommendations to OMB and federal agencies to address shortcomings in IT acquisitions and operations. The significance of these recommendations contributed to the addition of this area to GAO's high-risk list. As of December 2016, OMB and the agencies had fully implemented 366 (or about 46 percent) of the 803 recommendations. In fiscal year 2016, GAO made 202 new recommendations, thus further reinforcing the need for OMB and agencies to address the shortcomings GAO has identified.

View GAO-17-494T. For more information, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov.

March 28, 2017

INFORMATION TECHNOLOGY

Implementation of IT Reform Law and Related Initiatives Can Help Improve Acquisitions

What GAO Found

The Federal Information Technology Acquisition Reform Act (FITARA) was enacted in December 2014 to improve federal information technology (IT) acquisitions and can help federal agencies reduce duplication and achieve cost savings. Successful implementation of FITARA will require the Office of Management and Budget (OMB) and federal agencies to take action in a number of areas identified in the law and as previously recommended by GAO.

- **IT workforce planning.** GAO identified eight key IT workforce planning practices in November 2016 that are critical to ensuring that agencies have the knowledge and skills to successfully acquire IT, such as analyzing the workforce to identify gaps in competencies and staffing. However, GAO reported that the five selected federal agencies it reviewed had not fully implemented these practices. For example, none of these agencies had fully assessed their competency and staffing needs regularly or established strategies and plans to address gaps in these areas. These weaknesses were due, in part, to agencies lacking comprehensive policies that required these practices. Accordingly, GAO made specific recommendations to the five agencies to address the practices that were not fully implemented. Four agencies agreed and one partially agreed with GAO's recommendations.
- **IT Dashboard.** To facilitate transparency into the government's acquisition of IT, OMB's IT Dashboard provides detailed information on major investments at federal agencies, including ratings from Chief Information Officers (CIO) that should reflect the level of risk facing an investment. GAO reported in June 2016 that 13 of the 15 agencies selected for in-depth review had not fully considered risks when rating their investments on the IT Dashboard. In particular, of the 95 investments reviewed, GAO's assessments of risks matched the CIO ratings 22 times, showed more risk 60 times, and showed less risk 13 times. Several factors contributed to these differences, such as CIO ratings not being updated frequently and using outdated risk data. GAO recommended that agencies improve the quality and frequency of their ratings. Most agencies agreed with GAO's recommendations.
- **Incremental development.** An additional reform initiated by OMB has emphasized the need for federal agencies to deliver investments in smaller parts, or increments, in order to reduce risk and deliver capabilities more quickly. Specifically, since 2012, OMB has required investments to deliver functionality every 6 months. In August 2016, GAO determined that, for fiscal year 2016, 22 agencies had reported on the IT Dashboard that 64 percent of their software development projects would deliver useable functionality every 6 months. However, GAO determined that only three of seven agencies selected for in-depth review had policies regarding the CIO certifying IT investments' adequate implementation of incremental development, as required by OMB. GAO recommended, among other things, that four agencies improve their policies for CIO certification of incremental development. Most of these agencies agreed with the recommendations.

Chairmen Hurd and Meadows, Ranking Members Kelly and Connolly, and Members of the Subcommittees:

I am pleased to be here today to discuss opportunities for federal agencies to improve the acquisition of information technology (IT). As you know, the effective and efficient acquisition of IT has been a long-standing challenge in the federal government. In particular, the federal government has spent billions of dollars on failed and poorly performing IT investments, which often suffered from ineffective management. Recognizing the importance of issues related to the government-wide acquisition of IT, in December 2014, Congress enacted federal IT acquisition reform legislation (commonly referred to as the Federal Information Technology Acquisition Reform Act or FITARA).[1]

In addition, in February 2015, we added improving the management of IT acquisitions and operations to our list of high-risk areas for the federal government.[2] We recently issued an update to our high-risk report and determined that, while progress has been made in addressing this high-risk area, significant work remains to be completed.[3] For example, as of December 2016, the Office of Management and Budget (OMB) and agencies had implemented 366 (or about 46 percent) of the 803 open recommendations that we had made from fiscal years 2010 through 2015 related to IT acquisitions and operations.

My statement today discusses agencies' progress in improving the acquisition of IT. This statement summarizes our prior work primarily published between June 2013 and February 2017 on (1) key IT workforce planning practices, (2) risk levels of major investments as reported on OMB's IT Dashboard, and (3) implementation of incremental development practices, among other issues. A more detailed discussion of the

[1]Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291, div. A, title VIII, subtitle D, 128 Stat. 3292, 3438-3450 (Dec. 19, 2014).

[2]GAO, *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: Feb. 11, 2015). GAO maintains a high-risk program to focus attention on government operations that it identifies as high risk due to their greater vulnerabilities to fraud, waste, abuse, and mismanagement or the need for transformation to address economy, efficiency, or effectiveness challenges.

[3]GAO, *High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others*, GAO-17-317 (Washington, D.C.: Feb. 15, 2017).

objectives, scope, and methodology for this work is included in each of the reports that are cited throughout this statement.[4]

We conducted the work on which this statement is based in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

Background

The federal government is projected to invest more than $89 billion on IT in fiscal year 2017. However, as we have previously reported, investments in federal IT too often result in failed projects that incur cost overruns and schedule slippages, while contributing little to the desired mission-related outcomes. For example:

- The Department of Veterans Affairs' Scheduling Replacement Project was terminated in September 2009 after investing an estimated $127 million over 9 years.[5]
- The tri-agency[6] National Polar-orbiting Operational Environmental Satellite System was disbanded in February 2010 at the direction of the White House's Office of Science and Technology Policy after the program invested 16 years and almost $5 billion.[7]

[4]See the related GAO products page at the end of this statement for a list of the reports on which this testimony is based.

[5]GAO, *Information Technology: Management Improvements Are Essential to VA's Second Effort to Replace Its Outpatient Scheduling System*, GAO-10-579 (Washington, D.C.: May 27, 2010).

[6]The weather satellite program was managed by the National Oceanic and Atmospheric Administration, the Department of Defense, and the National Aeronautics and Space Administration.

[7]See, for example, GAO, *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) and *Environmental Satellites: Polar-Orbiting Satellite Acquisition Faces Delays; Decisions Needed on Whether and How to Ensure Climate Data Continuity*, GAO-08-518 (Washington, D.C.: May 16, 2008).

- The Department of Homeland Security's Secure Border Initiative Network program was ended in January 2011, after the department invested more than $1 billion to the program.[8]
- The Office of Personnel Management's Retirement Systems Modernization program was canceled in February 2011, after investing approximately $231 million on the agency's third attempt to automate the processing of federal employee retirement claims.[9]
- The Department of Veterans Affairs' Financial and Logistics Integrated Technology Enterprise program was intended to be delivered by 2014 at a total estimated cost of $609 million, but was terminated in October 2011 due to challenges in managing the program.[10]
- The Department of Defense's Expeditionary Combat Support System was canceled in December 2012 after investing more than a billion dollars and failing to deploy within 5 years of initially obligating funds.[11]
- The Farm Service Agency's Modernize and Innovate the Delivery of Agricultural Systems program, which was to replace aging hardware and software applications that process benefits to farmers, was halted in July 2014 after investing about 10 years and at least $423 million,

[8]See, for example, GAO, *Secure Border Initiative: DHS Needs to Strengthen Management and Oversight of Its Prime Contractor*, GAO-11-6 (Washington, D.C.: Oct. 18, 2010); *Secure Border Initiative: DHS Needs to Reconsider Its Proposed Investment in Key Technology Program*, GAO-10-340 (Washington, D.C.: May 5, 2010); and *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).

[9]See, for example, GAO, *Office of Personnel Management: Retirement Modernization Planning and Management Shortcomings Need to Be Addressed*, GAO-09-529 (Washington, D.C.: Apr. 21, 2009) and *Office of Personnel Management: Improvements Needed to Ensure Successful Retirement Systems Modernization*, GAO-08-345 (Washington, D.C.: Jan. 31, 2008).

[10]GAO, *Information Technology: Actions Needed to Fully Establish Program Management Capability for VA's Financial and Logistics Initiative*, GAO-10-40 (Washington, D.C.: Oct. 26, 2009).

[11]GAO, *DOD Financial Management: Implementation Weaknesses in Army and Air Force Business Systems Could Jeopardize DOD's Auditability Goals*, GAO-12-134 (Washington, D.C.: Feb. 28, 2012) and *DOD Business Transformation: Improved Management Oversight of Business System Modernization Efforts Needed*, GAO-11-53 (Washington, D.C.: Oct. 7, 2010).

while only delivering about 20 percent of the functionality that was originally planned.[12]

Our past work found that these and other failed IT projects often suffered from a lack of disciplined and effective management, such as project planning, requirements definition, and program oversight and governance. In many instances, agencies had not consistently applied best practices that are critical to successfully acquiring IT.

Federal IT projects have also failed due to a lack of oversight and governance. Executive-level governance and oversight across the government has often been ineffective, specifically from chief information officers (CIO). For example, we reported that some CIOs' authority was limited in that not all CIOs had the authority to review and approve the entire agency IT portfolio.[13]

Our past work has also identified nine critical factors underlying successful major acquisitions that support the objective of improving the management of large-scale IT acquisitions across the federal government: (1) program officials actively engaging with stakeholders; (2) program staff having the necessary knowledge and skills; (3) senior department and agency executives supporting the programs; (4) end users and stakeholders being involved in the development of requirements; (5) end users participating in the testing of system functionality prior to end user acceptance testing; (6) government and contractor staff being stable and consistent; (7) program staff prioritizing requirements; (8) program officials maintaining regular communication with the prime contractor; and (9) programs receiving sufficient funding.[14]

FITARA Can Improve Agencies' Acquisition of IT

Recognizing the importance of issues related to government-wide management of IT, FITARA was enacted in December 2014. The law was aimed at improving agencies' acquisitions of IT and could help enable

[12]GAO, *Farm Program Modernization: Farm Service Agency Needs to Demonstrate the Capacity to Manage IT Initiatives*, GAO-15-506 (Washington, D.C.: June 18, 2015).

[13]GAO, *Federal Chief Information Officers: Opportunities Exist to Improve Role in Information Technology Management*, GAO-11-634 (Washington, D.C.: Sept. 15, 2011). With the subsequent enactment of FITARA, the role of the CIO at covered agencies has since been strengthened.

[14]GAO, *Information Technology: Critical Factors Underlying Successful Major Acquisitions*, GAO-12-7 (Washington, D.C.: Oct. 21, 2011).

Congress to monitor agencies' progress and hold them accountable for reducing duplication and achieving cost savings. FITARA includes specific requirements related to the acquisition of IT, such as

- **Agency CIO authority enhancements.**[15] CIOs at covered agencies are required to (1) approve the IT budget requests of their respective agencies, (2) certify that OMB's incremental development guidance is being adequately implemented for IT investments, (3) review and approve contracts for IT, and (4) approve the appointment of other agency employees with the title of CIO.
- **Enhanced transparency and improved risk management.** OMB and covered agencies are to make detailed information on federal IT investments publicly available and agency CIOs are to categorize their IT investments by level of risk. Additionally, in the case of major IT investments rated as high risk for 4 consecutive quarters, the law requires that the agency CIO and the investment's program manager conduct a review aimed at identifying and addressing the causes of the risk.
- **Expansion of training and use of IT acquisition cadres.** Agencies are to update their acquisition human capital plans to address supporting the timely and effective acquisition of IT. In doing so, the law calls for agencies to consider, among other things, establishing IT acquisition cadres or developing agreements with other agencies that have such cadres.
- **Government-wide software purchasing program.** The General Services Administration is to develop a strategic sourcing initiative to enhance government-wide acquisition and management of software. In doing so, the law requires that, to the maximum extent practicable, the General Services Administration should allow for the purchase of a software license agreement that is available for use by all executive branch agencies as a single user.
- **Maximizing the benefit of the federal strategic sourcing initiative.** Federal agencies are required to compare their purchases of services and supplies to what is offered under the federal strategic sourcing initiative. OMB is also required to issue related regulations.

[15]The provisions apply to the agencies covered by the Chief Financial Officers Act of 1990, 31 U.S.C. § 901(b), with certain exceptions for the Department of Defense.

IT Acquisitions and Operations Identified by GAO as a High-Risk Area

In February 2015, we introduced a new government-wide high-risk area, *Improving the Management of IT Acquisitions and Operations.*[16] This area highlights several critical IT initiatives in need of additional congressional oversight, including (1) reviews of troubled projects; (2) efforts to increase the use of incremental development; (3) efforts to provide transparency relative to the cost, schedule, and risk levels for major IT investments; (4) reviews of agencies' operational investments; (5) data center consolidation; and (6) efforts to streamline agencies' portfolios of IT investments. We noted that implementation of these initiatives has been inconsistent and more work remains to demonstrate progress in achieving successful IT acquisitions and operations outcomes.

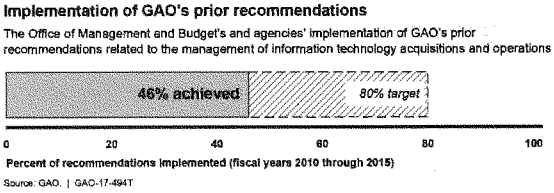
Further, our February 2015 high-risk report also stated that, beyond implementing FITARA, OMB and agencies needed to continue to implement our prior recommendations in order to improve their ability to effectively and efficiently invest in IT. Specifically, between fiscal years 2010 and 2015, we made 803 recommendations to OMB and federal agencies to address shortcomings in IT acquisitions and operations, including many to improve the implementation of the recent initiatives and other government-wide, cross-cutting efforts. We noted that OMB and agencies should demonstrate government-wide progress in the management of IT investments by, among other things, implementing at least 80 percent of our recommendations related to managing IT acquisitions and operations within 4 years.

In February 2017, we issued an update to our high-risk series and reported that, while progress had been made in improving the management of IT acquisitions and operations, significant work still remained to be completed.[17] For example, as of December 2016, OMB and the agencies had fully implemented 366 (or about 46 percent) of the 803 recommendations. This was a 23 percent increase compared to the percentage we reported as being fully implemented in 2015. Figure 1 summarizes the progress that OMB and the agencies have made in addressing our recommendations, as compared to the 80 percent target.

[16]GAO-15-290.

[17]GAO-17-317.

Figure 1: Summary of the Office of Management and Budget's and Agencies' Progress in Addressing GAO's Recommendations



Source: GAO. | GAO-17-494T

In addition, in fiscal year 2016, we made 202 new recommendations, thus further reinforcing the need for OMB and agencies to address the shortcomings in IT acquisitions and operations. In addition to addressing our prior recommendations, our 2017 high-risk update also notes the importance of OMB and federal agencies continuing to expeditiously implement the requirements of FITARA.

Opportunities Exist to Improve Acquisition of IT

Given the magnitude of the federal government's annual IT budget, which is projected to be more than $89 billion in fiscal year 2017, it is important that agencies leverage all available opportunities to ensure that IT investments are made in the most effective manner possible. To do so, agencies can rely on key IT workforce planning activities to facilitate the success of major acquisitions. OMB has also established several initiatives to improve the acquisition of IT, including reviews of troubled IT projects, a key transparency website, and an emphasis on incremental development. However, the implementation of these efforts has been inconsistent and more work remains to demonstrate progress in achieving successful IT acquisition outcomes.

Implementing Key IT Workforce Planning Activities Can Help Ensure Acquisition Skill Gaps Are Addressed

An area where agencies can improve their ability to acquire IT is workforce planning. In November 2016, we reported[18] that IT workforce planning activities, when effectively implemented, can facilitate the success of major acquisitions. As stated earlier, ensuring program staff have the necessary knowledge and skills is a factor commonly identified as critical to the success of major investments. If agencies are to ensure that this critical success factor has been met, then IT skill gaps need to be adequately assessed and addressed through a workforce planning process.

In this regard, we reported that four workforce planning steps and eight key activities can assist agencies in assessing and addressing IT knowledge and skill gaps. Specifically, these four steps are: (1) setting the strategic direction for IT workforce planning, (2) analyzing the workforce to identify skill gaps, (3) developing and implementing strategies to address IT skill gaps, and (4) monitoring and reporting progress in addressing skill gaps. Each of the four steps is supported by key activities (as summarized in table 1).

[18]GAO, *IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps*, GAO-17-8 (Washington, D.C.: Nov. 30, 2016).

Table 1: Summary of Key Information Technology (IT) Workforce Planning Steps and Activities

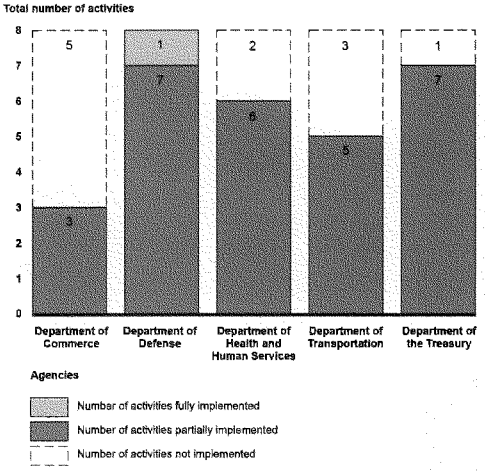
Key workforce planning steps and activities
Set the strategic direction for IT workforce planning
Establish and maintain a workforce planning process
Develop competency and staffing requirements
Analyze the IT workforce to identify skill gaps
Assess competency and staffing needs regularly
Assess gaps in competencies and staffing
Develop strategies and implement activities to address IT skill gaps
Develop strategies and plans to address gaps in competencies and staffing
Implement activities that address gaps (including IT acquisition cadres, cross-functional training of acquisition and program personnel, career paths for program managers, plans to strengthen program management, and use of special hiring authorities)
Monitor and report progress in addressing IT skill gaps
Monitor the agency's progress in addressing competency and staffing gaps
Report to agency leadership on progress in addressing competency and staffing gaps

Source: GAO analysis of strategic human capital planning and IT workforce planning activities from legislation including the *Clinger-Cohen Act of 1996*, *E-Government Act of 2002*, *Federal Cybersecurity Workforce Assessment Act of 2015*, and FITARA; OMB guidance including 25 *Point Implementation Plan to Reform Federal Information Technology Management*, *Guidance for Specialized Information Technology Acquisition Cadres*, *Management and Oversight of Federal Information Technology* (M-15-14), *Cybersecurity Strategy and Implementation Plan for the Federal Civilian Government* (M-16-04), *Federal Cybersecurity Workforce Strategy* (M-16-15), and *Circular A-130, Managing Information as a Strategic Resource*; OPM guidance including *IT Program Management Career Path Guide and Workforce Planning Model*; and prior GAO reports, including GAO-04-39 and GAO-14-704G. | GAO-17-494T

However, in our November 2016 report, we determined that five agencies that we selected for in-depth analysis had not fully implemented key workforce planning steps and activities.[19] For example, four of these agencies had not demonstrated an established IT workforce planning process. In addition, none of these agencies had fully assessed their workforce competencies and staffing needs regularly or established strategies and plans to address gaps in these areas. Figure 2 illustrates the extent to which the five selected agencies had fully, partially, or not implemented key IT workforce planning activities.

[19]These five agencies are the Departments of Commerce, Defense, Health and Human Services, Transportation, and the Treasury.

Figure 2: Selected Agencies' Implementation of Eight Key Information Technology Workforce Planning Activities



Source: GAO analysis of agencies' data. | GAO-17-494T

The weaknesses identified were due, in part, to these agencies lacking comprehensive policies that required such activities, or failing to apply the policies to IT workforce planning. We concluded that, until these weaknesses are addressed, the five agencies risk not adequately assessing and addressing gaps in knowledge and skills that are critical to the success of major acquisitions. Accordingly, we made recommendations to each of the five selected agencies to address the weaknesses in their IT workforce planning practices that we identified. Four agencies—the Departments of Commerce, Health and Human Services, Transportation, and Treasury—agreed with our recommendations and one, the Department of Defense, partially agreed.

TechStat Reviews Can Help Highlight and Evaluate Poorly Performing Investments

In January 2010, the Federal CIO began leading TechStat sessions—face-to-face meetings to terminate or turn around 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. OMB reported that federal agencies achieved over $3 billion in cost savings or avoidances as a result of these sessions in 2010. Subsequently, OMB empowered agency CIOs to hold their own TechStat sessions within their respective agencies.

In June 2013, we reported that, while OMB and selected agencies continued to hold additional TechStats, more OMB oversight was needed to ensure that these meetings were having the appropriate impact on underperforming projects.[20] Specifically, OMB reported conducting TechStats at 23 federal agencies covering 55 investments, 30 of which were considered medium or high risk at the time of the TechStat. However, these reviews accounted for less than 20 percent of medium- or high-risk investments government-wide. As of August 2012, there were 162 such at-risk investments across the government.

Further, we reviewed four selected agencies and found they had held TechStats on 28 investments. While these reviews were generally conducted in accordance with OMB guidance, we found that areas for improvement existed. For example, these agencies did not consistently create memorandums with responsible parties and due dates for action items. We concluded that, until these agencies fully implemented OMB's TechStat guidance, they may not be positioned to effectively manage and resolve problems on IT investments. In addition, we noted that, until OMB and agencies develop plans and schedules to review medium- and high-risk investments, the investments would likely remain at risk. Among other things, we recommended that OMB require agencies to conduct TechStats for each IT investment rated with a moderately high- or high-risk rating, unless there is a clear reason for not doing so. OMB generally agreed with this recommendation.

However, when we testified[21] on this issue slightly more than 2 years later in November 2015, we found that OMB had only conducted one TechStat

[20]GAO, *Information Technology: Additional Executive Review Sessions Needed to Address Troubled Projects*, GAO-13-524 (Washington, D.C.: June 13, 2013).

[21]GAO, *Information Technology: Implementation of Reform Legislation Needed to Improve Acquisitions and Operations*, GAO-16-204T (Washington, D.C.: Nov. 4, 2015).

review between March 2013 and October 2015. In addition, we noted that OMB had not listed any savings from TechStats in any of its required quarterly reporting to Congress since June 2012. This issue continues to be a concern and, in January 2017, the Federal CIO Council[22] issued a report titled the *State of Federal Information Technology*, which noted that while early TechStats saved money and turned around underperforming investments it was unclear if OMB had performed any TechStats in recent years.[23]

IT Dashboard Can Improve the Transparency into and Oversight of Major IT Acquisitions

To facilitate transparency across the government in acquiring and managing IT investments, OMB established a public website—the IT Dashboard—to provide detailed information on major investments at 26 agencies, including ratings of their performance against cost and schedule targets. Among other things, agencies are to submit ratings from their CIOs, which, according to OMB's instructions, should reflect the level of risk facing an investment relative to that investment's ability to accomplish its goals. In this regard, FITARA includes a requirement for CIOs to categorize their major IT investment risks in accordance with OMB guidance.[24]

Over the past 6 years, we have issued a series of reports about the IT Dashboard that noted both significant steps OMB has taken to enhance the oversight, transparency, and accountability of federal IT investments by creating its IT Dashboard, as well as issues with the accuracy and

[22]The Federal CIO Council is the principal interagency forum to improve agency practices on such matters as the design, modernization, use, sharing, and performance of agency information resources.

[23]Federal CIO Council, *State of Federal Information Technology Report, Public Release Version 1.0* (Washington, D.C.: January 2017).

[24]40 U.S.C. § 11302(c)(3)(C).

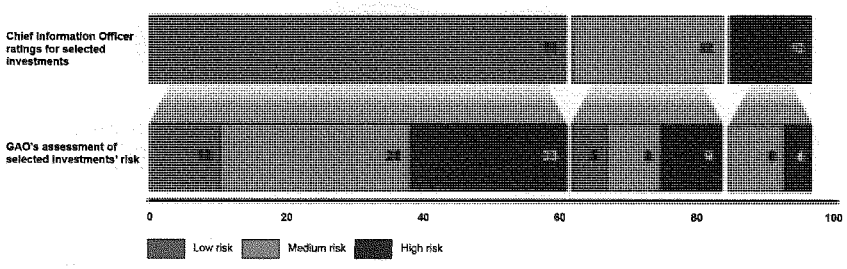
reliability of data.[25] In total, we have made 47 recommendations to OMB and federal agencies to help improve the accuracy and reliability of the information on the IT Dashboard and to increase its availability. Most agencies have agreed with our recommendations.

Most recently, in June 2016, we determined that 13 of the 15 agencies selected for in-depth review had not fully considered risks when rating their major investments on the IT Dashboard. Specifically, our assessments of risk for 95 investments at 15 selected agencies[26] matched the CIO ratings posted on the Dashboard 22 times, showed more risk 60 times, and showed less risk 13 times. Figure 3 summarizes how our assessments compared to the selected investments' CIO ratings.

[25]*GAO, IT Dashboard: Agencies Need to Fully Consider Risks When Rating Their Major Investments*, GAO-16-494 (Washington, D.C.: June 2, 2016); *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); *IT Dashboard: Opportunities Exist to Improve Transparency and Oversight of Investment Risk at Select Agencies*, GAO-13-98 (Washington, D.C.: Oct. 16, 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); *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).

[26]The 15 selected agencies were the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, the Interior, State, Transportation, the Treasury, and Veterans Affairs; the Environmental Protection Agency; General Services Administration; and Social Security Administration.

Figure 3: Comparison of Selected Investments' April 2015 Chief Information Officer Ratings to GAO's Assessments



Source: GAO's assessment of data from the Office of Management and Budget's Information Technology Dashboard. | GAO-17-494T

Aside from the inherently judgmental nature of risk ratings, we identified three factors which contributed to differences between our assessments and the CIO ratings:

- Forty of the 95 CIO ratings were not updated during the month we reviewed, which led to more differences between our assessments and the CIOs' ratings. This underscores the importance of frequent rating updates, which help to ensure that the information on the Dashboard is timely and accurately reflects recent changes to investment status.
- Three agencies' rating processes spanned longer than 1 month. Longer processes mean that CIO ratings are based on older data, and may not reflect the current level of investment risk.
- Seven agencies' rating processes did not focus on active risks. According to OMB's guidance, CIO ratings should reflect the CIO's assessment of the risk and the investment's ability to accomplish its goals. CIO ratings that do not incorporate active risks increase the chance that ratings overstate the likelihood of investment success.

As a result, we concluded that the associated risk rating processes used by the 15 agencies were generally understating the level of an investment's risk, raising the likelihood that critical federal investments in IT are not receiving the appropriate levels of oversight. To better ensure that the Dashboard ratings more accurately reflect risk, we recommended that the 15 agencies take actions to improve the quality and frequency of their CIO ratings. Twelve agencies generally agreed with or did not

comment on the recommendations and three agencies disagreed, stating their CIO ratings were adequate. However, we noted that weaknesses in their processes still existed and that we continued to believe our recommendations were appropriate.

Increasing the Use of Incremental Development Practices Can Help Agencies Better Achieve Cost, Schedule, and Performance Goals for IT Acquisitions

OMB has emphasized the need to deliver investments in smaller parts, or increments, in order to reduce risk, deliver capabilities more quickly, and facilitate the adoption of emerging technologies. In 2010, it called for agencies' major investments to deliver functionality every 12 months and, since 2012, every 6 months. Subsequently, FITARA codified a requirement that agency CIOs certify that IT investments are adequately implementing OMB's incremental development guidance.[27]

In May 2014, we reported[28] that 66 of 89 selected investments at five major agencies[29] did not plan to deliver capabilities in 6-month cycles, and less than half of these investments planned to deliver functionality in 12-month cycles. We also reported that only one of the five agencies had complete incremental development policies. Accordingly, we recommended that OMB develop and issue clearer guidance on incremental development and that the selected agencies update and implement their associated policies. Four of the six agencies agreed with our recommendations or had no comments; the remaining two agencies partially agreed or disagreed with the recommendations. The agency that disagreed with our recommendation stated that it did not believe that its recommendation should be dependent on OMB first taking action. However, we noted that our recommendation does not require OMB to take action first and that we continued to believe our recommendation was warranted and could be implemented.

Subsequently, in August 2016, we reported[30] that agencies had not fully implemented incremental development practices for their software development projects. Specifically, we noted that, as of August 31, 2015,

[27]40 U.S.C. § 11319(b)(1)(B)(ii).

[28]GAO, *Information Technology: Agencies Need to Establish and Implement Incremental Development Policies*, GAO-14-361 (Washington, D.C.: May 1, 2014).

[29]These five agencies are the Departments of Defense, Health and Human Services, Homeland Security, Transportation, and Veterans Affairs.

[30]GAO, *Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices*, GAO-16-469 (Washington, D.C.: Aug. 16, 2016).

22 federal agencies[31] had reported on the IT Dashboard that 300 of 469 active software development projects (approximately 64 percent) were planning to deliver usable functionality every 6 months for fiscal year 2016, as required by OMB guidance. Regarding the remaining 169 projects (or 36 percent) that were reported as not planning to deliver functionality every 6 months, agencies provided a variety of explanations for not achieving that goal. These included project complexity, the lack of an established project release schedule, or that the project was not a software development project. Table 2 lists the total number and percent of federal software development projects for which agencies reported plans to deliver functionality every 6 months for fiscal year 2016.

[31]These 22 agencies are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs; the Environmental Protection Agency, General Services Administration, National Archives and Records Administration, Office of Personnel Management, Small Business Administration, Social Security Administration, and U.S. Agency for International Development.

Table 2: Federal Agency Software Development Projects' Plans to Deliver Functionality Every 6 Months for Fiscal Year 2016, as Reported on the Information Technology (IT) Dashboard

Agency	Number of major IT investments	Number of projects associated with investments	Number of projects that planned delivery of functionality every 6 months	Percent that planned delivery every 6 months
Department of Veterans Affairs	10	95	95	100%
Department of Commerce	9	84	78	93%
Department of Health and Human Services	18	48	42	88%
Department of Education	12	14	11	79%
Department of the Treasury	12	28	18	64%
Department of Homeland Security	13	23	13	57%
Social Security Administration	9	24	12	50%
Department of Transportation	20	60	5	8%
Department of Defense	36	51	4	8%
All other federal agencies[a]	30	42	22	52%
Total	**169**	**469**	**300**	**64%**

Source: GAO analysis of Federal IT Dashboard data as of August 31, 2015. | GAO-17-494T

[a]Thirteen additional departments and agencies had at least one major IT investment and a total of 20 or fewer projects. These agencies have been totaled together because calculating a percent of functionality delivered for a small number of projects does not provide a reliable figure.

In conducting an in-depth review of seven selected agencies' software development projects,[32] we determined that 45 percent of the projects delivered functionality every 6 months for fiscal year 2015 and 55 percent planned to do so in fiscal year 2016. Agency officials reported that management and organizational challenges and project complexity and uniqueness had impacted their ability to deliver incrementally. We concluded that it was critical that agencies continue to improve their use of incremental development to deliver functionality and reduce the risk that these projects will not meet cost, schedule, and performance goals.

In addition, while OMB had issued guidance requiring covered agency CIOs to certify that each major IT investment's plan for the current year

[32]These seven agencies are the Departments of Commerce, Defense, Education, Health and Human Services, Homeland Security, Transportation, and the Treasury. These agencies were chosen because they reported a minimum of 12 investments that were at least 50 percent or more in development on the IT Dashboard for fiscal year 2015.

adequately implements incremental development, only three agencies (the Departments of Commerce, Homeland Security, and Transportation) had defined processes and policies intended to ensure that the department CIO certifies that major IT investments are adequately implementing incremental development.[33] Officials from three other agencies (the Departments of Education, Health and Human Services, and the Treasury) reported that they were in the process of updating their existing incremental development policy to address certification, while the Department of Defense's policies that address incremental development did not include information on CIO certification. We concluded that until all of the agencies we reviewed define processes and policies for the certification of the adequate use of incremental development, they will not be able to fully ensure adequate implementation of, or benefit from, incremental development practices.

Accordingly, we recommended that four agencies establish a policy and process for the certification of major IT investments' adequate use of incremental development. The Departments of Education and Health and Human Services agreed with our recommendation, while the Department of Defense disagreed and stated that its existing policies address the use of incremental development. However, we noted that the department's policies did not comply with OMB's guidance and that we continued to believe our recommendation was appropriate. The Department of the Treasury did not comment on the recommendation.

In conclusion, with the enactment of FITARA, the federal government has an opportunity to improve the transparency and management of IT acquisitions, and to strengthen the authority of CIOs to provide needed direction and oversight. In addition to implementing FITARA, applying key IT workforce planning practices could improve the agencies' ability to assess and address gaps in knowledge and skills that are critical to the success of major acquisitions. Further, continuing to implement key OMB initiatives can help to improve the acquisition of IT. For example, conducting additional TechStat reviews can help focus management attention on troubled projects and provide a mechanism to establish clear action items to improve project performance or terminate the investment. Additionally, improving the assessment of risks when agencies rate major investments on the IT Dashboard would likely provide greater

[33]Office of Management and Budget, *FY2017 IT Budget – Capital Planning Guidance*.

transparency and oversight of the government's billions of dollars in IT investments. Lastly, increasing the use of incremental development approaches could improve the likelihood that major IT investments meet cost, schedule, and performance goals.

Chairmen Hurd and Meadows, Ranking Members Kelly and Connolly, and Members of the Subcommittees, this completes my prepared statement. I would be pleased to respond to any questions that you may have at this time.

GAO Contacts 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. Individuals who made key contributions to this testimony are Dave Hinchman (Assistant Director), Chris Businsky, Rebecca Eyler, and Jon Ticehurst (Analyst in Charge).

Related GAO Products

High-Risk Series: Progress on Many High-Risk Areas, While Substantial Efforts Needed on Others. GAO-17-317. Washington, D.C.: February 15, 2017.

IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps. GAO-17-8. Washington, D.C.: November 30, 2016.

Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices. GAO-16-469. Washington, D.C.: August 16, 2016.

IT Dashboard: Agencies Need to Fully Consider Risks When Rating Their Major Investments. GAO-16-494. Washington, D.C.: June 2, 2016.

High-Risk Series: An Update. GAO-15-290. Washington, D.C.: February 11, 2015.

Information Technology: Agencies Need to Establish and Implement Incremental Development Policies. GAO-14-361. Washington, D.C.: May 1, 2014.

IT Dashboard: Agencies Are Managing Investment Risk, but Related Ratings Need to Be More Accurate and Available. GAO-14-64. Washington, D.C.: December 12, 2013.

Information Technology: Additional Executive Review Sessions Needed to Address Troubled Projects. GAO-13-524. Washington, D.C.: June 13, 2013.

IT Dashboard: Opportunities Exist to Improve Transparency and Oversight of Investment Risk at Select Agencies. GAO-13-98. Washington, D.C.: October 16, 2012.

IT Dashboard: Accuracy Has Improved, and Additional Efforts Are Under Way to Better Inform Decision Making. GAO-12-210. Washington, D.C.: November 7, 2011.

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Mr. HURD. Thank you, sir, and thank you for your service.
Mr. Spires, you are now recognized for five minutes.

STATEMENT OF RICHARD A. SPIRES

Mr. SPIRES. Thank you. Good afternoon, Chairmen Hurd and Meadows, Ranking Members Kelly and Connolly, and members of the subcommittees. I'm honored to testify today in regards to improving IT acquisition. And I wanted to acknowledge the great work and leadership of these subcommittees in addressing the issues of improving Federal IT and in particular your work on FITARA.

Since I served as the CIO of the IRS and later at DHS, my experience has given me insights to present practical recommendations that address the issues agencies face in acquiring IT. The reality is that acquiring a commodity item like ordering a telecommunications circuit or buying a laptop is very different than acquiring a new mission-critical system that requires custom software development. We need to look at the various categories of IT acquisitions and address recommendations for improvement for each category. As such, I offer five recommendations that address the range of IT acquisitions that government agencies conduct.

Much of what agencies acquire is commodity IT, purchasing that involves little acquisition risk, yet many agencies do not manage their inventory of hardware and software assets well, resulting in both overbuying and not effectively leveraging agency buying power.

There are significant near-term cost savings in this category. My first recommendation is that Congress include commodity IT purchase metrics in the FITARA scorecard. The agency's CIO, with the authorities of FITARA, should develop a comprehensive and accurate inventory of all agency commodity hardware and software assets and optimize buying based on agency needs.

Further, the agency's CIO should develop enterprise purchasing arrangements for their top IT vendors or, as appropriate, leverage the GSA category management and shared service initiatives.

Many IT acquisitions require integration to deliver a new or upgraded service capability. Some of these acquisitions are quite significant and are captured as programs on the OMB IT dashboard. Yet the vast majority of acquisitions are IT projects that are the lifeblood of what an organization does day in and day out. But developing an agency competency in project management takes a lot more than just having certified project managers. An agency needs government staff with the capabilities and skills in numerous disciplines and a culture recognizing the importance of project management.

My second recommendation is that the administration and Congress ensure that the Program Management Accountability Improvement Act is properly implemented in agencies. This act, signed into law this past December, can help address the project management issues in agencies but only if there's a sustained effort to build a cadre of government staff with the skills and experience to manage IT projects and programs.

As part of significantly improving their overall IT capabilities, agencies need to modernize their IT infrastructure as one of their

highest priorities. My third recommendation is that the administration, with congressional oversight, require agencies to implement a modern IT infrastructure over a three-year time frame. Given the advances in IT security, most agencies should skip data center consolidation and move wholesale to the use of a modern FedRAMP-approved cloud-based infrastructure. Agencies should be able to derive 20 to 30 percent savings in IT infrastructure spend.

The riskiest IT acquisitions are the large IT application programs that should be on the IT dashboard. I have found that delivering such programs requires a strong collaboration amongst key organizations in an agency, proper skills and a robust governance model to facilitate effective decision-making. Most Federal agencies do not have the institutional maturity to handle large-scale IT programs.

My fourth recommendation is that agencies should be measured on their IT acquisition and program management maturity. OMB should mandate the use of an IT management maturity model that can measure agencies against an objective set of standards and best practices. Congress should incorporate key elements of the maturity model into the FITARA scorecard.

My final recommendation is that Congress should reintroduce and enact the Modernizing Government Technology, or MGT Act. A key component of this act is the ability for agencies to establish working capital funds that could be used in funding IT modernization initiatives. The budget flexibility should enable agencies to shift resources saved through IT efficiencies into funding new modernization initiatives and enable program managers to more effectively plan and resource a program over multiple fiscal years.

These five recommendations, if implemented with sustained focus from the administration with continual oversight from Congress, will substantially improve IT acquisition. The benefits of such changes would be many-fold, providing significant savings in IT spend but more importantly greatly helping agencies to better perform their missions.

Thank you.

[Prepared statement of Mr. Spires follows:]

STATEMENT OF RICHARD A. SPIRES
FORMER CHIEF INFORMATION OFFICER OF THE U.S. DEPARTMENT OF HOMELAND SECURITY AND THE INTERNAL REVENUE SERVICE,
CURRENTLY CEO OF LEARNING TREE INTERNATIONAL

BEFORE THE
HOUSE OF REPRESENTATIVES SUBCOMMITTEES ON
INFORMATION TECHNOLOGY AND GOVERNMENT OPERATIONS
OF THE
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
MARCH 28, 2017

Good afternoon Chairmen Hurd and Meadows, and Ranking Members Kelly and Connolly, and members of the Subcommittees. I am honored to testify today in regards to why federal information technology (IT) acquisition fails to perform and options to fix the IT acquisition system. This issue of improving IT acquisition is critical in terms of both ensuring continued improvements to the effectiveness and efficiency by which Agencies can accomplish their mission and business, but also to address weaknesses in many agencies' cyber security posture.

Serving as the CIO of a major Department (DHS) as well as the CIO for a large Bureau (IRS) in the Department of Treasury, I had ample opportunity to understand the dynamics inherent in Federal Government IT, including how Government Agencies generally deal with their IT acquisitions. Prior to my entering government employment, I was in private industry for approximately 20 years, with more than 10 years devoted to providing IT professional services to the Federal Government, including providing project and program management support services. I first entered government in 2004 to take charge of the IRS' Business Systems Modernization (BSM) program, which I ran for 2 ½ years prior to becoming the IRS CIO. The multi-billion dollar BSM program was established to modernize the core tax processing systems of the IRS. From my vantage point as program manager, I had ample opportunity to see what worked well, and what did not, in working to overhaul major tax processing systems. Finally, in my nearly four years serving as the DHS CIO, I reviewed more than 90 major IT programs, and was intimately involved in oversight of a number of the highest risk DHS IT programs. Given the importance of improving the US government's capability in IT acquisition, I hope that my testimony is of value to Congress and the Administration in helping to address systemic weaknesses in how the Federal Government acquires IT services and systems and manages its operations.

IT Acquisition Issues

The inefficiencies, waste, duplication, and outright failure of IT acquisition processes across the Federal Government have been well documented by the Government Accountability Office (GAO) and Agency Inspector Generals (IGs) for many years. Two years ago, GAO acknowledged this is a systemic issue, and placed "Improving the Management of IT Acquisitions and Operations" on its High Risk List.[1] In that report, GAO states that "federal IT investments too frequently fail to be completed or incur cost overruns and schedule slippages while contributing little to mission-related outcomes."

IT acquisition deserves to be on GAO's High Risk List. For decades, the government has been underperforming in its delivery of IT acquisitions. Deeply embedded cultural and skills issues must be addressed if we are to improve the government's score card in improving IT acquisition. Those changes, while certainly achievable, will take sustained leadership and effort over time to have a major positive impact. There are no easy fixes to address these acquisition issues, so, for instance, changing the Federal Acquisition Regulations (FAR) or better engaging industry, while laudable and desirable, alone will not make significant differences. The majority of the IT acquisition issues are actually a result of poor planning and execution of the projects and programs undertaken to deliver a new IT service or capability for Agencies. Hence, the core issues require the need for Agencies to significantly improve their program and project management capabilities. But it goes beyond that. Delivery of successful IT projects and programs requires agency maturity, in that appropriate skills, experience and collaboration are required from a number of departments in an Agency, to include the program owner, procurement, finance, legal, and security, in addition to IT.

Although Agencies grouse about it, I have found that having a program on the GAO High Risk List focuses valuable attention and resources on systemic problems. One of the reasons for the grousing is that once a program is on the High Risk list, it is quite difficult to get off of the list. During my government career, I dealt extensively with two items on the list: IRS modernization (now off the list) and the need to strengthen the Department of Homeland Security's management functions. In both cases, there was intense congressional scrutiny, and significant attention shown by the Office of Management and Budget (OMB). The IRS spent more than a decade maturing its acquisition and program management, and along the way demonstrated improved capabilities to deliver successful programs, before finally coming off the list in 2014. I hope that the Federal Government does not require a decade to get off the High Risk List for IT Acquisition, but one should view that improving federal IT acquisition is a maturation that will take years to yield significant improvements.

IT Acquisition Framework

Prior to providing a set of recommendations, I need to set context. I have come to believe that we spend a lot of time talking about IT acquisition, but in many ways we talk

[1] http://www.gao.gov/highrisk/improving_management_it_acquisitions_operations/why_did_study

past each other. Federal government IT organizations, whether they be large Departments or small independent Agencies, all have the need to "acquire" IT hardware, software, systems, and services. Yet the reality is that acquiring a commodity item (like ordering a telecommunications circuit, a software package to run on a laptop, or the laptop itself) is very different than acquiring a new mission-critical system that requires custom software development and integration. There is significant confusion in terms of IT acquisition, in that we as a community tend to lump these various types of acquisitions together. Improving the government's ability to significantly improve IT acquisition involves improving a number of different components of a complex process. Too often I hear that if we just fixed the procurement process of selecting vendors or service providers, that we would make significant progress. I disagree – certainly streamlining procurements and improving the selection process can help, but it is only one piece (and not nearly the most important piece) of improving IT acquisition.

So below is a description of what an IT organization must "acquire", structured in two dimensions. The first dimension is complexity (which correlates with and can also be thought of as risk) and I separate this dimension into three categories:

- ***Commodity IT purchases*** – these are the mainstay of IT purchasing, goods and services that involve little acquisition risk. These include purchases of standard telecommunications services, end-user devices, standard software packages, etc. that form much of what is needed to keep an agency's IT capability operational.

- ***IT Projects*** – When it goes beyond commodity purchasing, and integration is required to deliver a new or upgraded service capability to an agency customer or the citizen, we cross into the need to manage IT projects. The actual project objectives and use of technology can vary widely, but these projects are typically low to moderate risk and duration (as a rule of thumb under a year). Examples of IT projects could include deployment of a new commercially available time-reporting system in an Agency, or upgrade of a campus network to include a wi-fi capability.

- ***IT Programs*** – Where there is a need for substantial development and integration of multiple modules to deliver required functionality and capability, we are now managing an IT program. This category is typically high risk and this is the category where the spectacular IT acquisition failures occur. Examples of IT programs could include replacement and modernization of a number of an agency's core mission-critical applications, or a full replacement of its underlying wide-area network.

The other dimension I view IT acquisitions from is functionality. With the advancement of IT over the past couple of decades, this has simplified somewhat and one can view functionality in just two categories:

- ***IT Infrastructure*** – This is the underlying networks, servers, data centers, cyber security hardware and software, platform and infrastructure cloud services,

operating systems, etc. that all IT needs to operate. More recently, I have included commodity applications, like e-mail and standard desktop applications, as part of the IT Infrastructure.

- ***IT Applications*** – These are the broad and diverse set of applications that run on the IT Infrastructure that support the mission and business needs of an Agency. They may be custom built, software packages, or a combination of the two, and they may run on agency-owned servers or as Software-as-a-Services (SaaS) applications in a cloud environment.

While there are major IT programs that provide both IT infrastructure and applications, even in such cases, one can look at components within the program and view them separately within this framework.

Recommendations

Using the framework described above, below I present the acquisition issues attendant to each element of the framework, and provide recommendations for both the Administration and Congress to address these issues.

Commodity IT purchases

The issues I see in this category (for both IT infrastructure and applications) are two-fold. First, many Agencies, particularly those that are diversified, do not manage their inventory of hardware and software assets well, and in many instances Agencies will significantly overbuy required hardware or software licenses. Second, if buying is dispersed throughout an Agency, it is unlikely the Agency is effectively leveraging its buying power and as such, overpaying for commodity items. When I was DHS CIO, we set up a small office to establish enterprise license agreements (ELAs). Over a four-year period, we were able to establish ELAs with key software vendors (such as Microsoft and Oracle) and realized hundreds of millions of dollars savings. Further, some commodity IT services lend themselves to the use of shared services models, and while such models have had mixed success in government, there are instances where shared services offered at an agency level or even federal level via GSA offer both cost and operations benefits to Agencies.

Recommendation 1: Add Commodity IT purchase metrics to the FITARA Scorecard. The Federal IT Acquisition Reform Act (FITARA) was passed more than two years ago with the objective of empowering agency CIOs to more effectively manage agency IT. With that empowerment comes authority but also responsibility. Commodity IT purchasing is the category in which there can be near term cost savings. As such, OMB should insist that all agency CIOs develop a comprehensive and accurate inventory of all commodity hardware and software assets in their Agency, and that the CIO develops a two-year plan to optimize the required hardware and software assets. Further, the agency CIO should develop

enterprise purchasing arrangements for their top IT vendors, or as appropriate, leverage the good work GSA is doing in establishing vehicles as part of their category management and shared services initiatives to leverage the buying power of the entire Federal Government. Congress should add measures of commodity IT purchasing, both in terms of inventory completeness, accuracy, and effective purchasing, to the FITARA Scorecard.

IT Projects

This category, whether it serves as an IT infrastructure or IT application project, comprises the bulk of IT acquisition, yet all of these projects are too small to be on the OMB IT Dashboard. When I served as the DHS CIO, we had hundreds of ongoing projects that fit this category. Within the headquarters office alone, it would not be unusual to have more than 30 concurrent ongoing projects. As such, it is not practical for the CIO of a large Agency to personally be involved with the oversight of these projects. So it is critical that Agencies develop a competency in IT project management so that Agencies have confidence that the large majority of these projects will deliver the expected deliverables in the projected time and cost. Developing an agency competency in project management takes a lot more than just having commercially accepted Project Management Institute (PMI)-certified project managers, or the government equivalent Federal Acquisition Certification for Project/Program Managers (FAC-P/PM) certified PMs. An Agency needs government staff with the capabilities and skills in numerous project management disciplines (to include newer disciplines such as Scrum and DevOps), an appropriate governance model and reporting capabilities, and a culture of acknowledging the importance of project management. There are certainly examples of project management excellence in some Agencies of the Federal Government, but overall this is an area that needs significant improvement.

Near the end of last Congress, the Program Management Accountability Improvement Act (S.1550) was passed and signed into law. I was pleased to see this legislation enacted, because if embraced by Agencies, it should help to drive the changes in project management I outline above, by, among other things:

- Establishing standards and policies for Executive Agencies consistent with widely accepted standards for program and project management planning and delivery

- Engaging with the private sector to identify best practices in program and project management that would improve federal program and project management

- Via the Office of Personnel Management (OPM), establishing a new job series or updating and improving an existing job series for program and project management within an Agency, and establish a new career path for program and project managers.

But like FITARA, the effectiveness of this Program Management Act will be based on how seriously the Administration views the need to improve agencies' ability to

successfully deliver programs and projects.

Recommendation 2: Ensure the Program Management Accountability Improvement Act is properly implemented in Agencies. Given the importance of improving project and program management capabilities in improving IT acquisition outcomes, the new Administration, via OMB, should move to rapidly implement all elements of this new law. A particular focus should be efforts to build a cadre of government staff in each Agency with the skills, abilities, and experience to manage IT projects and programs. Importantly, the Administration should insist upon measures to be developed that enable OMB and Congress to monitor the implementation of the provisions of this law at an agency level.

IT Programs – Infrastructure

A few decades ago, large-scale IT systems required a tight coupling of the applications and the IT infrastructure to obtain adequate system performance at a reasonable cost. As technology has advanced, computing and storage costs have plummeted, and the rise of cloud computing has enabled organizations to get and pay for compute power when and only when they need it. As such, it has revolutionized IT architectures, largely de-coupling the underlying IT infrastructure from the IT applications that ride that infrastructure. In other words, CIOs can now implement a modern IT infrastructure that enables the support of existing and as yet undefined new applications. And the added benefits of having a modern IT infrastructure is that it simplifies the development and fielding of new applications that ride on it, while also significantly improving the cyber security posture of the Agency.

To significantly improve IT acquisition and operations, Federal Government Agencies need to rationalize and modernize their IT infrastructure as one of their highest priorities. This includes, but goes well beyond, data center consolidation initiatives. Given the advance in IT security over the past couple of years, I believe that for most Agencies, skipping data center consolidation and moving wholesale to a modern cloud-based infrastructure is not only much more cost effective, but actually is more secure than relying on the legacy data centers many Agencies continue to operate. It does not matter where the servers live, but rather what access controls and monitoring are used in the operation of those servers. The cloud service providers that have provisional authorizations under the FedRAMP control suite and process gives Agencies numerous options today for secure, cost effective cloud computing services. These cloud-based services actually simplify IT infrastructure acquisition for Agencies.

Recommendation 3: Require Agencies to implement a modern IT infrastructure – Again, agency CIOs, via the authorities in FITARA, should be held responsible and accountable to make this happen in their respective Agencies. OMB should insist on development of aggressive three-year plans that have as their objective a consolidated, modern IT infrastructure for the Agency. Further, most large Agencies should, as part of this transformation, be able to drive 20 to 30 percent savings in IT infrastructure spend. Congress should review these plans and track progress of implementation and cost savings on a regular basis.

IT Programs - Applications

Large-scale, multi-year IT programs that are to deliver new or modernize existing systems to support the mission or business of an Agency are risky, even in the most mature IT organizations. Yet given the myriad number of large-scale legacy systems running today in Federal Agencies, this is a category that the government must continue to address. I have had significant experience working on large-scale IT programs, and have written extensively and testified on this topic[2]. Likewise, the American Council for Technology (ACT) – Industry Advisory Council (IAC)[3] has done good work in laying out seven keys for success in delivering large-scale IT programs in government[4]. And further, the National Academy of Public Administration (NAPA)[5] has also recently released a report on "Improving Program Management in the Federal Government."[6]

Given my previous testimony and the reports I reference above, I am not going to go into specific detail on ways to improve IT program management. There are a couple of points, however, I wish to make regarding this category of IT acquisition. First, it is fairly evident that the proper implementation of the Program Management Accountability Act (Recommendation 2 above) is valuable in supporting both IT programs and IT projects. But in my experience, even an experienced program manager with a solid program management team will find it difficult to succeed in an Agency that from an institutional perspective does not understand what is needed to successfully deliver large-scale programs. Delivering such programs requires a strong collaboration amongst key organizations in the Agency, to include at least IT, the mission or business program owner and organization, procurement, finance, legal, human resources, and security. If any one of these organizations does not properly commit and provide skilled and experienced resources to the program, it significantly increases program risk. Further, an Agency needs to have a robust governance model in place to facilitate effective decision making at a program level. Most Federal Agencies just do not have the institutional

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[2] Testimony on implementation of Healthcare.gov before the House Committee on Oversight and Government Reform November 13, 2013 (https://oversight.house.gov/wp-content/uploads/2013/11/Spires-Statement-Healthcare.gov-11-13.pdf)

[3] The American Council for Technology (ACT) and Industry Advisory Council (IAC) is a non-profit educational organization established to improve government through the innovative and efficient application of technology. For more than 30 years ACT-IAC has provided an objective, trusted and vendor-neutral forum where government and industry executives are working together to create a more effective government.

[4] https://www.actiac.org/7sforsuccess

[5] The National Academy of Public Administration is an independent, non-profit, and non-partisan organization established in 1967 to assist government leaders in building more effective, efficient, accountable, and transparent organizations.

[6] http://napawash.org/reports-publications/1724-improving-program-management-in-the-federal-government.html

maturity to handle large-scale IT programs, and those that do (IRS and US Coast Guard are two that I know given my experience) built such capability as the result of learning from spectacular program failures they had in the past.

Having Agencies develop this institutional maturity can be difficult without a roadmap. When FITARA was first enacted, ACT-IAC was asked by OMB to bring together a select set of experts from government and industry to support FITARA implementation. One of the products developed was a maturity model[7] for federal IT that addresses agency maturity in IT management in general, and it includes sections for both acquisition and program management in particular. I was pleased to be a member of the working team that produced the maturity model, and am especially pleased that is being used by a number of Federal Agencies, including the US Department of Agriculture (USDA).

Recommendation 4: Measure Agencies on their IT Acquisition and Program Management Maturity – Whether it is the ACT-IAC model or another IT management maturity model, it is critically important that Agencies are measured against an objective set of standards and best practices that have shown the ability to substantially improve their capability in IT acquisition, in particular the successful delivery of IT projects and programs. OMB should mandate the use of an IT management maturity model in Agencies, and the first step should be an initial assessment to establish a baseline. Each year, as part of the annual budget process, Agencies should develop a detailed plan for how they will improve their maturity and what progress indicators will be used to measure such progress. Congress should incorporate key acquisition and program management elements of the maturity model into their FITARA scorecard.

Recommendation 5: Reintroduce and enact the MGT Act[8] – The Management of Government Technology (MGT) Act was introduced in the last Congress. There were a few variations of the legislation, but a key component of all the versions included the ability for Agencies to establish working capital funds (WCFs) that could be used in funding IT modernization initiatives (i.e., IT programs as defined above). There are significant benefits for Agencies in having such budget flexibility, thus enabling them to shift resources saved through IT efficiencies into funding new modernization initiatives that have direct mission delivery impact. Further, having multi-year funding capability via a WCF enables program managers to more effectively plan and resource a program over multiple fiscal years.

[7] https://www.actiac.org/groups/project-fitara

[8] https://www.congress.gov/bill/114th-congress/house-bill/6004

Conclusion

To significantly improve federal IT acquisition will take sustained focus and leadership from the Administration and continual oversight from Congress. I applaud the work of these Subcommittees and the Committee on Oversight and Government Reform, in particular for the work you did on drafting the FITARA legislation and your efforts to get it enacted. But to make lasting improvements in IT acquisition will require a set of changes to the skill sets of agency employees and to the culture of the Agencies themselves. As presented in my recommendations, this will take a multiple-year commitment from the Administration, with proactive oversight from Congress. While the changes I am advocating will be difficult for most Agencies to implement, the benefits of such changes are manifold, providing significant savings in IT spend, but more importantly, greatly helping Agencies to better perform their missions.

Thank you for the opportunity to testify today.

Mr. HURD. Thank you, Mr. Spires. But you are burying the lead. I would have led with MGT as the first one.

[Laughter.]

Mr. HURD. Mr. Puvvada, you are now recognized for five minutes.

STATEMENT OF VENKATAPATHI PUVVADA

Mr. PUVVADA. Thank you. Good afternoon, Chairmen Hurd and Meadows, Ranking Members Kelly and Connolly, and members of the subcommittee. Thank you for inviting me to testify on behalf of the Unisys Corporation.

The subject of today's hearing is critical to moving Federal Government towards IT modernization and leading-edge digital services that facilitate a good interaction between the government and citizens.

Unisys is a global provider of industry-focused technology solutions integrated with leading-edge security to clients in the government, financial, and commercial sectors. This breadth of experience has placed our company at the frontlines of tackling significant challenges that come with the technology modernizations. Many of you deserve credit for recognizing the need for IT modernization and for crafting MGT Act in last Congress. We encourage you to do the same in this Congress.

In my written testimony, I include statement—I include several key principles and best practices that are widely used during successful modernization initiatives. These include a reliance on commercial solutions, focus on reducing costs, and integrated capabilities to allow services to connect seamlessly.

I also highlight private sector best practices of how CIOs can successfully transform their enterprises, for example, by establishing strong connectivity with their unit-level CIOs and CTOs and CSOs.

To harness emerging innovations, it's important that the government attract and partner with the best and brightest IT solution providers. This allows us to tap into new capabilities such as service delivery—as service delivery models, agile development cloud computing cybersecurity, and other emerging technology solutions.

Today, such partnerships are established through a system that in many cases is time-consuming and driven by processes rather than outcomes. Thus, the challenges to be addressed have as much to do with how the government buys as they do with what the government buys. Ultimately, acquisition is an enabler to agency mission delivery success.

Unisys offers a number of recommendations that can improve upon the acquisition system we have today, creating a robustly competitive landscape central to ensuring government access to best-in-class innovations. Recommendations that I expand upon in my written statement include seven of the following:

First, reemphasizing the preference for government's reliance on commercial solutions and continuing efforts to remove barriers and streamline processes for acquiring such solutions.

Second, broadening consideration of potential vendors' past performance to include work performed for non-Federal clients so that commercial best practices can be brought over.

Third, enhancing communication and collaboration within the government and between the government and industry to include improved communication among C-suite executives and one-on-one discussions with potential vendors, as well as meaningful debriefings with the bidders.

Fourth, greater reliance by agencies on statement of objective instead of prescriptive statements of work and the adoption of innovation templates that providers—provides vendors with the flexibility to introduce innovations and focus on them.

Fifth, encouraging vendors to provide demonstrations of new capabilities and emerging technologies through the performance of a contract.

Sixth is focusing on value over price by limiting use of low-price technically acceptable evaluation criteria, particularly where non-commodity services are sought.

And seventh, increasing use of downselects and multiple awardee contracts that enable and focus on past performance and capability instead of cost alone.

Additionally, to harness innovation and achieve IT modernization goals and digital transformation, agencies must be staffed with an acquisition workforce that is equipped with the right skillsets and supporting resources. Unisys' perspective is that our smartest clients are our best clients. To that end, we encourage investment in the acquisition workforce to bolster capacity to procure IT solutions effectively.

Language in FITARA requiring the development of IT acquisition cadres within the agencies is a step in the right direction. Also, shifting leadership mentality that encourages calculated risk-taking in agencies such as DHS is a very positive development. We're supportive of the expansion of the Procurement Innovation Labs across the government. We're particularly impressed by DHS Procurement Innovation Lab and HHS Buyers Club.

In summary, we at Unisys believe government can make significant progress in addressing these technology challenges by focusing on investments in modernization, improvement in acquisition, enabling change in management and governance and training.

This concludes my oral statement. Thank you. I look forward to answer questions.

[Prepared statement of Mr. Puvvada follows:]

Statement of
Venkatapathi Puvvada
President, Federal Systems
Unisys Corporation

"Reviewing Challenges in Federal IT Acquisition"

Joint Hearing of the
Information Technology
&
Government Operations
Subcommittees

House Committee on Oversight and
Government Reform

U.S. House of Representatives

March 28, 2017

Introduction

Chairmen Hurd and Meadows, Ranking Members Kelly and Connolly, and Members of the Subcommittees, thank you for the invitation to testify before you on behalf of Unisys Corporation. The subject of today's hearing is critical to moving the Federal Government toward information technology modernization and leading-edge digital services that facilitate interactions between Government and the Nation's public.

Unisys is a global information technology company that specializes in providing industry-focused solutions integrated with leading-edge security to clients in the government, financial services, and commercial markets. Unisys' offerings include security solutions, advanced data analytics, cloud and infrastructure services, application services, and application and server software.

Unisys has a rich legacy as one of the premier innovators of technology and started the computing revolution as the first company to design, manufacture, and deliver the commercial computer. Unisys also has a long and proud history of partnering with the Federal Government to provide solutions to Federal agency mission needs. Unisys brings commercial solutions and best practices to the Government with its long track record of providing information technology and professional services to private sector clients, to state and local governments, and to international customers both in the private and public sectors.[1] This breadth of experience has placed our company in the trenches as information technology has advanced at an exceptional rate over the last three decades. These trends required us to adapt, and we are enthusiastic to witness the Federal Government's recognition that it, too, must adapt. The increasing call for user-centric Government services, open data and transparency, and a more digitized Federal Government requires that the Government modernize many of its IT systems. Your subcommittees deserve great credit for recognizing the need for modernization. Your subcommittees are also to be commended for recognizing that modernization is not just about what systems or solutions you buy to enable modernization and drive digitization, but *how* you buy IT capability to facilitate what will be an ever-changing end state.

The challenges for improving Federal IT acquisition are significant, but continued management and attention to improving acquisition policies and processes presents significant opportunity for improving Government services and realizing savings. GAO's inclusion of "Improving the Management of IT Acquisitions and Operations" in its 2017 High Risk List is appropriate and will help drive attention to the challenges of improving Federal IT services delivery. In addition, the inclusion of Smarter IT Delivery on the Federal Government's Cross Agency Priority (CAP) goals is a positive. The Smarter IT Delivery CAP established the following vision:

[1] For more information about the history of Unisys, visit http://www.unisys.com/about-us/company-history

> "The Federal Government will deliver world-class IT services allowing customers to easily access and complete digital transactions. We will accomplish this by attracting, hiring, and retaining the best talent inside government; partnering with the most innovative companies; and establishing effective processes to drive outcomes and accountability."

The vision is correct, and as the CAP goal and GAO have recognized, the challenges are not insignificant, but can be overcome. In short, the vision lays out three areas of focus: people, procurement, and process. We hope that the new Administration will retain this as a CAP goal.

My written statement focuses on the need for:

- Investments in modernization;
- Improvements in acquisition; and
- Enabling change in management of IT.

With these discussion areas, I hope to provide a viewpoint both from strategic and operational perspectives on how each of the key focus areas (people, procurement, and process) can improve to create a truly digitized Federal Government. I have highlighted commercial best practices (that are applicable to Government) from leading global IT providers like Unisys in each of these areas.

Investments in Modernization

The Federal Government currently maintains a significant amount of "legacy" IT systems that rely on aging infrastructure and dated software code. Your committees have rightly focused on the disadvantages of relying on this legacy IT, including the barriers to providing data transparency and citizen services, as well as security threats. But modernization is, and will always be, an evolving challenge—one that will constantly change as technology and services delivery evolve. The previous Administration's Office of Management and Budget (OMB) exit memo appropriately described the fundamentals of digitization as requiring a shift by the Government "to build up its ability to keep evolving as technology evolves; the transformation of government for the better is a continuous, iterative journey, not a destination." This is a truth that has long been recognized by the private sector. And to address it, industry adopted as a best practice the reliance on iterative, or modular, and agile development that allows for the identification of technical problems and other challenges throughout the process along with flexibility to adapt to quickly changing technology landscapes.

Yet modernization of Government IT has a myriad of examples of failed projects, and GAO has highlighted a number of contributing factors. Simply put, modernization is not easy, and modernization is not cheap. Agile development and modular acquisition can go a long way toward solving the challenges associated with both risk and cost, as can a shift to "as-a-service"

consumption models, but ultimately Congress must provide the financial resources and flexibility to significantly advance Federal IT modernization in the pursuit of long-term savings and efficiencies.

Agency missions cannot be put on hold while financial resources are shifted to modernization efforts. Legacy systems must be sustained while transitions to modernized IT infrastructures and software are underway (e.g., bimodal IT). The need for this bimodal IT approach carries a financial burden tied to early investment costs, but is essential to modernization efforts that, in the long run, will address the imbalance of Federal IT investment that is dedicated to sustaining legacy systems. To address this budget challenge, the House of Representatives in the last Congress introduced and passed legislation titled the "Modernizing Government Technology Act" (MGT Act)—an effort that was led by you, Congressmen Hurd and Connolly, and Congresswoman Kelly. The bill's goal of creating "IT modernization funds" that would allow agencies to invest in modernization while paying back those investment costs with future savings is strongly supported by Unisys. We encourage you to introduce similar legislation in the 115th Congress, and we recommend that the Senate consider companion legislation.

Additionally, Unisys recommends that the Administration review, and take action to finalize, the draft memorandum issued by former OMB Director Shaun Donovan and former Federal CIO Tony Scott on October 27, 2016, titled "Information Technology Modernization Initiative."[2] That memorandum identifies the challenges faced by Federal agencies when considering modernizing IT systems, and it highlights some of the work done to identify IT systems that should be modernized. The draft memorandum also discusses a number of resources, including templates that OMB would provide to Federal agencies to help them identify which of their IT systems should be a priority for modernization. In effect, the draft memorandum would have initiated a lot of steps toward modernization that the Modernizing Government Technology Act sought to encourage. Appropriately, the memorandum also acknowledges the funding challenges that the MGT Act could address.

Unisys recommends some key principles that are widely used within our company and other leading organizations to enable successful modernization efforts. I outline them below in two major categories:

Applications Modernization

- Aggressively move from legacy and on premise COTS (commercial-off-the-shelf) applications to cloud-based services.
- Reduce the "run" (O&M) and focus on "configure and deploy."
- Redesign business operations to leverage cloud service design patterns and workflow.
- Standardize, centralize, and automate: minimal touchpoints and customizations.

[2] Available at https://policy.cio.gov/it-modernization/

- Develop a robust integration capability and framework to allow cloud services to interconnect seamlessly.
- Improve decision making with analytics, big data, and machine learning.
- Focus on end-user experience, self-service, mobility, and low friction IT.
- Focus on security at all times. Eliminate accounts with "standing" elevated permissions; provision elevated permissions as needed and time bound.

Infrastructure Modernization

- Phased move to cloud-based infrastructure (Infrastructure-as-a-Service and Platform-as-a-Service). Non-production environments followed by production environments.
- Replication replaces redundancy. Replication should be built into the infrastructure design from the beginning.
- Only production environments should be available 24x7. Non-production environments should be created/enabled on demand, as needed.
- Account for some infrastructure on premise in most cases. Enable hybrid directory services model.

Additionally, we recommend that CIOs and IT staff align their modernization initiatives from strategic as well as operational perspectives. We encourage both Congress and OMB to provide support to agency CIOs with investments in skills, processes, and capabilities, and we encourage agency management to provide sponsorship for collaboration within and across departments. I have outlined a few alignment techniques below for your consideration.

- **Strategic Alignment**
  - CIO and IT staff maintain awareness of strategic business decisions, which may impact the IT organization and budget.
  - CIO and IT staff involvement in the short-term (1–2 years) and long-term (3–5 years) agency strategic business planning processes to ensure that IT aligns with the agency priorities.
  - CIO and IT staff proactively connects with the agency functional and program experts to understand the future direction of the agency operations.
- **Operations Alignment**
  - CIO and IT staff gain visibility and establish credibility with functional/agency/bureau IT leaders in connecting technology with an understanding of mission drivers and strategy.
  - CIO and IT staff understand and learn current business processes and identify opportunities for improvement through the use of information technology and automation.
  - CIO and IT staff understand and participate in decisions for software and hardware in use that are not directly under their responsibilities.

- CIO and IT staff get buy-in from mission and program owners with collaboration during feasibility studies, as well as systems design and implementation efforts.

Improvements in Acquisition

Key Procurement Attributes

The funding challenges regarding IT modernization are only one piece of the equation for improving Government mission delivery. Of equal importance is *how* the Government buys the IT capabilities that it needs. Unisys believes that an acquisition ecosystem that best serves the needs of the Federal agencies while ensuring the responsible expenditure of taxpayer dollars should have the following characteristics:

- **Competition** – The Government must ensure that robust competition is a priority. Competition is the single greatest driver of quality and fiscal responsibility in Federal contracting. To be truly competitive, the Government must establish an acquisition process that attracts the best the private sector has to offer. A primary means of ensuring competition is to rely upon commercially available solutions and services. Robust market research is essential to identifying commercial solutions and services and avoiding investments in duplicative IT solutions that are already commissioned in other environments.
- **Mission-Focused** – Accomplishing mission needs is the underlying goal of Federal acquisition. Effective acquisition is merely an enabler. Achieving outcomes in a timely manner is paramount to adhering to rigid processes. Thus, acquisition improvements must focus on driving mission results over non-value added administrative processes.
- **Incentive Driven** – Identifying and implementing innovation throughout the acquisition life cycle is often overlooked in Federal acquisition. The Federal acquisition ecosystem must encourage and incentivize Federal contractors to bring innovative solutions to the table during contract performance, and the Federal agencies must structure contracts to be agile enough to adjust to innovations.
- **Focused on Quality and Value** – The Government must focus investments on quality and value. Market research about the current market dynamics, as well as how the dynamics are likely to change in the future, must be strongly considered. A focus on fair and reasonable pricing in lieu of lowest price technically acceptable evaluation criteria must be the norm, particularly for more complex solution and service needs.
- **Collaboration** – Too often, a reluctance to engage all the stakeholders involved in delivering mission outcomes results in misunderstanding of mission needs and capabilities. To be successful, the Government must maximize communication between program offices, industry, the acquisition community, and others (legal, financial, etc.) so that all stakeholders understand how key challenges will be addressed.
- **Flexibility** – There is no one-size-fits-all approach to acquisition. How agencies buy is often dictated by what they are buying. Federal acquisition regulations must be flexible

enough to minimize risk in certain circumstances (commodity purchases, for example) and to allow the acquisition workforce to accept certain risk for more complex acquisitions. The Federal Acquisition Regulations System (FAR) provides needed flexibility, but this flexibility is often avoided by a risk-averse Federal acquisition workforce.

- **Accountability** – Each stakeholder should be able to clearly understand their responsibilities throughout the acquisition life cycle and the deliverables that are expected of them. All stakeholders must understand the risks, and risks that cannot be fully mitigated should be allocated appropriately and fairly. Each stakeholder must then be responsible for holding up their end of the bargain.

In our view, any changes made to acquisition regulations or processes should be focused on enhancements to the key attributes of a well-functioning acquisition system outlined above. With regard to Federal IT acquisition, there has been a lot of activity in recent years that focuses on these attributes. Because some of our recommendations build upon the work that has already been done, it is important to highlight what has been accomplished, including:

- The passage of the Federal Information Technology Acquisition Reform Act (FITARA) provides greater authority for agency CIOs to manage IT acquisitions and seeks to increase capacity for acquisition professionals to hone their understanding of IT.
- The establishment of Innovation or IDEA labs within Federal agencies that seek to streamline acquisition processes, shorten lead times, and improve acquisition overall is encouraging. The Procurement Innovation Lab at DHS and the HHS Buyers Club are good examples.
- The creation of the U.S. Digital Service to build internal core competencies.
- TechStat and PortfolioStat reviews to ensure that troubled IT programs are identified early on and corrective action is taken quickly.
- The TechFAR and Digital Services Playbook that focus on agile software development and modular acquisition.
- The creation of the Digital IT Acquisition Professional training program.
- Individual agency contracting strategies that seek to infuse innovation throughout the life cycle of the contract and spur contractor competitions to solve emerging challenges and needs.

Enhancing Competition

Commercial Items Acquisition

Leveraging commercial items acquisition for information technology and services can be a tremendous driver in delivering positive IT results for Federal agencies. Commercial items acquisition enhances competition for Federal contracts while simultaneously streamlining the acquisition process, thus reducing administrative burdens for both industry and Government.

Congress recognized these benefits and passed laws in the 1990s that encouraged greater reliance on commercial items and sought to remove and discourage the use of government-unique requirements for such acquisitions. Unfortunately, in recent years, government-unique regulations have been on the rise, and commercial entities have expressed frustration with the costs of entering and sustaining a presence in the Federal market. The House and Senate Armed Services Committees have been exploring this area for several years, and have enacted legislation, specific to DoD contracting, that seeks to reinvigorate commercial items acquisitions. Examples include requiring greater market research before making a determination that commercial solutions are not available, and requiring DoD to report on the defense-unique requirements that apply to commercial items acquisitions. Unisys supports many of the commercial item reforms that have been adopted. However, there has been little activity on this front as it relates to the civilian agencies. Thus, we recommend the creation of a public-private working group to conduct a thorough analysis of the current state of commercial items acquisition within the civilian agencies. Specifically, the working group should be tasked with analyzing if, and how, the commercial item reforms enacted in the Fiscal Year (FY) 2016 and FY 2017 National Defense Authorization Acts (NDAA) could benefit the civilian agencies if expanded Government wide. The working group should also examine the intersections between FAR Part 12 (Commercial Item Acquisition), FAR Part 39 (IT Acquisition), and FAR Part 37 (Services Acquisition) to identify areas where the FAR Parts are out of alignment or create confusion.

Regulation

The proliferation of regulations is not limited to the growth of government-unique requirements regarding commercial items acquisition. In efforts to establish the perfect acquisition system, the Government continues to add new statutory and regulatory requirements. In some cases, these are logical improvements. In other cases, such requirements add little or no value to mission outcome or effective oversight. Accordingly, we were pleased to see the enactment of language in the FY2016 NDAA establishing the "Section 809 panel" that Dee Lee will address during this hearing. We are hopeful that the work conducted by that group will lead to significant streamlining and efficiency in Federal acquisition. While many regulations are focused on industry requirements, the burden on the acquisition workforce has also expanded.

Acquisition policies, procedures, and processes have evolved over the years, and agencies have institutionalized them into acquisition practices for acquisition professionals to follow and measure. However, they also introduced several practices that are merely bureaucratic in nature and viewed as "check the box" compliance items that many acquisition professionals believe do not add value and which take up valuable time that could otherwise be used to enhance the acquisition and mission outcomes. We recommend that OMB, perhaps building upon the work being done by the Section 809 Panel, conduct a thorough review of all the compliance items that are mandated to be followed by acquisition professionals, and consolidate, streamline, or eliminate them.

Broaden Past Performance Considerations

As stated in my introduction, Unisys is a global company performing quality work for a number of public and private sector clients around the world. We have a solid record of past performance. However, we have witnessed occasions where the Federal Government has limited the evaluation of bidders' past performance primarily to work that has been performed specifically for the United States Federal Government (sometimes even to a segment of it), or has not given equal weight to past performance evaluations provide by a vendor's private sector or other non-U.S. Government customers. While this strategy may provide a certain level of perceived risk avoidance to the Government, it is far more likely that it is limiting competition and innovation. Unisys recommends that the Office of Federal Procurement Policy (OFPP) issue guidance to Federal agencies encouraging greater consideration of past performance by non-U.S. Government customers during the source selection process.

Appropriate Use of Small Business Set Asides and Accurate Measures of Small Business Participation in the Federal Marketplace

Unisys supports a Federal acquisition environment that provides opportunity for small businesses to participate in the Federal marketplace through the use of set-asides. However, we are concerned about usage of inconsistent and arbitrary methodologies applied by some agencies when determining to set aside contracts exclusively for small businesses. It is equally important that agency missions benefit from robust competition among Federal contractors of all sizes. Unisys supports balance between these two objectives.

Thus, it is important for the Government to have accurate data about the small business participation across the entire Federal market. Specifically, this means obtaining accurate data about small business participation at the prime contracting level and at the subcontracting level. It also means having accurate data about small business participation within specific industries. One area of concern is that set-asides are being used at a greater frequency for certain types of work. For example, because the Department of Defense spends much of its procurement budget buying major weapons systems that do not lend themselves to small business participation at the prime contracting level, the Department must rely on other sectors (i.e., information technology and services) to meet its small business contracting goals. In some cases, this has led to instances where large contracts have been set aside for small business participation only, putting at risk not only the Government mission but also the capacity of small businesses to perform. While small business prime contracting data is relatively accurate, there is much less confidence in small business participation data at the subcontracting level. Unisys often partners with small businesses to assist with meeting agency missions, and we are proud of our track record. However, we believe little attention is being given to small business subcontracting while there is an increasing push to elevate small business participation at the prime level. Unisys recommends that Congress continue to seek accurate data from the agencies about small business subcontracting at a macro level and within specific industries. Once there is confidence in the overall small business participation data, then meaningful conversations can occur about

how, and in what industries, Government can achieve a balance between robust and restricted competitions.

Leadership and Governance

Fostering Communication and Collaboration through Improved Governance

First and foremost, collaboration and communication between the Government and private sector is essential to aiding industry's understanding of the mission needs, and, in turn, the Government's understanding of the private sector capabilities to deliver on that mission. Effective communication *within* Government is of equal, if not greater, importance. Too often, a lack of communication between program, contracting, information technology, end users, finance, legal, and other Government personnel set IT projects off on the wrong foot, and the challenges become greater to bring those programs back into line. Effective communication can best be addressed by reevaluating existing IT governance structures and encouraging a culture of communication. Such structures should enhance the functionality of integrated program/project teams (IPTs)—cross functional or multidisciplinary groups of individuals that are organized and collectively responsible for delivering a product, service, or outcome, to an internal or external customer. While functional IPTs also require effective workforce planning (as discussed below), highlighting IPTs within governance models will ensure that key stakeholders are brought together in a collaborative environment early in a program's life cycle. Such collaboration is essential to ensure that perspectives, motivating factors, and concerns of each stakeholder are understood by others and addressed effectively. GAO published a valuable report regarding IPTs in November 2016 that highlights the key attributes of IPTs, many of which mimic industry best practices.[3] Most notably, GAO recognized the importance of providing IPTs with strong executive leadership support external to the IPT itself to serve as an advocate for the team, empowering the team to carry out its responsibilities, and ensuring the team has the necessary resources to complete its work.

C-Suite Communication and Commitment

Frequent post-award communication among senior agency and vendor executives is also critical to ensuring successful outcomes and opportunities to innovate throughout the performance of a Federal contract. This approach is a critical success factor for any complex or a high-priority/high-visibility program. Such engagement has long been a best practice at Unisys. One recent successful example is the establishment of governance review monthly meetings with all senior stakeholders, including agency leadership, agency principals, and CEOs/principals of companies, which allowed proactive discussions as well as setting up/adjusting operational execution priorities and milestones.

[3] GAO-17-8, IT Workforce: Key Practices Help Ensure Integrated Program Teams: Selected Departments need to Assess Skills Gaps, available at http://www.gao.gov/assets/690/681309.pdf

Acquiring Innovation

In the invitation to this hearing, the Subcommittees requested that we provide our views about how the Government can incentivize innovation and leverage private sector innovation capabilities. This is an important question and there are a myriad of options that the Subcommittees should consider.

Statements of Objectives

Greater reliance by Federal agencies on Statements of Objectives (SOOs) in lieu of prescriptive Statements of Work (SOWs) is another method that can be deployed to harness innovation. The benefit of Statements of Objectives is that they allow the agency to describe its mission needs and the challenges in broad terms. Conversely, Statements of Work (SOWs) often focus on a set of specific requirements that a contractor must be able to address. To be clear, SOWs are effective when the agency has a clear set of requirements. But often, particularly for more complex services and information technology projects, the agencies do not know all the detailed requirements that will need to be addressed. They simply recognize they have a mission challenge and that an information technology solution is necessary. In such cases, using a SOO instead of a SOW allows agencies to describe their challenges and empowers Federal contractors to propose Performance Work Statements (PWSs) that best meet the needs of the agencies. The bidder-proposed PWS allows contractors to propose innovative solutions for the agency to consider and provides contractors with leeway to provide alternative solutions that may have been dictated otherwise had a Statement of Work been used. Ultimately, a detailed PWS is developed by the winning bidder and agency.

Unisys recommends that OFPP issue guidance to the Federal agencies encouraging greater reliance on SOOs, particularly when complex services and non-commodity IT solutions are sought. The guidance should include specific examples of SOOs that are focused on mission results and outcomes and that maximize contractor flexibility to leverage innovation and creativity.

Overcoming a Culture of Fear about Communication

While governance structures promoting IPTs are integral to ensuring effective communication, more must be done to encourage robust communication between Government and industry. The "Myth Busting" memos published by OFPP over the past several years have been helpful. Additionally, individual agency initiatives, such as GSA's creation of its "Interact" website that established discussion forums on specific acquisitions for Government and industry to communicate, have proven beneficial.[4]

One-on-one discussions between agencies and potential vendors must also be encouraged. Reluctance to engage in such discussions is often driven by fears of bid protests on the grounds

[4] GSA Interact Website available at https://interact.gsa.gov/

that equal information will not be provided to all bidders. These concerns can be alleviated by publicly posting synopses of information provided by agency personnel during the discussions. Such discussions should be further encouraged, particularly during the time period before a final Request for Proposal has been issued. Additionally, meaningful communication can often occur after source selection via oral debriefings. Oral debriefings provide bidders, whether successful or unsuccessful, an opportunity to gain valuable Government insight about how the bidder's proposal was assessed and interpreted by the Government. Contrary to fears, meaningful debriefings result in fewer bid protests and equip vendors with valuable information about how to be successful in subsequent competitions.

Innovation Templates

Unisys also recommends that Congress require OFPP to create and test the use of "innovation templates" that would allow bidders to highlight innovative approaches they are proposing in response to an agency solicitation. The template should also permit bidders to discuss and highlight the value of the innovation being offered, including any long-term cost reductions or increased capabilities that will be achieved. The Professional Services Council (PSC) has created a sample innovation template as a resource for OFPP that we support.[5]

Contractor Demonstrations

Unisys is encouraged by agency initiatives to identify and adopt innovation throughout the life of contracts, particularly multiple award task and delivery order contracts. One recent example of this best practice is the Defense Information Systems Agency's Request for Proposal (RFP) for the Systems Engineering, Technology and Innovation (SETI) opportunity. In the RFP, DISA has reserved the option to permit contractor demonstrations in a one-on-one environment to discuss innovative ideas and solutions, or to present new technologies that are not currently being considered or developed. The goal of the demonstrations is to create robust sharing of ideas, solutions, and technologies that can support the warfighter or enhance national security. Unisys recommends that OFPP identify this DISA approach as a best practice and promote its use to other Federal agencies, where appropriate.

Value over Price

A practice that is hampering the Federal agencies' ability to identify and harness innovation is the reliance on the lowest price technically acceptable (LPTA) source selection methodology. While LPTA is a legitimate and useful acquisition strategy for use in procurements with well-defined requirements and objectives, industry has experienced misuse of LPTA evaluation criteria, particularly in instances where the agencies are seeking complex professional or IT services. In such cases, the focus on driving bidders to the lowest cost has led to an environment where value to the Government is an afterthought, and the ability of a company to effectively deliver a valuable solution or innovative outcome is undermined by a drive to hire a company

[5] PSC Innovation Template available at https://www.pscouncil.org/Downloads/documents/PSC%20Innovation%20Template.pdf

with the lowest labor rates. In an era when the Government is seeking to increase innovation and obtain "best in class" solutions, an LPTA approach stymies creativity, eliminates flexibility to make tradeoffs between costs and desired capabilities, and risks higher long-term costs due to mission failures and contract rework actions. A focus on price over value is particularly problematic for contracts for information technology services, engineering and technical services, and other knowledge-based services or solutions where requirements are more difficult to accurately define and solutions require specific expertise that is not likely to materialize under an evaluation methodology that focuses on the lowest price. Congress, recognizing that LPTA undermines innovation when used inappropriately, adopted language in the FY17 National Defense Authorization Act that seeks to limit DoD's reliance on LPTA for professional and IT services.[6] Unisys recommends that the LPTA language included in the FY17 NDAA be broadened to have Governmentwide applicability, thus further reinforcing the appropriate circumstances when LPTA is acceptable, and when it is not.

Congress also recognized, via the FY17 NDAA, that in certain circumstances there is limited value in the evaluation of price as a source selection factor for initial contract awards on multiple award task and delivery order contracts. Under such contracts, the Government first selects a list of qualified vendors that have been "pre-vetted" to bid on task orders as the need arises within the Federal agencies. Because the Government does not have a specific need or requirement at the time the contract is created, there is little value in evaluating price. Under task and delivery order contracts, a second round of competition is conducted when a specific need or requirement (i.e., task order) is issued to the list of pre-vetted contractors. It is within this second round of competition that price becomes a more significant factor. To facilitate the Department of Defense's ability to focus the initial round of competition on vendor qualifications, innovative capabilities, and past performance, Congress removed statutory requirements that price must always be an evaluation factor during the initial competition for multiple award task and delivery orders.[7] Unisys recommends that this flexibility afforded to DoD be expanded Governmentwide so that the civilian agencies may, at their discretion, rely upon it.

Scaling Innovation

The advanced research projects agencies, such as the Homeland Security Advanced Research Projects Agency (HSARPA) and the Defense Advanced Research Projects Agency (DARPA) continue to identify and develop emerging technologies through their collaboration with private industry. Efforts by agencies (again, primarily DHS and DoD) to promote the Federal marketplace to tech hubs around the country, such as Silicon Valley and Austin, TX, also offer promise. However, challenges to integrating emerging capabilities into existing systems and bringing concepts to full-scale development continue to be a hurdle. Flexible acquisition authorities are

[6] Section 813 of P.L. 114-328, Fiscal Year 2017 National Defense Authorization Act, available at https://www.congress.gov/bill/114th-congress/senate-bill/2943.

[7] Section 825 of P.L. 114-328, Fiscal Year 2017 National Defense Authorization Act

effective in overcoming some of these hurdles and should remain within the acquisition "tool box." An emerging issue to watch is how these agencies and outreach efforts expand and what effect they have on the competitive landscape.

Acquisition Workforce

To harness innovation and achieve IT modernization and digitization, the Federal agencies must be staffed with an acquisition workforce equipped with the appropriate skill sets and supporting resources. In the OMB's "Toward an Ever Better Digital Government" publication attached to Shaun Donovan's exit memo, OMB recognized this necessity and highlighted the need for effective recruitment, retention, and training of its workforce. The publication also stated:

> "...the need is not for the Federal Government to hire all of its own engineers, product managers and designers. The vast majority of government digital service development work should continue to be done by private sector contractors, as is true today. However, government needs a certain critical mass of top-flight in-house technical talent in order to be a good buyer of private sector services – otherwise, government will do a poor job of specifying the solutions it truly needs, won't be able to evaluate accurately which contractors are the best ones to deliver those solutions, will manage contractors badly, and won't be able to drive continuous iteration of how agencies work to support execution of the latest best practices (e.g., today, moving agencies from "waterfall" to agile development, from monolithic systems to modular systems, from repetitive rebuilding of services to reuse of services, including extant, commercially available, cloud-based services)."

Clearly, Government and industry are in this together. And Unisys' perspective has been, and continues to be, that our smartest customers are our best customers. To that end, we encourage investment in the Federal workforce to bolster both their capability and capacity to procure professional services and IT. Regarding IT, Unisys is encouraged by the language in FITARA requiring the development of IT acquisition cadres within the Federal agencies. We are also supportive of the creation of the U.S. Digital Services and the creation of the procurement innovation labs being established within the Federal agencies. We are particularly impressed by some of the initiatives taking place with DHS's Procurement Innovation Lab (PIL) and the HHS Buyers Club.

The PIL has quickly established itself as a strong information resource within the DHS acquisition community and often provides insightful guidance to the DHS acquisition workforce about how to acquire innovation solutions and use innovative acquisition procedures. More importantly, Soraya Correa, the DHS Chief Procurement Officer, has made it clear that the PIL should encourage appropriate risk-taking in exchange for potentially more positive outcomes. This "I have your back" mentality goes a long way toward encouraging an acquisition workforce that has long had a culture of being risk averse. The PIL also deserves credit for establishing a

recognition program (PIL Badges) for acquisition professionals putting PIL practices and resources to use. This simple incentive promotes successful procurements that have enhanced mission outcomes and improved transparency for the benefit of both Government and industry. We should continue to reward these efforts through recognition.

The HHS Buyers Club is experimenting with how to acquire innovations. The Buyers Club is promoting several acquisition best practices, such as increased reliance on Statements of Objectives and, most interestingly, the use of 360 degree reviews—another recommendation by the Professional Services Council—in which bidders (including the losing bidders), the contracting officer, and the end users are asked to provide feedback on the acquisition process.

Unisys recommends that the agencies continue to support the work being conducted within the innovation labs. More importantly, Unisys recommends that Congress evaluate the merits of establishing a formal acquisition workforce recognition program that celebrates calculated risk-taking and successful strategies used by the acquisition workforce.

While there are positive developments on the acquisition workforce front, the biggest challenges facing the workforce are Federal hiring freezes and an ongoing risk-averse culture that promotes "check the box" administrative procedures over critical thinking and business acumen. Recently launched initiatives within Government to address these latter challenges are a good start. For example, the Digital IT Acquisition Professional (DITAP) training program offers a curriculum based on principles of agile software design geared toward acquisition professionals, so that they can gain experience applying modern IT procurement strategies. Improved governance structures that encourage the use of Integrated Program/Project Teams are also important. However, emerging training and IPT development have not scaled to meet the demand in Government. GAO has repeatedly highlighted workforce assessment gaps as hampering the ability to build strong IPTs. Additionally, DITAP training sessions are currently filtering approximately 30 people at a time through the program. To truly make a difference, the Government must find ways to proliferate such training.

Acquisition professionals would also benefit greatly from the support of agency senior leadership to enhance collaboration between contracting officers (COs) and program staffs to improve the quality of some key work products, such as acquisition plans, cost estimates, requirements definitions, alignment to IT investment review board activities, and risk registers. We have seen, and GAO has reported on, some improvements in this area. COs will greatly benefit from additional knowledge and experience gained from establishment of area-specific warrants adapted to IT specialties. We recommend that agency leadership make it a priority to cross-train all functional teams that are part of the IT acquisition. In addition, we recommend that acquisition leadership give consideration to having continuity in knowledge and experience in technology/management areas when making work assignments to COs.

We further recommend that the Chief Acquisition Officers Council and OMB consider collaborating with industry and academia to establish an industry standard certification for IT acquisition professionals similar to the Project Management Institute's Project Management Professional (PMP) certification.

Enabling Change in Management of IT

FITARA deserves strong recognition for being a driver of change management. Ultimately, driving change begins with strong leadership and ownership over a set of challenges. FITARA's focus on empowering CIOs has been tremendously helpful, and pockets of effort in Government where CIOs have been able to work collaboratively with other executives, primarily the CFO and the CAO, have proven that our Government's IT challenges can be overcome. Still, more can be done to ensure that best practices established by strong leaders remain in use as CIOs transition back to the private sector or to other departments. Below is a discussion about how CIOs operate in the private sector.

Effective CIO Governance and Change Management Strategies

Some of the best practices employed by commercial CIOs include establishment and effective communication of vision and strategies for enabling successful modernization of their enterprises. Proactive communication of the following initiatives and activities has proven to be very effective in transforming organizations.

- Common future technology vision, roadmap with common architecture.
- Common shared services that eliminate duplicative efforts.
- Leveraging scale and relations with vendors and service providers broadly.
- Enablement of integrated product/solutions/services teams.
- Streamlined communications/collaboration across the enterprise.
- Identifying cost efficiency and investment leverage for new capabilities.

Proactive change management strategy is also critical to enabling success of enterprise transformations. Some example initiatives that could be effective in managing change/transformations include:

- Emphasis and investments in strategic and tactical communications.
- Communication of flexibilities within governance models and policies to suit the mission of individual agencies or bureaus.
- Strong portfolio management with proven prioritization methods.
- Transparency and frequent communication of roles, responsibilities, and priorities.
- Simplified, clear, and quantified responsibility and accountability.
- Establishment of liaisons to other units with domain/mission expertise.
- Leadership connectivity and forums for unit level CIOs, CTOs, CISOs, and domain functional owners.

Benchmarks for Efficiencies and Effectiveness

One of the commercial sector IT best practices is to measure and benchmark organizations' IT costs, processes, service quality, and overall effectiveness in achieving business results or mission outcomes. This allows an organization to compare themselves with their peers and benchmark in relation to best in class performers. Unisys is a long time practitioner of leveraging industry standard IT benchmarks and in setting strategic and operational goals. Several top management consulting firms provide benchmark standards, external data and services for IT, and other business functions. Results from these benchmarks have been extremely valuable to companies such as Unisys and are great change management tools to provide a context to IT staff as well as end users. Typically, these benchmarks measure individual IT sub-functions throughout the life cycle from planning to operations and maintenance of IT infrastructure and application systems, as well as business processes. We believe the Government could benefit from such an approach adapted specifically to the Government environment, requirements, and culture. We recommend that the OMB Deputy Director for Management, Federal CIO, and GAO collaborate to develop best practices for Government IT that CIOs can leverage.

Conclusion

The Federal Government continues to take important steps to enhance its IT capabilities and to move to a modernized, digital government that is nimble, competitive, and harnesses commercial best practices. The previous Administration's work on this front offers great promise, and early signs indicate the new Administration plans to build upon the previous gains. Yet significant challenges remain, including establishing consistent funding streams, streamlining acquisition to promote innovation and efficiency, ongoing improvements to governance and sustained leadership, and, perhaps most importantly, workforce development that equips the hardworking Federal acquisition and IT workforces with the resources and leadership support they need to be successful. To these ends, Unisys is pleased to offer this initial set of recommendations, and welcomes the recommendations made by others testifying before your Subcommittees. We look forward to continuing to work with Congress and the Administration as it addresses this important issue. Thank you for the opportunity to testify and to share our views.

Mr. HURD. Thank you, sir.
Mr. Hodgkins, you are recognized for five minutes.

STATEMENT OF A.R. HODGKINS, III

Mr. HODGKINS. Chairmen Hurd and Meadows and Ranking Members Kelly and Connolly, thank you for the opportunity to share our perspectives on challenges the Federal Government faces regarding information technology investment acquisition and management.

There are many stakeholders, including these subcommittees, who should be applauded for their time and effort to reform acquisition over the last few years. The technology sector, however, has not found those efforts at reform to have had substantial effect, and in many cases they have only resulted in incremental changes addressing symptoms rather than the root problems of the dysfunctioning government acquisition.

The IT Alliance for Public Sector has proposed to President Trump that the time is right to change the way the Federal Government acquires IT, and we would make the same suggestion to the subcommittees.

IT modernization is the key to increasing cybersecurity for government networks. Further, acquisition reform is essential to modernized IT in the government and attain greater cyber assurance. In other words, we cannot have cybersecurity without IT modernization, and we cannot acquire the goods and services we need for either of these goals without changing the way we acquire IT. All three are inextricably linked.

As this committee has identified, we are using IT systems that are now decades old. Many of the challenges with IT acquisition lie in processes that anticipated lengthy development to deliver a platform or solution for use over a long period of time. But that dynamic no longer works for IT. It capabilities and computing power are evolving and improving faster than the government can follow, underscoring the imperative for change. To deliver these new capabilities, modernized IT and better secure the government's networks, the time is right to reimagine the acquisition process.

We recommend four areas of focus for the committee to begin the process of modernization and reform. Number one, assess and inventory the technologies we have today. We do not have a complete picture of the IT hardware and software the government currently owns and is using. Such an action serves several purposes. First, it uncovers exactly what the government owns and is using; second, it determines where vulnerabilities may exist and sets priorities for addressing them; and third, it will reveal what needs modernization and help identify solutions. Congress should use oversight to enforce existing inventory requirements and establish new requirements where there may be gaps.

My second point is to identify meaningful funding for IT modernization. Last Congress, ITAPS strongly supported the efforts by Chairman Hurd, Ranking Member Connolly, and others to fashion a bipartisan means of funding IT investment, and we encourage their continued focus on this problem.

The funding challenge Congress must resolve is that agencies either have the appropriations to continue operating the IT invest-

ments they have already made or fund investments in modernization, but they do not have enough funds for both. Without such a change, the Federal Government will be unable to modernize IT or effectively protect networks and systems from cyber threats.

Third, invest in a tech-savvy workforce. While there are many smart and tech-savvy IT personnel within the Federal Government, there are simply not enough of them. Congress should focus on establishing better IT training and digital capabilities for existing personnel to make them more tech-savvy, regardless of their role. Congress should also work to unencumber the Federal hiring process to attract new talent that can bring new ideas into the Federal workforce.

My final point is that we should unleash the innovative power of the existing industrial base and the commercial sector. We already have innovation in the companies that sell goods and services to support the government mission, but government's unique compliance requirements on vendors distorts what they can sell and how they can deliver it. For commercial companies, such compliance requirements are often prohibitive.

Congress should address these burdens and remove those that do not improve the acquisition outcome or derive better value for the taxpayer. In other words, Congress should help make the government a better customer.

Not all of these challenges can be addressed through legislative actions, but many solutions and outcomes can be driven through the oversight role that these subcommittees and Congress can exercise. Additionally, much of what I have identified requires cultural changes, some of which will not be simple and congressional oversight of agency management can help to drive those changes.

We did not get where we are overnight, and solutions and modernization will not happen overnight either. However, we can no longer accept that these challenges are too hard to address. I encourage the committee and Congress to embrace and enable IT modernization and all that it can deliver and reimagine IT acquisition with us. We are ready to help with such an undertaking.

Thank you again to the chairmen and ranking members and members of the committee for the opportunity to present these thoughts. My submitted testimony addresses these and other related topics, and I'd be happy to address your questions at the appropriate time.

[Prepared statement of Mr. Hodgkins follows:]

Testimony of

A.R. "Trey" Hodgkins, III
Senior Vice President
IT Alliance for Public Sector

before a joint hearing of the

Subcommittee on Information Technology
and the
Subcommittee on Government Operations

of the

U.S. House of Representatives
Committee on Oversight and Government Reform

March 28, 2017

Introduction

Chairmen Hurd and Meadows, and Ranking Members Kelly and Connolly, thank you for the opportunity to share our perspectives on challenges the federal government faces in regards to information technology (IT) investment, acquisition, and management. Although many of their underlying policy and principles still are relevant, we believe that the processes used to identify, acquire, and deploy IT that were developed in the latter part of the last century, and the regulatory environment that has evolved around them, are no longer conducive to effective outcomes, they fail to deliver best value for the taxpayer, and they are not providing optimal solutions for mission success.

There are many stakeholders, including leadership in Congress, who should be applauded for their expenditure of a great deal of time and effort to reform acquisition over the last few years. The technology sector, however, has not found those efforts at reform, as well-meaning as they are, to have had substantial effect, and in many cases, they have only resulted in incremental changes addressing symptoms, rather than the root problems, of the dysfunction in government acquisition.

The IT Alliance for Public Sector (ITAPS) proposed to President Trump and others in his administration that the time was ripe to change the way the federal government acquired IT, and we would make the same suggestion to the Committee. We recommended that the path to achieving the new administrations' stated goal of increased cybersecurity protections for government networks was through IT modernization. Further, we linked acquisition reform as being essential to the ability to modernize IT in the government and the attainment of greater cyber assurance. In other words, we cannot have cybersecurity without IT modernization, and we cannot acquire the goods and services we need for either of these goals without changing the way we acquire IT. All three are inextricably linked. We believe that the Committee and Congress should approach these objectives and challenges in a similar fashion.

Many of the challenges with IT acquisition lie in processes that anticipated lengthy development to deliver a platform or solution for use over a long period of time. We are still using weapons platforms that were designed and deployed in the middle of the last century, and, as this Committee has identified, we are using IT systems that are now decades old. That dynamic has never really applied for information technology. In fact, Moore's Law drives a new dynamic where capabilities and computing power evolve rapidly and the need to upgrade, as well as improve, happens in shorter and shorter increments. To deliver these new capabilities, modernize IT, and better secure the governments' networks, the time is right to re-imagine our acquisition process.

We would recommend that the Congress and the Trump Administration focus on the following starting points for Legislative and Executive Branch actions:

1) **Assess and Inventory the Technologies We Have Today.** While some inventorying has been done, we do not have a complete picture of what IT hardware and software the government owns or is using. Such an action serves several purposes: 1) uncovering exactly what the federal government owns and what it is doing with it; 2) determining where vulnerabilities may exist to prioritize investments in cyber protections; and 3) deciding what needs modernization and how best to achieve it. Congress should use oversight to enforce existing inventory requirements and establish new requirements where there may be gaps.

2) Identify Meaningful Funding for Modernization. Last Congress, ITAPS strongly supported the efforts by Chairman Hurd, Ranking Member Connolly, and others to fashion a bipartisan, bicameral means of funding IT investment, and we encourage their continued focus on this issue. The funding challenge Congress must resolve is that agencies either have the appropriations to continue operating the IT investments they have already made or fund investment in modernization, but they do not have enough funds for both. Without such a change, the federal government will be unable to modernize IT or effectively assure the networks and systems from cyber threats.

3) Invest in a Tech-Savvy Workforce. While there are many smart and tech-savvy IT personnel within the federal government, there are simply not enough of them to fully address the issue of modernization, let alone acquire all those new information technology capabilities. Congress should focus on establishing better IT training and digital capabilities for existing personnel to make them more tech-savvy, regardless of their role. Congress should also work to unencumber the federal hiring process to attract new talent that can bring new ideas into the federal workforce.

4) Unleash the Innovative Power of the Existing Industrial Base and the Commercial Sector. There is significant innovation in the companies already selling goods and services to support the government mission, but the compliance and government unique requirements placed on vendors distorts what they can sell and how they can deliver it. For commercial companies that might supply their products, subcontract their services, or sell directly to the government customer, such compliance requirements are often prohibitive. Congress should address these compliance burdens and requirements to remove those that do not improve the acquisition outcome or drive better value for the taxpayer. In other words, Congress should help make the government a better customer.

Not all of these challenges can be addressed through legislative actions, but many solutions and outcomes can be driven through the oversight role this Committee and Congress can exercise. This Committee's attention to the implementation of the Federal Information Technology Acquisition Reform Act (FITARA) is a good example of pursuing intent through oversight. Additionally, much of what we mutually seek requires cultural changes, some of which will not be simple, and Congressional oversight of agency management can help to drive those changes.

We did not get where we are overnight, and solutions and modernization will not happen overnight either. We can no longer accept, however, that these challenges are "too hard" to address. ITAPS would encourage the Committee and Congress to embrace and enable IT modernization—and all that it can deliver—and reimagine IT acquisition with us. We are ready to help with such an undertaking.

Thank you again to the Chairmen, ranking members, and members of the Committee, for the opportunity to present these thoughts to you today. I would be happy to address your questions at the appropriate time.

Extended Written Remarks for the Committee on "Reviewing Challenges in Federal IT Acquisition"

Congress, and particularly the House Committee on Oversight and Government Reform, should not look to resolve challenges in federal IT acquisition with one legislative proposal. Instead, ITAPS would recommend approaching the discovery of options and solutions in short- and long-term efforts. The comments and topics below are arranged with that approach in mind.

Short Term – 115th Congress

Inventory and Assess the IT Assets of the Federal Government.
While some inventorying has been done, we do not have a complete picture of what IT hardware and software the government owns or is using. Such an action serves several purposes: 1) exposing exactly what the federal government owns and what is it doing with it; 2) determining where vulnerabilities may exist to prioritize investments in cyber protections; and 3) deciding what needs modernization and how best to achieve it. Congress should use oversight to enforce existing inventory requirements and legislatively establish new requirements where there may be gaps.

As noted below, ITAPS would not support additional information collection requirements on contractors to achieve this inventory, but would expect the Office of Management and Budget (OMB) to coordinate with the agencies to determine what IT assets they have deployed.

Identify Meaningful Funding for Modernization.
ITAPS strongly supported the efforts by Chairman Hurd, Ranking Member Connolly, and others to fashion a bipartisan, bicameral means of funding IT investment last Congress, and we encourage their continued focus on this issue. The funding challenge the Congress must resolve is that agencies have the appropriations to either continue operating the IT investments they have already made, or fund investment in modernization, but they do not have enough funds for both.

The annual investment across the federal government in sustaining the IT capabilities we have today now exceeds seventy-five percent of all the dollars the federal government spends on IT—approximately sixty billion dollars in Fiscal Year (FY) 2016. Compounding that problem is the dysfunctional appropriations process that has resulted in over one hundred seven continuing resolutions in the last twenty years. Since agencies cannot expend dollars for new investments, including for IT modernization, they have been forced to resort to sustaining what they have. Such a level of sustainment is untenable and we must find a way to alleviate this dynamic. Congress should also investigate the current funding cycles and understand how those negatively impact the ability for agencies and departments to do more than just sustain the IT capabilities they have now. For example, when agencies must identify the technology they wish to acquire, input that into a funding request, and subsequently into the appropriations process, it could be years before Congress even

considers whether to fund the request. That means the agency is already starting from a disadvantage because they will be looking at acquiring years-old technology, if funding is ever appropriated. A new means of funding agency needs, using technology available when the need is identified and not years-old technology, must be identified and established if Congress should ever hope to move away from the condition where agency dollars are being spent to primarily sustain IT operations, rather than update and upgrade them.

Invest in a Tech-savvy Workforce and Better Enable Them to Succeed.
While there are many smart and tech-savvy IT personnel within the federal government there are simply not enough of them to fully address the issue of modernization, let alone acquire all those new information technology capabilities. Congress should focus on establishing better IT training and digital capabilities for existing personnel to make them more tech-savvy, regardless of their role. Congress should also work to unencumber the federal hiring process to attract new talent that can bring new ideas into the federal workforce.

Improve Hiring Practices. The 115th Congress has already begun to legislatively address some of the disconnect between the antiquated hiring processes used by the federal government and hiring practices aimed at the diverse, multi-generational workforce in America today, but more can be done. Currently, there is a significant shortage of educated computer engineers in our workforce, and each year the federal government competes with the private sector in a competition where there are insufficient numbers of new graduates to fill the employment need. Moreover, the private sector can oftentimes offer more in the way of compensation than the federal government.

Delay in the process remains one of the single biggest challenges to finding and hiring new personnel. This condition is particularly acute when hiring cyber or computer engineers, IT architects, or programmers and developers. The demand for these skills is so high that people will simply not wait for the federal hiring process when so many other opportunities exist in the workforce for these skill sets. Without changes to alleviate the length of time it takes to get an approval, the federal government will struggle to identify and hire skilled, tech-savvy personnel.

Another drag on the efficient and timely operation of the process is the growing backlog of applications at the Office of Personnel Management (OPM) to approve personnel as eligible and suitable for hiring. This is compounded when these personnel need a security clearance, where there are now over 500,000 applications pending investigation and no foreseeable solution to reduce that backlog. Delays of this sort impact both agencies and contractors when attracting personnel, completing the hiring process, retaining them once hired, and they cost the taxpayer untold millions of dollars annually.

As further evidence of these systemic challenges, initiatives like the Presidential Innovation Fellows, 18F and the U.S. Digital Services have all resorted to using Presidential Appointment Schedule A hiring authorities to get around these conditions and bring recruits on quickly. This Committee and Congress should use their oversight authority to examine the hiring process along with the backlogs at OPM, and work to reduce the delay so the federal government can compete in the hiring market and effectively sustain an adequate workforce.

Enhance IT Career Paths. Only recently has the federal government created an IT management career path and more could be done to enhance and strengthen this career choice inside the federal government. For example, to encourage qualified personnel to focus on information technology, Congress should consider incentivizing the IT career path inside the federal government. Educational assistance and accelerated earning power are two means that industry uses to incent personnel. The Committee should also examine existing government-industry IT personnel exchanges and look to authorize such a program for the federal civilian agencies. ITAPS members believe that such exchanges as well as the experience, knowledge, and understanding gained would be very beneficial to the government.

Establish Meaningful IT Training. While many agencies have some form of cyber hygiene training for personnel, there is little beyond that in the way of IT training and almost no training to educate acquisition personnel about effective market research in the commercial IT market. Such training is essential, and the Committee should consider establishing requirements for such training and incentivize personnel as noted above to obtain and maintain this training. Establishing and maintaining such skills are critical to ensuring that efforts to reform IT acquisition take hold in the various agencies and can be used to modernize technology capabilities. Additionally, the Committee should use its oversight responsibilities to examine previously authorized efforts to create IT cadres within the federal government that can serve to advise agencies that may not yet have developed organic IT market research for their needs or struggle to do so.

Additionally, the committee should examine some of the experiences of the Digital Acquisition Accelerator for any lessons learned from the pilot on how to expand contracting officials' understanding of IT software and systems and improve IT acquisitions. In addition, it should examine the curricula at the Federal Acquisition Institute, the Department of Homeland Security Acquisition training, and other acquisition training institutions to determine what, if any, course work focuses on IT acquisition. It should look to set minimum IT graduation requirements for all personnel entering these institutions and require even more advanced training for those in the IT career path, as noted above. Additionally, the committee should work with the House Committee on Armed Services to ensure that similar IT training at the Defense Acquisition University is also examined and evolved, as necessary, and is consistent with that offered in the federal civilian training programs.

Require the Formation of Acquisition Teams in and from the Agencies. ITAPS would strongly encourage the Committee to evolve acquisition practices to require the formation and sustainment of teams of qualified personnel from each phase of an acquisition when starting a substantial IT acquisition and make this the normal practice. Such a team would be formed at the beginning of the process when the need is identified by the operators and continue through the development of requirements, contracting, acquisition, and into the program management. A team should function as such, and not remain isolated inside "stovepipes" of activity inside the team. The result would help to address situations in which the operational mission does not receive what it needs because the acquisition is conducted in a disconnected, stove-piped process that prevents effective coordination and communication across functional areas. Such a reform would likely require legislative change to drive the intended result across the various functional areas.

Establish Meaningful Communication with Industry. ITAPS strongly believes that far more can be done to enhance and improve engagement with industry, and that such engagement is crucial to effective acquisition, particularly for the acquisition of IT, because the capabilities and offerings evolve and change so rapidly. For example, the Federal Acquisition Regulations (FAR) Council recently published for public comment a revision to the FAR intended to help create "effective communications" and clarify that acquisition personnel can and should engage in robust communication with industry to have strong relationships with various offerors and to gain a more thorough understanding of capabilities and offerings available. ITAPS filed comments supporting the effort and the intent, but identified several additional steps that the proposed rule could take to help address persistent impressions in the acquisition workforce that engagement and communication with industry is not permitted or only encouraged in specific, very narrow, limited circumstances. We would commend the recommendations made in the filing to the Committee as actions that can be addressed both through oversight and clarifying legislation.

Evolve the Acquisition and Oversight Culture. One of the most substantial challenges facing any effort at effective IT acquisition reform, and acquisition reform in general, is the need to bring about changes to the cultural norms inside the federal acquisition workforce. Industry has noted on countless occasions that the risk-averse nature of the acquisition workforce is not conducive to effective IT acquisition and, in fact, such aversion contributes to the current state of federal information technology. For IT, the commercial sector has evolved away from traditional, waterfall development methodologies to streamlined, rapid development methodologies that deliver incremental capabilities using small, modular development. Such methodologies have frequently been characterized as "fail fast and fail often." These cultural norms for IT development in the commercial sector have led to the invention of most of the commercial and consumer information technologies in place today and are being used to rapidly prototype the capabilities of tomorrow. But, the idea of failing at all is not currently acceptable inside the federal government. To address challenges that range from the use of cyber capabilities by ISIS and al Qaeda to nation-state hacking; to development and implementation of constituent centric capabilities and services; and IT modernization; the federal government must adopt, embrace, and implement such thinking, and the culture to incubate such behavior.

Unfortunately, the current acquisition environment, in particular, the oversight regime, is not conducive to this change in culture that the government must incubate to be able to develop the organic IT acquisition skills needed in the digital era. The Committee should focus on making risk management, rather than risk avoidance, the norm. Expectations, and oversight criteria, must be reimagined to permit the IT and acquisition workforces in the federal government to take risk in a managed fashion, rather than futilely attempting to create a risk-free environment. It simply cannot be done, and efforts in the legislative and executive branch to require them present substantial challenges to effective reform of IT acquisition.

Unleash the Innovative Power of the Existing Industrial Base and the Commercial Sector.
There is a lot of innovation in the companies already selling goods and services to support the government mission, but the compliance and government unique requirements placed on vendors distorts what they can sell and how they can deliver it. It also pre-determines what they can offer. For commercial companies that might supply their products, subcontract their services, or sell directly,

such compliance requirements are often prohibitive. Congress and the Committee should address these compliance burdens and requirements with the objective of removing those that do not improve the acquisition outcome or drive better value for the taxpayer. In other words, Congress should help make the government a better customer to enable and sustain access to the goods and services it requires.

Sunset Regulations and Reform the Way They are Promulgated. The Congress has already begun to take steps to reform how regulations are promulgated, and ITAPS applauds those actions. The Committee should go further for all acquisition regulations in the federal government and sunset them, with the requirement that each be reviewed and justified by Congress and/or the promulgating agency before any provision can be sustained. Criteria for such review and justification should include relevance, efficacy, cost or burden and whether the provision improves the outcome of acquisitions and drives better value for the taxpayer.

Make Acquisition Regulation Information Collections Meaningful. ITAPS has conducted extensive research of the existing regulatory information collections imposed on contractors to the federal government. This research revealed the following findings, conclusions, and recommendations:

- Per the U.S. government, there are over 9,500 separate information collection (IC) requirements associated with statutory and regulatory compliance that have an annual burden of over $1.877 trillion[1].

- Of these, in May of 2015, ITAPS identified 164 IC actions associated with the FAR or the Defense Federal Acquisition Regulations Supplement (DFARS). All of them require a three-year waiver issued by OMB for release from requirements of the Paperwork Reduction Act (PRA).

- While a relatively small number, these 164 FAR and DFARS ICs represent an annual burden for taxpayers of over $4 billion and impose over 70 million man-hours of compliance for the government and the vendor community[2]. For the vendor community, these ICs translate into reporting requirements and compliance exercises. The array of topics for which vendors are compelled by law or regulation to provide information to the government are extremely diverse and include past performance records, personal conflicts of interest, responsibility matters, and assurance that their products were not produced by forced or indentured child labor, among others.

- ITAPS compiled various government-provided data about each of these IC actions to determine what, if anything, could be done to portray more accurately the burden these ICs impose and improve the estimating methodology, make recommendations about how to reduce those burdens, and better direct the devotion of resources to achieve improved acquisition outcomes.

[1]Office of Information and Regulatory Affairs (OIRA); Inventory of Currently Approved Information Collections; March 13, 2017; - http://www.reginfo.gov/public/do/PRAReport?operation=11

[2]As of May 5, 2015. For cumulative data select Department of Defense or DoD/GSA/NASA(FAR) from Agency dropdown menu; of Information and Regulatory Affairs (OIRA) - http://www.reginfo.gov/public/do/PRAMain

MAJOR FINDINGS & CONCLUSIONS

- Industry strongly believes that the government woefully underestimates the burden and costs associated with these ICs. The PRA specifies:

  > "Burden is the time, represented as hours spent by the public responding to Federal information collections. When an agency estimates, and seeks to reduce the paperwork burden it imposes on the public, the agency must consider the time that an individual or entity spends reading and understanding a request for information, as well as the time spent developing, compiling, recording, reviewing, and providing the information."[3]

  Most burden estimates appear to reflect a lack of knowledge about the steps companies take, the information systems they build and the compliance regimes they establish or undertake to develop, compile, record, review, and provide the relevant data for each IC.

- Some estimates egregiously underestimate the burden for both the government and industry. For example, one agency estimated that the burden of compliance for an IC was 0.6667 minutes per response – which they reported was the time it took respondents to click "submit" on an online portal[4]. Such an estimate clearly overlooks several elements of the burden estimate the PRA identifies should be part of the calculation.

- Too frequently, the effort to estimate burden and associated waivers from the PRA become little more than a rubber stamp exercise, particularly when there is no public response to the Federal Register publication of intent to create or renew a waiver. Statements from government employees who process these waiver requests indicate that without a challenge to a waiver, additional assessment of the burden is rarely undertaken. This condition has left some waivers in place for decades without any re-evaluation of the burden.

- There are currently no mechanisms in place for the government to capture the actual data regarding submissions for ICs. Instead of counting the number of submissions, the number of respondents and requesting actual burden information, each burden assessment ignores any information and relies entirely on estimates, usually recycling those used during the last waiver request.

- ITAPS has found an inordinate number of instances of incomplete or inaccurate published data in the Federal Register notices, the supporting documentation found on reginfo.gov, and on the Office of Information and Regulatory Affairs (OIRA) website.[5].

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[3]OIRA homepage; Office of Management and Budget (OMB); March 13, 2017; - https://www.whitehouse.gov/omb/oira

[4] OMB Control Number 9000-0161 "Reporting Purchases from Sources Outside the United States,"; Office of Information and Regulatory Affairs (OIRA); - http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201305-9000-002

[5] As of May 5, 2015. For cumulative data select DoD/GSA/NASA(FAR) from agency dropdown menu; Office of Information and Regulatory Affairs (OIRA); - http://www.reginfo.gov/public/do/PRAMain

RECOMMENDATIONS:

The Committee should employ its oversight authority to direct OMB to undertake reform of Information Collections, including:

- Immediately address the errors and omissions in data on government websites regarding the singular and cumulative burden costs estimates, including cost estimates reported as $0 on the Notice of Action documents.

- Evaluate the IC review process to determine what steps can be taken to ensure the process does not slip into a "rubber stamp" exercise in the future.

- Mandate as part of any IC review that the requesting agency determine whether the government already collects or possesses the same or similar data, or if the data is available from a public source. If the same or similar data is identified, the agency should be prohibited from requesting a waiver from the PRA and instead should be directed by OMB to identify what steps and resources are necessary to expose the data for purposes of satisfying the IC requirement, instead of devoting additional resources to the development of a new information collection mechanism. Because this authority at the agencies rests with the Chief Information Officer, this effort comports with Congressional intent under the Federal Information Technology Acquisition Reform Act (FITARA).

- Require as part of any IC review process that the requesting agency determine if the data collected by this IC is still relevant and used by the acquisition and/or oversight communities to inform acquisition decisions and provide information to relevant Congressional committees if any regulations are determined to not meet these criteria.

- Prescribe a template for publishing the IC waiver requests in the Federal Register, including, but not limited to, inclusion of the cost and hour burdens and requirements, as well as hyperlinks to all supporting documents and data. OMB should also prescribe a template for the supporting statements, so that they can be clearly understood by the public and the rationale is logical[6]. The prescribed template should include a requirement for the agency to include the date of the statement and for the provision of an explanation of the estimating methodology (i.e., how many people, what GS grade, pay scales, etc.) when developing burden estimates.

- Review the Paperwork Reduction Act and identify elements that should be updated to align processes and the availability of data in the digital era.

- Identify means to capture and compile data as it is being produced, particularly in government transactions for goods and services, to alleviate the costly burdens the current redundant process

[6] OMB Control Number 9000-0138 "Contract Financing - FAR Sections Affected: Subparts 32.0 thru 32.1; 32.2; 32.5; 32.10; 52,232,"; Office of Information and Regulatory Affairs (OIRA); - http://www.reginfo.gov/public/do/PRAViewICR?ref_nbr=201403-9000-010[6]

can create. Industry would suggest that GSA could be tasked with developing such a capability as part of their initiative for a prices-paid portal, instead of fully implementing the Transactional Data Rule, which created a redundant requirement for industry to report data already in the possession of the agency.

- Create disincentives for emergency extensions of waivers. Because the waivers have a three-year approval, agencies should have more than adequate opportunity to conduct reviews and submit requests in a timely fashion.

Reduce the Application of Regulatory Requirements on Commercial Items and Rescind Flow Down Requirements Where Possible. The Committee should examine the number of government-unique FAR clauses applicable in a FAR Part 12 transaction and work to reduce the number substantially. When the FAR was first published, there were but a handful of requirements that applied to commercial item transactions and in keeping with the congressional intent to make Part 12 transactions as close as possible to a commercial transaction for the same or similar good or service. Today that number exceeds six dozen separate government-unique requirements placed on the acquisition of commercial goods and services, distorting the federal market as a compliance labyrinth and imposing a barrier for market access or sustainment.

Furthermore, the Committee should examine the number of provisions in the FAR and the acquisition regulation supplements that flow down to lower tiers in the supply chain, including for the acquisition of commercial goods, services, and supplies. Many providers in the commercial marketplace do not even know the federal government is the end user of their products or their products are a component or sub-component to a larger platform or capability. But these companies are now subject to dozens of requirements that they do not encounter in the commercial market. These requirements further alienate potential vendors and place inordinate compliance burdens on companies whose business model does not support them.

Examine Factors Leading to the Creation of Alternative Acquisition Models. A few programs and initiatives, including 18F and the Defense Innovation Unit Experimental (DIUx), have been undertaken because of frustrations that the government is unable to use existing processes effectively to acquire and deploy the information technology capabilities currently available for the government mission. A better way is needed. ITAPS member companies share that frustration and strongly support updating and reforming existing acquisition protocols, while avoiding the creation of bifurcated pathways to competition that pick winners and losers or do not improve the opportunity to deliver innovative goods and services for all. Regardless of the methods used, none of them address the root causes in the existing acquisition processes and protocols and instead seek to establish an alternative acquisition model.

ITAPS members would offer the following recommendations on 18F and OTA activities, like DIUx:

- As we stated in our testimony[7] before this Committee, ITAPS supports the original objectives of 18F as a technology advisor to program managers and procurement personnel, and we believe that 18F's incorporation into the Technology Transformation Service at the General Services Administration (GSA) will help to mature and standardize this kind of support to avoid mission creep that can delay and distract programs.

- 18F should focus its technology expertise on helping program managers and procurement personnel understand technology options available to allow agency personnel to conduct better program management and better procurements. By so doing, it can assist agencies in transforming their cultures to address complex IT procurements.

- The government could consider identifying opportunities where 18F staff could inform and develop new technology training at federal training institutions, like the Federal Acquisition Institute or the Defense Acquisition University, or in digital forms, like micro-credentialing certifications, for the career advancement and education of personnel responsible for acquisition and procurement requirements.

- Help provide a better general understanding of information technology across the federal workforce and, specifically, the commercial IT market and the goods and services it offers.

- Assist agencies in the enterprise management of their existing IT infrastructure, and provide counseling to agencies in the best manner to modernize, streamline, and maintain the operation of these systems.

- As an organization of technology experts, 18F should not engage in the business of conducting procurements, either as a procurement office, a systems integrator, or program manager for an agency. Instead, its association with procurement should be directed toward conveying its technology expertise to agencies. It should understand the procurement processes to be able to assist agency personnel with questions on technology issues so that program managers and acquisition personnel may conduct procurements that comply with procurement law and regulation.

- Considering the foregoing, 18F should not duplicate the work of the private sector, nor compete against it. It also should not engage in entrepreneurial enterprises, like selling services to state governments. Such activity distorts the necessary focus of 18F, displaces private sector competition, and raises fundamental and statutory questions about the role of government.

- When government must create a means, like OTAs, around a burdensome or prohibitive process or protocol to acquire an IT good or service, then that process or protocol should be mitigated or rescinded. An inequity is created when the OTA is employed to enable market access for a select few, leaving others in the market to continue to contend with the burden or prohibition. Instead of creating an alternative pathway for market access, the Committee and Congress should act to

[7] U.S. Cong. House. Committee on Oversight and Government Reform, Subcommittee on Info. Tech. and Subcommittee on Gov't Operations. *Hearing on 18F and U.S. Digital Service Oversight, June 10, 2016*. 114th Cong. 2nd sess. Washington: GPO, 2016 (statement of A.R. "Trey" Hodgkins, III, Senior Vice President, IT Alliance of Public Sector).

remove the burdensome, prohibitive process or protocol to improve market conditions for all, enabling increased competition and driving better outcomes for taxpayers. Such an exercise of identifying the root causes of the needs for alternative acquisition models and OTAs presents a roadmap for actions that can drive IT acquisition reform.

Tap the Expertise of the Federal Vendor Base for IT Modernization. The existing vendor base has delivered IT rich programs for the federal government for decades and should be treated as a source of information and knowledge to address the challenges of IT modernization. Many have examined the questions inherent in any IT modernization undertaking and the following links offer some insight into issues, best practices, and solutions for consideration.

- http://www.cio.com/article/2426296/enterprise-software/legacy-modernization-101.html (Dell)
- http://www.cioreview.com/news/what-to-look-for-while-modernizing-legacy-systems-nid-18402-cid-102.html
- http://www.mckinsey.com/business-functions/digital-mckinsey/our-insights/two-ways-to-modernize-it-systems-for-the-digital-era
- https://www.fedscoop.com/agile-financing-model-agile-share-savings/
- http://www.federaltimes.com/articles/cross-agency-collaboration-in-new-zealand-offers-insights-for-us-feds?utm_source=Sailthru&utm_medium=email&utm_campaign=Daily%20Brief%203.8.17&utm_term=Editorial%20-%20Daily%20Brief
- https://www.protiviti.com/sites/default/files/united_states/insights/modernizing-legacy-systems-in-insurance-protiviti.pdf (case study from the insurance industry)
- https://www.accenture.com/us-en/insight-legacy-it-modernization

Long-term Issues – 115th and Beyond

ITAPS Members Fully Support the Section 809 Panel. ITAPS members are very supportive of the work of the Section 809 Panel and would commend their work to the Committee for close coordination. The panel is expected to produce interim recommendations in 2017 and is slated to complete work and provide final recommendations in 2018. It is our expectation that many, if not most, of their recommendations will lend themselves to government-wide application, and the Committee should position resources to accept, analyze and act upon the recommendations as they are made public.

Mr. HURD. Thank you, sir.

Ms. Lee, you are now recognized for your five-minute opening remarks.

STATEMENT OF DEIDRE LEE

Ms. LEE. Mr. Chairman, Ranking Members, members of the subcommittee, my name is Deidre Lee. I am the chair of the 809 Panel and a retired Federal employee. I submit my statement of the record, and I will summarize for the committee.

A little bit of background first on the 809 panel. The panel was established by the fiscal year 2016 NDAA and amended by section 863(d) of the fiscal year 2017 NDAA. The amendments specifically clarified the independence of the panel.

The panel, by statute, was authorized to focus on DOD, although, as we all know, what happens at DOD often is reflected across the government. But the main question is, is the acquisition system as we commonly refer to it impacting the ability of the Department of Defense to maintain—obtain and maintain technological dominance, whether that be in our IT systems, our weapons systems, or our back-office systems. How is the acquisition impacting that?

Also, specifically in the statute we were to streamline the system, improve efficiency and effectiveness, look at appropriate buyer and seller relationships, and look at the financial and ethical and integrity of Defense programs. It's a big scope.

The panel was seated in August of 2016, and we have 18 commissioners, as we refer to them, which are appointed panel members, and they are listed in the—my written testimony, but I will just very briefly go through them: Mr. Dave Ahern, who is a well-known program manager at the Department; Major General Casey Blake, he is the head of Air Force contracting at—currently; Mr. Elliott Branch, I'm sure the committee has seen Mr. Branch. Mr. Branch is the head of the Navy contracting; Al Burman, prior OFPP administrator; David Drabkin, well-versed in GSA and also worked on the Pentagon renovation; retired Vice Admiral Joe Dyer, well-known for his program management; Cathy Garman, a prior staffer on the Hill here; Claire Grady, the current defense procurement and acquisition policy director; Brigadier General Mike Hoskin with the Army who is Army contracting; Bill LaPlante, prior SAE; retired Major General Ken Merchant from the Air Force; Mr. Dave Metzger, who is practicing attorney and is well-versed in protests and those—that realm of our oversight; Dr. Terry Raney; retired Major General Darryl Scott, who is very familiar with contingency contracting, served for us overseas; retired Lieutenant General Ross Thompson, same, Army but contingency contracting; Larry Trowel and Charlie Williams, previously chair of the DCMA. So as you can see, we have a broad group and a lot of work to do here.

Our panel has already formed eight teams, and they are statute baseline. We were specifically told to do that and we're doing that. We have streamlined the acquisition process. We're looking at commercial buying. We're looking at barriers to entry, successful programs, information technology acquisition, and budgets, fiscal constraint, and then workforce has been mentioned here.

As you know, we do have an IT acquisition team formed a bit—over a month ago so it's too early to give you specific results. And I could and would like to spend a great deal of time talking about what we've found in each committee, but there simply isn't time and that's not the focus of this.

We have met with over 100 people, meetings, associations, but I can tell you that there are four recurring themes that we see, and they're covered more in depth in my testimony, but I'm just going to name them here.

We—our themes that we see are we need to execute to mission mentioned by almost every one of my prior testimony. We are sometimes more engaged with other nice-to-do but ancillary actions that impede our mission. I think Chairman Hurd covered that quite well.

We need to simply everything. Often, we talk about the big programs and the big dollars, but simplifying the little transactions matters, too, and we have just simply too much regulatory underbrush that needs to be cleared out, modernized, updated.

We need to value time, and I'm going to go a little bit over what someone said here. It would be nice to turn the technology in three years and completely renovate, but it takes us two years to issue a contract. How are we going to get there? This has got to be reduced. We treat time with disregard and that has to change.

And then the last one I'm going to mention here is we need to decriminalize commerce, and we can discuss that further should you care.

None of this is new. Our point right here is we need to go bold. The time of nibbling around the edges, making minor adjustments is well past us. What our committee—what our panel is going to come up with is going to be in many cases controversial, and it will probably impact some very specialized groups. The time is now. We're blocking our own ability to reach technology.

[Prepared statement of Ms. Lee follows:]

SECTION 809 PANEL | Streamlining & Codifying Acquisition

STATEMENT OF
DEIDRE A. LEE
CHAIR, ADVISORY PANEL ON STREAMLINING AND CODIFYING ACQUISITION REGULATIONS (NDAA 2016 SECTION 809)
BEFORE THE
U.S. HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON INFORMATION TECHNOLOGY
AND GOVERNMENT OPERATIONS
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

March 28, 2017

Good afternoon, Mr. Chairmen and members of the Subcommittees. I appear before you today to discuss the challenges in federal information technology (IT) acquisition and government acquisition in general.

Your invitation to participate in this hearing included a number of questions such as what regulatory, financial, or process challenges must be addressed and how to leverage private-sector innovation capabilities. As chair of the Section 809 panel, these questions align with the drive to obtain and maintain technological advantage integral to our charter. During the next 18 months, we will develop data-driven recommendations for defense acquisition actions.

The Section 809 Panel is an *independent* panel established by the FY 2016 NDAA (Section 809 of the National Defense Authorization Act for Fiscal Year 2016 (Pub. L. 114–92), as amended by section 863(d) of the National Defense Authorization Act for Fiscal Year 2017 (Pub. L. 114–328). The Section 809 Panel was established to

(1) review acquisition regulations applicable to the Department of Defense with a view toward streamlining and improving the efficiency and effectiveness of the defense acquisition process and maintaining defense technology advantage, and
(2) make recommendations based on the review to improve the acquisition system functioning, while considering the appropriate buyer/seller relationship, financial and ethical integrity of defense procurement programs, and protection of Department of Defense best interests.

The Panel, seated in August of 2016, comprises industry and government experts including

- LTG N. Ross Thompson III, USA (Ret.)
- VADM Joseph W. Dyer, USN (Ret.)
- Ms. Claire M. Grady
- The Honorable Allan V. Burman
- Mr. David A. Drabkin
- Dr. Terry L. Raney
- Mr. David P. Metzger
- Maj Gen Casey D. Blake, USAF
- Maj Gen Kenneth D. Merchant, USAF (Ret.)
- Maj Gen Darryl A. Scott, USAF (Ret.)
- Mr. Elliott B. Branch
- The Honorable William A. LaPlante
- BG Michael D. Hoskin, USA
- Mr. Charlie E. Williams, Jr.
- Ms. Cathleen D. Garman
- Mr. David G. Ahern
- Mr. Laurence M. Trowel

According to the Government Accountability Office, approximately $80 billion of annual operational agency spending is committed to information technology.[1] With growing integration of services and consequent reliance on technology in the systems and services necessary to accomplish government work, IT acquisition, and particularly IT related to services, must be revolutionized. Today, the average IT acquisition takes too long, consumes too many resources, and is too inflexible to meet users' needs. The rigid and highly prescriptive acquisition system, meant to bring transparency and fairness to the process, often delivers yesterday's technology. Although critical to IT acquisition, these same challenges permeate government procurement. The rules, processes, procedures, and statutes that govern the acquisition process originate in good intentions, yet over time, they have forged a complex system that discourages new entrants and inflates the cost of doing business for those who participate. This issue is not a new one.

Although the Section 809 Panel is just beginning its work, four recurring themes have emerged that underscore what we need to do in government acquisition:

Execute to the mission.

There is much good that comes from public policy; however, putting it first has obscured our way. Public policy should support operational needs, not supersede them. Our primary focus must be on mission readiness and performance results.

Simplify all processes.

There are too many unique policies, exceptions, thresholds, reviews, and gates for acquisition to be efficient and effective. These complexities create barriers for businesses hoping to enter the DoD market place and consequently inhibit DoD's access to technology and innovation.

Value time.

We treat time as if it is a costless, valueless commodity – rather than a precious, limited resource. Time value needs to be considered alongside dollar value and technology lifecycle.

***Decriminalize* commerce.**

Some businesses, especially small businesses, hesitate to engage in commerce with government because they fear minor, unintentional mistakes may result in criminal charges, hefty fines, and damaged reputations. For many, the benefits of doing business with government are not sufficient to offset the associated risks. We also disincentivize government and industry people by discouraging measured risk and innovation.

These four themes appear to be ubiquitous, with application across the spectrum of acquisition, including large and small purchases and IT. The nature of these themes suggests that although the Section 809

[1] U.S. Government Accountability Office, "Information Technology: Federal Agencies Need to Address Aging Legacy Systems," May 2016 at: http://www.gao.gov/assets/680/677436.pdf.

Panel will focus its efforts on DoD acquisition, much of what we will recommend will be applicable to acquisition across the federal government and will have the potential to inform governmentwide reform.

Our panel currently has seven study teams that focus on regulations to statute baseline, streamlining DoD acquisition processes, commercial buying, barriers to entry, successful programs, information technology acquisition, and budgeting.

Col. Harry Culclasure leads our IT acquisition team, which formed a little more then 30 days ago and focuses on business systems and IT services, and coordinates with the commercial buying team in a crosscutting fashion.

Not surprisingly, many people roll their eyes when they hear that this panel has been formed to issue *another* report. I am frequently asked what is different about the Section 809 Panel. The key difference in what this panel will recommend and the dozens of other groups that have produced fine reports and recommendations in the more than 20 years since the 1993 Section 800 Panel will be the specificity of our data-driven recommendations. Similar to the Section 800 Panel report, our report will contain line-in, line-out support for the recommendations. These recommendations and the *how-to* roadmap will provide decision points for Congress and the administration in reshaping and reforming defense acquisition.

As we work to make the acquisition system responsive, innovative, and more cost effective, I expect some controversial ideas and spirited discussion. The time for superficial conversation and insubstantial changes to regulations and statutes has passed. The global threat is rapidly changing, the relevance of the unique defense industrial base is waning, the processes for acquisition are no longer efficient or effective, and implementing these processes is left to a workforce that is mired by constricted thinking and risk aversion. Our panel plans to GO BOLD. We intend to take a big bite into real change, rather than just nibble around the edges. To do otherwise is to put our military's mission at risk.

Mr. HURD. Thank you, Ms. Lee.

I would now like to recognize Mr. Hice for five minutes of questioning.

Mr. HICE. Thank you, Chairman Hurd. I appreciate it a great deal.

I think all of us know just based on your testimony there have been a number of failed IT projects in the Federal Government. And many of these projects go on for years and years and years before someone finally steps in and stops the bleedings. And the examples are abundant. One of them that comes to mind is a VA. For years, they tried to develop an integrated financial and asset management system across the agency. In 1998, they made their first attempt at this project. Then, they terminated it six years later in 2004. So 2005 rolls around and they decide to try it again. As recent as 2009, they had planned to deliver a fully operational system by 2014, but all of it was terminated in 2011.

That program was $609 million. And the examples are on and on and on. NASA, NOAA, and DOD, $15 billion project that lasted over eight years before it failed. It goes on and on and on and on.

So, Mr. Powner, let me begin with you. Why do so many of these projects fail?

Mr. POWNER. So there are some common themes on all these. The VA systems you talked about, the requirements were poor. They had a very poor schedule. There's also a lack of focus on delivery.

The combination of the DOD/NOAA satellite acquisition, we started off on that, requirements weren't good, the complexity was far too much. We finally settled on a satellite that had far less sensors. So this gets back to some basic things that FITARA's trying to do. If these agencies would go smaller in more incremental bites, we would deliver a lot better. It would be easier to define your requirements in smaller increments and deliver in smaller increments. I think that's key.

Also, too, with some of these programs there wasn't real clear accountability. I think with what you're trying to do with FITARA where the CIOs are in charge, one of the comments I made in my opening statement is we just recently talked to all 24 CIOs and only eight of them told us that I have the authority to cancel one of these troubled programs. So two-thirds do not have the authority to cancel a troubled program in their department or agency. We still got a lot of work there.

Mr. HICE. Okay. So lack of accountability and biting off more than they can chew basically you say.

Ms. Lee, let me ask you this, just kind of piggy-backing on what Mr. Powner said, why in the world does it take so long to fail? I mean at some point—does it take eight years to figure out this thing is not working? Does it take $15 billion or—why does it take so long to fail?

Ms. LEE. It should not. You know, that's the basis of what are your measures, at what increments, who's looking at these things, how is your contract structured, and the ability—and I think it was very well said—the ability of people to raise their hands, speak up, and say something's not going right and actually have an impact.

Mr. HICE. So who is responsible to raise their hand and say something's not going right?

Ms. LEE. It certainly depends on the program. If we're talking large programs, there's usually a program manager who's in charge of that, and he's usually—he or she's usually surrounded by a team.

Mr. HICE. All right. So the program manager is where the buck stops in your opinion ——

Ms. LEE. In my ——

Mr. HICE.—your testimony, okay. So ——

Ms. LEE. For large programs, for large—some are smaller ——

Mr. HICE. Well, sure. Yes, but the larger programs I think is primarily what we are zeroing in here.

Mr. Spires, you led the IRS Business Systems Modernization back in '04. You have had a lot of experience with all this. In your opinion, why do these projects fail?

Mr. SPIRES. Well, pick up on the themes here but even what some more points on this, it is the program management's—manager's responsibility and his or her team to drive a program, but what I have found too often in government is that the program manager really is not given the authority, right, many times, and there's not a decision-making, a governance model at the highest levels of the agency to effectively guide and to help the program manager. So I've actually reviewed programs, sir, where you literally have had program managers being pulled different directions by different senior leaders in the organization. That's a recipe for failure.

I have found over and over in reviews of programs, probably reviewed more than 100 major programs in U.S. Federal Government that we usually have failure when a combination of not having the skilled program manager and the team that's supporting that program—and I'm talking about government people here. This isn't just about contractors, government people. And we don't also have a good governance model that's set up so you have the right people together to be able to make the right decisions. And time and time again, that's where I've seen failure.

Mr. HICE. My time is expired, Mr. Chairman, but there is a real key here with these project managers and a lack of accountability and this whole structure, that there is a major breakdown there. Ms. Lee, your comments about the criminalization of commerce, I would love to hear you go deeper into that situation as we had time. But thank you, and I yield back.

Ms. LEE. Mr.—if I may, on one of the things we're seeing from the 809 panel is certainly what was said here about the team around the program manager, but that team has all got to have the same driving goal, which is achieving performance and results. Unfortunately, we are seeing many conflicting goals. Someone who's specialty has—you know, they really have to drive home their test or someone else who's focus is on something else. And that confluence of competing priorities does impact a program.

So one of the things we're seeing from a panel standpoint is we may recommend it—we're not at recommendation stage yet—but to say we need to boldly declare that the purpose of an acquisition system is to buy the right thing timely at the right cost. The other

nice-to-do, good-to-do are secondary goals and must be managed as such.

Mr. HURD. Thank you. I would now like to recognize Ms. Kelly for her five minutes.

Ms. KELLY. Thank you. It seems the moment you buy the latest smartphone, the next model is already out and twice as powerful as the one you bought before. If this is hard to say current with one personal device, imagine the difficulty of keeping current with the vast information technology portfolio that GAO projects to reach $89 billion this year alone.

Ms. Lee, this is a problem you have seen as part of your work on the Section 809 Panel, which you have described to us. How do you think this panel will be different from so many other acquisition reform commissions of the past so that are not simply identifying a problem, which you have done so well and others, but are actively working to solve them?

Ms. LEE. Ms. Kelly, that—thank you for that question. One of the things that we've been instructed very clearly from meetings with our constituents and in fact some of the stuff is we want to be more 809 Panel-esque, and if you recall the 809 Panel delivered as part of the report actually line-in, line-out language so that as you deliberate—you the Congress deliberate and say, yes, we think that's a good idea or no, we don't like that one, but we've actually shown you how we believe—if it's statutory, you know, and we are doing the trace-back of all the regulations to the statutory base if there is one. If not, where did it come from?

So some of these recommendations may be able to be made regulatorily, but some of them, and a good number of them, do have statutory base. So what we're offering forward in our report will be that detailed last—not last mile, last inch of a report.

Ms. KELLY. Thank you. When Clinger-Cohen was passed, the internet was will an emerging consumer technology. The way we use and buy technology has dramatically changed since the mid-'90s and government is relying on a 20th century procurement system to acquire 21st century technology. How can this panel ensure its recommendations are technology-neutral enough to accomplish both today's information technology and whatever may become possible tomorrow?

Ms. LEE. Ms. Kelly, my mantra for this panel that gets some people's attention and makes a lot of people nervous is go bold. If we don't give you bold recommendations, we will have missed the mark. And we are looking at things such as that question. Is the competition of the 21st century the same as it was when some of the—when the Competition in Contracting Act was enacting? Maybe competition occurs differently, maybe at a different level, maybe in a different format, which would significantly change how we contract.

We are looking at what I call remedies. We have a very robust protest system. Is that the correct remedy approach for both the government and industry? Extremely controversial area. We are looking at and asking ourselves, okay, we have a lot of good socioeconomic policies. Individually, they're all good things to do. Collectively, they're crushing. And we're looking also at the underbrush. We've found some very anecdotal things right now but some, you

know, little things that we're putting clauses in contracts and, as Mr. Hodgkins mentioned, a new entrance going—is going what's this? I have to sign up to these 155 things? And oh, by the way, you'll get back to me in two years?

We've actually met with some people on the West Coast who said a quick no is better than a tortuous yes and that our system is a tortuous system. And those are for people who we kind of want to do business with, and they look at us as a very risky and perhaps unattractive ——

Ms. KELLY. Right. Have you happened to find any best practices in your work on the Section 809 Panel that can be applied to other agencies? Or it sounds like not really but I will give you a chance.

Ms. LEE. Well, we're early. We do have a team that is looking at mostly major weapons systems. Obviously, there's the big dollars but smaller number of transactions. We're also looking at the smaller dollars with larger numbers of transactions, but even in DOD, smaller dollars is hundreds of millions of dollars. So what we've found—we've got one team looking for an odd approach, what went right and how can we replicate that across other buy systems processes? And if we can, why don't we?

Ms. KELLY. And, Mr. Spires, do you think the Section 809 model can be successfully applied to other agencies?

Mr. SPIRES. Well, let me—you know, it's good you asked me that because I was just thinking not all programs and projects are alike, right, and there are very specialty things about IT. The good news about IT is that the technology and the methods have evolved so—Mr. Powner was talking about incremental, whether using, you know, agile development techniques or the like. I'm a huge believer—and in fact, the more complex you're trying to build an IT system, the more you should be doing prototyping and piloting up front so that if you're—if you've got an architecture—a technical architecture that's not going to work, you find that out early in the program. Okay. These are some of the mitigation technologies, approaches that you can use in IT that, you know, may be applicable to other areas.

So I'm—you know, the 809 Panel, I'm really interested to see what they come out with, and I'm sure some of their things will be very beneficial, but you also need to make sure that it's specific to IT acquisition and various types of IT programs.

Ms. KELLY. Mr. Hodgkins, is there anything government is getting right with IT? Quickly, quickly.

Ms. LEE. You get the hard questions.

Mr. HODGKINS. Yes. Thank you, Ms. Kelly.

Yes, I mean, given the constraints that the current workforce has to work under, they're doing an exceptional job of keeping antiquated systems functioning on really critical mission areas. You know, we target our nuclear systems with decade-old mainframes. We keep the Social Security system and the IRS systems running on decades-old mainframes. And with what they have to work with, they're probably doing a—I would consider exceptional keeping those old systems functional.

And there are pockets where we're having the opportunities to make improvements. There was discussion about the innovation labs; 18F has made some progress in some areas. USDS has made

some examples. And we need to figure out how to take some of those activities and scale them more broadly.

Ms. KELLY. Thank you.

Mr. HURD. Mr. Russell—my intention is to get through Russell, Connolly, and I, so please, let's keep it to five minutes so that we don't make our panelists wait any longer than they have to.

Mr. Russell, you are recognized for five minutes.

Mr. RUSSELL. Thank you, Mr. Chairman. And thank you for being here today. If this were an easy problem, we wouldn't have five witnesses, and the expertise that you bring is significant.

Ms. Lee, in your testimony, you have both stated and alluded in your comments that for many, the benefits of doing business with government are not sufficient to offset the associated risks. And, you know, that is precisely the environment we don't want to create. We want to try to solve problems with industry and innovation, but it becomes too difficult to work with government.

But you also mentioned criminalizing commerce. Can you give some examples of that?

Ms. LEE. We treat every—people are going to make transactions, they're going to make tradeoffs, they're going to make decisions. We treat many decisions when something goes wrong as if it's a very nefarious action. You think about from an industry standpoint when I was in industry an error on a bill or a billing error can carry with it treble damages, and each invoice is counted as a separate act. It's oppressive.

I'm all for ethics, integrity, and good governance, but putting so much fear in the system that we scare away not only good partners but good people, we've got to look at what really business transaction we're trying to achieve and how we can make sure that the system is fair but not so onerous that people can't or won't participate.

Mr. RUSSELL. Who would make that determination to provide that type of latitude? Is that something statutory or is that something that we give the judicial branch latitude? Or what is the fix, really anybody?

Ms. LEE. That's what we're digging into, and very—too early for me to speak for my 18 commissioners, but we do need to look at ——

Mr. RUSSELL. Well, you raise an excellent ——

Ms. LEE. Purpose?

Mr. RUSSELL.—point. Right.

Ms. LEE. Process. We need to look at some of the oversight process. We need to look at some of the audit process. I will give you a personal example. When I was up and coming in acquisition, the auditor was my friend. I went to them and said can you ——

Mr. RUSSELL. The auditor is ——

Ms. LEE.—help me?

Mr. RUSSELL.—never your friend, Ms. Lee, right?

Ms. LEE. Yes.

[Laughter.]

Ms. LEE. You know, can you help me get this right? We had internal auditors. Now, that is all changed, and the people trying to do the right thing are staying a mile away ——

Mr. RUSSELL. Sure.

Ms. LEE.—from the auditor.

Mr. RUSSELL. Yes. Well, and, you know, like we often joke, nothing is so hard at government that we can't make harder, and I think we see an example of that.

You also spoke to the effect of going bold and that to do otherwise is to put our military's mission at risk. Could you explain and elaborate a little bit more on the impacts of the mission? I mean, Mr. Hodgkins also talked about, you know, using eight-inch floppy disks for our nuclear defense, you know. Gosh, I guess that is one way to be secure from cyber warfare as we use systems that nobody has anymore, you know, they don't know how to acquire. But, you know, these are some of the problems. But would you care to speak a little bit to that?

Mr. HODGKINS. Well, the systems that you're discussing, we shouldn't jump to judgment that all the systems we have in place need to be replaced. That's not the case. We do connect systems that were never designed to be plugged into the internet to the internet, and that creates vulnerabilities. But there's different systems with different mission needs, and we have to look at it. That's why I suggested that we need to do that inventory. And then we can figure out exactly what everyone owns and what they're using it for, what software it's running, what is the mission need, and it also will lend itself to identify solutions about we need to modernize this and we need to leave that one in place.

Mr. RUSSELL. I appreciate that. And, you know, on this committee all of us are really dedicated to that. In fact, it was this committee, Mr. Cartwright and myself, that authored the MEGABYTE Act, you know, that gave latitude to agencies to be able to use suites of software rather than buy entire packages for portions that weren't being used. I don't know if that has had any impact or not, but, you know, it seemed like a no-brainer. And, you know, by all estimates it was supposed to save $4 billion.

And so I understand maintaining legacy systems if they're in a unique niche that really—you know, you don't want anything else to share, but is that the approach that we want to take when we can consolidate—the CIOS—if you were to read Senator Cohen's testimony, I mean, it sounds like today—Mr. Spires?

Mr. SPIRES. Well, yes, Mr. Russell. I would weigh in here that—back to my point about going bold. I mean, I have said we need to go bold on IT infrastructure in a big way. You know, I ran the systems at IRS for a while. I was the CIO there. And, you know, we're not going to replace tens of millions of lines of COBOL code any time soon. That stuff's going to continue to run. But what we can do is modernize the infrastructure that that stuff runs on, move much more to the cloud infrastructure because the security models are there now. And I think we save a lot of money. We simplify a lot of things, which is a big part of the issue. We consolidate tremendously. And then you can go after and tackle these—a lot of these legacy applications that are really going to be very difficult to replace, you know, any time soon. But at least you're running on modern infrastructure. Your cybersecurity posture is much improved. So that's a go-bold approach.

Mr. RUSSELL. Thank you. And thank you, Mr. Chairman.

Mr. HURD. Thank you, Mr. Russell.

The gentleman from the Commonwealth of Virginia, Mr. Connolly ——

Mr. CONNOLLY. Thank you, Mr. ——

Mr. HURD.—five minutes.

Mr. CONNOLLY. Thank you, Mr. Chairman.

Ms. Lee, I have got to say you have added some bon mot to the Federal language. I mean, to refer to something as a Section 809 Panel-esque, not quite 809 but close, and then the auditor is your friend. I mean—well, I know, but just hearing that is sort of like—I am here from the government and we are here to help you. Anyway—but thank you. I appreciated very much your testimony, and it is great to see old friends at this panel.

Mr. Powner, you were at an event the other day or maybe a hearing where you talked about some of the sunset provisions in FITARA that we need to address, and chief among which was, for me, the data center consolidation ——

Mr. POWNER. Yes.

Mr. CONNOLLY.—sunset provision, which for some strange reason closes the door in 2018 at the very moment we are finally beginning to make progress. Your recommendation?

Mr. POWNER. So I think clearly you need to extend that at least several years on data centers. And the reason I say that is if you look at optimization metrics, right, we want to save money, we want to optimize centers, only about a third of the 24 departments and agencies will meet like four to five of the key optimization metrics. The other ones are self-reporting that they're going to be nowhere near that in 2018.

So what does that mean? We need to give them a little more time to save money, to meet these optimization metrics. But I think there is a fundamental question—I agree with Mr. Spires on this—on infrastructure. We started this in 2010. It goes through 2018. If you extend it a couple of years to 2020, if you can't meet optimization metrics in 10 years, they should be out of the business. We should go to cloud solutions. I agree with Mr. Spires on that. Ten years is a long period of time, and at some point you got to say maybe you shouldn't be in the business of running data centers. Let's give them a chance to see what happens, but we need to think about that.

Mr. CONNOLLY. Ms. Lee, that sounds like going bold to me.

Ms. LEE. Time matters.

Mr. CONNOLLY. Yes.

Ms. LEE. We've come to the point where we've seen—as I said, we treat it like a valueless, endless commodity when, especially in technology, things turn so quickly, and yet we're content to make very lengthy contracts and very ——

Mr. CONNOLLY. By the way, we need you looking at FedRAMP. Time matters. It is supposed to be like six months and a quarter of a million dollars. It is now up to two years and $4 or $5 million. You know, unacceptable and we are going to have to look at that at some point if they can't fix it administratively.

Mr. Spires made a number of recommendations in terms of—well, I think two recommendations in terms of adding to the scorecard. And, Mr. Powner, your reaction to those recommendations?

Mr. POWNER. Yes, I think, you know, his suggestion on the commodity—the way that we measure the commodity area, that's a potential—I mean, a lot of this, as you well know, it's based on available data. We're open to that.

I do think, though, when you look at the Federal workforce, this was discussed earlier, I think assessing each agency on how they assess and address their Federal workforce needs, including the cyber area, that's key with the 2015 Cybersecurity Act. I think that's another key area because it's also about the people and do we have the right people on board.

Mr. CONNOLLY. Yes.

Mr. POWNER. It's something we'll work with your committee on.

Mr. CONNOLLY. Unfortunately, we are running out of time because of votes, and I promised the chairman I would stick to five minutes. I am in fact sticking to three-and-a-half. I yield back the balance of my time.

Mr. HURD. You all saw it here first.

[Laughter.]

Mr. CONNOLLY. No good deed goes unpunished in this city, you know?

Mr. HURD. Thank you all for being here. There has been probably four or five topics that—and just you all's quick comments that we can follow up with the scorecard. So thank you for that. And you have helped me—one of the things as we are looking at a project on what I have been calling the Cyber National Guard, one of the problems we have is what are the needs in the various agencies when it comes to the IT staff, right? What positions, you know, what certifications are they going to need in order to come straight in? And so having that, you know, addressing that need across the spectrum is important.

Mr. Puvvada, a couple of questions for you. GSA maintains the schedule contracting, which accounts for more than $30 billion in annual transactions. What do you see as the pros and cons in this system? And also, your company is no longer participating in the GSA schedule contracting. Can you talk about what led to that?

Mr. PUVVADA. Sure. So there is a benefit to having a standard set of offerings that could be leveraged across the government whether it is schedule for services or schedule for product. The problem comes with what Ms. Lee and Mr. Hodgkins talked about is onerous reporting requirements to have most favored pricing, which is very hard to do for global corporations that provide services and solutions that cross, you know, several industry sectors.

What happens is there are particular elements of solutions that we offer, for example, similar to several other companies that there is no way to keep track of that. For example, the price we offer for a particular product is in the context of a bigger solution element. So we have no way of most often keeping track of the cost. So we chose not to participate on the product list because we would spend an inordinate amount of time reporting and keeping track of it and also I pick up on the decriminalization aspect, which is the penalties that are acquired are very onerous.

So we'd recommend that GSA take a look at a more balanced approach in trying to look at it from the perspective of how could I get the innovation and get a good value for the government but not

necessarily go to the level of detail that is required to provide reporting and be consistent about it and have a contextual understanding of how they're assessing the best price that they get.

Mr. HURD. I do copy. In your opening remarks you identified two entities that were examples of positive—the Procurement Innovation Lab in DHS and the HHS Buyers Club. Is that what you said ——

Mr. PUVVADA. Yes. Yes.

Mr. HURD.—Buyers Club? Can you talk to me about—you know, take 45 seconds, a minute and explain why you highlighted those two?

Mr. PUVVADA. So both of these organizations have a similar profile. So what the leaders within the organizations are doing is providing a—an innovation approach in contracting where they're allowing risk-taking and come up with a modular contract and best practices and giving air cover to the contracting officers and encouraging innovation and doing experimentation and really focusing on the outcomes as opposed to the products.

So along with that comes recognition for people that do really well called a badge, Pell badge. So that is an important—along with, you know, rewards and recognition that becomes an important element, and that gets a lot of traction.

So what we made the recommendation is that that be widely adopted and not a whole lot of management, you know, overhead that is required to take some of those kinds of things and encourage that risk-taking and cut down that contracting time is what Ms. Lee was talking about, taking two years to get a technology.

Mr. HURD. All right. Mr. Hodgkins, assessing inventory, it is crazy to me that every time we do another, you know, scorecard, we find a new database, we find a new server farm, we—you know, oh, wait, we actually have four connections to the internet and not two. Assessing inventory, why is it so hard and what—you know, this is something that we should—every agency should be able to do in how many months?

Mr. HODGKINS. Well, I mean, we would suggest—and we worked with your office and Ms. Kelly in particular last year around a concept to do inventory that, you know, the government can do this job in a relatively short order. There are some short time frames of a year or less for some of the actions in that proposal and suggestion.

The challenge you have is that different agencies treat those requirements in different ways. Different people define and interpret requirements. We saw this with data center consolidation. The first rollout defined a data center as X, Y, and Z. well, agencies work to make sure their data centers didn't fit in that metric. And so the CIO's office or others would define that more explicitly, and agencies would then again work to exclude data centers to where we have square footage requirements trying to get at the guy who's running a server in a closet somewhere. So we have that kind of activity going on in the context of trying to expose some of this and drive toward data center consolidation. That's one example I can point to.

And I think that we have to come up with incentives for the agencies to expose this information and then act effectively around

what the agencies need to be doing with the directions and metrics that Congress and OMB would be setting.

Mr. HURD. That is helpful.

And, Mr. Spires, final question for you. When we get MGT passed, what is going to prevent—what is going to get in the way of truly utilizing where a CIO can—when they doing something and they realize savings, what are going to be some of those barriers that CIOs are going to have in actually achieving what we are trying to do with MGT? Is that a fair question, sir?

Mr. SPIRES. Yes, it is definitely a fair question. I guess a couple of points on that, I think you're going to find that many CIOs—I mean, this whole model that says we should be able to realize savings through efficiencies and reinvest, right, in more modernization. I think you're going to have a lot of issues with that, and that would include up to Congress and Appropriations Committees, right, because of the way the budgeting structure works. So you're going to have that set of issues that goes through OMB up to the Hill.

You're also going to have a situation where—another big part of it that I really like is this idea of having these working capital funds so that you got some more budget flexibility for the IT organizations to be able to work. I mean, running major programs in my past, it was beneficial, like when I was at the IRS, to have three-year working capital fund money so that we could plan these projects out and have some assurance that we're going to have sustained funding. I think as long as the Appropriations Committees up here can work with the agencies to make sure that model works well, that's great.

I don't think that's where the big problems are, though, Mr. Hurd. The big problems are still going to be back to the authorities issues back to, you know, the fact that—and it's in—and I always like to say it's not about the CIO owning everything. It's about the CIO working collectively with the mission owners, with the other CxOs to be able to effectively deliver IT.

Mr. HURD. And that is why we go forward with FITARA implementation we are going to have CIOs, CFOs, agency heads in front. You know, I know the White House is very committed to making sure that the agency heads understand the role of the CIOs and the CIOs have all the responsibility they need since we are going to hold them accountable. And that is something that has been very clear coming out of this White House, which I think is fantastic.

I want to thank all of you for being here to appear before us today. There has been a lot of information that we can integrate into work that we are always doing in areas that you all talked about where we can continue to shine an additional light.

So I ask unanimous consent that members have five legislative days to submit questions for the record. And without objection, so ordered.

There is no further business. Without objection, the subcommittees stand adjourned.

[Whereupon, at 3:21 p.m., the subcommittees were adjourned.]

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

Questions for Mr. Dave Powner
Director of Information Technology Management
Government Accountability Office

Questions for the Record from Rep. Robin L. Kelly, Ranking Member
Subcommittee on Information Technology
Committee on Oversight and Government Reform

1. **The Government Accountability Office's (GAO) High-Risk Report identified "leadership commitment" as an important factor in improving the federal government's management of its information technology (IT) portfolio.**

a. **Can agencies make the necessary improvements in how they acquire IT services and systems without having top-level leaders in place? Why not?**

It is critically important for agencies to have top-level leaders, including a chief information officer (CIO), in place in order to make improvements in acquiring IT services and systems. For example, our prior work has shown that having senior department and agency executives' support was a critical factor underlying selected successful major acquisitions that we reviewed.[1] In particular, we noted that senior leaders were critical to procuring funding, intervening when there were difficulties working with another department, defining a vision for the program, and ensuring that end users participated in the development of the system.

The December 2014 IT acquisition reform law, commonly referred to as FITARA,[2] also emphasized the importance of the CIO's role in acquiring IT. For example, FITARA requires agency heads to ensure that their CIOs have a significant role in the programming, budgeting, and execution decisions related to IT; and that CIOs both conduct an annual review of their agency's IT portfolio and approve the IT budget request for their agency. FITARA also specifies that agencies may not enter into IT contracts or other agreements without the CIO's review and approval.

Additionally, the Comptroller General convened a forum on September 14, 2016, to explore challenges and opportunities for CIOs to improve federal IT acquisitions and operations—with the goal of better informing policymakers and government leadership.[3] Forum participants, including current and former federal agency CIOs, members of Congress, and private sector IT executives, described several challenges that CIOs faced, including the ability to exercise their influence in certain IT management areas and having limited control and visibility over IT spending. To address these challenges, the participants highlighted the importance of having the CIO Council[4] play an enhanced role in improving authorities, implementing collaborative governance, evolving the role of the CIO to enable change, and focusing on cybersecurity to change existing cultures.

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[1]GAO, *Information Technology: Critical Factors Underlying Successful Major Acquisitions,* GAO-12-7 (Washington, D.C.: Oct. 21, 2011).

[2]Federal Information Technology Acquisition Reform Act (FITARA) provisions of the Carl Levin and Howard P. 'Buck' McKeon National Defense Authorization Act for Fiscal Year 2015, Pub. L. No. 113-291, div. A, title VIII, subtitle D, 128 Stat. 3292, 3438-3450 (Dec. 19, 2014). FITARA generally applies to the 24 Chief Financial Officers Act agencies.

[3]GAO, *Information Technology: Opportunities for Improving Acquisitions and Operations,* GAO-17-251SP (Washington, D.C.: Apr. 11, 2017).

[4]The CIO Council is the principal interagency forum on federal agency practices for IT management.

b. Can you explain the role and value of having a Federal Chief Information Officer (CIO) in place when it comes to ensuring that agencies are improving in their management of IT acquisitions and operations?

Over the past 8 years, the Federal CIO has played a critical role in the federal government's management of IT acquisitions and operations by launching several initiatives intended to improve federal agencies' IT management. For example, in June 2009, the Federal CIO and the Office of Management and Budget (OMB) launched a public website—the IT Dashboard—to provide detailed information on major investments at 26 agencies, including ratings of their performance against cost and schedule targets. Shortly thereafter, in December 2010, the Federal CIO published a 25-point plan[5] to reform federal IT which included, for example, a goal of turning around or terminating at least one-third of underperforming projects by June 2012. In addition, the IT reform plan included specific actions related to the consolidation of federal data centers that were intended to reduce the cost of data center hardware, software, and operations.

As the head of OMB's Office of E-Government and Information Technology, the Federal CIO also has a significant role in implementing FITARA. For example, OMB's June 2015 FITARA implementation guidance[6] stated that its Office of E-Government and Information Technology was responsible for, among other things, approving agency FITARA self-assessments and implementation plans. In addition, to implement FITARA's requirements related to federal data centers, the Federal CIO issued a memorandum in August 2016 that established the Data Center Optimization Initiative, which superseded OMB's previous initiative focused on data center consolidation.[7] Among other things, the Data Center Optimization Initiative requires agencies to develop and report on data center strategies to consolidate inefficient infrastructure, optimize existing facilities, improve security posture, and save money.

These government-wide initiatives, led by the Federal CIO, have resulted in substantial value to the federal government. For example, we have reported that the Dashboard has enhanced the oversight, transparency, and accountability of federal IT investments. Further, improvements in agencies' performance data on the Dashboard over time have helped to ensure that OMB, other oversight bodies, and the general public are better positioned to hold government agencies accountable for results and progress. The consolidation of federal data centers has also resulted in substantial value. We recently testified[8] that agencies had collectively reported closing 4,679 of the 10,058 total data centers and achieving approximately $2.8 billion in cost savings or avoidances from fiscal years 2012 through 2016.

The participants of our September 14, 2016, forum on opportunities for improving acquisitions and operations of IT[9] also emphasized the critical role of the Federal CIO. For example, the participants

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[5]OMB, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Washington, D.C.: Dec. 9, 2010).

[6]OMB, *Management and Oversight of Federal Information Technology*, Memorandum M-15-14 (Washington, D.C.: June 10, 2015).

[7]OMB, *Data Center Optimization Initiative (DCOI)*, Memorandum M-16-19 (Washington, D.C.: Aug. 1, 2016).

[8]GAO, *Government Efficiency and Effectiveness: Opportunities to Address Pervasive Management Risks and Challenges while Reducing Federal Costs*, GAO-17-631T (Washington, D.C.: May 17, 2017).

[9]GAO-17-251SP.

noted the importance of the Federal CIO in helping ensure effective IT governance. They saw this role as continuing to grow in importance, noting for example, that the Federal CIO has provided important leadership on cybersecurity and other initiatives to improve the acquisition and operation of IT. The participants cited specific OMB initiatives undertaken by the Federal CIO, like the cybersecurity sprint[10] and data center consolidation efforts that resulted in greater accountability and positive results.

2. **During the hearing, we heard many issues that you and the other witnesses have raised with respect to the many challenges the federal government faces when it comes to improving its capabilities in the area of IT acquisitions. In contrast, what are some efforts or practices that you see our government successfully handling when it comes to IT acquisitions, and that we should ensure agencies continue to follow?**

Over the past several years, agencies have generally improved their reporting of IT investment performance on OMB's Dashboard. We have issued a series of reports about the Dashboard that noted both significant steps OMB has taken to both address issues with the accuracy and reliability of Dashboard data, and to enhance the oversight, transparency, and accountability of federal IT investments. OMB has also taken steps to analyze and report on trends of agencies' Dashboard investment risk ratings. By doing so, OMB has better positioned itself to ensure that investment risk is assessed accurately and that patterns warranting special management attention are observed, identified, and addressed. In addition, agencies have taken steps to improve the quality of investment performance data, which can help ensure that OMB, other oversight bodies, and the general public are better positioned to hold government agencies accountable for results and progress.

More recently, agencies have also begun to achieve success in delivering investments in smaller parts, or increments, in order to reduce risk and deliver capabilities more quickly. Historically, IT investments have often used a "big bang" approach—that is, projects are broadly scoped and aim to deliver functionality several years after initiation. According to the Defense Science Board, this approach is often too long, ineffective, and unaccommodating of the rapid evolution of IT.

In August 2016, we reported[11] that approximately 64 percent of active software projects planned to deliver usable functionality every 6 months for fiscal year 2016, as required by OMB guidance. This is a notable improvement compared to selected agencies' progress that we reported in May 2014.[12] Specifically, we found that only 26 percent of selected investments at five major agencies[13] were planning to deliver capabilities in 6-month cycles. While agencies have begun to achieve success in this area, additional improvement could further reduce the risk that their projects will not meet cost, schedule, and performance goals.

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[10]Following a cybersecurity breach at the Office of Personnel Management in 2015, OMB initiated a cybersecurity sprint. This initiative identified a set of critical cybersecurity actions for federal agencies to take within 30 days and established a sprint team to review the federal government's cybersecurity policies. The sprint team's recommendations led to an October 2015 OMB memorandum titled "Cybersecurity Strategy and Implementation Plan."

[11]GAO, *Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices,* GAO-16-469 (Washington, D.C.: Aug. 16, 2016).

[12]GAO, *Information Technology: Agencies Need to Establish and Implement Incremental Development Policies,* GAO-14-361 (Washington, D.C.: May 1, 2014).

[13]These five agencies are the Departments of Defense, Health and Human Services, Homeland Security, Transportation, and Veterans Affairs.

3. **How has commercial cloud computing, open data standards or the internet of things helped our government deliver better services, and how did they make that transition?**

Agencies have reported that the use of cloud computing has helped them deliver services better in a variety of ways. In previously reporting on OMB's Federal Data Center Consolidation Initiative,[14] we noted that 22 of the 24 agencies participating in the initiative stated that their virtualization and cloud computing efforts had led to efficiencies and cost savings. For example, the Department of Agriculture stated that it used cloud services to host most of its major applications, which resulted in increased server utilization and reduced operating costs, among other things. The department specifically reported that its cloud environments operated at average server utilization rates of 55 to 65 percent versus the 10 to 20 percent average utilization rates it typically found across its legacy server environments. In addition, the Environmental Protection Agency stated that it had consolidated its e-mail services to its private cloud, reducing the number of e-mail servers from over 180 to 20 and standardizing its e-mail data and archive management practices. The General Services Administration also reported that it expected to save slightly more than $12 million over 4 years, when compared to the considered alternative, by switching its e-mail services to a cloud provider.

The CIO Council's January 2017 report on the *State of Federal Information Technology* also cited the potential of cloud computing to better deliver government services.[15] For example, the report emphasizes that cloud computing can enable federal agencies to move away from owning and operating their equipment directly, and toward leasing equipment from external service providers, at reduced costs and on more modern IT infrastructure. The report further stated that, by using cloud computing services, agencies could more effectively deal with spikes in demand for key services. Agencies could then use the most modern infrastructure available within the government and private sector, allowing their staff to focus more time on agency mission goals. The report noted that OMB's "Cloud First" policy requires agencies to default to cloud-based solutions whenever a secure, reliable, cost-effective cloud option exists.

Additionally, we recently issued a technology assessment of the Internet of Things (IoT) that identifies various public sector uses of "smart" devices (i.e., devices that sense information and communicate it to the Internet or other networks and, in some cases, act on that information).[16] More specifically, the assessment notes that IoT devices can be used to monitor the environment, including air quality and potential natural disasters, and alert local residents. Further, the devices can be used to improve livability, management, and service delivery in communities. For example, in Nashville, Tennessee, public buses are outfitted with sensors that collect and report real-time location data so that citizens know whether the buses will be on time. As a result of this wide-range of applications, we concluded that the adoption of IoT will likely continue to accelerate as these devices become more affordable and offer increasing benefits.

4. **How do agencies deal with the challenge of funding short-term additional IT costs to achieve long term savings while also dealing with budget cuts?**

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[14]GAO, *Data Center Consolidation: Reporting Can Be Improved to Reflect Substantial Planned Savings*, GAO-14-713 (Washington, D.C.: Sept. 25, 2014).

[15]Federal CIO Council, *State of Federal Information Technology Report, Public Release Version 1.0* (Washington, D.C.: January 2017).

[16]GAO, *Technology Assessment: Internet of Things: Status and Implications of an Increasingly Connected World*, GAO-17-75 (Washington, D.C.: May 15, 2017).

One way that agencies can deal with funding IT costs in a budget-constrained environment is by increasing their use of incremental development practices. Since 2012, OMB has required investments to deliver functionality every 6 months. Subsequently, FITARA codified a requirement that agency CIOs certify that IT investments are adequately implementing incremental development, as defined in the annual capital planning guidance issued by OMB.[17] We have previously reported that the increased use of incremental development can potentially enable agencies to reduce costs, deliver IT capabilities more quickly, facilitate the adoption of emerging technologies, and increase the likelihood that cost, schedule, and performance goals will be met.

Where permitted, agencies should also look to reinvest cost savings achieved from OMB's IT reform initiatives including, for example, data center consolidation, PortfolioStat,[18] and the use of cloud computing. We previously reported[19] that these savings totaled about $3.6 billion between fiscal years 2011 and 2014. However, we pointed out that most agencies did not fully meet OMB's requirements to submit reinvestment plan information. Agencies provided varied reasons for not meeting OMB's requirements, such as that their components had not fully tracked and reported how their savings were to be reinvested. Accordingly, we recommended that agencies take action to address their weaknesses in this area. Most of the agencies agreed with our recommendations. More effective reinvestment of cost savings could help agencies deal with the challenge of funding IT initiatives while also dealing with budget cuts.

Most recently, Congress introduced H.R. 2227, the *Modernizing Government Technology Act of 2017*, which, if enacted, would authorize covered agencies to establish an IT working capital fund. The act would allow agencies to use the working capital fund to, among other things, improve, retire, or replace existing IT systems; transition legacy systems to cloud computing or other innovative platforms; and to address evolving threats to information security.

[17]40 U.S.C. § 11319(b)(1)(B)(ii).

[18]Launched by OMB in 2012, PortfolioStat requires agencies to conduct an annual, agency-wide IT portfolio review to, among other things, reduce commodity IT spending and demonstrate how their IT investments align with the agency's mission and business functions.

[19]GAO, *Information Technology Reform: Billions of Dollars in Savings Have Been Realized, but Agencies Need to Complete Reinvestment Plans*, GAO-15-617 (Washington, D.C.: Sept. 15, 2015).

Questions for Mr. Dave Powner
Director of Information Technology Management
Government Accountability Office

Questions for the Record from Rep. Gerald E. Connolly, Ranking Member
Subcommittee on Government Operations
Committee on Oversight and Government Reform

1. **In its November 2016 report, the Government Accountability Office (GAO) identified several information technology (IT) workforce planning practices that are, "critical to ensuring agencies have the knowledge and skills to successfully acquire IT, such as analyzing the workforce to identify gaps in competencies and staffing."**

a. **What are some of the gaps in skills and staffing that agencies have reported when it comes to their IT workforce?**

The Office of Personnel Management and selected departments—Commerce, Defense, Health and Human Services, Transportation, and the Treasury—have reported gaps in a variety of IT skills for certain occupations and gaps in staffing certain cybersecurity specialty areas. According to findings from a 2011 working group established by the Office of Personnel Management and the Federal Chief Human Capital Officers Council, IT and cybersecurity was one of six skill gaps identified in government-wide, mission-critical occupations.[20]

In addition, in November 2016, we reported the same five selected departments had started focusing on identifying cybersecurity staffing gaps, but more work remained in assessing competency gaps and in broadening the focus to include the entire IT community.[21] Each of the five departments had reported gaps in staffing certain cybersecurity specialty areas as required by the Office of Management and Budget.[22] In addition, two departments provided evidence that they had identified competency gaps during assessments for certain mission-critical occupations.

- The Department of Defense identified high-priority gaps within the GS-1550 occupational series for software engineering, systems testing and evaluation, and modeling and simulation. The department also identified high-priority gaps within the GS-2210 occupational series for data and content management, network operations, cybersecurity, and IT configuration management.

- The Department of Transportation determined that the most critical technical competency gaps for certain IT employees were in computer network defense, vulnerability assessment, information systems/network security, stakeholder management, encryption, information systems security certification, acquisition strategy, web technology, capital planning and investment assessment, requirements analysis, communications security management, enterprise architecture, and risk management.

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[20]GAO, *Federal Workforce: OPM and Agencies Need to Strengthen Efforts to Identify and Close Mission-Critical Skills Gaps,* GAO-15-223 (Washington, D.C.: Jan. 30, 2015).

[21]GAO, *IT Workforce: Key Practices Help Ensure Strong Integrated Program Teams; Selected Departments Need to Assess Skill Gaps,* GAO-17-8 (Washington, D.C.: Nov. 30, 2016).

[22]In October 2015, OMB required agencies to identify their top five cybersecurity talent gaps by December 2015 as a one-time effort. See OMB, *Cybersecurity Strategy and Implementation Plan (CSIP) for the Federal Civilian Government,* Memorandum M-16-04 (Washington, D.C.: Oct. 30, 2015).

b. Do these existing gaps in the federal IT workforce have any implications for our cybersecurity posture? How so?

Gaps in the number and capability of qualified IT and cybersecurity professionals in the federal IT workforce have significant implications for the nation's cybersecurity posture. We and others have identified a number of key challenges that federal agencies face in ensuring that they have an effective cybersecurity workforce. Among others, these challenges are associated with identifying and closing skill gaps, recruiting and retaining qualified staff, and navigating the federal hiring process.[23] Given that cybersecurity is an area where a government-wide skill gap already exists, it is important that Congress continue to oversee agencies' efforts in implementing robust IT workforce planning steps, such as identifying skill gaps and developing plans to address them.

A number of executive branch initiatives have been undertaken over the last several years intended to improve the federal cybersecurity workforce, including the National Initiative for Cybersecurity Education; National Cybersecurity Workforce Framework; OMB Cybersecurity Strategy and Implementation Plan; Cybersecurity National Action Plan; and Federal Cybersecurity Workforce Strategy. These executive branch initiatives include many actions that could help address the challenges of identifying and closing skill gaps, recruiting and retaining staff, and navigating the federal hiring process.

In addition to the aforementioned executive-level initiatives, several recently enacted federal laws include provisions aimed at improving the IT and federal cybersecurity workforce—such as the Cybersecurity Enhancement Act of 2014, the Border Patrol Agent Pay Reform Act of 2014, the Homeland Security Cybersecurity Workforce Assessment Act (2014), and the Federal Cybersecurity Workforce Assessment Act of 2015.[24] Similar to the executive branch initiatives previously discussed, these laws call for actions that, if effectively implemented, can address challenges related to skill gaps and recruiting, hiring, and retaining skilled cybersecurity professionals. Further, these laws are an important mechanism to hold agencies accountable for taking action and demonstrating results in building an effective cybersecurity workforce.

c. Can you explain the likely impact that the current hiring freeze could have on the ability of agencies to fill these gaps in staffing?

A federal hiring freeze can be disruptive to agencies' recruitment efforts, especially when recruiting individuals with IT skills that are in high demand. For example, it can be difficult to hold potential candidates' interest when there are no current vacancies and there is uncertainty about when a freeze might be lifted. As previously mentioned, findings from a 2011 working group established by the Office of Personnel Management and the Federal Chief Human Capital Officers Council show that a government-wide cybersecurity skill gap already exists. A hiring freeze that reduces the number of vacancies and disrupts recruitment efforts could make it more difficult to hire cybersecurity professionals and, thus, exacerbate the skill gap.

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[23]GAO, *Cybersecurity: Federal Efforts Are Under Way That May Address Workforce Challenges,* GAO-17-533T (Washington, D.C.: Apr. 4, 2017).

[24]The Federal Cybersecurity Workforce Assessment Act of 2015 requires to analyze and monitor the implementation of the act's requirements and report on this assessment to Congress. We plan to report on the results of our review by no later than December 18, 2018.

QUESTIONS FOR THE RECORD

RICHARD A. SPIRES
FORMER CHIEF INFORMATION OFFICER OF THE U.S. DEPARTMENT OF HOMELAND SECURITY AND THE INTERNAL REVENUE SERVICE, CURRENTLY CEO OF LEARNING TREE INTERNATIONAL

BEFORE THE
HOUSE OF REPRESENTATIVES SUBCOMMITTEES ON INFORMATION TECHNOLOGY AND GOVERNMENT OPERATIONS
OF THE
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM
HEARING ON
"REVIEWING CHALLENGES IN FEDERAL IT ACQUISITION"
MARCH 28, 2017

ANSWERS SUBMITTED MAY 20, 2017

Questions for Mr. Richard Spires
Former Chief Information Officer
Department of Homeland Security and Internal Revenue Service

QUESTIONS FOR THE RECORD FROM
REP. WILL HURD, CHAIRMAN
SUBCOMMITTEE ON INFORMATION TECHNOLOGY
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

Question 1. With regard to IT acquisition, what types of challenges does the private sector face as compared to the federal government?

Answer: First, I wish to repeat a part of my written testimony in regards to what constitutes IT acquisition:

> "I have come to believe that we spend a lot of time talking about IT acquisition, but in many ways we talk past each other. Federal government IT organizations, whether they be large Departments or small independent Agencies, all have the need to "acquire" IT hardware, software, systems, and services. Yet the reality is that acquiring a commodity item (like ordering a telecommunications circuit, a software package to run on a laptop, or the laptop itself) is very different than acquiring a new mission-critical system that requires custom software development and integration. There is significant confusion in terms of IT acquisition, in that we as a community tend to lump these various types of acquisitions together. Improving the government's ability to significantly improve IT acquisition involves improving a number of different components of a complex process. Too often I hear that if we just fixed the procurement process of selecting vendors or service providers, that we would make significant progress. I disagree – certainly streamlining procurements and improving the selection process can help, but it is only one piece (and not nearly the most important piece) of improving IT acquisition.
>
> So below is a description of what an IT organization must "acquire", structured in two dimensions. The first dimension is complexity (which correlates with and can also be thought of as risk) and I separate this dimension into three categories:
>
> - ***Commodity IT purchases*** – these are the mainstay of IT purchasing, goods and services that involve little acquisition risk. These include purchases of standard telecommunications services, end-user devices, standard software packages, etc. that form much of what is needed to keep an agency's IT capability operational.

- ***IT Projects*** – When it goes beyond commodity purchasing, and integration is required to deliver a new or upgraded service capability to an agency customer or the citizen, we cross into the need to manage IT projects. The actual project objectives and use of technology can vary widely, but these projects are typically low to moderate risk and duration (as a rule of thumb under a year). Examples of IT projects could include deployment of a new commercially available time-reporting system in an Agency, or upgrade of a campus network to include a wi-fi capability.

- ***IT Programs*** – Where there is a need for substantial development and integration of multiple modules to deliver required functionality and capability, we are now managing an IT program. This category is typically high risk and this is the category where the spectacular IT acquisition failures occur. Examples of IT programs could include replacement and modernization of a number of an agency's core mission-critical applications, or a full replacement of its underlying wide-area network.

The other dimension I view IT acquisitions from is functionality. With the advancement of IT over the past couple of decades, this has simplified somewhat and one can view functionality in just two categories:

- ***IT Infrastructure*** – This is the underlying networks, servers, data centers, cyber security hardware and software, platform and infrastructure cloud services, operating systems, etc. that all IT needs to operate. More recently, I have included commodity applications, like e-mail and standard desktop applications, as part of the IT Infrastructure.

- ***IT Applications*** – These are the broad and diverse set of applications that run on the IT Infrastructure that support the mission and business needs of an Agency. They may be custom built, software packages, or a combination of the two, and they may run on agency-owned servers or as Software-as-a-Services (SaaS) applications in a cloud environment.

While there are major IT programs that provide both IT infrastructure and applications, even in such cases, one can look at components within the program and view them separately within this framework."

Given this explanation of how I view "IT acquisition", private sector firms face the same challenges in working to acquire commodity IT items, and execute both IT projects and programs, as do those in government. In particular, private sector firms work to ensure they are obtaining good value for money, particularly in the buying of commodity IT items and services. My experience in selling to large private sector companies in the past, all had procurement organizations that would conduct procurements on behalf of the IT organization, and typically they would have evaluation criteria that were based on best value. I don't recall ever seeing a private sector procurement conducted based solely on

price, but rather a consideration of price and other qualitative factors that would define how the firm defined best value for that particular procurement.

The large private sector companies I supported in the telecommunications and financial services industries all understood the importance of IT project and program management, and it was clear they invested considerable time and effort in skills development and mentorship to develop a cadre of employees that could manage their IT projects and programs.

Question 2. How are private sector acquisition teams composed to the government, specifically, do you have acquisition professionals working with IT experts or do your IT staff have acquisition training?

Answer: In my experience serving the telecommunications and financial services industries, there are procurement officials (akin to Contracting Officers (COs) in the federal government) that would support major IT acquisitions, and they would work closely with the IT project manager or program managers and IT experts to conduct procurements. There is a significant difference I have seen in the private sector and in government. It was clear that in private sector, the procurement officials were there to support the project or program managers and reported to them. In the federal government, the COs do not have such a reporting relationship. This leads to issues in which the COs may make decisions that are actually not in the best interest of the project or program. For instance, a CO may opt to choose a vendor to help meet the agency's small business contracting goal. While laudable, such a decision may result in the selection of a vendor that increases the overall project or program execution risk. I have never seen this type of problem arise in private sector IT acquisition.

Question 3.a: In your experience, is there currently much competition in the marketplace of selling IT to the federal government? What are some of the barriers to competition?

Answer: There is significant competition in selling IT to the federal government, particularly in the professional services arena. The barriers I see are for smaller companies that have new and interesting technology. These companies might be interested in the federal government IT market, but see it as complex to navigate and difficult to get a foothold. Young companies are advised that it will take a long time to get work in the federal government, both due to working to understand agencies and educating staff on the new technologies, along with the long procurement cycle times. When one adds in additional requirements, such as working to get on the GSA Schedule 70 contract vehicle, having to meet specialized federal government standards, or needing to have specialized financial reporting, it makes it much more difficult for young companies that are serving other markets to commit to sell to the federal government.

Question 3.b: What can Congress do to eliminate those barriers?

Answer: In regards to removing barriers, I would recommend that the federal government adopt an approach akin to how large private sector firms operate. For instance, while private sector firms want the best price they can get for an item, they cannot mandate it in law. The GSA Schedule 70 approach should be modified so that vendors can easily be on the contract vehicle at a price point they deem as competitive. If they are too expensive then government agencies will not purchase from them. It makes little sense and diminishes competition and innovation under the current Schedule 70 approach.

I do like, however, what GSA is working to do in category management, and in particular that GSA can put in place enterprise license agreements (ELAs) for software and hardware vendors that agencies can then buy off of, obtaining appropriate discounts based on volume discounts. This would help eliminate the need for agencies to each negotiate their own ELA with vendors.

To foster the use of new, innovative technologies and solutions, I would also recommend that agencies be able to sole source procurements for new technologies up to $100,000 in order to be able to rapidly purchase such capabilities for a pilot. This is especially needed in areas such as cyber security, in which the pace of change is greatly outstripping the government's ability to respond.

One of the chief complaints from industry and the government is the amount of time it takes to award a contract in the federal government. I have heard it can be anywhere from 18 months to two years to go from concept to contract award.

Question 4. What was the average amount of time it took for the acquisition cycle at DHS for IT?

Answer: The acquisition cycle time varied greatly depending on the type of acquisition. Given I am no longer with DHS, I don't have specific statistics that I can cite. From my recollection, however, for small acquisitions (projects), we would work to try to deliver production capability within a year. For major programs in DHS, the time from the start of a program till the time it would implement its first production capability was at least two years, and in some instances more than three years. This would be completely unacceptable in a private sector company, and yet was accepted as standard in DHS. While not part of the question, a major reason for the length of time at DHS was the use of a "heavy weight" acquisition lifecycle process that was originally developed in DoD for use in acquiring weapon systems. The steps and amount of rigor in this life-cycle process was in not keeping with what is needed to plan, develop, and implement IT systems.

Question 5. While serving as CIO at both IRS and DHS, what initiatives did you employ to improve the acquisition cycle timeline?

Answer: At both IRS and DHS, I worked hard on two major initiatives that were meant to improve the acquisition cycle timeline and to improve the agencies' ability to successfully deliver projects and programs.

The first initiative was to work to streamline and develop an acquisition lifecycle that was optimized for IT projects and programs. As stated in the answer to question 4, DHS had what I considered to be a "heavy weight" acquisition life cycle process that was oriented to developing weapon systems. With the rise of agile development and incremental releases, it makes no sense to take a year to plan a program, another year to run a procurement to obtain a contractor to support the program, and then only begin to deliver capability at the end of the third year. Yet this was the usual cycle time for large programs. I worked with my team at both IRS and DHS to revamp the lifecycles to enable a more streamlined planning process so that we could get to pilot implementations much more rapidly to determine if the architecture would work and to begin to get customer feedback. This is the standard agile approach used today in the private sector.

The second initiative was to work to develop Centers of Excellence (COE) to support IT projects and programs. These COE would provide guidance, standards, and even experienced staff to help projects and programs in their start up and if they ran into trouble. Some of the disciplines covered include requirements management, configuration management, systems engineering, and testing. Too many projects and programs in government lack the expertise to effectively perform. The COE is a method to build institutional maturity over time to help an agency better deliver its IT projects and programs. As an aside, I am pleased that the Program Management Accountability Improvement Act (S.1550) was passed and signed into law. While it does not explicitly call out the COE concept, it should help to drive agencies to help mature their IT project and program management capabilities, by:

- Establishing standards and policies for Executive Agencies consistent with widely accepted standards for program and project management planning and delivery
- Engaging with the private sector to identify best practices in program and project management that would improve federal program and project management
- Via the Office of Personnel Management (OPM), establishing a new job series or updating and improving an existing job series for program and project management within an Agency, and establish a new career path for program and project managers.

Question 5.a. While serving as CIO at both IRS and DHS, what initiatives did you employ to improve the acquisition cycle timeline? If yes, by how much?

Answer: My experience, and its ultimate impact, varied significantly at the IRS and DHS. At the IRS, senior leadership, to include the IRS Commissioner, embraced the changes I was driving as CIO. We implemented a streamlined acquisition lifecycle and stood up and matured 14 COE to support the programs and projects in the IRS. I don't have statistics regarding reduced acquisition cycle times, but one measure of success is that recently GAO removed the IRS modernization from its list of High Risk Programs. Getting off the High Risk List was certainly a team effort that lasted more than a decade and involved many IRS employees, but I have been told I served as a catalyst that helped put the IRS on the road to maturing its project and program management capabilities.

When I went to DHS as CIO, I saw many of the same issues that I observed at IRS. So once again, I worked to help streamline the acquisition lifecycle and establish COE. While we made progress, we as a department did not make nearly the progress that we did at the IRS. The difference was lack of leadership support. I had the IRS Commissioner's backing for these changes at the IRS. At DHS, I did not have the support of top leadership, and given the federated nature of DHS with its components, it made it very difficult to drive this type of change throughout the organization.

Question 5.b. I understand you were able to establish enterprise license agreements with key software vendors while at DHS. What was that process like? How long did it take? How much net savings did you realize?

Answer: When I arrived at DHS, we did have in place one large enterprise software license agreement (ELA) with a major vendor. Given the savings we were seeing with this one vendor, I worked to establish a small office (believe it was a staff of three) in the DHS Office of the CIO to work with the Procurement organization to negotiate other ELAs with our major IT vendors. We set an objective to negotiate three ELAs a year and as I recall, we were successful in meeting this objective. I do not have the detail of DHS net savings, but when I left we were savings a few hundred of millions of dollars a year over what it would cost if we used the GSA Schedule 70 pricing.

The negotiation of ELAs is an area where GSA can add significant value and is beginning to do so. If GSA can establish such ELAs with major IT vendors that all government agencies can buy off of, agencies can realize such savings without having to do such negotiation themselves. These efforts in category management can have a significant impact for cost savings at agencies in the near term.

Question 6. What barriers did you face as you implemented your initiatives?

Answer: As stated in the answer to question 5.a, I had good support at the IRS to implement the initiatives I described in that answer. At DHS, I did not have senior leadership support. As a department, everyone could agree that we needed to manage our IT projects and programs more effectively, but there was not agreement regarding what was required to accomplish that objective. At DHS, there was another organization at

headquarters that was responsible for the acquisition lifecycle, and they had adopted the DoD life cycle used to build weapon systems, ships, etc. It just was not suited well for IT programs, and I and my team tried to work with this organization to adapt the lifecycle for IT with some, but not much, success. Likewise, I was struggling with both headquarters personnel and the components at DHS to understand the value of having COE and the benefit that could bring over time. Most of the components just did not want to collaborate with headquarters on these initiatives, and without leadership support at the Secretary and Deputy Secretary level, it was difficult to make progress.

My experience at DHS is the reason I became a proponent of the need for FITARA. We need a model in which the CIO of the agency is responsible and accountable to drive improvements in how we acquire IT. He or she should not do it alone, but work with the other CXOs and the mission leadership to put in place the initiatives to improve agency buying of IT and agency IT project and program management capabilities.

Question 7. You mention in your testimony "deeply embedded cultural and skills issues that must be addressed if we are to improve...in IT acquisition." What are some of these deeply embedded cultural issues?

Answer: To set additional context, the text below is from my written testimony:

> Those [cultural] changes, while certainly achievable, will take sustained leadership and effort over time to have a major positive impact. There are no easy fixes to address these acquisition issues, so, for instance, changing the Federal Acquisition Regulations (FAR) or better engaging industry, while laudable and desirable, alone will not make significant differences. The majority of the IT acquisition issues are actually a result of poor planning and execution of the projects and programs undertaken to deliver a new IT service or capability for Agencies. Hence, the core issues require the need for Agencies to significantly improve their program and project management capabilities. But it goes beyond that. Delivery of successful IT projects and programs requires agency maturity, in that appropriate skills, experience and collaboration are required from a number of departments in an Agency, to include the program owner, procurement, finance, legal, and security, in addition to IT.

Expanding on this need for both improved project and program management, here are a number of key cultural issues that I have seen in agencies:

- ***Lack of focus on the long view*** – For an agency to improve its ability to deliver projects and especially large programs is a concerted five-year undertaking. A lot of the work is unglamorous, to include working to improve the skills and abilities of the staff, developing a robust enterprise architecture, developing a solid governance model to appropriately delegate decision making, etc. Senior leadership, especially political leadership, want to make substantive changes quickly and do not typically take this long view, particularly in areas where the fruits of the labor are not shown for years. As an example of what it takes, the

IRS worked diligently on its ability to manage projects and programs for more than a decade before coming off the GAO High Risk List.

- ***Too narrow of view of what is the Acquisition Workforce*** – The vast majority of IT acquisition comes in the delivery of IT projects and programs. Many agencies are overly focused on the buying process and should be more focused on improving the managing process. A well-run project or program will, as a matter of course, do the things correctly to properly procure the hardware, software, services, and even solutions to help deliver beneficial projects and programs.

- ***Lack of the proper recognition of the roles needed to support projects and programs*** – Agencies struggle to provide proper support to projects and programs to help ensure success. Large IT programs require knowledgeable support from the mission or business organization, along with support of finance, procurement, security, privacy, etc. Too often I have observed that the program manager has unfilled positions in the program management office, and gets almost no support from other parts of the agency.

- ***Over dependence on contractors*** – Given a lack of internal resources to support a project or program, agencies will tend to over rely on contractor support. While contractors can be very valuable in executing elements of a project or program, strong government management is required for success. It is just not possible for contractor personnel to handle all of the stakeholder issues and drive decision making that arises during project or program execution.

Question 8. Have you conducted acquisition workforce assessments?

Answer: At both IRS and at DHS, I conducted extensive reviews of the large-scale IT programs at all stages of the lifecycle, whether in planning, development, implementation, or operations. At DHS, for instance, I was personally involved in reviewing 90 plus major IT programs. A major part of the evaluation of each program was the capabilities of the program manager and his or her team that constituted key positions of the program management office (PMO).

Question 8.a. What did you find to be the condition of your acquisition workforce and how did you address the challenges you discovered?

Answer: At the IRS, and even more so at DHS, I found that we had significant gaps in our ability to fill key positions on major IT programs, at both the program manager level and in key roles in the PMO. This is the reason why I drove the concept of implementing Centers of Excellence (COE) in the key areas of project and program management disciplines, first as a stopgap measure to help programs that lacked critical expertise, but also to mature the agency's capabilities over time.

Question 9. In your dealings with the federal IT acquisition process, what have you found to be the expertise of federal acquisition personnel?

Answer: In the project and program management ranks, there are certainly some very talented staff, but woefully inadequate numbers of staff given the volume and complexity of the projects and programs undertaken. In addition to significant shortages of skilled and experienced project and program managers themselves, I was particularly concerned with the lack of talented systems engineers, those individuals that understand the ways to develop a technical architecture for an IT system. This is a critical shortage in government.

In terms of procurement, I found most Contracting Officers (COs) to be competent in carrying out the administrative duties of their function. Most did not have any significant understanding of IT. While it is helpful to have COs with some level of IT knowledge, better procurement outcomes is almost always based on having better project and program planning.

Question 10. What areas of training would help improve the skills of the acquisition staff?

Answer: Based on my answers above, you can guess the short answer is training in project and program management. To elaborate, here is my list of training that should be stressed:

- IT Project management (to include agile, lean, and devops techniques)
- IT Program management (particular focus on large-scale programs)
- Business case analysis and development
- Enterprise architecture
- Systems engineering techniques
- Configuration management
- Development management
- Integration management
- Test management
- Operations management
- IT development quality assurance
- Cloud computing (to include Software-as-a-Service (SaaS) offerings).

There are certainly other disciplines that can be included, depending on the specific project or program specifics. The above are typically required of complex IT programs.

Under FITARA, the administrator of OFPP was required to update acquisition human capital plans. One of the areas to address was the use of industry-government rotations to develop the IT workforce.

Question 11. Have you seen or heard if these pilot programs are successful?

Answer: I have not seen nor heard if these pilot programs have been successful.

Question 12. Does your company have the ability to host a member of industry or government to advance this program?

Answer: We have not participated in any way to advance this program, but we would be interested in exploring how we could participate.

Question 13. In your company, what types of certifications are required for the IT acquisition staff?

Answer: Learning Tree International is a company that supports IT organizations in the development of their workforce, and as such we offer training programs that lead to many different types of certifications. We are not a large organization (approximately 300 employees) and as such, we do not build large-scale IT systems. Even so, when we embark on an IT acquisition, it is almost structured as an IT project. We demand that our project managers are Project Management Institute (PMI) certified, and then we will look at the specifics of the project and see what other certifications are appropriate given the work at hand. For instance, we typically will require that someone on the project hold a Certified Information Systems Security Professional (CISSP), a leading cyber security certification offered by $(ISC)^2$.

Question 14. What can the federal government do to place more value on the acquisition workforce so that more personnel will join the ranks.

Answer: Given my strong focus on the need for improved IT project and program management capabilities, the federal government should aggressively implement all facets of the Program Management Accountability Improvement Act (S.1550). In addition, in referring to my written testimony, recommendation 4 was to measure agencies on their IT acquisition and program management maturity and add this to the FITARA scorecard. An agencies' maturity can be determined through the use of an existing IT management maturity model, such as provided by ACT-IAC. If an agency can mature its IT management capabilities, it becomes much more attractive to those that work in IT acquisition.

Questions for Mr. Richard Spires
Former Chief Information Officer
Department of Homeland Security and Internal Revenue Service

QUESTIONS FOR THE RECORD FROM

REP. MARK MEADOWS, CHAIRMAN

SUBCOMMITTEE ON GOVERNMENT OPERATIONS

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

IT Acquisition Workforce: The Federal IT Acquisition Reform Act (FITARA) directed the Office of Federal Procurement Policy (OFPP), in consultation with the Federal CIO to review their human capital planning to identify ways to support the timely and effective acquisition of IT. Some of the suggested review areas included: (1) developing IT acquisition cadres; (2) use of a specialized career path for IT program manager and plans to strengthen IT program management; and (3) piloting innovative approaches for IT workforce development, such as industry-government rotation.

Question 1: Has FITARA been successful in improving human capital planning, particularly as it relates to IT and IT Acquisition workforce in the federal government? Why/Why not?

Answer: Given I am not currently in government, and I can not find metrics reported that go to the issue of human capital planning for IT and IT acquisition workforce, I am not in a position to answer the question. I would observe, however, that without some measurement metric, it is difficult to understand if there is real progress being made in developing the workforce.

Question 2: In your testimony, you discussed the importance of developing program management skills in the federal IT workforce. Why is this skill set so important in IT acquisition?

Answer: First, I wish to repeat a part of my written testimony in regards to what constitutes IT acquisition:

> "I have come to believe that we spend a lot of time talking about IT acquisition, but in many ways we talk past each other. Federal government IT organizations, whether they be large Departments or small independent Agencies, all have the need to "acquire" IT hardware, software, systems, and services. Yet the reality is that acquiring a commodity item (like ordering a telecommunications circuit, a software package to run on a laptop, or the laptop itself) is very different than acquiring a new mission-critical system that requires custom software development and integration. There is significant confusion in terms of IT

acquisition, in that we as a community tend to lump these various types of acquisitions together. Improving the government's ability to significantly improve IT acquisition involves improving a number of different components of a complex process. Too often I hear that if we just fixed the procurement process of selecting vendors or service providers, that we would make significant progress. I disagree – certainly streamlining procurements and improving the selection process can help, but it is only one piece (and not nearly the most important piece) of improving IT acquisition.

So below is a description of what an IT organization must "acquire", structured in two dimensions. The first dimension is complexity (which correlates with and can also be thought of as risk) and I separate this dimension into three categories:

- ***Commodity IT purchases*** – these are the mainstay of IT purchasing, goods and services that involve little acquisition risk. These include purchases of standard telecommunications services, end-user devices, standard software packages, etc. that form much of what is needed to keep an agency's IT capability operational.

- ***IT Projects*** – When it goes beyond commodity purchasing, and integration is required to deliver a new or upgraded service capability to an agency customer or the citizen, we cross into the need to manage IT projects. The actual project objectives and use of technology can vary widely, but these projects are typically low to moderate risk and duration (as a rule of thumb under a year). Examples of IT projects could include deployment of a new commercially available time-reporting system in an Agency, or upgrade of a campus network to include a wi-fi capability.

- ***IT Programs*** – Where there is a need for substantial development and integration of multiple modules to deliver required functionality and capability, we are now managing an IT program. This category is typically high risk and this is the category where the spectacular IT acquisition failures occur. Examples of IT programs could include replacement and modernization of a number of an agency's core mission-critical applications, or a full replacement of its underlying wide-area network.

The other dimension I view IT acquisitions from is functionality. With the advancement of IT over the past couple of decades, this has simplified somewhat and one can view functionality in just two categories:

- ***IT Infrastructure*** – This is the underlying networks, servers, data centers, cyber security hardware and software, platform and infrastructure cloud services, operating systems, etc. that all IT needs to operate. More recently, I have included commodity applications, like e-mail and standard desktop applications, as part of the IT Infrastructure.

- ***IT Applications*** – These are the broad and diverse set of applications that run on the IT Infrastructure that support the mission and business needs of an Agency. They may be custom built, software packages, or a combination of the two, and they may run on agency-owned servers or as Software-as-a-Services (SaaS) applications in a cloud environment.

While there are major IT programs that provide both IT infrastructure and applications, even in such cases, one can look at components within the program and view them separately within this framework."

Given my view of what an IT organization acquires, almost all such capabilities are delivered through the establishment of either a project or a program. Most CIOs would agree that their success over time largely depends on how well their organizations can manage projects and programs.

Question 3. You also mentioned two agencies in your testimony that have build a program management capability through learning from past program failures. How do we take those lessons learned and apply them government-wide?

Answer: To address the question I would focus back on my written testimony, and highlight two recommendations that go to the issue of improving an Agencies institutional capability to manage programs:

Recommendation 2: Ensure the Program Management Accountability Improvement Act (PMAIA) is properly implemented in Agencies. Given the importance of improving project and program management capabilities in improving IT acquisition outcomes, the new Administration, via OMB, should move to rapidly implement all elements of this new law. A particular focus should be efforts to build a cadre of government staff in each Agency with the skills, abilities, and experience to manage IT projects and programs. Importantly, the Administration should insist upon measures to be developed that enable OMB and Congress to monitor the implementation of the provisions of this law at an agency level.

Recommendation 4: Measure Agencies on their IT Acquisition and Program Management Maturity – Whether it is the ACT-IAC model or another IT management maturity model, it is critically important that Agencies are measured against an objective set of standards and best practices that have shown the ability to substantially improve their capability in IT acquisition, in particular the successful delivery of IT projects and programs. OMB should mandate the use of an IT management maturity model in Agencies, and the first step should be an initial assessment to establish a baseline. Each year, as part of the annual budget process, Agencies should develop a detailed plan for how they will improve their maturity and what progress indicators will be used to measure such progress.

Congress should incorporate key acquisition and program management elements of the maturity model into their FITARA scorecard.

The recently passed Program Management Accountability Improvement Act provides a framework for both developing IT project and program management standards to be used in agencies, along with a means to begin to more fully develop staff in all the disciplines required to properly manage projects and programs. As an augmentation to the FITARA scorecard, agencies should be measured on their IT acquisition and program management maturity through the use of an independent IT management maturity model. Congress can play a key oversight role to ensure agencies are following these recommendations and driving project and program management improvement over time.

Streamlining the Acquisition Cycle Timeline: Federal Chief Information Officers and Chief Information Security Officers have identified significant challenges in quickly acquiring IT through the federal acquisition process. Long lead times in the federal acquisition process mean it can take anywhere from 18 months to tow years to move from concept to contract award.

Question 4. In your experience, how long did it take agencies to move from concept to operational status for major IT acquisition projects? Please provide examples.

Answer: In my experience, the time from the start of a major federal IT program till the time it would implement its first production capability was at least two years, and in some instances more than three years. And that was just initial operating capability. Typically there would be a number of additional years to get to full operational status.

Here are a couple of examples that I am familiar with given my role at DHS (information referenced after my leaving DHS in May 2013 is obtained from GAO reports):

1. ***DHS Continuous Diagnostics and Mitigation (CDM) Program*** – This program was established to support civilian government agencies to significantly improve their cyber security posture. Of all government programs, one would think this would be expedited given the critically of addressing cyber security risks. Yet this program was launched in 2011, made its initial contract awards in 2013, and now in 2017, most agencies are still working to deploy what are called Phase 1 capabilities. DHS and GSA have acknowledged issues and are working to establish a new contracting approach that will hopefully address schedule issues.

2. ***CBP TECS Modernization Program*** – The modernization of TECS established its first baseline program plan in November 2010. At that time the program schedule had an initial operating capability (IOC) scheduled for the beginning of 2013. The IOC actually occurred in August 2014. On a positive note, full operational capability was reached in September 2016, approximately 9 months later than originally scheduled.

3. ***CBP ACE Program*** – Another example of a program that ultimately was successful, but required a revamping of the program after years of underperformance, escalating costs, and schedule slippages. ACE moved to an agile development methodology in 2013, and over a three-year time frame delivered 13 incremental releases to reach full production capability. This still represented a more than 5-year slip in schedule over the original baseline estimates.

Question 5: What strategies did you find helpful to expedite the acquisition timeline?

Answer: At both IRS and DHS, I worked hard on two major initiatives that were meant to both improve the acquisition cycle timeline and to improve the agencies' ability to successfully deliver projects and programs.

The first initiative was to work to streamline and develop an acquisition lifecycle that was optimized for IT projects and programs. DHS, in particular, had what I considered to be a "heavy weight" acquisition life cycle process that was oriented to developing weapon systems. With the rise of agile development and incremental releases, it makes no sense to take a year to plan a program, another year to run a procurement to obtain a contractor to support the program, and then only begin to deliver capability at the end of the third year. Yet this was the usual cycle time. I worked with my team at both IRS and DHS to revamp the lifecycles to enable a more streamlined planning process so that we could get to pilot implementations much more rapidly to determine if the architecture would work and to begin to get customer feedback. This is the standard agile approach used today in the private sector.

The second initiative was to work to develop Centers of Excellence (COE) to support IT projects and programs. These COE would provide guidance, standards, and even experienced staff to help projects and programs in their start up and if they ran into trouble. Some of the disciplines covered including requirements management, configuration Management, systems engineering, and testing. Too many projects and programs in government lack the expertise to effectively perform. The COE is a method to build institutional maturity over time to help an agency better deliver its IT projects and programs. As an aside, I am pleased that the Program Management Accountability Improvement Act (S.1550) was passed and signed into law. While it does not explicitly call out the COE concept, it should help to drive agencies to help mature their IT project and program management capabilities, by:

- Establishing standards and policies for Executive Agencies consistent with widely accepted standards for program and project management planning and delivery

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- Via the Office of Personnel Management (OPM), establishing a new job series or updating and improving an existing job series for program and project management within an Agency, and establish a new career path for program and project managers.

Questions for Mr. Richard Spires
Former Chief Information Officer
Department of Homeland Security and Internal Revenue Service

QUESTIONS FOR THE RECORD FROM
REP. ROBIN L. KELLY, RANKING MEMBER
SUBCOMMITTEE ON INFORMATION TECHNOLOGY
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

In your written testimony, you describe a number of changes the federal government would need to realize meaningful information technology (IT) acquisition improvement. You also state that these changes, "while certainly achievable, will take sustained leadership and effort over time to have a major positive impact."

Question 1.a. From your experience, can agencies make the necessary improvements in how they acquire IT services and systems without having top-level leaders in place? Why not?

Answer: Agencies without top-level leaders cannot make the necessary improvements in how they acquire IT services and systems. In agencies I have worked for and observed, the changes that are needed go beyond simple fixes, but require significant cultural changes. Such change requires leadership and commitment from the top of the organization.

Question 1.b. What are some of the important roles that top-level leaders play in the kinds of acquisition and modernization efforts being discussed today?

Answer: In most agencies, we need a shift in culture to acknowledge the importance of IT project and program management. As I wrote in my testimony:

> IT acquisition deserves to be on GAO's High Risk List. For decades, the government has been underperforming in its delivery of IT acquisitions. Deeply embedded cultural and skills issues must be addressed if we are to improve the government's score card in improving IT acquisition. Those changes, while certainly achievable, will take sustained leadership and effort over time to have a major positive impact. There are no easy fixes to address these acquisition issues, so, for instance, changing the Federal Acquisition Regulations (FAR) or better engaging industry, while laudable and desirable, alone will not make significant differences. The majority of the IT acquisition issues are actually a result of poor planning and execution of the projects and programs undertaken to deliver a new IT service or capability for Agencies. Hence, the core issues require the need for

Agencies to significantly improve their program and project management capabilities. But it goes beyond that. Delivery of successful IT projects and programs requires agency maturity, in that appropriate skills, experience and collaboration are required from a number of departments in an Agency, to include the program owner, procurement, finance, legal, and security, in addition to IT.

To mature an agency's ability to successfully deliver IT projects and programs requires sustained leadership that overcomes key cultural impediments that include:

- ***Lack of focus on the long view*** – For an agency to improve its ability to deliver projects and especially large programs is a concerted five-year undertaking. A lot of the work is unglamorous, to include working to improve the skills and abilities of the staff, developing a robust enterprise architecture, developing a solid governance model to appropriately delegate decision making, etc. Senior leadership, especially political leadership, want to make substantive changes quickly and do not typically take this long view, particularly in areas where the fruits of the labor are not shown for years. As an example of what it takes, the IRS worked diligently on its ability to manage projects and programs for more than a decade before coming off the GAO High Risk List.

- ***Too narrow of view of Acquisition Workforce*** – The vast majority of IT acquisition comes in the delivery of IT projects and programs. Many agencies are overly focused on the buying process and should be more focused on improving the managing process. A well-run project or program will, as a matter of course, do the things correctly to properly procure the hardware, software, services, and even solutions to help deliver beneficial projects and programs.

- ***Lack of the proper recognition of the roles needed to support projects and programs*** – Agencies struggle to ensure that the proper support is given to projects and programs to help ensure success. Large IT programs, require knowledgeable support from the mission or business organization, along with support finance, procurement, security, privacy, etc. Too often I have observed at the program manager has unfilled positions in the program management office, and gets almost no support from other parts of the agency.

- ***Over dependence on contractors*** – Given a lack of internal resources to support a project or program, agencies will tend to over rely on contractor support. While contractors can be very valuable in executing elements of a project or program, strong government management is paramount for success in delivering both projects and programs. It is just not possible for contractor personnel to handle all of the stakeholder issues and drive decisions that arise during project or program execution.

Question 1.c. How effective would your company, Learning Tree International, be without having top-level leaders to guide its strategy and vision?

Answer: Learning Tree, as well as the vast majority of companies, would quickly become ineffective and ultimately go out of business if there is not top-leaders there to constantly assess and updates the company's vision and related strategies.

Question 2. During the hearing, we heard many issues that you and the other witnesses have raised with respect to the many challenges the federal government faces when it comes to improving its capabilities in the area of IT acquisition. In contrast, what are some efforts or practices that you see our government successfully handling when it comes to IT acquisition, and that we should ensure agencies continue to follow?

Answer: Below are listed a couple of areas which I believe have helped significantly in IT acquisition:

1. ***Category management*** – GSA's work on category management has the potential to significantly help lower costs for agencies, particularly in the buying of commodity IT goods and services.

2. ***ID/IQ Contract Vehicles*** – The use of ID/IQ contract vehicles in which task procurements competed amongst pre-selected set of vendors can significantly shorten the procurement timeline for agencies.

3. ***FedRAMP*** – While there has been criticism of the program office, the concept of granting provisional Authority to Operates (ATOs) for cloud service providers makes it much easier for agencies to migrate to the cloud knowing that most of their security needs will be met.

Question 3: Based on your prior experience as Chief Information Officer (CIO) for both the Department of Homeland Security and the Internal Revenue Service, please explain how agencies deal with the challenge of supporting short-term additional information technology (IT) costs to achieve long-term savings while also dealing with budget cuts?

Answer: Many CIOs in government today are faced with the daunting proposition this question outlines. There are not easy answers, but I will refer back to one of my recommendations from my written testimony:

> **Recommendation 3: Require Agencies to implement a modern IT infrastructure** – Again, agency CIOs, via the authorities in FITARA, should be held responsible and accountable to make this happen in their respective Agencies. OMB should insist on development of aggressive three-year plans that have as

their objective a consolidated, modern IT infrastructure for the Agency. Further, most large Agencies should, as part of this transformation, be able to drive 20 to 30 percent savings in IT infrastructure spend. Congress should review these plans and track progress of implementation and cost savings on a regular basis.

Most agencies are spending significantly more than they need to on their IT infrastructure, and given new cloud computing and network service models, agencies can migrate to modern infrastructure to lower their operating costs. This will free up savings that should then be available to reinvest in new IT capabilities for their customers. The passage of the MGT Act would help with this approach by setting up working capital fund structures to enable reinvestment of the savings.

DRAFT 5/23/2017

Questions for Mr. Venkatapathi Puvvada

President – Unisys Federal Systems

Questions for the Record from Rep. Will Hurd, Chairman, Subcommittee on Information Technology

Committee on Oversight and Government Reform

The general perception amongst federal CIOs is that the FAR and the general complexity of the acquisition system is a big reason for the federal government's inability to procure IT services quickly. In addition to the FAR, agencies have internal review processes that can lengthen the time it takes to get a proposal out the door.

1. Would "trimming" of the FAR do anything to procure IT services faster?

   Response: Yes. Most information technology can be purchased as commercial items under FAR procedures. However, since enactment of the Clinger-Cohen Act that sought to streamline the acquisition of commercial information technology there has been an increase in government-unique requirements that have driven up the cost and time to implement effective IT solutions for government.

   a. If yes, which sections should be removed and why?

   Response: The FAR should be examined to further identify government-unique requirements and evaluate whether the regulations, or underlying statutes, are still relevant and useful, particularly in cases where federal agencies are seeking commercial solutions. Such a review should focus primarily on the civilian agencies, but be similar to the scope of work being undertaken by the Section 809 panel. Requirements including non-displacement of qualified workers under the Services Contract Act, reporting burdens such as transactional data reporting or commercial sales practices tied to Federal Supply Schedule contracting, and reporting of contractor employee full-time equivalents under firm-fixed price contracts should undergo a cost benefit analysis. New regulations should also contain a sunset date to require them to undergo review to determine whether they are still necessary. In addition, GSA and OMB should consider creating a streamlined version of a new FAR section for IT acquisition (TechFAR section), or reevaluate FAR Part 39, so that relevant technology trends and "As a Service" models can be effectively procured in the digital age.

2. What initiatives should be undertaken to speed up the acquisition process?

   Response: To speed up the acquisition process agencies could rely more heavily on the following practices:

   a. Use of down-selects to get to small lists of qualified vendors that then put together detailed proposals for evaluation. This practice preserves competition but still allows agencies to avoid reviewing detailed proposals that have little chance of resulting in a contract award. It also frees companies from investing in extensive bid

and proposal efforts when they have little or no chance of winning a contract award.

b. Greater use of "on-ramps" to add companies to multiple award IDIQ contracts. This allows government to add new vendors to contracts without having to wait until the next round of competition (typically 5 years) to access emerging capabilities.
c. Greater use of No Cost Contracts. Authorized for DoD contracts in the FY2017 NDAA, no cost contracts allow DoD to create multiple award IDIQ contracts without consideration of cost or price at the time the contract is established. Instead, cost and price competition is conducted at the time a task order is solicited under the contract when both the government and contractors have a better understanding of the requirements and the agency mission needs.

3. What is the key improvement area needed to get the federal government to an agile IT acquisition model?

   Response:

   Simplification of requirements specifications within solicitations to be more focused on mission objectives and outcomes as opposed to specific detailed requirements and technology specifications that are typically out of date by the time they are to be implemented.

   Greater reliance on incentive-type contracts where contractors that perform well are rewarded with follow-on work or "sprints" if they meet or exceed expectations on previous sprints.

4. If you were the Federal CIO for a day, what would be the first thing you would address to the government to an agile acquisition cycle?

   Response: Workforce training (for IT, Program Management and Contracting professionals) focusing on FAR acquisition flexibilities and how to include appropriate contractor incentives via the contract to drive contractor performance.

5. What are the top three lessons or best practices the federal government should take from private industry in order to more effectively and efficiently acquire mission critical IT?

   Response: First, government must bring together all the stakeholders (government and non-government) together to understand the mission outcomes desired. Second, government must rely on Statements of Objectives, in lieu of Statements of Work, to give industry more flexibility in how they propose their solutions. Third, government must establish a culture that allows for acceptable levels of risk-taking combined with the ability to move on to different solutions or vendors quickly and before significant capital is invested if the project is failing.

6. If your company were to modernize its oldest IT system, what would your expectation be for the length of time it would take from the time you decided to modernize to the time a contract was awarded?

   Response: Approximately 120 days for a typical modernization program framework contract vehicle. Sometimes, we plan more time to negotiate requirements, terms and conditions if the

scope includes global deployment requirements where specific data compliance requirements need to be met in regions or countries.

7. With regard to IT acquisition, what types of challenges does the private sector face as compared to the federal government?

   Response: The Federal Government faces considerably more challenges than the private sector because of FAR processes, specific competition requirements, and government-unique compliance and reporting requirements that often have little, or nothing, to do with the solution being procured. Private sector allows more flexibilities in the procurement processes to enable speed as well as executive sponsorship from senior leaders to enable transformation.

8. How are private sector acquisition teams composed compared to the government, specifically, do you have acquisition professionals working with IT experts or do your IT staff have acquisition training?

   Response: In most cases, we have acquisition professionals working with IT experts. Industry has widely adopted the creation of Integrated Project Teams discussed in my written statement that bring essential personnel together for major IT investment projects. Additionally, private sector firms augment their capabilities with external third party advisors (TPAs) to conduct market research and to support down selection processes.

Mr. Puvvada, in your testimony you emphasize the importance of ensuring that robust competition is a priority.

1. In your experience, is there currently much competition in the marketplace of selling IT to the federal government?

   Response: There is significant competition in the federal IT market, yet the regulatory regime unnecessarily drives up the cost of doing business with the federal government for companies already well-established in the federal market. Additionally, small business set-aside mandates and "rush to meet set-aside goals" without clear strategies and consistent implementations tend to restrict competition.

   What are some of the barriers to competition?

   Response: The regulatory regime is the single biggest barrier to attracting new entrants into the federal market. Additionally longer than necessary procurement cycles or agencies with history of cancelled procurements or underutilized contract vehicles increase cost of doing business thereby restricting competition.

   What can Congress do to eliminate those barriers?

   Response: Continue with reviews of the existing regulatory environment while simultaneously including sunset dates on any new regulations so that they are reviewed at regular intervals to determine their effectiveness.

Under FITARA, the administrator of OFPP was required to update acquisition human capital plans. One of the areas to address was the use of industry-government rotations to develop the IT workforce.

1. Have you seen or heard if these pilot programs are successful?

   Response: My understanding is that the pilot programs have been used infrequently. Thus, their effectiveness cannot be determined at this time, but I strongly believe the pilots should be encouraged more broadly. The pilots may also benefit from a review, and relaxation, of the conflict of interest requirements associated with the pilots. The fear of a perceived, verse an actual, conflict of interest arising because of a company's/agency's participation in the pilots is hampering their use.

2. Does your company have the ability to host a member of industry or government to advance this program?

   Response: Our company has the ability and would be interested in receiving guidance from the government about how to initiate the process for hosting a member of government within Unisys.

3. In your company, what types of certifications are required for the IT acquisition staff?

   Response: We do not formally require certifications, but prefer and encourage our procurement professionals receive the Certified Purchasing Manager (CPM) credential or Certified Professional in Supply Management (CPSM) credential offered by the Institute for Supply Management (ISM).We also prefer credentials from Chartered Institute of Procurement and Supply (CIPS) which has several levels of certification programs.

   For our subject matter experts that support specific IT and IT services category acquisitions, we prefer industry certifications such as CompTIA A+, IT Information Library (ITIL) Foundations, etc.

   Additionally, we are currently evaluating recently established programs by National Contracts Management Association (NCMA) such as Certified Professional Contracts Manager (CPCM), Certified Federal Contracts Manager (CFCM) and Certified Commercial Contracts Manager (CCCM).

Questions for Mr. Venkatapathi Puvvada
President
Unisys Federal Systems

Questions for the Record from Rep. Mark Meadows, Chairman
Subcommittee for Government Operations
Committee on Oversight and Government Reform

Addressing Complexity of the Federal Acquisition System: there are reportedly 126 contract clauses (including close to 85 mandatory clauses) that form commercial item contracts under the federal acquisition rules. The number of clauses has grown over time. In the mid-1990s, there were reportedly only three mandatory clauses and three more that were applicable for commerce item contracts as needed.

1. How do we reduce the complexity of the current acquisition system, particularly with respect to commercial items and services?

Response: To reduce the complexity of commercial item buying it is essential to remove government unique regulatory requirements from the acquisition process. These requirements are driving up the cost of doing business for the government and often dissuade companies from bring innovation to the government. In my response to question 1a posed by Chairman Hurd above, I provide examples of government-unique requirements that provide little or no value to meeting agency missions.

2. Should Congress or the Federal Acquisition Regulation Council require any new clauses expire after a certain number of years, essentially sunset these clauses?

Response: Yes. Sunsetting of new clauses is essential to triggering regular reviews of the acquisition ecosystem.

3. Should there be a periodic review of the entire Federal Acquisition Regulation? Who is best placed to do this?

Response: Review of the FAR should be an ongoing, incremental process. Comprehensive reviews are challenging because of the size and complexity of the FAR. However, a current review of the DoD acquisition system is currently underway by the Section 809 panel. While this review is welcome, once it is complete it should not be another decade before segments of the FAR are reviewed again. A combination of private sector experts and current government leaders, including personnel with legal, program management, information technology, and finance expertise would be best suited to conduct periodic reviews.

4. Can you quantify the compliance costs for IT federal contracts?

Response: Currently we cannot. Anecdotally, it has been reported that upwards of 18% of federal contracting dollars are needed for compliance. We are willing to work with your committee and others to help quantify these costs more thoroughly.

Strategies for Streamlining Federal Acquisition: There have been multiple panels, studies, and reform ideas for acquisition reform over the years. Some strategies for streamlining the federal acquisition process have included multi-year funding solution for long-term projects, emphasizing results versus process, using new contracting models, and leveraging industry capabilities to deliver non-core services with shared service models.

5. What specific strategies would you recommend to streamline the federal acquisition process? Please specify whether these strategies would require use of existing tools or new law/rules.
    a. Use of down-selects to get to small list of qualified vendors that then put together detailed proposals for evaluation. This practice preserves competition but still allows agencies to avoid reviewing detailed proposals that have little chance of resulting in a contract award. It also frees companies from investing in extensive bid and proposal efforts when they have little or no chance and winning a contract award. Existing tools/authorities are available.
    b. Greater use of "on-ramps" to add companies to multiple award IDIQ contracts. This allows government to add new vendors to contracts without having to wait until the next round of competition (typically 5 years) to access emerging capabilities. Existing tools/authorities are available.
    c. Greater use of No Cost Contracts. Authorized for DoD contracts in the FY2017 NDAA, no cost contracts allow DoD to create multiple award IDIQ contracts without consideration of cost or price at the time the contract is established. Instead, cost and price competition is conducted at the time a task order is solicited under the contract when both the government and contractors have a better understanding of the requirements and the agency mission needs. There is currently no existing authority for federal civilian agencies to use this method. Congress action is required.
    d. Greater reliance on incentive-type contracts where contractors that perform well are rewarded with follow-on work or "sprints" if they meet or exceed expectations on previous sprints. Workforce training on how to effectively set up such contract structures is also essential. Existing tools/authorities are available.

6. Are there particularly effective contracting models for IT acquisitions?

    Response: Consumption-based pricing or "x as a service" models can be a very effective way for the government to acquire IT. Modernization of legacy systems and greater reliance on cloud computing capabilities are essential to enabling the "as a service" model.

7. Do current contracting models work in terms of encouraging innovation and speed of delivery? Why/Why not?

    Response: In some cases, yes. In some cases, no. As mentioned above and in my written statement, the use of down-selects and no cost multiple award IDIQ contracts can be an

effective way of accessing innovation rapidly. Use of Statements of Objectives, as discussed below, can also be very effective. Conversely, the use of lowest-price technically-acceptable (LPTA) evaluation criteria in cases where innovation and access to leading edge technology are desired will not produce the desired outcomes for the government.

8. In your testimony, you suggest expanding the use of Statements of Objectives (SOO) model in lieu of prescriptive Statements of Work to "harness innovation."
    a. What are the benefits and disadvantages of SOOs?

Response: SOOs are beneficial in circumstances where government understands its desired mission outcomes, but does not have a strong grasp of how to achieve the outcomes and cannot adequately describe its requirements. In such cases, SOOs give industry the flexibility to offer innovative and/or cost saving solutions. Conversely, SOWs are best used when the government is purchasing a commodity, is not seeking innovation, and is able to define the specific requirements of the work and how it is to be completed.

    b. Could you provide specific examples based on your experience in the federal government of where this acquisition tool has been effectively deployed?

Response: Department of Homeland Security had several successful examples of this approach and the recent work of its Procurement Innovation Labs (PIL) to expand these in DHS components such as CBP and TSA have been successful. Army used this approach successfully 2-3 years ago for the Army Enterprise Service Desk (AESD) acquisition.

    c. Why are SOOs not more widely used by federal acquisition personnel?

Response: The common reasons for not using a SOO, in a circumstance where a SOO would be preferable, are that SOOs can be more risky because the government may be less familiar with the solutions being offered. In addition, there is also a perception within government that relying on SOOs increases the likelihood of a bid protest challenging the agency's premise for awarding a contract.

Questions for Mr. Venkatapathi Puvvada
President
Unisys Federal Systems

Questions for the Record from Rep. Robin L. Kelly, Ranking Member
Subcommittee on Information Technology
Committee on Oversight and Government Reform

1. The Modernizing Government Technology Act from the last Congressional session promotes two different models of funds for agencies to use to help modernize their information technology (IT) systems, a revolving fund and working capital funds. What are the benefits of each fund? In your assessment, do you think one model has greater benefits?

Response: Unisys supports the MGT Act and is pleased to see its reintroduction in this Congress and its recent passage in the House. In our view, both the revolving fund and the working capital funds will have utility. The working capital funds allow individual agencies to use funding flexibilities to modernize their own specific IT systems, while the revolving fund could provide additional funding resources. Additionally, the revolving fund creates a mechanism for funding shared services initiatives that can benefit multiple agencies.

Questions for Mr. Venkatapathi Puvvada
President
Unisys Federal Systems

Questions for the Record from Rep. Gerald E. Connolly, Ranking Member
Subcommittee on Government Operations
Committee on Oversight and Government Reform

1. In your written testimony, you state that federal hiring freezes are one of "the biggest challenges facing the workforce." Can you please explain why a hiring freeze poses such a dire challenge, particularly as it relates to the federal government's information technology acquisition workforce?

Response: Over the last several decades, the government has moved from a buyer of products, to a buyer of services. Today, services and IT are increasingly interlaced, yet much of the acquisition workforce has aged and has a background in product buying, which is very different from buying services or IT. A hiring freeze on the acquisition workforce denies the government the ability to recruit talent that can address the changes and use new and existing contracting methods best-suited for acquiring IT. And, at a time when technology is evolving quickly, it is essential that the government build and retain internal core capabilities to ensure that it is smart buyer of IT services.

2. The President's hiring freeze seeks "a long-term plan to reduce the size of the Federal government's workforce through attrition." Would you identify retention as a critical factor in maintaining an effective IT workforce? If so please explain why?

Response: Yes. Competition for top IT talent if fierce and government and the private sector are consistently competing with, and among, each other to hire and retain IT professionals. As the government seeks to improve core capabilities for IT acquisition and management so that it can be a smart buyer it is essential that high performing IT professionals can be retained. Furthermore, after IT professionals retire from government, it is important that agencies be able to recruit and retain a strong IT workforce.

IT Alliance
for Public Sector
A Division of ITI

Responses to Questions for the Record from Rep. Will Hurd

1. Would a "trimming" of the FAR do anything to procure IT services faster?

The Federal Acquisition Regulations (FAR) have reached such a point that just "trimming" it would not be enough. At over 2,000 pages, the FAR has become overly complex and difficult for all vendors to navigate. It has become particularly challenging for commercial companies. The FAR frequently establishes insurmountable compliance barriers for these companies, who do not normally do business in the public sector. In particular, smaller and or "new" commercial companies that have become the favorite of recent efforts by the government often find that the compliance requirements of the FAR are beyond the capabilities and resources available to them or it would cause substantial disruption in their commercial business model. While there are certainly regulations that could be removed in a trimming, the Information Technology Alliance for Public Sector (ITAPS) believes the provisions of the FAR should be completely re-evaluated through a sunset review or other similar process, whereby regulations would need to be justified for them to be sustained. Such a process should be established to recur every 5 years to ensure that the burden the regulations create are justified. Metrics that could be used for such a review should include measuring against the mission needs of the government, whether or not the clause drives an improved procurement process, and whether or not they are even relevant or necessary, given the current state of the overall marketplace and how contractors conduct business.

Further, any re-evaluation must also include a focus on changing the willingness of, and ease for, the acquisition workforce to apply the FAR in new ways that take practitioners outside their comfort zone. It is a necessity if the government expects to attract and retain access to the latest innovations available, and because our adversaries have no such limitations and can readily obtain the same or similar capabilities in the open global market.

ITAPS recommends that the Committee undertake an authorization to require that the FAR be reviewed with a sunset requirement for all provisions unless they are found to deliver a better acquisition outcome. The Committee can also broadly exercise their oversight responsibilities to ensure that effective management can help drive the culture change necessary in the acquisition workforce to deliver a more viable acquisition process.

2. What initiatives should be undertaken to speed up the acquisition process?

In the near term, ITAPS believes that the government should strive to match the existing commercial pace of acquisition that takes days or maybe weeks in almost all instances, instead of the current pace that is almost always measured in years. A substantial impediment to speedier acquisitions is the inordinate number of approvals that must be obtained. There is no analogy in the commercial market. One driver of this condition is the inability of the government and the acquisition workforce to shift from a risk avoidance approach to a risk mitigation approach for acquisitions, particularly when the goods or services to be acquired are commercial in nature. The inordinately complex compliance regime now in place in federal acquisition drives substantial delay in the process, because stakeholders are all trying to avoid risk entirely, not mitigate and manage for it.

Acquisition personnel would benefit from updated and additional training outlining the art of the possible in acquisition, including what pace and approvals are appropriate. Since all of the government training

institutes and the curriculums they teach were the product of the existing dysfunctional acquisition processes, we would suggest that the Committee turn to others, like the U.S. Digital Service or other government innovators, to help develop and deploy new curriculums specifically oriented toward information technology (IT) acquisitions.

Longer term, ITAPS supports the efforts of the Section 809 Panel and concurs with the interim findings released on May 17, 2017. Improving the government's ability to: 1) adapt at the speed of a changing world; 2) leverage the dynamic defense marketplace; 3) allocate resources effectively; 4) simplify acquisition; and 5) enable the workforce. These abilities would enable the necessary changes that the acquisition processes require in order to maintain relevance in today's market.

ITAPS Recommends that the Committee monitor and inform the work of the Section 809 Panel with the intent to evaluate their recommendations for government-wide application. The Committee can also exercise its jurisdiction over federal acquisition to require updating the acquisition workforce curriculums to include components addressing effective risk mitigation, commercial item acquisition, effective market research (particularly for information technologies), and the acquisition of information technology goods and services. Further, the Committee can reinforce and look to enhance an IT management career path at OPM to ensure adequate skills are being developed in the workforce for the IT needs of the government.

3. In the interest of efficiency, what can be done to reduce the number of internal checks in order to get these IT proposals out to the bidders?

The Committee should examine how the acquisition workforce is structured. Rather than having a siloed, sequential vertical process that requires back and forth between the various responsible personnel involved in the acquisition of goods and services, ITAPS recommends that acquisition personnel be grouped into a horizontal work stream. While personnel may rotate in and out, the core team of representatives would work together from the identification of the need at the operations level, through the development of the requirements, acquisition of the solution into the performance of the contract. ITAPS believes this collaborative process would not only reduce the number of internal checks but also reduce the time deliver solutions to the end user and constituencies.

ITAPS Recommends that the Committee undertake authorizing legislation that would require the establishment and maintenance of a horizontal workflow across the various stakeholders for all acquisitions above an appropriate threshold of value.

4. What is the key improvement area needed to get the federal government to an agile IT acquisition model?

Federal procurement officials and Chief Information Officers (CIOs) are using "agile" more and more, particularly for the development of information technology (IT). More agencies are using agile to approach IT development, including their software. The acquisition workforce, however, has been less willing to change and, even though some acquisitions use the term "agile," they are waterfall in nature. CIOs see the acquisition process as an obstacle to fully taking advantage of agile practices. The benefit of an agile approach is that a product evolves in real time to meet

the needs of users. Current procurement practices that demand all requirements be defined and specified upfront, however, cause conflict with using agile approaches.

ITAPS Recommends that solicitations and requirements should allow for greater flexibility, user collaboration, and incremental builds that are offered by agile development methodologies. We also recommend that the federal government fund and expand the Digital Service Contracting Professional Training and Development Program for the federal government that is training contracting officials how to incorporate agile practices into the acquisition system. Finally, we strongly urge Congress to require the various federal acquisition institutes to include courses on agile development in procurement.

5. If you were the Federal CIO for a day, what would be the first thing you would address to get the government to an agile acquisition cycle?

If I were Federal CIO for the day, to address having the government move to an agile acquisition cycle, I would convene and work with the President's Management Council, the Director of the American Technology Council (ATC), the Office of American Innovation (OAI), the Administrator of OFPP, the Federal CIO Council, the Chief Acquisition Officers (CAO) Council and the Chief Financial Officers (CFO) Council to develop guidance requiring agencies to use agile approaches. This can be achieved by requiring agencies to submit business cases when developing new acquisitions that specify and include agile methodologies. Additionally, CIOs, through their FITARA duties to review IT acquisition, can require agile methodologies be used and, if not, require agencies to submit a business case or justification for a waiver explaining why they could not use agile methodologies in their approach.

Furthermore, I would require, through Office of Management & Budget (OMB) guidance, that agile methodologies be widely deployed in the expenditure of funds for IT modernization. Last, I would work to encourage the ATC, in their report to the President, to develop suggestions on how to best adopt current business best practices on the use of agile methodologies into government IT acquisition processes.

6. Link cybersecurity with IT modernization. Can you elaborate on what you mean by this? How do IT acquisition laws impact cybersecurity, for example?

All IT experts note that to achieve and sustain the highest levels of cyber assurance, security must be engineered into the product or system from the beginning as an essential function, and not added on as an afterthought or secondary requirement. Because legacy systems cannot achieve that ideal, the best option for achieving assurance in existing mission IT is to modernize those networks and systems. Not all vulnerabilities are equal and some systems will need short-term security enhancements while more critical systems can be updated and modernized. But as a long-term IT investment strategy, if the government must choose between budgeting for the acquisition of less than ideal protection and security, or enhanced security and capability within mission IT, ITAPS believes the better value for the taxpayer is modernization. Modernization should become the norm for federal IT investment to deliver enhanced security, as well as capability.

ITAPS Recommends that the Committee work with other Committees to ensure that IT modernization is adequately funded and becomes the norm for future IT investments. Those expenditures should also be prescribed to deliver heightened security as part of the design and development of the final product.

Responses to Questions for the Record from Rep. Mark Meadows

1. How do we reduce the complexity of the current acquisition system, particularly with respect to commercial items and services?

At over 2,000 pages, the FAR has become overly complex and difficult for all vendors to navigate. It has become particularly challenging for commercial companies. The FAR frequently establishes insurmountable compliance barriers for these companies, who do not normally do business in the public sector. In particular, smaller and or "new" commercial companies that have become the favorite of recent efforts by the government often find that the compliance requirements of the FAR are beyond the capabilities and resources available to them or it would cause substantial disruption in their commercial business model. ITAPS believes the provisions of the FAR should be completely re-evaluated through a sunset review or other similar process, whereby regulations would need to be justified for them to be sustained. The FAR clauses must be measured against the mission needs of the government, whether or not they drive an improved procurement process and whether or not they are even relevant or necessary, given the current state of the overall marketplace and how contractors conduct business.

Many providers in the commercial marketplace do not even know the federal government is the end user of their products or that their products are a component or sub-component to a larger platform or capability. Even so, the use of their products makes these companies subject to dozens of requirements that they do not encounter in the commercial market. These requirements further alienate potential vendors and place inordinate compliance burdens on companies whose business model does not support them.

For commercial item and commercial off the shelf (COTS) item application, statute provides that no clause shall be applied unless explicitly identified in the statutory language or unless there has been a review and determination by the Administrator of the Office of Federal Procurement Policy. Many of the flow-down clauses in use today do not enjoy compliance with either of these requirements and lack statutory authority. ITAPS believes these should all be rescinded to reduce the compliance burden they create.

ITAPS Recommends that the Committee authorize a requirement that the FAR be reviewed with a 5-year sunset requirement for all provisions unless they are found to deliver a better acquisition outcome. Further, such a review should seek to limit the agency-specific supplements, which often compound these challenges. The Committee can also broadly exercise their oversight responsibilities to ensure that effective management can help drive the culture change necessary in the acquisition workforce to deliver a more viable acquisition process.

ITAPS would further recommend that a review, similar to the one required in Section 874 of the FY2017 National Defense Authorization Act, be used to identify a list of clauses that should be deemed inapplicable to the commercial items and COTS.

2. Should Congress or the Federal Acquisition Regulation Council require any new clauses expire after a certain number of years, essentially sunset these clauses?

Yes, the Congress should impose a 5-year sunset requirement on all acquisition regulations, including the supplements issues by the various agencies.

ITAPS Recommends that such a sunset prohibit the extension of any clause, unless 1) there has been a complete review and assessment of the impact the regulation has on federal acquisitions; 2) there has been a public notice and opportunity to comment; and 3) a Congressional Review Act evaluation.

3. Should there be a periodic review of the entire Federal Acquisition Regulation? Who is the best placed to do this?

Yes, there should be a periodic review of the FAR and all the FAR supplements at the agencies. Further, **ITAPS Recommends** that the Committee should expand the authority of the Section 809 panel to have government-wide application and ask that they do an initial review of the acquisition regulations to recommend which regulations should be repealed.

4. How can we quantify the compliance costs for IT federal contractors?

Existing statute requires that agencies provide an estimate of the compliance burden any regulations they are promulgating would impose on the impacted community. Far too often, such estimates fail to provide an accurate assessment of the time and resources devoted to compliance. Increasingly, we see that the government determines it takes a matter of minutes or even seconds to comply with a regulation, because the estimator presumes that the burden only involves the time to fill out a form or to click a mouse. Unfortunately, such oversimplifications fail to include the time and money devoted to establishing compliance regimes (frequently across multiple locations), capturing the data, creating data systems to collect and compile the data, conduct a review and consultation with attorneys (because penalties for failure to comply can be substantial, up to and including suspension and debarment) or the training of employees, to name a few. Finally, such estimates do not quantify a monetization of time as part of the compliance burden costs.

For contractors, compliance with information collection requirements alone costs more than $4 billion annually, and that is based on the woefully-inadequate government estimates of the burden. Many times, the data being requested is already in the possession of the government or can be easily identified through publicly or commercially available sources. Such burdens are passed along to the taxpayer as increased costs for goods and services and frequently are so invasive for commercial companies that they forego public sector work because they are not adequately resourced to comply.

ITAPS Recommends that the Committee evaluate the current burden estimation processes, including the Paperwork Reduction Act, and seek to improve these mechanisms. Further, the Committee should seek to prohibit agencies from seeking additional information from impacted communities when such data is available through an existing government, public or commercial source.

5. Does the federal government actually buy commercial? Why or why not? Examples?

The Federal Acquisition Streamlining Act and the FAR both require a preference for commercial items when they are available, but in practice, that is not the way the government acquires goods and services. In many cases, the government compliance requirements layered onto the acquisition of a good or service have become so burdensome as to make the company, its business model or the product or service itself bear no resemblance to the commercial item. For example, a deviation from the General

Services Acquisition Regulation (GSAR) at the General Services Administration (GSA) has relegated the commercial clauses to last in the order of precedence in commercial supplier agreements, applying a whole host of government unique requirements on companies delivering commercial items through GSA. As your questions pose, there are now dozens of government unique requirements in place and even if agencies could satisfy their mission need with a commercial item, they are forced to distort the transaction to a degree that acquiring commercial items is a virtual impossibility in the federal market.

6. **What is the cause of this drift away from buying commercial? Is this an acquisition workforce training issue?**

Oversight and compliance are substantial drivers of this distortion, where traditional government perspectives about market forces, as captured in legislation like Clinger-Cohen, FASA, FARA and SARA are no longer accepted by agencies, which frequently impose additional requirements on commercial items. ITAPS believes this is partly a training issue and would point to the absence of direct training on the acquisition of commercial items at ANY of the government acquisition academies as a symptom of that condition. Acquisition workforce personnel are not directly trained in the acquisition of commercial items, how to conduct market research or other related items considered best practices elsewhere.

ITAPS Recommends that the Committee require the development and implementation of curriculum specifically designed to acquire commercial items at all the government acquisition academies and require completion of such courses for all personnel before they can complete their training.

7. **Would the civilian acquisition system benefit from a renewed emphasis on commercial buying with provisions similar to those enacted for the defense acquisition system in fiscal years 2016 and 2017?**

ITAPS has long advocated that the civilian and defense markets, particularly for commercial items, should not be bifurcated and instead should be closely aligned in requirements. We believe that the provisions regarding commercial item acquisition offer a robust inventory of ideas and options for the Committee to consider, and ITAPS would support efforts to extend many of them to the civilian market.

8. **What do you think are the key challenges that we need to address to better prepare the IT acquisition workforce?**

First, we must build one. As noted in my testimony, there are some in government services with excellent IT skills, but they are the exception rather than the rule, and there are not enough of them to sustain the existing federal IT environment, much less undertake an IT modernization. We need to require training of all government personnel in basic IT functions so that they can start to know and understand what changes can be brought to bear through IT modernization. Such a focus would enable government personnel to think about things like agile methodologies, and how these can be deployed in IT modernization to deliver citizen and user centric functionality.

For IT personnel, we need to present them with adequate compensation, finding ways to make a government IT stint at least an attractive career stop. We should also find creative ways to permit people

with IT skills to commit to public service without loss of their earning power in the market. This could mean programs to permit companies to loan personnel to the government for specific projects or where outside income can be sustained while performing public service. For the acquisition personnel focused on acquiring information technologies, we need to better educate them, while expressly requiring better engagement with industry so that they can fully understand the capabilities being developed in the market.

9. How do we address the challenges of incentivizing the civilian acquisition workforce and retaining the best performers, particularly those with IT expertise?

The federal government has created a series of metrics and incentives for government personnel and the acquisition workforce that do not deliver the types of decision-making and behavior needed to improve federal acquisition. The Committee should focus on creating new metrics and incentives to both drive different behavior, as well as to attract and retain the best performers. Some of these incentives are driven by prices paid and we should discourage a focus on prices paid to the detriment of achieving best value for the taxpayer. This includes things like life-cycle cost considerations. We also incentivize risk avoidance, rather than risk management and mitigation, which is considered to be the best practice in the commercial world. That best practice is what permits risk taking to advance a capability (and how innovation in the commercial market occurs), while the federal market creates harsh penalties for anyone seeking to innovate.

10. I understand the Department of Defense has some government-industry exchange programs, including the Secretary of Defense Corporate Fellows programs. Are these programs effective? Do we have sufficient opportunities for the civilian IT acquisition workforce?

There are a number of industry-government personnel exchange programs, and ITAPS would encourage the broader use of such programs to enhance the understanding of IT in the federal workforce and the acquisition workforce in particular. Some criticisms of these programs include concerns that government and industry personnel become "captured" or that they are "spies" for industry, or that the government agency loses a headcount. But such concerns can be addressed simply with non-disclosure agreements and prohibitions on working on directly related programs or projects for a period of a few years, or by rotating industry personnel wherever government personnel are being exchanged. ITAPS would also encourage the Congress to incentivize participation in such programs and require it for some career positions in the acquisition and IT workforces.

Response to Questions for the Record from Rep. Robin Kelly

1. a. Can you explain why you believe another IT inventory is needed, and the benefits you believe another inventory can provide?

Conducting an inventory is essential to success in any effort to modernize IT in the federal government. The last effective inventory conducted in the federal government was in preparation for Y2K and the possible effects of software programming that was not provisioned for the year 2000. There has been no inventory of federal hardware and software since. While there have been pockets of assessment done in the past and some requirements are in place, we simply do not know the types and quantities of computing hardware owned by the federal government or how many versions of which software we run on each of those computers. We certainly do not know who owns what hardware and software, or how we are using it and where it is located. Without this information, we cannot effectively determine what our options for modernization are (cloud migration, transition to shared services, etc.), how we can proceed for each system, which ones might not need modernization, how much such an undertaking will cost, which pieces can be replaced now and which can or should be done later, or where our more urgent cyber vulnerabilities may reside.

1. b. If the federal government does decide to conduct another IT inventory across its agencies, what recommendations would you have for improving the way these inventories are conducted so that it best achieves the desired result?

Such an undertaking must be done in a way that will establish and sustain an automation of the inventory in the future. Instead of treating the inventory as a snapshot, the inventory should become continuous and available on a real-time basis. Such information would permit the IT community to understand how modernization has changed the inventory, how priorities will evolve and what new challenges may arise. It would permit the community to quickly identify vulnerabilities in a cyber-attack. And, it would enable to government to better understand its assets and how they are deployed, which could lead to greater efficiencies and better mission and constituent outcomes.

2. The Modernizing Government Technology Act from the last Congressional session promotes two different models of funds for agencies to use to help modernize their IT systems, revolving funds and working capital funds. What are the benefits of each type of fund? In your assessment, do think one model has greater benefits?

ITAPS supports the creation of both a centralized revolving fund and the agency specific working capital funds as a starting point for improving the way IT investments are funded in the federal government. Currently, no agency has the funding to both sustain IT operations AND modernize at the same time and the dysfunction of the appropriations process exacerbates this condition. In FY17, agencies are forced to obligate new efforts, like IT modernization, in a 5-month period. Unfortunately, because of the burdensome acquisition process, coupled with the truncated fiscal year, IT modernization cannot occur on the scale at which it is needed in the time allotted.

The centralized revolving fund can focus on large enterprise challenges or perhaps large programs that are the focus of the GAO high risk list. Working capital funds can focus on the mission areas of an agency and the unique needs that may reside there. Just as importantly, the funds are not tied to any single fiscal

year, but have a longer lifespan that can accommodate a more realistic modernization timeline and lifecycle. Finally, the working capital funds serve as an incentive to agencies to create funding options for themselves, including through savings that are the result of IT investment. For example, if an agency can shutter and consolidate some of their data centers, that should derive savings in a particular year that can be reprogramed to the working capital fund and thereby enable additional investment.

Responses for Questions for the Record from Rep. Gerald Connolly

1. Can you explain how efforts like these would help modernize the federal government?

The federal government must update the methods it uses to determine candidates for a job opening and the onboarding process once a person is selected for a position. Currently, private sector hiring practices permit companies to fill positions in days, or maybe, a few weeks. The federal government can take weeks to even identify which applicants are qualified for an opening before forwarding the candidates to the hiring authority. And, after the hiring authority has determined which candidate they wish to offer the position to, it can take months to get the candidate cleared at OPM and to have them scheduled for the background investigation required of all federal employees. It is worth noting that the current backlog of more than 600,000 applications at OPM for investigations of contractors does not include the number of federal employees awaiting an investigation for a suitability determination. The delay of investigations at OPM impacts both federal employees during their employment process, but contractors, as well. Only once a candidate has been scheduled for an investigation can a final offer of employment be made. Because most candidates don't have the luxury of waiting for months for a position, particularly if they offer skills in high demand in other sectors, these conditions drive the challenges the government faces when seeking to attract and retain employees with IT skills.

ITAPS has long advocated that the federal government create and refine IT career paths for contracting and acquisition personnel, and program managers but it is only in the last few years has such a career path been formally established. More remains to be done. For example, now that a formal career path has been established, the government should move to formalize a curriculum for training and set specific requirements for advancement in the path. Inclusion of a requirement to complete a rotation in an industry exchange program, as referenced in another question for the record, is one example of additional enhancements to make IT investment and management more successful.

ITAPS would recommend the Committee also focus on breaking down the vertical silos currently in place in the federal acquisition workforce that prohibit effective coordination and collaboration. Currently, most program needs are identified by operators, who must then pass that identified need to requirements developers, who then pass that requirement to the contracting officers for actual acquisition. Once the acquisition is completed, the program management team must execute on developing the acquired capabilities into the solution for the operators. Only once that development is completed, the capability is passed back to the operators who identified the mission need initially. Too frequently, the delivered solution and capability does not meet the need that was initially identified. Instead, we would recommend the creation and sustainment of horizontal teams that include representative from each of these silos in the process and require the collaboration to identify the need, develop the requirements, acquire the capability and deliver the capability to the end users. Through such coordination, we believe that the government would achieve better outcomes more consistently across all of the mission areas, but particularly for IT needs.

2. Can agencies fully implement these private sector practices if they do not have the flexibility to hire new employees?

With the expiration of the hiring freeze in the Executive branch, we do not see hiring impediments to agencies implementing changes of the type identified in the previous question.

SECTION 809 PANEL | Streamlining & Codifying Acquisition

QUESTIONS FOR THE RECORD
ANSWERS FROM MS. DEIDRE A. LEE
CHAIR, ADVISORY PANEL ON STREAMLINING AND CODIFYING
ACQUISITION REGULATIONS (NDAA 2016 SECTION 809)
BEFORE THE U.S. HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON INFORMATION TECHNOLOGY
AND GOVERNMENT OPERATIONS
COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

May 25, 2017

Questions for the Record from Rep. Will Hurd, Chairman
Subcommittee on Information Technology
Committee on Oversight and Government Reform

1. **Would a "trimming" of the FAR do anything to procure IT services faster?**
   a. **If Yes, which sections should be removed and why?**

Trimming the FAR would help with timeliness of almost all acquisitions, including information technology (IT). Much of the bureaucracy that slows defense acquisition comes from the DFARS, service-specific FAR supplements, as well as other regulations and policies. Institutional culture also serves to slow the process through extensive reviews and oversight, as well as detailed documentation requirements. The Section 809 Panel has a team dedicated to analyzing the FAR, including sections relevant to IT services, to identify the source of FAR/ DFAR regulations and to develop specific recommendations to emphasize the following:

- Putting mission first
- Making timely acquisitions
- Simplifying the acquisition process
- Decriminalizing acquisition

These cross-cutting themes and their recommended actions will affect IT acquisition.

2. **What initiatives should be undertaken to speed up the acquisition process?**

As highlighted in the answer to question 1, to emphasize the importance of speed and simplification, the Section 809 Panel is looking into ways to accomplish the following:

- Reduce or eliminate certain government-unique statutes and regulations to facilitate Department of Defense's (DoD's) ability to do business more like commercial industry.
- Bring approvals to a lower level (e.g., do not require every IT investment greater than $1 million to go all the way to the Office of the Secretary Defense level).
- Empower a single decision-maker or decision-making body with accountability and consequences. The current process requires far too many boards and individual members to agree—no one person can say yes, and anyone can say no.

3. **In the interest of efficiency, what can be done to reduce the number of internal agency checkpoints to get IT proposals out to the bidders?**

The concepts described in the answer to question 2 above will reduce the number of checkpoints to get requests for proposal (RFPs) out to bidders faster. The IT team is also looking at ways to more quickly evaluate proposals and to adapt agile development in IT projects.

4. **What is the key improvement area needed to get the federal government to an agile IT acquisition model?**

The current defense acquisition system is fundamentally incompatible with Agile concepts. Although the development activities (i.e., coding) can be organized into smaller, shorter Agile sprints, that capability cannot be released to the end users who need it without time-consuming, independent test activities and formal milestone decisions.

The entire lifecycle must be modified to incorporate Agile concepts throughout—an approach widely used in the private sector and even by some entities in the public sector. For example, the upfront program initiation and requirements process often takes 2 years or more, resulting in a situation for which technology has changed before DoD has even secured the approval to pursue a specific solution. The system must be changed to facilitate faster decision-making and to break large programs into smaller projects that can quickly begin development before requirements are firm, and to frequently release capability to end users. This includes much more flexible and timely budgeting and fund allocation.

5. **If you were the Federal CIO for a day, what would be the first thing you would address to get the government to an Agile acquisition cycle?**

Develop a new process for IT acquisition that is inherently Agile and places decision authority, including budget, with a single empowered entity that supersedes all existing decision forums. This approach would contribute to DoD's ability to replace legacy systems with new technology—an objective that is absolutely crucial in serving the mission given the pace of technological change.

Another school of thought regarding the slowness of IT acquisition focuses on the acquisition workforce itself. The complaint is that IT acquisition personnel lack the proper expertise or training to run a successful IT acquisition, and that the federal acquisition workforce has a long "culture of being risk averse."

1. **Have you ever conducted acquisition workforce assessments?**
    a. **What did you find to be the condition of your acquisition workforce and how did you address the challenges you discovered?**

The services and the Office of the Secretary of Defense have conducted many acquisition workforce assessments. Going forward, the Section 809 Panel will leverage existing assessments and conduct additional research as necessary.

2. **In your dealings with the federal IT contract acquisition process, what have you found to be the level and expertise of federal acquisition personnel?**

Although the Section 809 Panel has not yet studied this topic extensively, based on previous studies and anecdotal evidence, the skills and abilities of federal acquisition personnel are highly variable based on individual circumstances, agency or command, and specific role assigned. The skills and productivity of federal acquisition personnel can always be improved, and the Section 809 Panel will consider existing programs and recommendations that help achieve that goal.

3. **What areas of training would help improve the skills of the acquisition workforce?**

The Section 809 Panel plans to study this topic. The commissioners recognize the value of training to achieve specified levels of competency in each functional area for the acquisition workforce.

The Partnership for Public Service last year referred to a practice it called "reverse industry day" where agency personnel have a chance to learn industry representatives' perspectives on what is it like for them to work with government and how they view government contracts. Government representatives can also hear from industry about their agencies' acquisitions and acquisition processes.

1. **Are you familiar with this term, and if so, could you explain a little more about this practice?**
    a. **[IF YES] Have you found any validation to this practice in improving the speed of the acquisition process and encouraging innovation?**

To date, reverse industry days primarily have been used by the Department of Homeland Security to engage with industry. The Section 809 Panel is aware of a few other agencies that have also explored the concept. The practice is to have a panel of industry participants present their thoughts on government solicitations in general, without a particular solicitation on the table. Industry partners are interested in these events because they encourage open dialogue about acquisition with the government. Topics covered typically include how industry decides to pursue an opportunity, business cycles, evaluation preferences, and new approaches.

A high-ranking federal procurement official spoke about the reverse industry days concept at a Section 809 Panel meeting. Industry leaders also discussed reverse industry days with the panel. In general the panel is getting favorable reviews of this and other opportunities for engagement between industry and government. The Section 809 Panel has also found that some procurement officers tend to be risk averse—keeping industry at arm's length to avoid missteps in the proposal process.

Broadly speaking, there appears to be demand for more of these kinds of engagements, as such discussions may generate innovative thinking. Because they are not linked directly to a solicitation, it would be difficult to gauge whether reverse industry days contribute to the speed of an acquisition. Regardless, the dialogue such programs foster potentially could lead to positive outcomes, and in particular could lead to contracting officers restructuring potential solicitations with speed as an objective based on industry input.

SECTION 809 PANEL | Streamlining & Codifying Acquisition

Questions for the Record from Rep. Mark Meadows, Chairman
Subcommittee on Information Technology
Committee on Oversight and Government Reform

Addressing Complexity of the Federal Acquisition System: There are reportedly 126 contract clauses (including close to 85 mandatory clauses) for commercial item contracts under the federal acquisition rules. The number of clauses has grown over time. In the mid-1990s, there were reportedly only three mandatory clauses and three more that were applicable for commercial item contracts as needed.

1. **How do we reduce the complexity of the current acquisition system, particularly with respect to commercial items and services?**

There are a few key approaches the Section 809 Panel is studying that have potential to reduce the complexity of the current acquisition system with respect to commercial items and services. The first is to reduce the number of government-unique terms and conditions that create barriers to entry or incentives to exit the defense market. The second, flowing from the first, is to make government terms and conditions for commercial items and services consistent with those that are customary to the commercial market. The third is to reduce the supplemental policy, guidance, and flow-down requirements that bog down the Department of Defense (DoD) acquisition process. Together, these approaches could facilitate adaptability and agility that currently does not exist in the DoD acquisition process.

2. **Should Congress or the Federal Acquisition Regulation Council require any new clauses expire after a certain number of years, essentially sunset these clauses?**

The Section 809 Panel is considering recommendations for streamlining defense acquisitions submitted by private-sector, government, and general-public stakeholders. The panel has undertaken aggressive outreach. Commissioners and staff have already met with hundreds of stakeholders and are cataloguing and investigating recommendations provided through the Section 809 Panel website and from in-person interactions.

Many of the recommendations have pertained to clauses in the FAR, including instituting sunset mechanisms for certain types of regulations. The Section 809 Panel is also considering the possibility of recommending greater discretion for DoD in removing regulations. In all cases, commissioners and staff are assessing the original purpose of certain policies, whether the respective purposes still makes sense in light of

changing circumstances, and whether regulations comport with underlying statute. The objective is to provide recommendations to Congress and DoD that would dramatically streamline the acquisition process. The Section 809 Panel's goal is to develop recommendations for comprehensive change that will enhance DoD's ability to maintain technological dominance and deliver equipment, goods, and services in a timely fashion to meet the challenge of fast-evolving threats from multiple adversaries.

3. **Should there be a periodic review of the entire Federal Acquisition Regulation? Who is best placed to do this?**

There is not currently a periodic review process for the entire FAR. Having said that, the Defense Acquisition Regulation (DAR) Council and the Civilian Agency Council can be directed to undertake reviews by statute, executive order, and internal directives. Some Parts of the FAR have been revised over the years as a result.

The Section 809 Panel is currently identifying the underlying statutory basis for provisions in all 53 Parts of the FAR. One objective of the review is to enable the panel, as well as congressional committees and the FAR Council, to assess the relevance of FAR provisions. Some of the questions the panel is asking include the following: What provisions are no longer necessary? What provisions do not comport with statutory intent? Given that some of the relevant statutes and regulations are decades old, what statutes and regulations need to be changed in light of new circumstances?

4. **How can we quantify the compliance costs for IT federal contractors?**

The question of the *cost of doing business* with the government has been discussed for decades. The definition of these costs, specifically compliance," could include a wide variety of requirements (e.g., cost accounting standards, industrial security, subcontracting); hence, an agreed-upon definition of unique government business practices and the costs involved must be agreed on before quantifying compliance costs. The Section 809 Panel is examining *barriers to entry* and will make recommendations on how to reduce barriers, including those that affect mission, cost, and timeliness. When possible, the panel will attempt to quantify cost effect.

Barriers to Entry: The complexity of the federal acquisition system results in barriers to entry that lead some vendor to decide the cost of doing business with the federal government is too high. Bloomberg has reported that the number of the first-time vendors has fallen to a 10-year low (down from 24 percent in 2007 to only 13 percent in 2016).

5. **Based on your experience, what does the federal government do well, and not so well, in terms of engaging with first-time vendors?**

DoD has many programs which are aimed in part at engaging first-time vendors. These include the Small Business Innovation and Research (SBIR) program, Small Business Technical Transfer (STTR) program, Procurement Technical Assistance Program (PTAP), Mentor-Protégé Program, and small business set-asides.

At the same time, businesses, small and large, express frustration over the lack of clarity on points of entry into the defense market and the time it takes the process to run its course. For example, companies can spend months or years searching for a person or office with the ability to begin and drive an acquisition. Additionally, first-time vendors or vendors with new technology unknown to DoD cannot easily introduce their products and services into the defense market. The opaqueness with which RFP requirements are written, often leaves companies unable to discern DoD's needs. Companies either struggle to generate viable proposals or simply opt not to pursue the business opportunity at all.

DoD's vertical structure, including multiple layers of authority and complex regulations and preconditions, contributes to slow decision-making and limits the number of viable points of entry for small companies into the defense market. A number of companies with which the Section 809 Panel has spoken indicated a quick *no* was more valuable than a lengthy wait to *yes*. Exacerbating the lack of clear points of entry, first-time vendors also indicate DoD does not conduct sufficient outreach and lacks awareness of what capabilities exist among small technology firms.

6. **Are there existing tools in the federal procurement rules that if fully leveraged could encourage the participation of more first time vendors—or could you suggest strategies for encouraging such participation?**

The Section 809 Panel is considering ways to increase access by first-time vendors. Initial research indicates that DoD could be a more attractive partner for first-time vendors if it pursues initiatives that enable the Department to do the following:

1. Execute or reject acquisitions from small businesses within weeks, not months or years.
2. Maintain constant awareness of emerging technology to inform acquisition requirement development.
3. Provide clear access points for first-time vendors to showcase technology and quickly reach decision-makers within the acquisitions enterprise.

The Section 809 Panel is researching these issues as they relate to the Small Business Innovation and Research (SBIR) program, Small Business Technical Transfer (STTR) program, Procurement Technical Assistance Program (PTAP), Mentor-Protégé Program, and small business set-asides. In addition to understanding the relevant challenges, identifying strengths and best practices upon which to build will enable DoD to best leverage not only first-time vendors but also companies with long-standing relationships with DoD to acquire dominant technological capabilities.

7. **The Section 809 panel established a study team on barrier to entry. Could you provide more detail on the framework for approaching this area of study?**

The Barriers to Entry Team is conducting a literature review on U.S. Government and Defense Department small business acquisition and socio-economic programs. The team is gathering information to assess the effects of current small business programs and set-asides on industry's and DoD's ability to meet warfighter needs. Meetings with other government agencies will yield lessons learned from other models of small business contracting and/or partnerships implemented across the federal government.

To understand industry's perspective on barriers to entry into the defense marketplace, the team is also relying heavily on interviews with representatives of large and small businesses falling into four categories:

- Companies that do business with DoD
- Companies that choose not to do business with DoD
- Companies that are interested, but thus far unsuccessful in doing business with DoD.
- Companies that have chosen to leave the DoD's marketplace

By meeting with various companies and government agencies, the team intends to not only gather their perspectives on barriers to entry, but also to develop an understanding of how DoD can most effectively identify, foster, optimize, and integrate innovative technologies emerging from traditional and nontraditional defense contractors. The team is looking at a range of aspects of the problem, including auditing, protests, and socioeconomic policies.

Getting Back to Commercial: There is a strong preference for buying commercial goods and services in federal acquisition law and rules. This preference is supposed to help the federal government leverage the innovation and capabilities of the commercial sector.

8. **Does the federal government actually buy commercial? Why/why not? Examples?**

DoD does in fact buy commercial, although not necessarily in a way recognizable in the public sector. The range of statutes, regulations, policies, and directives that condition the DoD acquisition process hamper commercial purchases to the point that commercial buying policies are often inconsistent with commercial market practices. For example, the acquisition regulations include 34 definitions for the term commercial item, and the FAR definition requires contracting officers to consider items with "minor modifications" or "of a type" as commercial – but the item must be "sold, leased or licensed" or "offered for sale, lease or license" to the general public. Streamlining or reforming these and similar policies would improve DoD's ability to buy commercially. The 809 Panel has a team specifically focused on Commercial acquisition.

9. **What is the cause of this drift away from buying commercial? Is this an acquisition workforce training issue?**

The Federal Acquisition Streamlining Act (FASA) in 1994 represented a major effort to simplify commercial buying practices. Since that time, however, commercial buying has become substantially more complex, as witnessed by a near tripling of the number of requirements since the passage of FASA. As a result, the goal of streamlining commercial buying has not been realized.

The most important component of a solution may be simpler criteria for determining commerciality, coupled with training that, taken together, would improve DoD's ability to buy commercially in a timely way. Productive avenues might be to focus on managing the commercial subcontracting process, working with GSA governmentwide acquisition contracts (GWACs), and making fair and reasonable price determinations, particularly for sole-source commercial *of a type items*. Additionally, creating a forum for sharing best practices and across DoD might improve the consistency of commercial-item determinations.

10. **Would the civilian acquisition system benefit from a renewed emphasis on commercial buying with provisions similar to those enacted for the defense acquisition system in fiscal years 2016 and 2017?**

The NDAA provisions that make buying commercial IT the default option emphasize to DoD that commercial IT should always be an early consideration. The Section 809 Panel is examining the extent to which this provision is making its way to the working levels

of DoD. It is also investigating whether a policy that allowed for commercial buying for research and development requirements would be of value.

Strategies for Streamlining Federal Acquisitions: There have been multiple panels, studies, and reform ideas for acquisition reform over the years. Some strategies for streamlining the federal acquisition process have included multi-year funding solutions for long-term projects, emphasizing results versus process, using new contracting models, and leveraging industry capabilities to deliver non-core services with shared service models.

1. **What specific strategies would you recommend to streamline the federal acquisition process? Please specify whether these strategies would require use of existing tools or new laws/rules?**

The strategies the Section 809 Panel is considering include both updating and streamlining existing tools and processes *and* innovative approaches that would require new laws and potentially the elimination of existing processes that hamper DoD's ability to maintain technological dominance and deliver the goods and services needed to serve the mission. For example, the panel is examining the FAR to identify *regulatory underbrush* that is getting in the way of DoD's ability to deliver goods and services in a timely fashion. In all cases, the panel's recommendations will be data-driven; actionable; and include needed line-in, line-out statutory and regulatory language. The panel's overarching strategy is to make recommendations that accomplish the following:

- Enable DoD to be more adaptable in the face of a rapidly changing threat environment.
- Make DoD a more attractive customer in the new, dynamic defense marketplace.
- Enable DoD to use scarce resources allocated to procurement more efficiently.
- Simplify the acquisition process so goods and services can be purchased in a timely manner without unnecessary burden.
- Encourage and incentivize the workforce to make sound, mission-driven decisions.

The bottom line is that DoD adjusted neither to the pace of the threat environment nor to a marketplace that bears no resemblance to that of just a few decades ago. Both the strategic and marketplace realities require a degree of agility that DoD is not currently able to deliver. The nation's strategic needs must drive the business model, not the other way around.

2. **Are there particularly effective contracting models for IT acquisitions?**

There is no one contracting model that is optimal for IT acquisition because it encompasses such a broad spectrum of hardware, software, and services. The Section 809 Panel has heard consistently that other transactions authority is being used effectively for time-sensitive purchases, but it is limited to the front-end of the lifecycle. The panel is studying IT contracting extensively and will make specific recommendations in its final report.

IT Acquisition Workforce: Some experts have said the federal acquisition workforce has been overtaken by process to the detriment of focusing on results. Further, the IT acquisition workforce has become risk averse.

3. **What do you think are the key challenges that we need to address to better prepare the IT acquisition workforce?**

The Section 809 Panel plans to study this topic and make specific recommendations regarding training the acquisition workforce in its final report. Overall, roles and processes need to be flexible enough to adapt quickly to new technologies. Some of the key trends for the IT workforce that may be addressed include the following:

- the blurring of the line between cybersecurity practitioners and IT specialists
- high demand for mobility skills for customer-facing mobile applications or for managing internal workforce processes and resources
- balancing the employment of younger IT professionals with the need to have more seasoned employees with experience

4. **How do we address the challenge of incentivizing the civilian acquisition workforce and retaining the best performers, particularly those with IT expertise?**

The Section 809 Panel plans to study this topic and make specific recommendations regarding incentivizing the civilian acquisition workforce in its final report. Programs to address the trends listed in the response to question 3 need to be examined to develop programs that may not exist today.

5. **I understand that the Department of Defense has some government–industry exchange programs, including the Secretary of Defense Corporate Fellows program. Are these programs effective? Do we have sufficient opportunities for the civilian IT acquisition workforce?**

For the acquisition workforce, the Section 809 Panel is exploring use of training with industry programs. Potential research topics include the number of acquisition workforce members that train with industry, selection criteria for the program, functional disciplines that are represented in the program (engineering, contracting, IT, etc.), and use of the fellows when they return to their parent service/organization. Because IT is a broad and rapidly changing area, it is important to examine not only programs that allow training with industry but also how the IT workforce stays current using continuing education opportunities such as seminars, online learning, and rotational assignments.

SECTION 809 PANEL | Streamlining & Codifying Acquisition

Questions for the Record from Rep. Robin Kelly, Ranking Member
Subcommittee on Information Technology
Committee on Oversight and Government Reform

1. **As Chair of the Section 809 Panel, what have been the guiding principles for you and your fellow commissioners as you collectively approach the challenge of analyzing the current procurement system for the Department of Defense's (DoD's) information technology (IT) acquisitions, and work toward developing recommendations for improvement?**

The Section 809 Panel's guiding principles for improving DoD's IT acquisition process include the following:

- Recognizing that IT acquisition is inherently different from acquisition of weapon systems and requires an approach that fits the need
- Enabling DoD, given the speed of technological evolution, to adopt technology changes more rapidly than it currently does
- Simplifying the process by reducing the number of steps and individual requirements, as well as the number of approvals required
- Empowering a single individual or decision-making body to make IT investment decisions to replace the current multilayer decision process.

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