STATEMENT OF RICHARD A. SPIRES

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BEFORE THE

HOUSE OF REPRESENTATIVES SUBCOMMITTEES ON INFORMATION TECHNOLOGY AND GOVERNMENT OPERATIONS

OF THE

COMMITTEE ON OVERSIGHT AND GOVERNMENT REFORM

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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.

Richard A. Spires

Richard A. Spires is currently the CEO and a Director of Learning Tree, International, a leading provider of workforce development and hands-on IT and management training services.

Richard served as the CEO of Resilient Network Systems during 2014 and 2015, a San Francisco-based software firm that provides the *Trust Network* platform to bring trust to the cloud and the Internet of Things. He currently serves as the Chairman of the Board of the company.

Mr. Spires was appointed and served as the U.S. Department of Homeland Security's (DHS) Chief Information Officer (CIO) from 2009 till 2013. Mr. Spires also served as the Vice-Chairman of the Federal Government CIO Council and the Co-Chairman of the Committee for National Security Systems (CNSS), the committee that sets standards for the US Government's classified systems.

Mr. Spires held a number of positions at the Internal Revenue Service (IRS) from 2004 through 2008. He served as the Deputy Commissioner for Operations Support, having overall responsibility for the key support and administrative functions for the IRS. Mr. Spires served as the IRS' CIO, with overall strategic and operational responsibility for a $2 billion budget and a 7,000-person organization. Mr. Spires led the IRS's Business Systems Modernization program for two and half years, one of the largest and most complex information technology modernization efforts ever undertaken.

From 2000 through 2003, Mr. Spires served as President, Chief Operating Officer, and Director of Mantas, Inc., a software company that provides business intelligence solutions to the financial services industry. Prior to Mantas, Mr. Spires spent more than 16 years serving in a number of technical and managerial positions at SRA International.

Mr. Spires received a B.S. in Electrical Engineering and a B.A. in Mathematical Sciences from the University of Cincinnati. He also holds a M.S. in Electrical Engineering from the George Washington University. Mr. Spires has won a number of awards for his leadership in IT, to include the 2016 ACT-IAC Leadership Award, 2012 Fed 100 Government Executive Eagle Award, TechAmerica's 2012 Government Executive of the Year, Government Computer News 2011 Civilian Government Executive of the Year and was named a Distinguished Alumnus of the University of Cincinnati's College of Engineering in 2006.

March 28, 2017

Committee on Oversight and Government Reform
Witness Disclosure Requirement — "Truth in Testimony"

Pursuant to House Rule XI, clause 2(g)(5) and Committee Rule 16(a), non-governmental witnesses are required to provide the Committee with the information requested below in advance of testifying before the Committee. You may attach additional sheets if you need more space.

Name: Richard A. Spires

1. Please list any entity you are testifying on behalf of and briefly describe your relationship with these entities.	
Name of Entity	**Your relationship with the entity**
None	Testifying as a private citizen with relevant expertise based on my previous employment in the Federal Government.

2. Please list any federal grants or contracts (including subgrants or subcontracts) you or the entity or entities listed above have received since January 1, 2015, that are related to the subject of the hearing.					
Recipient of the grant or contact (you or entity above)	**Grant or Contract Name**	**Agency**	**Program**	**Source**	**Amount**
None					

2. Please list any payments or contracts (including subcontracts) you or the entity or entities listed above have received since January 1, 2015 from a foreign government, that are related to the subject of the hearing.					
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None					

I certify that the information above and attached is true and correct to the best of my knowledge.

Signature _____ Date: March 15, 2017