

**THE FEDERAL INFORMATION TECHNOLOGY AC-
QUISITION REFORM ACT (FITARA) SCORECARD
4.0**

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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THE FEDERAL INFORMATION TECHNOLOGY ACQUISITION REFORM ACT (FITARA) SCORECARD 4.0

Tuesday, June 13, 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 2:03 p.m., in Room 2154, Rayburn House Office Building, Hon. William Hurd [chairman of the Subcommittee on Information Technology] presiding.

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

Present from Subcommittee on Government Operations: Representatives Meadows, Jordan, Massie, Blum, Connolly, and Maloney.

Also Present: Representative Gowdy.

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.

And I think we are good on votes later in the afternoon, right, so that is a plus for once.

Good afternoon. Thank you all for being here. You know, nearly two years ago today, we released the first FITARA scorecard, or what some refer to as Issa-Connolly, is that right, Mr. Connolly? This bipartisan committee product, produced with GAO assistance, has been intended to drive technology reform across all of our Federal agencies.

Today, the committee released the fourth FITARA scorecard. And the committee, in coordination with GAO, has adjusted the calculation and added new metrics for each version of the scorecard since the beginning. For example, the FITARA Scorecard 3.0, the final grade included a plus to indicate that the CIO reports to the Secretary or Deputy Secretary of the agency and a minus to indicate if the CIO does not report to these officials. That system remains in place for Scorecard 4.0, and I strongly urge that all agencies with a minus to adjust their reporting structure. This is any easy fix that will help agencies continue to move towards 21st century IT practices.

For Scorecard 4.0, the committee made two adjustments to the grading. First, we simplified the calculation for the incremental developmental area to capture more incremental projects. Second, we incorporated OMB data center optimization metrics into the data center grade so that half the grade is now based on savings as a result of consolidation, and half the grade is based upon meeting optimization metrics. OMB published these optimization metrics last year, so they should not be a surprise to agencies. And we did this based on feedback from the agencies.

The committee is also previewing a new grading area related to the FITARA and MEGABYTE Act requirements on software license management inventories and the effectiveness of software licenses. There is absolutely no excuse for agencies not to have an accurate inventory of the software licenses they have. This is basic IT management.

From Scorecard 3.0 to Scorecard 4.0, four agencies' grades have improved, 15 agencies' grades have stayed the same, and five agencies have declined. Notably, the Department of Defense grade declined from a D to an F. The committee reduced DOD's grade due to a lack of transparency on IT spending. DOD appears to have reclassified a significant percentage of its IT spending as national security systems, which are not covered by FITARA. This lack of transparency is unacceptable. My colleagues and I will be following up with the DOD on this issue.

We also have our first ever "A" on this scorecard. USAID, after receiving D's on each of the first three scorecards, significantly improved its scores, particularly in the areas of incremental developmental transparency and risk management. I applaud the work of the office of the USAID CIO to address the score and encourage other agencies to look to them as an example in these areas.

Today's hearing features witnesses from HHS, which has received D's on all four versions of the scorecard, and currently has 44 open GAO recommendations related to high-risk IT acquisitions and operations. I look forward to hearing HHS' plan to close out those recommendations and turn those grades around.

Before I close, I want to take a moment to acknowledge and thank Chairman Chaffetz. The prioritization of IT and cybersecurity issues on the Oversight Committee has been an integral aspect of this committee's success, and I am thankful for Chairman Chaffetz's leadership on these issues. The Congress and the country are better off because of his service as chairman of the Oversight Committee. I thank Chairman Chaffetz for his service and leadership, and I look forward to working with Chairman Gowdy as he leads the committee forward.

Thank you, and I look forward to hearing from all of our witnesses today.

And now, it is my pleasure to recognize my friend and the ranking member of the Subcommittee on IT for her opening statement. Ms. Kelly, you are now recognized.

Ms. KELLY. Thank you, Mr. Chairman.

And thank you, Chairman Meadows and Ranking Member Connolly, for your leadership and the leadership you have shown our subcommittees continuing to work together to oversee Federal information technology systems.

Key to this oversight has been the scorecard our committees have developed for grading agency progress and fulfilling the requirements of the Federal Information Technology Acquisition Reform Act, or FITARA, or Issa-Connolly. The latest FITARA scorecard shows that President Trump's hiring freeze and plan for imposing deep workforce reductions to agencies may have already begun to reverse the gains many agencies have been making under the prior administration. In January, President Trump ordered a freeze on the hiring of Federal civilian employees, preventing agencies from fulfilling vacancies or creating new positions.

This past April, the Office of Management and Budget issued a new directive mandating that the agencies reduce their civilian workforce. Under the OMB directive, agencies are now required to, and I quote, "begin taking immediate actions to achieve near-term workforce reduction," the President's plan for reducing the Federal workforce to make it even more difficult for agencies to hire the most skilled, tech-savvy workforce needed to fully implement FITARA.

This past March, our subcommittees held a hearing on the challenges the Federal Government is facing in Federal IT acquisition and heard from some of the leading IT experts in the private sector. Many of these experts agree that one of the most critical challenges to modernizing government IT operations is the need to hire more IT professionals. As the new scorecard shows, several agencies have hit roadblocks, and some, like the Department of Health and Human Services, which is here today, continue to fall behind in meeting the requirements of FITARA. Forcing these agencies to make across-the-board cuts to their workforces on top of the hiring freeze can make it more difficult for them to fulfill the requirements.

It wasn't always this way. Prior scorecards showed steady progress among agencies. But for the first time since our committee began measuring compliance, the new scorecard shows that overall agency progress has stalled under this administration. More specifically, the new scorecard indicates that the grades of only four agencies improved, 15 agencies had no improvement whatsoever, and the grades for five agencies actually went down. In contrast, when the subcommittees released their scorecard this past December, three times as many agencies showed improvement in their scores, and only one agency had a decrease in their grades. The new scorecard highlights the fact that the Trump administration's Federal workforce policies are harmful and counterproductive.

As I pointed out at the hearing our subcommittee held this past December on FITARA, I hope there will be bipartisan interest in holding the Trump administration to the same high standards to which we held the last administration.

I want to thank the witnesses for testifying and thank the chair again.

Mr. HURD. Thank you, Ranking Member.

Now, I would like to recognize the chairman of the Subcommittee on Government Operations, the gentleman from North Carolina, Mr. Meadows, for his opening remarks.

Mr. MEADOWS. Thank you, Mr. Chairman. I just want to say thank you for your leadership on this critical area. You have forgot-

ten more about IT than I ever knew, and I appreciate your leadership. And certainly, for the Issa-Connolly law or, as the gentleman from Virginia would love to call it, the Connolly-Issa law, thank you both for your leadership as we look at moving forward.

I want to thank all of you for being here. Some of this may be not so pleasant. At the same time, it is becoming critically important that we address these issues. And as you will see, in a bipartisan fashion, we are taking this extremely seriously, and it will have implications from a standpoint of appropriations in other areas that if our IT CIOs don't take it as seriously, they will see other areas that potentially could be impacted because of their inaction.

And with that, I yield back, Mr. Chairman.

Mr. HURD. The chairman yields back.

Now, it is a pleasure to recognize the gentleman from the Commonwealth of Virginia, Mr. Connolly, for his opening remarks.

Mr. CONNOLLY. Thank you, Mr. Chairman. And let me thank you and my friend Mr. Meadows and my dear friend Robin Kelly from Illinois for the bipartisan leadership of these two subcommittees. I think one of the big differences between this period—and of course my co-author is here with us today as well—we have handled this on a bipartisan basis. There is no daylight between us or among us on this issue. And I think sending that message to the executive branch is critical.

What was lacking under Clinger-Cohen was any continuity or any robust follow-up because Mr. Clinger retired, Mr. Cohen became Secretary of Defense. That is not the case here. We are still here and we mean it. And we are going to continue to press for progress on the implementation of FITARA, also known as Issa-Connolly.

We are also, I hope, going to introduce legislation shortly to extend the sunset provisions, which I think is one of the recommendations of the GAO, and Mr. Powner may elaborate on that today. But we don't want to lose progress by having those provisions expire prematurely, and we need more time for implementation, not forever, but we need more time.

I echo all of the sentiments my colleagues have shared in their opening statements, and I want to first begin by citing what the chairman cited, which is the progress at AID. Here is an agency that began at a fairly low score and decided, you know what, we can't settle for that. What did they do? They reached out to GAO and they said what can we do to improve our performance? And you know what, they listened to advice, and they implemented it. And they now have the highest score and the greatest progress of any Federal agency, AID.

So, when some agencies say, well, it is too complicated, et cetera, AID has proved that is not true. If there is the political way, if there is a managerial desire to self-improve and to come into the 21st century, you will have congressional support, you will have GAO support, and you will have a nice grade.

On the other hand, at the other end of the spectrum is a recalcitrant, arrogant management style at the Department of Defense. Don't bother us with these troublesome requirements or standards, we are exempt from everything, we will police ourselves, and we

will set our own goals and objectives and metrics. The fact that they, of course, fall short of everybody else's is immaterial. And what is so disturbing about that is they are the big budget.

And I know when we met with GAO, we were very disappointed in DOD's performance, and all of us agreed, again, on a bipartisan basis, to insist that they improve their performance, that they come into compliance like every other Federal agency. And the burden is on them even greater because they have the dollars. They have the biggest budget of anybody, and they are about to get bigger. So, it is incumbent upon the Department of Defense to "get right with the Lord," and we are going to help them along on a bipartisan basis.

I believe the scorecard is a terribly important tool for measuring progress, and I thank GAO for working with us and coming up with it. I repeat what I have always said. It is not designed to be a scarlet letter on anyone's back. It is designed to prod senior management to provide the wherewithal for a CIO in a reporting sequence but also empowerment so there is accountability, there is transparency, there is responsibility. And it is the taxpayer who benefits.

So, you know, we have set metrics against which we believe people can be fairly measured, and we think it is working, not as fast as we would like. And the slow pace of naming a permanent CIO with the transition and new administration has cost us some progress, and that is why we want to extend the sunset provisions, not the only reason, but that is a primary driver so that we can make up for that time and keep the goals in front of us.

So, I look forward to this hearing. It is one of my favorite every year. I don't know why there aren't klieg lights and cameras all over the room, but I do think this is a terribly important subject, and I thank again my colleagues for their support and their commitment.

I yield back.

Mr. HURD. I would like to thank the gentleman. 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 we are now going to recognize our panel of witnesses. I am pleased to welcome a repeat visitor of this chamber, I think one of the few people none of us have yelled at in the Federal Government, Mr. David Powner, the director of IT Management Issues, the U.S. Government Accountability Office; Ms. Beth Killoran, deputy assistant secretary for IT, chief information officer, the U.S. Department of Health and Human Services. Thank you for being here. Ms. Sheila Conley, the deputy assistant secretary, acting chief financial officer at HHS; and Dr. Rick Holgate, the research director at Gartner, Incorporated, and former CIO of the Bureau of Alcohol, Tobacco, Firearms, and Explosives. Welcome to you all.

And pursuant to committee rules, all witnesses will be sworn in before they testify. Please rise and raise your right hands, please.
[Witnesses sworn.]

Mr. HURD. Thank you. Please be seated.

Let the record reflect that the witnesses answered in the affirmative.

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

And I would like to recognize Mr. Powner for his opening remarks for five minutes.

WITNESS STATEMENTS

STATEMENT OF DAVID A. POWNER

Mr. POWNER. Chairman Hurd, Meadows, Ranking Members Kelly, Connolly, and members of the subcommittees, I'd like to thank you and your staff for your continued oversight on the implementation of FITARA with this fourth set of grades.

This is the first time we've seen overall grades not improve with only four grades higher, five lower, and 15 holding steady. I would attribute this in part to transitioning administrations and also to your expansion of the scoring methodology. For example, data centers now include how agencies report on five optimization metrics in addition to cost savings. This has resulted in data center grades going down because only EPA and SSA report good progress on these metrics.

The transparent reporting on data center progress that FITARA requires needs to continue beyond the October 2018 date since there are significant expected savings beyond 2018. Extending FITARA's sunset date and realizing these out-year savings is especially important given the MGT Act and this committee's oversight on modernizing old, insecure legacy systems.

Another change to the scorecard is on incremental development where we now capture more software development projects. This change was suggested by several CIO shops, and I'd like to add that we have had good scorecard discussions with almost half of the CIOs or their staff. Although we've seen progress in the areas scored to date—incremental development, data center optimization, and investment transparency—we think there is great room for improvement on reducing duplicative business or administrative systems under the PortfolioStat initiative.

Your preview of agencies' efforts to better manage software licenses, a major area of FITARA not scored today, is eye-opening. Your preliminary grades would be two A's, one C, and 21 F's, and if this area was incorporated into the overall grades, we would have three agencies going up and 12 down instead of the four up and five down currently.

Only three agencies—Education, GSA, and USAID—have complete inventories of their software licenses. This is completely unacceptable, especially considering this committee's follow-up on FITARA with the passage of the complementary MEGABYTE Act. We need better management and more cost-savings in this area. Again, this is another opportunity area to fill the working capital funds proposed in the MGT Act.

Next, I'd like to turn, Mr. Chairman, to CIO authorities and our ongoing work to this committee on CIO budget visibility, contract approval, and incremental development. The good news is we are hearing that FITARA is improving the relations between chief financial officers and chief acquisition officers. But these improved

relations are going to take time to resolve in the outcomes we need. We are still finding CIOs with limited visibility into IT spending, IT contracts and acquisitions not being approved by CIOs, CIOs not certifying that all major acquisitions are taking an incremental approach, despite all these areas being required in FITARA. We plan to have these reports ready for your fifth scorecard, Mr. Chairman.

The reason these authorities are needed is simple: because we need CIOs governing over all IT. We recently found another example of a failed IT acquisition with the Coast Guard's electronic health record that illustrates why CIO authorities need strengthened. Tens of millions of dollars were wasted, nothing was delivered, and when I recently with the admiral in charge, I asked this simple question: Was the CIO involved? The answer: Not then, but they are now with the new EHR acquisition. This is exactly why FITARA and strengthening CIO authorities are so critically important to have better delivery of Federal IT acquisitions and to more efficiently manage Federal IT operations.

Although there have been some encouraging efforts with the current administration that highlight the importance of delivering technologies more effectively—namely, the Office of Innovation and the American Tech Council—agency CIOs and the Federal CIO are key to carrying out these high-level agendas. In fact, history tells us that the best progress we've seen on managing Federal IT is when the Federal CIO takes an active and aggressive role. This was a major theme that also emerged from the comptroller general's IT forum that we recently held with current and Federal CIOs. Currently, the Federal CIO and eight Department CIO positions are vacant, and although we have seen several capable individuals filling in, this lack of permanent leadership will negatively impact the progress we are making on FITARA. Your scorecard, Mr. Chairman, highlighting these vacancies will hopefully help draw appropriate attention to these critical positions.

Chairmen Hurd, Meadows, Ranking Members Connolly and Kelly, thank you again for your continued leadership and oversight of Federal IT.

[Prepared statement of Mr. Powner follows:]



United States Government Accountability Office

Testimony

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

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INFORMATION TECHNOLOGY

Sustained Management Attention to the Implementation of FITARA Is Needed to Better Manage Acquisitions and Operations

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

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GAO Highlights

Highlights of GAO-17-686T, a testimony before the Subcommittees on Government Operations and Information Technology, Committee on Oversight and Government Reform, House of Representatives

Why GAO Did This Study

The federal government plans to invest almost \$96 billion on IT in fiscal year 2018. Historically, these investments have too often failed, incurred cost overruns and schedule slippages, or contributed little to mission-related outcomes. Accordingly, in December 2014, Congress enacted FITARA, 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 summarizes agencies' progress in improving the management of IT acquisitions and operations. This statement is based on GAO prior and recently published reports on (1) data center consolidation, (2) risk levels of major investments as reported on OMB's IT Dashboard, (3) implementation of incremental development practices, and (4) management of software licenses.

What GAO Recommends

From fiscal years 2010 through 2015, GAO made about 800 recommendations to OMB and federal agencies to address shortcomings in IT acquisitions and operations, and included recommendations to improve the oversight and execution of the data center consolidation initiative, the accuracy and reliability of the Dashboard, incremental development policies, and software license management. Most agencies agreed with GAO's recommendations or had no comments. In addition, in fiscal year 2016, GAO made about 200 new recommendations in this area. GAO will continue to monitor agencies' implementation of these recommendations.

View GAO-17-686T. For more information, contact David A. Powner at (202) 512-9286 or pownerd@gao.gov.

June 13, 2017

INFORMATION TECHNOLOGY

Sustained Management Attention to the Implementation of FITARA Is Needed to Better Manage Acquisitions and Operations

What GAO Found

The Office of Management and Budget (OMB) and federal agencies have taken steps to improve information technology (IT) through a series of initiatives, and as of May 2017, had fully implemented about 47 percent of the approximately 800 related GAO recommendations. However, additional actions are needed.

- Consolidating data centers.** OMB launched an initiative in 2010 to reduce data centers, which was reinforced by the Federal Information Technology Acquisition Reform Act (FITARA) in 2014. GAO reported in May 2017 that agencies had closed 4,388 of the 9,995 total data centers, and had plans to close a total of 5,597 through fiscal year 2019. As a result, agencies reportedly saved or avoided about \$2.3 billion through August 2016. However, out of the 23 agencies that submitted required strategic plans, only 7 had addressed all required elements. GAO recommended that agencies complete their plans to optimize their data centers and achieve cost savings and ensure reported cost savings are consistent across reporting mechanisms. Most agencies agreed with the recommendations.
- Enhancing transparency.** OMB's IT Dashboard provides information on major investments at federal agencies, including ratings from Chief Information Officers that should reflect the level of risk facing an investment. GAO reported in June 2016 that agencies had not fully considered risks when rating their investments on the Dashboard. In particular, of the 95 investments reviewed, GAO's assessments of risks matched the ratings 22 times, showed more risk 60 times, and showed less risk 13 times. GAO recommended that agencies improve the quality and frequency of their ratings. Most agencies generally agreed with or did not comment on the recommendations.
- Implementing incremental development.** OMB has emphasized the need for agencies to deliver investments in smaller parts, or increments, in order to reduce risk and deliver capabilities more quickly. Since 2012, OMB has required investments to deliver functionality every 6 months. In August 2016, GAO reported that while 22 agencies had reported that about 64 percent of 469 active software development projects planned to deliver usable functionality every 6 months for fiscal year 2016, the other 36 percent of the projects did not. Further, for 7 selected agencies, GAO identified differences in the percentages of software projects reported to GAO as delivering functionality every 6 months, compared to what was reported on the Dashboard. GAO made recommendations to agencies and OMB to improve the reporting of incremental data on the Dashboard. Most agencies agreed or did not comment on the recommendations.
- Managing software licenses.** Effective management of software licenses can help avoid purchasing too many licenses that result in unused software. In May 2014, GAO reported that better management of licenses was needed to achieve savings. Specifically, only two agencies had comprehensive license inventories. GAO recommended that agencies regularly track and maintain a comprehensive inventory and analyze that data to identify opportunities to reduce costs and better inform decision making. Most agencies generally agreed with the recommendations or had no comments; as of May 2017, 4 agencies had made progress in implementing them.

United States Government Accountability Office

Chairmen Meadows and Hurd, Ranking Members Connolly and Kelly, 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 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 the high-risk area of IT acquisitions and operations, significant work remains to be completed.³ For example, as of May 2017, the Office of Management and Budget (OMB) and agencies had implemented 380 (or about 47 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 management of IT acquisitions and operations. This statement is based on our prior and recently published reports that discuss (1) data center consolidation, (2) risk levels of major investments as reported on OMB's IT Dashboard, (3) implementation of incremental development practices, and (4) and management of software licenses. A more detailed discussion of the objectives, scope, and methodology for this work is included in each of the reports that are cited throughout this statement. In

¹Carl 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).

²GAO, *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.

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

addition, related to the current status of federal agencies' CIO position, we reviewed publically available data and verified that data with agencies.

We conducted the work upon 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

According to the President's budget, the federal government plans to invest more than \$96 billion on IT in fiscal year 2018—the largest amount ever. 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 spending an estimated \$127 million over 9 years.⁴
- The tri-agency⁵ National Polar-orbiting Operational Environmental Satellite System was halted in February 2010 by the White House's Office of Science and Technology Policy after the program spent 16 years and almost \$5 billion.⁶

⁴GAO, *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).

⁵The weather satellite program was managed by the National Oceanic and Atmospheric Administration, the Department of Defense, and the National Aeronautics and Space Administration.

⁶See, 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).

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- The Department of Homeland Security's Secure Border Initiative Network program was ended in January 2011, after the department obligated more than \$1 billion for the program.⁷
 - The Office of Personnel Management's Retirement Systems Modernization program was canceled in February 2011, after spending approximately \$231 million on the agency's third attempt to automate the processing of federal employee retirement claims.⁸
 - 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 2011.⁹
 - The Department of Defense's Expeditionary Combat Support System was canceled in December 2012 after spending more than a billion dollars and failing to deploy within 5 years of initially obligating funds.¹⁰

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

⁷See, 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).

⁸See, 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).

⁹GAO, *Information Technology: Actions Needed to Fully Establish Program Management Capability for VA's Financial and Logistics Initiative*, GAO-10-40 (Washington, D.C.: Oct. 28, 2009).

¹⁰GAO, *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).

government has often been ineffective, specifically from chief information officers (CIO). For example, we have reported that some CIOs' authority was limited because they did not have the authority to review and approve the entire agency IT portfolio.¹¹

FITARA Can Improve Agencies' Management of IT

Recognizing the severity of issues related to the government-wide management of IT, FITARA was enacted in December 2014. The law was intended to improve agencies' acquisitions of IT and enable Congress to monitor agencies' progress and hold them accountable for reducing duplication and achieving cost savings. FITARA includes specific requirements related to seven areas.¹²

- **Federal data center consolidation initiative (FDCCI).** Agencies are required to provide OMB with a data center inventory, a strategy for consolidating and optimizing their data centers (to include planned cost savings), and quarterly updates on progress made. The law also requires OMB to develop a goal for how much is to be saved through this initiative, and provide annual reports on cost savings achieved.
- **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 investments¹³ 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.

¹¹GAO, *Federal Chief Information Officers: Opportunities Exist to Improve Role in Information Technology Management*, GAO-11-634 (Washington, D.C.: Sept. 15, 2011).

¹²The provisions apply to the agencies covered by the Chief Financial Officers Act of 1990, 31 U.S.C. § 901(b). These agencies are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, Justice, Labor, State, the Interior, the Treasury, Transportation, and Veterans Affairs; the Environmental Protection Agency, General Services Administration, National Aeronautics and Space Administration, National Science Foundation, Nuclear Regulatory Commission, Office of Personnel Management, Small Business Administration, Social Security Administration, and U.S. Agency for International Development. However, FITARA has generally limited application to the Department of Defense.

¹³Major IT investment means a system or an acquisition requiring special management attention because it has significant program or policy implications; high executive visibility; high development, operating, or maintenance costs; an unusual funding mechanism; or is defined as major by the agency's capital planning and investment control process.

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- **Agency CIO authority enhancements.** 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. See appendix I for details on the current status of federal CIOs.
 - **Portfolio review.** Agencies are to annually review IT investment portfolios in order to, among other things, increase efficiency and effectiveness and identify potential waste and duplication. In establishing the process associated with such portfolio reviews, the law requires OMB to develop standardized performance metrics, to include cost savings, and to submit quarterly reports to Congress on cost savings.
 - **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.¹⁴
 - **Maximizing the benefit of the Federal Strategic Sourcing Initiative.**¹⁵ 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 regulations related to the initiative.

¹⁴The Making Electronic Government Accountable by Yielding Tangible Efficiencies Act of 2016, or the "MEGABYTE Act" further enhances CIOs management of software licenses by requiring agency CIOs to establish an agency software licensing policy and a comprehensive software license inventory to track and maintain licenses, among other requirements. Pub. L. No. 114-210 (July 29, 2016); 130 Stat. 824.

¹⁵The Federal Strategic Sourcing Initiative is a program established by the General Services Administration and the Department of the Treasury to address government-wide opportunities to strategically source commonly purchased goods and services and eliminate duplication of efforts across agencies.

In June 2015, OMB released guidance describing how agencies are to implement FITARA.¹⁶ This guidance is intended to, among other things:

- assist agencies in aligning their IT resources with statutory requirements;
- establish government-wide IT management controls that will meet the law's requirements, while providing agencies with flexibility to adapt to unique agency processes and requirements;
- clarify the CIO's role and strengthen the relationship between agency CIOs and bureau CIOs; and
- strengthen CIO accountability for IT costs, schedules, performance, and security.

The guidance identified several actions that agencies were to take to establish a basic set of roles and responsibilities (referred to as the common baseline) for CIOs and other senior agency officials, which were needed to implement the authorities described in the law. For example, agencies were required to conduct a self-assessment and submit a plan describing the changes they intended to make to ensure that common baseline responsibilities were implemented. Agencies were to submit their plans to OMB's Office of E-Government and Information Technology by August 15, 2015, and make portions of the plans publicly available on agency websites no later than 30 days after OMB approval. As of November 2016, all agencies had made their plans publicly available.

In addition, in August 2016, OMB released guidance intended to, among other things, define a framework for achieving the data center consolidation and optimization requirements of FITARA.¹⁷ The guidance includes requirements for agencies to:

- maintain complete inventories of all data center facilities owned, operated, or maintained by or on behalf of the agency;
- develop cost savings targets for fiscal years 2016 through 2018 and report any actual realized cost savings; and
- measure progress toward meeting optimization metrics on a quarterly basis.

The guidance also directs agencies to develop a data center consolidation and optimization strategic plan that defines the agency's

¹⁶OMB, *Management and Oversight of Federal Information Technology*, Memorandum M-15-14 (Washington, D.C.: June 10, 2015).

¹⁷OMB, *Data Center Optimization Initiative (DCOI)*, Memorandum M-16-19 (Washington D.C.: Aug. 1, 2016).

data center strategy for fiscal years 2016, 2017, and 2018. This strategy is to include, among other things, a statement from the agency CIO stating whether the agency has complied with all data center reporting requirements in FITARA. Further, the guidance indicates that OMB is to maintain a public dashboard that will display consolidation-related costs savings and optimization performance information for the agencies.

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*.¹⁸ This area highlighted 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 was inconsistent and more work remained to demonstrate progress in achieving IT acquisition and operation outcomes.

Further, our February 2015 high-risk report 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, from fiscal years 2010 through 2015, we made 803 recommendations to OMB and federal agencies to address shortcomings in IT acquisitions and operations. These recommendations included many to improve the implementation of the aforementioned six critical IT initiatives and other government-wide, cross-cutting efforts. We stressed 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.

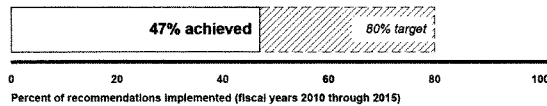
In February 2017, we issued an update to our high-risk series and reported that, while progress had been made in improving the management of IT acquisitions and operations, significant work still remained to be completed.¹⁹ For example, as of May 2017, OMB and the

¹⁸GAO-15-290.

¹⁹GAO-17-317.

agencies had fully implemented 380 (or about 47 percent) of the 803 recommendations. This was a 24 percent increase compared to the percentage we reported as being fully implemented in 2015. Figure 1 summarizes the progress that OMB and the agencies had made in addressing our recommendations, as compared to the 80 percent target, as of May 2017.

Figure 1: Summary of the Office of Management and Budget's and Federal Agencies' Progress in Addressing GAO's Recommendations, as of May 2017



Source: Office of Management and Budget and agency data. | GAO-17-088T

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. Also, beyond addressing our prior recommendations, our 2017 high-risk update noted the importance of OMB and federal agencies continuing to expeditiously implement the requirements of FITARA.

To further explore the challenges and opportunities to improve federal IT acquisitions and operations, we 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.²⁰ Forum participants, which included 13 current and former federal agency CIOs, members of Congress, and private sector IT executives, identified key actions related to seven topics: (1) strengthening FITARA, (2) improving CIO authorities, (3) budget formulation, (4) governance, (5) workforce, (6) operations, and (7) transition planning. A summary of the key actions, by topic area, identified during the forum is provided in figure 2.

²⁰GAO, *Information Technology: Opportunities for Improving Acquisitions and Operations*, GAO-17-251SP (Washington, D.C.: Apr. 11, 2017).

Figure 2: Key Actions, by Topic Area, Identified by Forum Participants to Improve Information Technology Acquisitions and Operations

STRENGTHENING FITARA'S IMPACT	<ul style="list-style-type: none"> • Congressional oversight could be more aggressive • Office of Management and Budget (OMB) may need to strengthen its role • The Department of Defense should be required to implement all provisions of the Federal Information Technology Acquisition Reform Act (FITARA)
IMPROVING CIO AUTHORITIES	<ul style="list-style-type: none"> • Have the Chief Information Officers (CIO) Council play an enhanced role in improving authorities • Implement collaborative governance • Evolve the role of the CIO to enable change • Focus on cybersecurity to change existing cultures
BUDGET FORMULATION	<ul style="list-style-type: none"> • Use information technology (IT) spend plans to improve budgets • Examine agency programs to capture additional IT spending • Simplify the definition of IT • Work more closely with procurement organizations • Work with congressional committees to explore budgeting flexibilities
GOVERNANCE	<ul style="list-style-type: none"> • Obtain support from agency leadership • Enhance governance at OMB and agencies • Use security authorities to enhance governance • Strengthen oversight for IT purchased as a service • Buy more and develop less • Evolve procurement processes to align with new technologies
WORKFORCE	<ul style="list-style-type: none"> • Attract more qualified CIOs by appealing to key missions • Have the Federal CIO play a more active role in attracting agency CIOs • Give CIOs more human resource flexibilities • Focus on attracting and investing in a more holistic IT workforce • Better integrate private sector talent into the IT workforce
OPERATIONS	<ul style="list-style-type: none"> • Use a strategic approach for legacy system migration • Migrate more services to the cloud • Implement strategies to mitigate the impact on jobs when closing data centers
TRANSITION PLANNING	<ul style="list-style-type: none"> • Convey IT and cyber issues early to leadership • Encourage Congress to focus on IT and cybersecurity at confirmation hearings • Ensure that IT and cyber issues are OMB priorities • Ensure GAO plays a role highlighting its work and expertise

Source: GAO analysis. | GAO-17-696T

In addition, in January 2017, the Federal CIO Council concluded that differing levels of authority over IT-related investments and spending have led to inconsistencies in how IT is executed from agency to agency.

According to the Council, for those agencies where the CIO has broad authority to manage all IT investments, great progress has been made to streamline and modernize the federal agency's footprint. For the others, where agency CIOs are only able to control pieces of the total IT footprint, it has been harder to achieve improvements.²¹

The Federal Government Has Current Efforts to Improve IT

The administration has initiated two efforts aimed at improving federal IT. Specifically, in March 2017, it established the Office of American Innovation to, among other things, improve federal government operations and services, and modernize federal IT. The office is to consult with both OMB and the Office of Science and Technology Policy on policies and plans intended to improve government operations and services, improve the quality of life for Americans, and spur job creation.²²

In May 2017, the administration also established the American Technology Council to help transform and modernize federal IT and how the government uses and delivers digital services. The President is the chairman of this council, and the Federal CIO and the United States Digital Service²³ administrator are members.

Agencies Have Taken Steps to Improve IT Management, but Full Implementation of FITARA Is Needed

Agencies have taken steps to improve the management of IT acquisitions and operations by implementing key FITARA initiatives. However, agencies would be better positioned to fully implement the law and, thus, realize additional management improvements, if they addressed the numerous recommendations we have made aimed at improving data

²¹CIO Council, *State of Federal Information Technology* (Washington, D.C.: January 2017).

²²The White House Office of Science and Technology Policy provides the President and others within the Executive office of the President with advice on the scientific, engineering, and technological aspects of the economy, national security, homeland security, health, foreign relations, the environment, and the technological recovery and use of resources, among other topics.

²³The United States Digital Service is an office within OMB which aims to improve the most important public-facing federal digital services.

center consolidation, increasing transparency via OMB's IT Dashboard, implementing incremental development, and managing software licenses.

Agencies Have Made Progress in Consolidating Data Centers, but Need to Take Action to Achieve Planned Cost Savings

One of the key initiatives to implement FITARA is data center consolidation. OMB established FDCCI in February 2010 to improve the efficiency, performance, and environmental footprint of federal data center activities and the enactment of FITARA reinforced the initiative. However, in a series of reports that we issued over the past 6 years, we noted that, while data center consolidation could potentially save the federal government billions of dollars, weaknesses existed in several areas, including agencies' data center consolidation plans and OMB's tracking and reporting on related cost savings.²⁴ In these reports, we made a total of 141 recommendations to OMB and 24 agencies to improve the execution and oversight of the initiative. Most agencies and OMB agreed with our recommendations or had no comments. As of May 2017, 75 of our recommendations remained open.

Also, in May 2017, we reported²⁵ that the 24 agencies²⁶ participating in FDCCI collectively had made progress on their data center closure efforts. Specifically, as of August 2016, these agencies had identified a

²⁴GAO, *Data Center Optimization: Agencies Need to Complete Plans to Address Inconsistencies in Reported Savings*, GAO-17-388 (Washington, D.C.: May 18, 2017); *Data Center Consolidation: Agencies Making Progress, but Planned Savings Goals Need to Be Established* [Reissued on March 4, 2016], GAO-16-323 (Washington, D.C.: Mar. 3, 2016); *Data Center Consolidation: Reporting Can Be Improved to Reflect Substantial Planned Savings*, GAO-14-713 (Washington, D.C.: Sept. 25, 2014); *Data Center Consolidation: Strengthened Oversight Needed to Achieve Cost Savings Goal*, GAO-13-378 (Washington, D.C.: Apr. 23, 2013); *Data Center Consolidation: Agencies Making Progress on Efforts, but Inventories and Plans Need to Be Completed*, GAO-12-742 (Washington, D.C.: July 19, 2012); and *Data Center Consolidation: Agencies Need to Complete Inventories and Plans to Achieve Expected Savings*, GAO-11-565 (Washington, D.C.: July 19, 2011).

²⁵GAO-17-388.

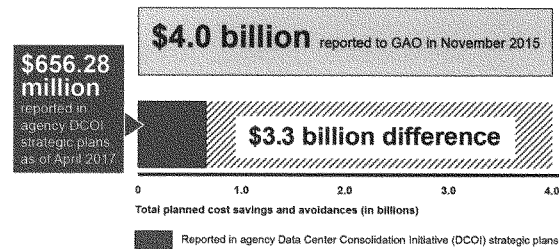
²⁶The 24 agencies that FITARA requires to participate in FDCCI are the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs; the Environmental Protection Agency; General Services Administration; National Aeronautics and Space Administration; National Science Foundation; Nuclear Regulatory Commission; Office of Personnel Management; Small Business Administration; Social Security Administration; and U.S. Agency for International Development.

total of 9,995 data centers, of which they reported having closed 4,388, and having plans to close a total of 5,597 data centers through fiscal year 2019. Notably, the Departments of Agriculture, Defense, the Interior, and the Treasury accounted for 84 percent of the completed closures.

In addition, 18 of the 24 agencies reported achieving about \$2.3 billion collectively in cost savings and avoidances from their data center consolidation and optimization efforts from fiscal year 2012 through August 2016. The Departments of Commerce, Defense, Homeland Security, and the Treasury accounted for approximately \$2.0 billion (or 87 percent) of the total.

Further, 23 agencies reported about \$656 million collectively in planned savings for fiscal years 2016 through 2018. This is about \$3.3 billion less than the estimated \$4.0 billion in planned savings for fiscal years 2016 through 2018 that agencies reported to us in November 2015. Figure 3 presents a comparison of the amounts of cost savings and avoidances reported by agencies to OMB and the amounts the agencies reported to us.

Figure 3: Comparison of Fiscal Years 2016-2018 Planned Cost Savings and Avoidances Reported to GAO in November 2015 versus Those Reported to the Office of Management and Budget in April 2017



Source: GAO analysis of agency data. | GAO-17-686T

As mentioned previously, FITARA required agencies to submit multi-year strategies to achieve the consolidation and optimization of their data centers no later than the end of fiscal year 2016. Among other things, this strategy was to include such information as data center consolidation and optimization metrics, and year-by-year calculations of investments and cost savings through October 1, 2018.

Further, OMB's August 2016 guidance on data center optimization contained additional information for how agencies are to implement the strategic plan requirements of FITARA.²⁷ Specifically, the guidance stated that agency data center consolidation and optimization strategic plans are to include, among other things, planned and achieved performance levels for each optimization metric; calculations of target and actual agency-wide spending and cost savings on data centers; and historical cost savings and cost avoidances due to data center consolidation and optimization. OMB's guidance also stated that agencies were required to publicly post their strategic plans to their agency-owned digital strategy websites by September 30, 2016.

As of April 2017, only 7 of the 23 agencies that submitted their strategic plans—the Departments of Agriculture, Education, Homeland Security, and Housing and Urban Development; the General Services Administration; the National Science Foundation; and the Office of Personnel Management—had addressed all five elements required by the OMB memorandum implementing FITARA. The remaining 16 agencies either partially met or did not meet the requirements. For example, most agencies partially met or did not meet the requirements to provide information related to data center closures and cost savings metrics. The Department of Defense did not submit a plan and was rated as not meeting any of the requirements.

To better ensure that federal data center consolidation and optimization efforts improve governmental efficiency and achieve cost savings, in our May 2017 report, we recommended that 11 of the 24 agencies take action to ensure that the amounts of achieved data center cost savings and avoidances are consistent across all reporting mechanisms. We also recommended that 17 of the 24 agencies each take action to complete missing elements in their strategic plans and submit their plans to OMB in order to optimize their data centers and achieve cost savings. Twelve agencies agreed with our recommendations, 2 did not agree, and 10 agencies and OMB did not state whether they agreed or disagreed.

Risks Need to Be Fully Considered When Agencies Rate Their Major Investments on OMB's IT Dashboard

To facilitate transparency across the government in acquiring and managing IT investments, OMB established a public website—the IT

²⁷OMB, *Data Center Optimization Initiative (DCOI)*, Memorandum M-16-19 (Washington, D.C.: Aug. 1, 2016).

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.²⁸

Over the past 6 years, we have issued a series of reports about the Dashboard that noted both significant steps OMB has taken to enhance the oversight, transparency, and accountability of federal IT investments by creating its Dashboard, as well as concerns about the accuracy and reliability of the data.²⁹ In total, we have made 47 recommendations to OMB and federal agencies to help improve the accuracy and reliability of the information on the Dashboard and to increase its availability. Most agencies agreed with our recommendations or had no comments. As of May 2017, 17 of these recommendations have been implemented.

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 Dashboard. Specifically, our assessments of risk for 95 investments at the 15 selected agencies³⁰ matched the CIO ratings posted on the Dashboard 22 times, showed more risk 60 times, and showed less risk 13 times.

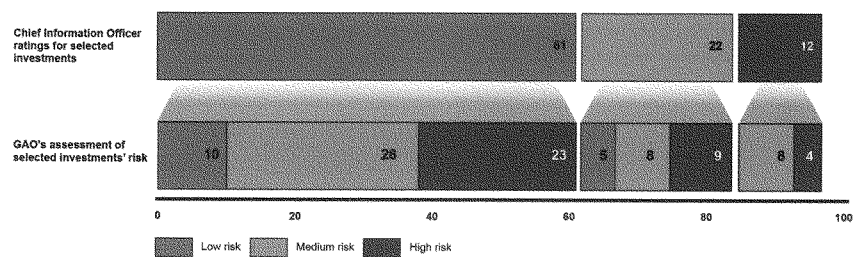
²⁸40 U.S.C. § 11302(c)(3)(C).

²⁹GAO, *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).

³⁰The 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 4 summarizes how our assessments compared to the selected investments' CIO ratings.

Figure 4: 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-17-696T

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 April 2015 (the month we conducted our review), which led to 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 that their CIO ratings were adequate. However, we noted that weaknesses in these three agencies' processes still existed and that we continued to believe our recommendations were appropriate. As of May 2017, these recommendations have not yet been fully implemented.

Agencies Need to Increase Their Use of Incremental Development Practices

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.³¹

However, in May 2014, we reported³² that 66 of 89 selected investments at five major agencies³³ 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 clarify its guidance on incremental development and that the selected agencies update their associated policies to comply with OMB's revised guidance (once made available), and consider the factors identified in our report when doing so.

Four of the six agencies agreed with our recommendations or had no comments, one agency partially agreed, and the remaining agency disagreed with the recommendations. The agency that disagreed did not believe that its recommendations should be dependent upon OMB taking action to update guidance. In response, we noted that only one of the recommendations to that agency depended upon OMB action, and we maintained that the action was warranted and could be implemented.

³¹40 U.S.C. § 11319(b)(1)(B)(ii).

³²GAO, *Information Technology: Agencies Need to Establish and Implement Incremental Development Policies*, GAO-14-361 (Washington, D.C.: May 1, 2014).

³³These five agencies are the Departments of Defense, Health and Human Services, Homeland Security, Transportation, and Veterans Affairs.

Subsequently, in August 2016, we reported³⁴ that agencies had not fully implemented incremental development practices for their software development projects. Specifically, we noted that, as of August 31, 2015, 22 federal agencies³⁵ had reported on the 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. Table 1 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.

Table 1: Federal Agency Software Development Projects that Planned to Deliver Functionality Every 6 Months for Fiscal Year 2016, as Reported on the Office of Management and Budget's Information Technology (IT) Dashboard

Agency	Number of major IT investments	Number of projects associated with investments	Number of projects planning delivery of release every 6 months	Percent planning release 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 Dashboard data as of August 31, 2015. | GAO-17-586T

^aThirteen additional agencies each reported having 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 each agency's small number of projects would not provide a reliable figure.

³⁴GAO, *Information Technology Reform: Agencies Need to Increase Their Use of Incremental Development Practices*, GAO-16-469 (Washington, D.C.: Aug. 16, 2016).

³⁵These 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.

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.

Further, in conducting an in-depth review of seven selected agencies' software development projects,³⁶ 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. However, significant differences existed between the delivery rates that the agencies reported to us and what they reported on the Dashboard. For example, for four agencies (the Departments of Commerce, Education, Health and Human Services, and Treasury), the percentage of delivery reported to us was at least 10 percentage points lower than what was reported on the Dashboard. These differences were due to (1) our identification of fewer software development projects than agencies reported on the Dashboard and (2) the fact that information reported to us was generally more current than the information reported on the Dashboard.

We concluded that, by not having up-to-date information on the Dashboard about whether the project is a software development project and about the extent to which projects are delivering functionality, these seven agencies were at risk that OMB and key stakeholders may make decisions regarding the agencies' investments without the most current and accurate information. As such, we recommended that the seven selected agencies review major IT investment project data reported on the Dashboard and update the information as appropriate, ensuring that these data are consistent across all reporting channels.

Finally, while OMB has issued guidance requiring agency CIOs to certify that each major IT investment's plan for the current year 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 CIOs certify that major IT investments are adequately implementing incremental development.³⁷ Accordingly, we recommended that the remaining four

³⁶These 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 Dashboard for fiscal year 2015.

³⁷Office of Management and Budget, *FY2017 IT Budget – Capital Planning Guidance*.

agencies—the Departments of Defense, Education, Health and Human Services, and the Treasury—establish policies and processes for certifying that major IT investments adequately use 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 its recommendation.

In total, we have made 23 recommendations to OMB and agencies to improve their implementation of incremental development. As of May 2017, 17 of our recommendations remained open.

Agencies Need to Better Manage Software Licenses to Achieve Savings

Federal agencies engage in thousands of software licensing agreements annually. The objective of software license management is to manage, control, and protect an organization's software assets. Effective management of these licenses can help avoid purchasing too many licenses, which can result in unused software, as well as too few licenses, which can result in noncompliance with license terms and cause the imposition of additional fees.

As part of its PortfolioStat initiative, OMB has developed policy that addresses software licenses. This policy requires agencies to conduct an annual, agency-wide IT portfolio review to, among other things, reduce commodity IT spending. Such areas of spending could include software licenses.

In May 2014, we reported on federal agencies' management of software licenses and determined that better management was needed to achieve significant savings government-wide.³⁸ In particular, 22 of the 24 major agencies did not have comprehensive license policies and only 2 had comprehensive license inventories. In addition, we identified five leading software license management practices, and the agencies' implementation of these practices varied.

³⁸GAO, *Federal Software Licenses: Better Management Needed to Achieve Significant Savings Government-Wide*, GAO-14-413 (Washington, D.C.: May 22, 2014).

As a result of agencies' mixed management of software licensing, agencies' oversight of software license spending was limited or lacking, thus, potentially leading to missed savings. However, the potential savings could be significant considering that, in fiscal year 2012, 1 major federal agency reported saving approximately \$181 million by consolidating its enterprise license agreements, even when its oversight process was ad hoc. Accordingly, we recommended that OMB issue needed guidance to agencies; we also made 135 recommendations to the 24 agencies to improve their policies and practices for managing licenses. Among other things, we recommended that the agencies regularly track and maintain a comprehensive inventory of software licenses and analyze the inventory to identify opportunities to reduce costs and better inform investment decision making.

Most agencies generally agreed with the recommendations or had no comments. As of May 2017, 123 of the recommendations had not been implemented, but 4 agencies had made progress. For example, three agencies—the Department of Education, General Services Administration, and U.S. Agency for International Development—regularly track and maintain a comprehensive inventory of software licenses. In addition, two of these agencies also analyze agency-wide software licensing data to identify opportunities to reduce costs and better inform investment decision making. The National Aeronautics and Space Administration uses its inventory to make decisions and reduce costs, but does not regularly track and maintain a comprehensive inventory. While the other agencies had not completed the actions associated with these recommendations, they had plans in place to do so. Table 2 reflects the extent to which agencies implemented recommendations in these areas.

Table 2: Agencies' Implementation of Software License Management Recommendations

Agency	Tracks and maintains a comprehensive inventory	Uses inventory to make decisions and reduce costs
Department of Agriculture	○	○
Department of Commerce	○	○
Department of Defense	○	○
Department of Education	●	○
Department of Energy	○	○
Department of Health and Human Services	○	○
Department of Homeland Security	○	○
Department of Housing and Urban Development	○	○
Department of Justice	○	○
Department of Labor	○	○
Department of State	○	○
Department of the Interior	○	○
Department of the Treasury	○	○
Department of Transportation	○	○
Department of Veterans Affairs	○	○
Environmental Protection Agency	○	○
General Services Administration	●	●
National Aeronautics and Space Administration	○	●
Nuclear Regulatory Commission	○	○
National Science Foundation	○	○
Office of Personnel Management	○	○
Small Business Administration	○	○
Social Security Administration	○	○
U.S. Agency for International Development	●	●

Source: GAO analysis. | GAO-17-686T

Key:

- Fully—the agency provided evidence that it fully addressed this recommendation
- Partially—the agency had plans to address this recommendation

In conclusion, with the enactment of FITARA, the federal government has an opportunity to improve the transparency and management of IT acquisitions and operations, and to strengthen the authority of CIOs to

provide needed direction and oversight. The forum we held also recommended that CIOs be given more authority, and noted the important role played by the Federal CIO.

Most agencies have taken steps to improve the management of IT acquisitions and operations by implementing key FITARA initiatives, including data center consolidation, efforts to increase transparency via OMB's IT Dashboard, incremental development, and management of software licenses; and they have continued to address recommendations we have made over the past several years. However, additional improvements are needed, and further efforts by OMB and federal agencies to implement our previous recommendations would better position them to fully implement FITARA.

To help ensure that these efforts succeed, OMB's and agencies' continued implementation of FITARA is essential. In addition, we will continue to monitor agencies' implementation of our previous recommendations.

Chairmen Meadows and Hurd, Ranking Members Connolly and Kelly, 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 Kevin Walsh (Assistant Director), Chris Businsky, Rebecca Eyler, and Jessica Waselkow (Analyst in Charge).

Appendix I: Status of Federal Chief Information Officers

As of May 2017, 9 of the 25 federal CIO positions were filled by acting CIOs that do not permanently hold the position. Of the 9, 2 were career positions and the remaining positions require some form of appointment. Table 3 summarizes the status of the CIO position at the federal level.

Table 3: Status of Federal Chief Information Officer Positions, as of May 2017

Organization	Position type	Status
Federal government	Presidential appointment	Acting
Department of Agriculture	Career	Permanent
Department of Commerce	Appointment	Acting
Department of Defense	Career	Acting
Department of Education	Career	Permanent
Department of Energy	Appointment	Acting
Department of Health and Human Services	Career	Permanent
Department of Homeland Security	Presidential appointment	Permanent
Department of Housing and Urban Development	Appointment	Acting
Department of Justice	Career	Permanent
Department of Labor	Career	Permanent
Department of State	Career	Permanent
Department of the Interior	Career	Permanent
Department of the Treasury	Career	Permanent
Department of Transportation	Appointment	Acting
Department of Veterans Affairs	Presidential appointment with Senate confirmation	Acting
Environmental Protection Agency	Appointment	Acting
General Services Administration	Career	Permanent
National Aeronautics and Space Administration	Career	Permanent
National Science Foundation	Career	Acting
Nuclear Regulatory Commission	Career	Permanent
Office of Personnel Management	Career	Permanent
Small Business Administration	Career	Permanent
Social Security Administration	Appointment	Permanent
U.S. Agency for International Development	Career	Permanent

Source: GAO analysis of agency documentation and the Government Publishing Office's "United States Government Policy and Supporting Positions (Plum Book)." | GAO-17-686T

Key:

Presidential appointment with Senate confirmation = a political appointment made by the President with Senate confirmation

Presidential appointment = a political appointment made by the President, without Senate confirmation

Appointment = a political appointment generally made by the administration

Career = a non-political appointment made by the agency

Mr. HURD. Thank you, Mr. Powner.

Now, I have been told that HHS has one statement, is that correct, in who will be delivering it?

Ms. Killoran, you are recognized for your opening remarks.

STATEMENT OF BETH KILLORAN

Ms. KILLORAN. Thank you. Good afternoon, Chairman Hurd, Chairman Meadows, Ranking Members Kelly and Connolly. Thank you for allowing the Department of Health and Human Services to come before you today.

Since the passage of FITARA, HHS has been committed to making sure that we are cost-effective, provide high-quality IT that benefits the American citizens and the services by which we provide. This is a shared commitment both by the HHS CFO, our chief acquisition officer, our chief human capital officer, our mission programs, and myself. Together, we understand HHS's IT budget totals \$14 billion and that the spending across our entire portfolio compromises—consists of a number of major investments at our operating divisions and our staff divisions.

The leadership team strives every day to make sure that we're strategically leveraging IT to fulfill our mission and to make sure that we're providing health and human services that foster advances in medicine, public health, and social services so needed by our nation.

As a result of this effort, so far, our implementation plan, we are actually able to accomplish 34 of the 39 milestones set forward in our implementation plan and actually five additional ones just within the last month.

One of the FITARA successes we've had is the establishment of a process and criteria for delegating authority to the operating division CIOs. As a large federated organization, we have to be able to identify, prioritize, validate, and verify our nonmajor IT acquisitions. I'm happy to say that, through the criteria that we've established, we've delegated 10 different delegations to those operating division CIOs, and on a year basis I am personally responsible for providing input into the performance of those CIOs, and we evaluate that delegation on a year basis.

We also have been able to increase our use of agile development. We seek to deliver IT-enabled functionality every six months. And this has been able to be accomplished through a process of improving our governance and integration, solving collaboration efforts through development teams, and by making sure that we integrate at all aspects with our customers.

Over the last two years, the CFO and I have jointly held IT budget reviews to review, approve, or reject the IT budgets across our organization. The purpose of these budgets is to review and discuss how each of our operating divisions is looking at their IT budget and how they're prioritizing, addressing risk within their programs, aligning those IT dollars to agency priorities, and making sure that we understand not just the operating division proprieties but the enterprise ones as well.

Two key accomplishments in this area to date is being able to increase the ability to add funding for our cybersecurity initiatives, which we have been able to over the last three years increase and

has dramatic success; changing our budget from 1 percent overall to 5 percent in cybersecurity since 2015.

We also have been also making sure that we are looking at our legacy systems and making sure each of our organizations are prioritizing those legacy systems and how they are making initiatives and decisions to make the necessary changes to those systems to keep them secure and viable for those missions.

Also in the stewardship, we're making sure that we are looking at planning, proactively managing our risk across our organization, and to continue to mature our risk management process and evaluation techniques as we update our IT dashboard. We conduct portfolio reviews at individual programs, and this year, we actually did one at Operating Division looking at the totality of their IT programs, which we will adopt and continue to improve and implement across the organization.

For data center consolidation, we continue to make sure that we are looking at the outcome metrics, but we have a challenge around the continuing change in definition and the changing of the goals and requirements.

We'll make sure that we are also adopting cloud technology as part of our strategy, and I will say that we have had success in this area, increasing our funding in cloud from \$135 million in 2015 to \$600 million last year, and we think we'll have three-quarters of a billion dollars in cloud this year alone.

In addition, we have to make sure we're looking at our workforce, and so I have partnered with our chief human capital officer to make sure that we're looking at our requirements to make sure we are—have the ability to attract, develop, and retain IT talent.

Currently, we have 1,400 positions in our organization, 3,000 of them overall, but we actually have an over-30-percent vacancy rate, which makes it critical for us to understand how to do this job better to have those resources.

Finally, as HHS continues to move forward with implementation of FITARA, the Department has built a collaborative, integrated business foundation that promotes comprehensive governance across the Department where we can optimize our mission, make sure we provide secure IT services that meet the advances needed for effective and meaningful outcomes for citizens. Thank you.

[Prepared statement of Ms. Killoran follows:]

TESTIMONY OF
Beth Anne B. Killoran
Deputy Assistant Secretary for Information Technology
and Chief Information Officer
U.S. Department of Health and Human Services
Before the
Subcommittees on Information Technology and Government Operations
Committee on Oversight and Government Reform
U.S. House of Representatives
June 13, 2017

Good afternoon Chairman Hurd and Meadows, Ranking Members Kelly and Connolly, and Members of the Committee. Thank you for giving me the opportunity to discuss federal information technology (IT) and to describe progress of the Department of Health and Human Services (HHS) in implementing the Federal Information Technology Acquisition Reform Act (FITARA).

Leveraging IT to Support Mission Outcomes

Since the passage of FITARA, HHS has enhanced the roles and responsibilities of the Department Chief Information Officer (CIO) with regard to planning, programming, budgeting, and execution of IT solutions and services within the agency. HHS is committed to implement Department IT priorities in a cost effective, efficient, and high quality manner to best serve HHS's beneficiaries and American taxpayers.

FITARA implementation is not just about HHS's CIO authority. Our IT efforts support an agency with an annual operating budget of over \$1 trillion, representing almost a quarter of all federal outlays, and which administers more grant dollars than all other federal agencies combined. Through a shared commitment among the HHS CIO, Chief Financial Officer (CFO), Chief Human Capital Officer (CHCO), Chief Acquisition Officer (CAO), and the HHS mission and program communities, together we manage approximately \$6 billion HHS agency IT annual spending. HHS CIO fully participates in the management and governance of the agency's entire

IT portfolio comprising major investments of its 11 Operating Divisions (OpDivs) and more than 20 Staff Divisions.

HHS, the largest civilian agency in the Federal sector, has made great strides under FITARA by ensuring IT is acquired and managed to enhance and protect the health and wellbeing of all Americans. Through this partnership HHS leadership strives every day to strategically leverage IT to fulfill HHS's mission to provide effective health and human services and foster advances in medicine, public health, and social services for the nation.

Overall FITARA Implementation Progress to Date

HHS's FITARA implementation strategy and progress to date is best characterized by the words: collaboration and dedication. HHS recognizes the intent of FITARA goes beyond processes, policies and reporting requirements. It is about establishing a collaborative culture in which all facets of the organization recognize their roles and responsibilities to acquire and manage IT in the most effective and efficient manner possible in order to drive mission outcomes on behalf of the people we serve. Under this fundamental premise, we have employed a proactive strategy to address programmatic risk; promote transparency; establish clear lines of authority, foster innovative and incremental development; leverage cloud technology; and, invest in our IT workforce.

As a result, HHS has accomplished the majority of the goals we outlined within our FITARA Implementation Plan—ahead of schedule in many instances. Of the 39 individual actions and milestones outlined in the Plan, HHS met 34 in the areas of budget formulation, budget execution, acquisition, and organization and workforce.

With such a diverse portfolio and our organization's profound commitment to long term cultural change, we acknowledge the significant work that still lies ahead of us in order to successfully meet our obligations under the law. Today we appreciate the opportunity to explain how HHS has established the foundation and framework to move us forward.

HHS CIO partnership with our CFO, CAO, CHCO and HHS Operating and Staff Divisions has been critical to our achievements to date. With this in mind, HHS has actively engaged its policy leadership on the importance of FITARA implementation by establishing a routine agenda item

on the HHS Management Council. In this venue, HHS's Executive Leadership is regularly updated on the progress of HHS's Office of Management and Budget (OMB)-approved implementation plan. HHS will continue to identify opportunities for collaboration as FITARA evolves at the agency. Through FITARA-focused workgroups across the agency, HHS continues to make strides towards fully implementing FITARA at HHS by the end of the year.

Establishing Clear Lines of Authority

One of the FITARA-related successes at HHS is the establishment of the process and criteria for delegating authority to each OpDiv CIO upon demonstrating the ability to identify, prioritize, validate and verify their non-major IT investments. For major IT investments, HHS CIO maintains authority through an enterprise review process that better aligns Department-level IT governance bodies which assess and approve these investments. This delineation of non-major and major investments, respectively, pragmatically acknowledges that HHS is a highly federated and complex organization, and allows for designated IT-related decision-making based on financial thresholds.

HHS issued ten delegations of authority to all the OpDiv CIOs. Upon delegating authority, performance is monitored quarterly against the annual HHS CIO Work Plan. Each year, the HHS CIO provides input into the performance appraisals of these CIOs to the director of their respective OpDiv. The HHS CIO and the OpDiv CIOs established the Plan in order to ensure shared and transparent responsibility of HHS IT investments. In this way, we ensure the two-way communication that is necessary to maintain accountability of the overall HHS-wide IT portfolio.

Incremental/Agile Development

Our FITARA intra-agency achievements adoption is furthermore illustrated by our commitment to incremental or agile development. We specifically seek to deliver IT-enabled functionality, or business value, every six months. This is accomplished through an iterative process by which requirements and solutions evolve through the collaborative efforts of development teams, stakeholders, and end-users—our customers.

The HHS Enterprise Performance Life Cycle (EPLC) policy was updated this year to include agile development. This updated policy directs the expanded use of iterative and incremental development methodologies and reflects new authorities for CIO participation, delegation, and decision-making per FITARA. HHS expects the updated EPLC policy to have a positive impact on the utilization of incremental or agile development methods as well as further engagement by the CIO as programs consider system development and system modification activities. As more HHS programs adopt agile methodologies we expect to see a complementary increase in technical functionalities being delivered in more expeditious timeframes.

Financial Planning and Execution

Last year, before the House Oversight and Government Reform Committee, I highlighted how HHS is working to improve its IT program review process through the adoption of revised program risk assessment methods, combined with in-depth reviews of our major IT programs. These risk evaluations, conducted in collaboration with our OpDivs, resulted in a number of initiatives that have resulted in improved transparency and enhanced IT governance across the agency. For example, the Department adopted a joint CIO and CFO budget and investment review process that provides an enhanced view on how HHS OpDivs are addressing FITARA critical areas and key performance objectives. This process clarifies IT management authorities and accountability at all levels of the Department. The clearer delineation and alignment of IT-related efforts in program management, finance, acquisition and human resources has resulted in improved IT decision-making which better account for cost, benefit and risk.

The purpose of our budget review is to discuss with each of the OpDiv CIOs their IT budget priorities, current risks, alignment to agency priorities and status of their IT investments for the budget year under discussion. Each meeting results with the CFO and CIO jointly deciding whether to approve, modify or reject the IT budget; the final outcome is an IT budget statement issued by the CFO and CIO submitted with the HHS budget submission to OMB.

Two key accomplishments from these reviews to date is our prioritization of cybersecurity and developmental funding; for cybersecurity this has resulted in HHS funding increasing from 1% to 4% as percentage of overall IT budget. While HHS continues to make strides in the review of IT planning, we understand that it is through consistent engagement between the staffs of IT and

financial management, and through better integration of data generated from these communities, that we can reach full FITARA implementation.

Transparency and Risk Management

When Congress passed FITARA, HHS made a significant effort to bring its TechStat process into compliance with the new legislation. HHS reviewed its IT portfolio, identified investments in need of remediation, and worked with the OpDivs to formulate corrective action plans which addressed those issues in a timely manner. HHS employs the annual CIO Work Plan to review OpDiv performance on a quarterly basis, helping to ensure that the IT portfolio is managed appropriately and that program risks are identified and quickly remediated. These efforts are reflected in scoring provided through the OMB quarterly integrated data call. HHS remains committed to maturing its risk management procedures to more proactively anticipate future project risk.

From a policy perspective, HHS improved transparency and management of IT resources through the development, publication and robust implementation of an updated capital IT planning and control policy. This updated policy, issued in September 2016, supports visibility and reporting around major IT investments.

Finally, as the HHS CIO, I am a regular participant in HHS's enterprise risk management discussions, which provide a Department-wide forum for HHS Executives and policy leadership to discuss and strategize on known areas of risk. These enterprise risk management discussions are led by HHS's CFO and is another example of the collaboration across organizational lines. As a result of this partnership and engagement, HHS has developed and applied methodology to assess risks related to technology. Based on those evaluations, HHS has worked with stakeholders in IT, finance and acquisition communities to mitigate those risks which may not be readily evident in our FITARA scorecard.

IT Portfolio Review

Our IT stewardship does not end with planning. HHS proactively seeks to mitigate program risk where changes to capabilities or requirements throughout the IT investment lifecycle may jeopardize the success of our programs and missions. In collaboration with OpDivs, HHS

continues to mature its implementation of program risk assessment evaluation methods, which are integrated with our thorough reviews of large IT programs. For example, as the HHS CIO, I conducted a comprehensive review of the IT portfolio of an HHS OpDiv. This was an opportunity to meet directly with major program managers and the OpDiv CIO to address program-level issues, such as how the program uses IT to fulfill its mission, how it handles IT security, how does it obtains funding, and what governance structures are in place. HHS found the exercise valuable in that it provided a deeper level of insight into the IT portfolio than was previously available. HHS plans to continue these in-depth reviews with other HHS OpDivs going forward. HHS also leverages our IT Steering Committee governance framework at both the Departmental level and at the OpDiv level to ensure visibility into and oversight of HHS's IT portfolio.

As another illustration of our stewardship, HHS completed a TechStat review on the HHS Email as a Service investment in June 2016, based on questions of viability and direction, as well as uncertainty of scope and budget. The TechStat review resulted in a corrective action plan with 28 items that were resolved by the end of July 2016. HHS is in active dialogue with three of our OpDivs to determine future TechStat opportunities over the course of the year.

Another focus of FITARA on risk assessment encourages agencies to proactively address network security. Currently, HHS is working to improve security with an initiative to identify legacy IT risk with its most critical systems, known as the High Value Assets (HVAs). This effort is identifying the software that HVAs are built upon and software no longer supported or approaching end of vendor support. HHS will be developing modernization plans as a part of this initiative by October 2017 to identify mitigation strategies and steps to manage the risk unsupported technology presents to the agency. This effort intends to serve as a building block in a more proactive approach to managing legacy IT across the Department and identifying risk areas in the portfolio. HHS leveraged the National Institute of Standards and Technology, Cybersecurity Risk Management Framework to help standardize and integrate this endeavor across the agency. The framework is aligned with HHS's Agency Risk Management Profile and is consistent with OMB's Presidential Management Council (PMC) scorecard. HHS and its OpDivs are therefore able to measure the maturity and effectiveness and provide status based on consistent cybersecurity criteria in order to manage risk.

HHS continues to implement the tools and processes provided by the Department of Homeland Security's (DHS) Continuous Diagnostics and Mitigation (CDM) program. The program will enable HHS to more proactively detect and identify threats while ensuring HHS has near real-time insight into the enterprise's most critical risks. In addition, this effort is complemented by other tools and technologies HHS is adopting or already has in place such as leveraging shared services such as DHS' Einstein 3A and Cyber Hygiene programs.

Data Center Consolidation Efforts

As stated earlier, we added the Data Center Optimization Initiative (DCOI) in late 2016 as part of our FITARA implementation effort. The initiative incorporates the requirements of the law for achieving the data center consolidation and optimization. This initiative builds upon the progress achieved through its predecessor, the Federal Data Center Consolidation Initiative (FDCCI). While we made progress under the former FDCCI plan, DCOI required us to re-work our approach due to the changes in outcome metrics and related definitions. These changes had an impact on our reporting and subsequent scores.

HHS published its updated DCOI Strategic Plan in April 2017. Our primary objective is to leverage cloud-based technologies where feasible. HHS reviewed the current inventory of Federal Data Centers and is working with each HHS component to achieve the goal of consolidating or eliminating facilities that are duplicative, inefficient, or no longer deemed mission essential. In addition, over the last six months, we conducted reviews to better identify opportunities for cost savings and avoidance around DCOI.

This approach helps HHS to reduce expenditures on data center operations by establishing infrastructure that is able to quickly scale in our dynamic business and technology environment. HHS increased cloud-based technology utilization from 1% of the IT investments in FY2015 to almost 19% of our investments in FY2017. HHS is among the top five agencies in two of the six DCOI metrics as shown on the IT dashboard.

Implications for Acquisition Reform

Since the implementation of FITARA, HHS established enterprise agreements with a software service provider and a major software publisher. The enterprise agreements that are available

and used by OpDivs take advantage of HHS' vast purchasing power by negotiating the best price for software licenses.

The HHS software acquisition effort is also informed by the Making Electronic Government Accountable By Yielding Tangible Efficiencies (MEGABYTE) Act of 2016, as well as by OMB M-16-12, *Category Management Policy 16-1: Improving the Acquisition and Management of Common Information Technology: Software Licensing*. HHS is enhancing its ability to inventory its software licenses HHS-wide; analyze license utilization; and report on cost savings and avoidance made possible by this policy. This includes identifying "best-in-class" software agreements that take advantage of the best price and terms and conditions, and developing enterprise agreements that eliminate redundancies.

In addition, HHS actively participates in tiger teams sponsored by the General Services Administration focused on government-wide software publishers. Our plan for this year is to begin development of HHS-wide vehicles for the increasing number of services that are delivered over the Internet rather than provided locally or on-site. In short, optimally taking advantage of cloud computing.

FITARA enhanced the relationship between the Office of the Chief Information Officer (OCIO) and the HHS CAO. OCIO is a voting member of the Acquisition Strategy Review Board where major HHS acquisitions are reviewed. At the staff level, our teams coordinate weekly about IT acquisition strategies. Currently, the OCIO Cybersecurity Team is actively engaged with the HHS Acquisition Team on updating standard contractual terms and conditions to ensure our organization and systems are as well prepared for a cyber-event as possible. These engagements have bolstered a mutual understanding and synchronization of our acquisition processes.

Developing Our Staff

In terms of the workforce requirements outlined in FITARA, HHS continues to focus on improving the competencies of its staff. HHS has over 3,000 IT professionals, but many do not have the diverse expertise necessary to support current federal IT needs including IT project and program management, architecture, or cybersecurity. Our IT workforce is in fact the most critical part of HHS's FITARA risk management strategy. They are the primary resource to ensuring the health and security of our entire IT portfolio.

In response, the HHS CIO and CHCO have partnered to comprehensively address IT workforce business needs and legislative requirements while improving our ability to attract, develop, and retain world-class IT talent. Our strategies focus on: (1) governance; (2) workforce analytics and planning; (3) targeted recruitment, branding, and staff planning, including succession planning; (4) career development and training; and, (5) talent and performance management, including employee engagement and retention.

Through identification and definition of critical IT and cybersecurity role categories and competency requirements, HHS is growing a mature and holistic IT human capital lifecycle approach. HHS developed a framework for competency models and career paths that align to FITARA and the Federal Cybersecurity Workforce Assessment Act. This model is now being adopted and tailored by the Office of Personnel Management for federal-wide use. HHS has completed eight career paths to date—one of these was for HHS IT project and program managers—and four more are currently under development.

Recently, HHS conducted an IT workforce inventory and we found that workforce shortages and ever increasing workload often create an imbalance that hinders employees' ability to attend training or obtain certifications. The HHS CIO and CHCO continue working to identify new methods for recruiting critical IT positions. Nonetheless we recognize that the pipeline of IT and cybersecurity talent remains inadequate, and Federal agencies are challenged to compete in the hyper-competitive market for talent. Complicated federal human resources processes impede our recruitment, hiring, and retention efforts. Private industry can sometimes provide more competitive compensation and this hinders HHS's ability to recruit and retain top IT talent.

Despite the above challenges, HHS continues to improve our current workforce skills by providing training for IT program and project managers. HHS has trained over 1,400 personnel since starting the program in November 2015.

Conclusion

As HHS continues to move forward with its implementation of FITARA, the agency has built a collaborative, integrated business foundation which promotes comprehensive governance across the lifecycle of a project; ensures IT investments optimally support mission; assures secure IT services; achieves efficiency; and, reduces duplication by leveraging acquisition strategies and

technical advancements to drive cost effective and meaningful outcomes on behalf of the American people.

HHS recognizes the need to continue strengthening standardized and transparent data sharing that is secure and enabled by IT in order to deliver on the promise of digital health: deliver the best patient-centered health care and human services, which improve the health and well-being of every American and every community at the best cost and of the highest quality possible. HHS recognizes and embraces the work and challenges ahead of us. Americans expect and deserve secure, reliable, easy to use, and modern IT resources from the federal government. HHS has established a collaborative and culture-changing foundation and framework to move us forward with confidence and in support of the mission and people we serve.

Mr. HURD. Thank you.
 Dr. Holgate, you are up, five minutes.

STATEMENT OF RICK HOLGATE

Mr. HOLGATE. Thank you, Chairmen Hurd and Meadows, Ranking Members Kelly and Connolly, and distinguished members of the committee. Thank you for inviting Gartner to discuss the FITARA scorecard.

As the former CIO of the Naval Criminal Investigative Service and the Bureau of Alcohol, Tobacco, Firearms, and Explosives, I'm keenly aware of the challenges faced by Federal agencies in managing information technology. Both through my involvement with ACT-IAC and most recently as a research director at Gartner, an IT research and advisory firm assisting 98 percent of the Fortune 100 serving over 10,000 global institutions and drawing on the experience of over 60,000 IT leaders in making smarter IT decisions, I've gained broad perspectives on more effective ways of using IT to further agency missions.

Effective use of IT delivers strategic value and is viewed as a competitive differentiator. Successful organizations integrate their personnel and processes, including IT, to ensure the success of all of their initiatives, and they treat cybersecurity as part of an executive-level risk management program.

With ever-accelerating changes and innovation, the commercial technology market, not to mention new and evolving cybersecurity threats, Federal agencies must get faster and better at acquiring, integrating, and maximizing the value of best-in-class technologies. FITARA is certainly a step in the right direction, but CIOs can only do so much on their own.

First, the Federal Government must treat IT more strategically and engage agency leadership. Innovative and successful companies involve CIOs early and often on the front end of strategic planning to ensure that they are able to acquire the technology that enables their organizations to succeed. CIOs must be given the opportunity to shape and influence how IT enables the agency strategy early on.

Second, improve acquisition, budget, and funding practices. Acquisition, budgeting, and funding can be impediments if they are too focused on inflexible compliance and risk aversion, as opposed to delivering business and mission outcomes. Adequate resourcing is also a concern. Transformational investments make up only around 21 percent of the Federal IT budget, while private sector firms spend about 30 percent. The average legacy system in the Federal Government is 14 years old compared with 10 years in the private sector.

Accelerating adoption of new technology is essential. Modernizing acquisition practices is equally important. Federal agencies must stop thinking of their IT as simply a call center and reimagine it as an engine for innovation and transformation and have the discipline to avoid instinctive cuts during periods of austerity.

Agencies must also be better at using available funds. CIOs, program managers, acquisition personnel, and budget offices must work together in a better and more unified fashion to avoid delays and bad outcomes. Government-specific reforms such as increased

access to multiyear funding, shared accountability models under FITARA, and meaningful maturity model reports to OMB and Congress could also improve government outcomes.

Third, achieve greater visibility into agency activities. CIOs need better visibility into the business and contracting operations of the agency. The committee should consider clarifying FITARA's scope. Using an objective, proven rationalization methodology at both the infrastructure and application levels can reduce system duplication, achieve economies in savings, and improve commonality and interoperability. Adding commodity IT measures to the FITARA scorecard and empowering CIOs to undertake these activities and work further with shadow or business unit IT could substantially optimize IT costs and manage security risks while enhancing productivity.

Fourth and finally, improve organizational competence. There are many men and women working for the Federal Government who are doing their best to manage a variety of IT systems from multiple generations to achieve agency goals. Still, we must improve overall competence. Successful businesses rapidly discard outdated technologies while hiring and empowering smart IT managers. In the Federal Government, we often see legacy technologies operating far beyond their end of life, while talented IT managers rotate too quickly to make any appreciable impacts. Capitalizing on expanded and improved human capital flexibilities can provide greater access to talent and better cross-disciplinary development opportunities.

In addition, CIOs in the IT workforce require a high-functioning team of finance, acquisition, H.R., security, and legal professionals for effective IT leadership. The absence of committed and skilled resources across all of these disciplines places an organization and its IT initiatives at elevated risk.

Congress has a role to play here, too, in ensuring that agency planning, acquisitions, and funding are all unified. Initiatives such as the MEGABYTE Act, PMIAA, and the pending MGT Act all have productive solutions to offer, and I urge you to consider how each of these bills, as well as FITARA, integrate to make agencies smarter, more agile, and more cost-effective.

FITARA is a positive first step, and I encourage its extension and expansion. I suggest three particular additional steps: encouraging agency heads to articulate a clear strategy for leveraging IT to improve business and mission outcomes, including optimizing enterprise, not just IT costs; adjusting scoring metrics and methods to incentivize desired behaviors, and creating an integrated and streamlined approach for assessing progress and across the diverse reporting demands placed on agencies.

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

[Prepared statement of Mr. Holgate follows:]

*Testimony before the House Committee on Oversight and Government Reform, Subcommittees
on Government Operations and Information Technology*

*Legislative Hearing on the Federal Information Technology Acquisition Reform Act (FITARA)
Scorecard 4.0*

By

Rick Holgate
Research Director
Gartner Inc.

June 13, 2017

Chairman Hurd, Chairman Meadows, Ranking Member Kelly, Ranking Member Connolly, and distinguished Members of the committee, thank you for inviting Gartner to discuss the FITARA Scorecard. As the former CIO for the Naval Criminal Investigative Service and the Bureau of Alcohol, Tobacco, Firearms & Explosives, I am keenly aware of the challenges faced by federal agencies in efficiently and effectively procuring, modernizing, and managing information technology. Both through my involvement with the American Council for Technology and Industry Advisory Council (ACT-IAC)¹ and most recently as a Research Director at Gartner, I have gained broader perspectives on more effective ways of acquiring and using technology in support of agency missions. I would like to offer some insights into the best practices in managing the commercial and federal systems for IT acquisition. In particular, I would like to highlight four key areas: treating IT more strategically and engaging agency leadership; improving acquisition, budget and funding practices; achieving greater visibility into agency activities; and developing greater organizational competence.

1. Treating IT More Strategically and Engaging Agency Leadership

The U.S. government is struggling to keep up with the ever-accelerating pace of changes and innovation in the commercial market. Even aside from cost and efficiency, new cybersecurity threats mean that it is more important than ever that federal agencies get better at acquiring best-in-class technologies quickly, integrating them into existing processes, and maximizing the value of investments. Numerous examples abound of federal agencies adopting digital initiatives more cautiously and tentatively than the larger population of global enterprises.² Every year we fail to keep up adds to a growing technology debt that will soon become insurmountable — too large to tackle.

FITARA has been a step in the right direction, and innovative CIOs, for example at USDA, have used FITARA, a maturity model, and the scorecard mechanism to drive some needed improvements.³ However, we must realize that CIOs can only do so much on their own. Legislation cannot change culture. The unchanged CIO reporting relationship is evidence. IT cannot be effectively acquired or implemented separately from the business and mission capabilities it enables — IT and process are interdependent and require input from all agency leaders, including CIOs. In government as well as commercial environments, every process depends on IT. If CIOs and agency leadership are not regularly interacting with each other, CIOs and IT professionals will forever be playing catch-up, leading to excess costs, performance gaps, and security flaws.⁴

This is not what we see in the best-run organizations in the world. Innovative and successful

¹ 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.

² Gartner's 2017 CIO Survey, [Market Insight: What U.S. Federal Government Buyers Want in 2017](#).

³ Gartner has been tracking FITARA since enactment: [FITARA Reallocates Power Over Federal IT Procurement and Management](#); [Economies of Scale and Agility in Government: Guidance for the U.S. Federal Government \(FITARA\) and Elsewhere](#); [The FITARA Challenge for U.S. Federal Enterprise Architects: Don't Waste It](#); [U.S. FITARA Compliance Requires a New Approach to Software Asset Management](#); and [Market Insight: The FITARA Era Is Here — Impacts on Agencies and Vendors](#).

⁴ See Gartner's [Top Seven Priorities for U.S. Federal CIOs](#).

companies engage CIOs early and often in their IT needs, on the front end of strategic planning, to ensure that they are able to acquire the technology that enables their organizations to succeed. Because government must modernize its technologies and processes, government must integrate information and technology with the earliest stages of strategic planning. Proactive engagement with CIOs on IT needs and solutions may not, by itself, be sufficient to guarantee success in agency initiatives, but reactive and uncoordinated IT acquisitions will certainly lead to failures or missed opportunities for economies. FITARA empowers CIOs with veto and approval rights, which can position them as a bottleneck and an obstacle. Instead, agency leaders must consider acquisition approval as a safety net of last resort. CIOs must be given the opportunity to shape and influence how IT enables the agency strategy early on.

It is also important to devote appropriate investment for transformation and innovation. Total spend dedicated to transformational IT investments in the Federal government is currently only around 21% of the IT budget; by contrast, the private sector devotes over 30%.⁵ This is a significant gap in availability of funds to support innovation vs. simply keeping the lights on for legacy technologies. Moreover, legacy systems in the federal government are markedly older than the private sector (on average, over 14 years vs. 10).⁶ Federal agencies must stop thinking of their IT as simply a cost center and reimagine it as an engine for innovation and transformation — and have the discipline to avoid instinctive cuts during periods of austerity. Similarly, though they have indicated substantial interest in cloud, Federal agencies reported in 2016 that they spend 3% of their total IT expenditures on cloud services. That is significantly less than private sector peers, for which benchmarking shows 12%.⁷ Accelerating adoption of new technology can help shed the burden of a legacy portfolio.

2. Improving Acquisition, Budget and Funding Practices

Acquisition, budgeting, and funding can be impediments if they are too focused on inflexible compliance and risk aversion, as opposed to delivering business and mission outcomes. Too often, the policies crafted by CIOs are never fully implemented by or through the acquisition organization in the agency. Even more often, and more regrettably, CIOs aren't positioned to craft policies that matter, instead being stuck enforcing standards instead of setting vision for technology. This is a result of fragmented responsibilities and complicated contracting mechanisms. CIOs are often excluded from the nuts and bolts of contracting, which means that CIOs can see plans developed over years with inputs from multiple stakeholders derailed by decisions that contracting officers with limited understanding of the market or of agency needs are forced to make. One approach to mitigating these mistakes would be to empower CIOs to see how IT acquisitions are being made, identify where procurements are going awry, and have the tools to fix processes for the future.

Modernizing acquisition practices is equally important: moving to statements of objectives instead of statements of work; demanding rapid prototypes that can be evaluated by operators as part of the selection process; shifting to outcome-based thinking; enforcing use of open standards in RFPs;

⁵ See the [IT Dashboard](#), Gartner's [2017 CIO Agenda: A Government Perspective](#), and CEB's [IT Budget and Benchmarking Survey](#).

⁶ According to Gartner's 2017 CIO Survey; see [Market Insight: What U.S. Federal Government Buyers Want in 2017](#).

⁷ See the [IT Dashboard](#), Gartner's [2017 CIO Agenda: A Government Perspective](#), and CEB's [IT Budget and Benchmarking Survey](#).

prohibiting use of proprietary protocols or technology; mandating user-centric feedback loops as part of incremental development; all of these should be universally understood and adopted. Despite years of efforts by GSA to encourage these practices and perform “myth-busting,” persistent misconceptions or reservations remain.

Just as agency policies and decisions must be made in a unified fashion, it will also be important for agencies to unify the various budget, acquisition, and funding activities necessary for successful IT procurement and implementation. Currently, agencies must predict needs years in advance, spend months or years going through the acquisition practice, and then rush to spend funds before they expire. Even when the process operates smoothly, inherent delays in implementation can lead to the acquisition of outdated technology; when it doesn’t operate smoothly, bad outcomes can be difficult to avoid. Access to multi-year funding is essential to avoid hasty and ill-advised decisions.

While progress has been made with annual portfolio reviews and strategic sourcing initiatives, IT lifecycle costs continue to grow each year and absorb resources necessary for modernization. Outdated IT needs to be eliminated and more secure, better performing systems should be acquired. Agencies must make informed decisions, taking into account the business objectives, the cost environment, and the system’s performance, and several other factors. The Modernizing Government Technology (MGT) Act, which passed the House in May, is an important step toward shifting funds away from O&M and toward modernization. It is essential for agencies to have a data-driven long-term acquisition strategy in place prior to receiving this money. Creative use of existing funding streams and authorities should also be explicitly encouraged.

Gartner has written extensively on leading practices in these areas, including concepts such as bimodal IT, digital business transformation, operating successfully in a digital ecosystem, and IT operating models.⁸ Private-sector examples of digital disruption, transformation, and reinvention (GE, Ford, and Amazon are a few) should be inspirational and instructive.

With regard to FITARA, I would recommend agencies adopt a shared accountability model for achieving delivery of better business and mission outcomes, including reducing the ongoing cost of doing operations. Furthermore, a uniform, meaningful maturity model to measure agencies on their progress, if used by OMB and Congress, could provide a more nuanced view of agencies, assist in assessing progress, and give agencies continued focus.

3. Achieving Greater Visibility Into Agency Activities

“Shadow” (or programmatic or “business unit”) IT has become a significant problem for agencies and has made complete visibility and informed acquisition decision-making a huge challenge for CIOs and CMOs.⁹ Much as CIOs and other agency leaders must better coordinate their activities, CIOs need better visibility into the business and contracting operations of the agency.

⁸ See [Scaling Bimodal: Raising Everyone’s Game; Bimodal Simplifies and Focuses Digital Transformation; Digital to the Core; 2017 CIO Agenda: Global Perspectives on Seizing the Digital Ecosystem Opportunity; and The New IT Operating Model for Digital](#).

⁹ Federal agencies reported 37% of IT spending outside of their formal IT budget, compared to 25% more broadly across all enterprises. See Gartner’s [Market Insight: What U.S. Federal Government Buyers Want in 2017](#).

I would further urge the committee to consider clarifying FITARA's scope. As it stands, the legislation requires an examination of the consolidation of information technology. This is often misinterpreted to mean the IT infrastructure. While savings and duplication can be found in infrastructure, the bulk of savings will be found in the applications. By conducting an application rationalization using an objective, proven methodology, agencies would likely find several applications performing the same functions.

Empowering CIOs explicitly to reduce system duplication, achieve economies and savings, and improve agency-level commonality and interoperability would be a substantial enhancement to the CIO's role and mandate. Adding commodity IT measures — both inventory and purchasing practices — to the FITARA scorecard and consciously including non-“major IT investments” within the scope of the CIO's responsibilities for transparency and risk management can improve visibility. These should also help achieve otherwise overlooked economies through the more effective use of efforts like GSA's category management or adoption of shared services.

4. Improving Organizational Competence

There are many men and women working for the federal government who are doing their best to manage a variety of IT systems from multiple generations to achieve agency goals. Still, we must address the overall level of talent and competence in the government. Sometimes this will involve hiring new people who are more familiar with the latest systems and skills. Sometimes it will involve training existing personnel on new systems and forcing migration to new procedures and technologies. Successful businesses regularly hire and empower smart IT leaders to make needed changes and investments while discarding outdated technologies. By contrast, in the federal system, we often see legacy technologies operating far beyond their end-of-life horizons, while talented IT managers rotate too quickly to make any appreciable impacts. One of the biggest risks can be losing a talented CIO, with resulting loss of momentum or even backsliding.

While it may seem a cliché, successful organizations treat IT programs as the “team sport” it is: CIOs and IT professionals cannot do it themselves; they require a high-functioning and competent team of finance, acquisition, human resources, security, and legal professionals. The absence of committed and skilled resources across all of these disciplines places an organization and its IT initiatives at elevated risk. Focusing only on a subset of these talents overlooks other opportunities for improvement or other sources of challenges.

Capitalizing on expanded and improved human capital flexibilities can provide greater access to talent (through hiring authorities, internal rotational opportunities, public/private exchange programs) and better (cross-disciplinary) development opportunities. With appropriate investment and attention and targeted expansion (including establishment of virtual communities of interest or practice, expansion of statutory hiring or employment authorities), significant progress is possible. Agency heads, of course, must also recognize the importance of, and prioritize accordingly, recruitment, retention, and development of a competent workforce.

Conclusion

To summarize all of my points: every person and process in every agency is ultimately a part of the federal IT solution. IT is a strategic asset and a competitive differentiator, and successful organizations integrate their personnel and processes, including IT, to ensure the success of all of their initiatives, and they treat cybersecurity as part of an executive-level risk management program.

There is one other entity, of course, that needs to be integrated into the agency planning, acquisition, and funding processes, and that is Congress. I am deeply appreciative that this committee continues to work to improve federal IT practices, both through existing laws like FITARA and through complementary bills such as the MEGABYTE Act, PMIAA, the pending Modernizing Government Technology (MGT) Act, and others. Though I realize that we do not have time today to address all of these acts, I would urge Congress to consider them as integrated parts of an overall whole, and ensure that the various legislative initiatives are all in the service of empowering agencies to make smart, agile, and cost-effective IT decisions.

FITARA is a step in the right direction, but there remains much work to do — and not all of it should be done through legislation. To gain a clearer, more complete picture of IT spending, it is imperative that key provisions under FITARA do not sunset in 2018 or 2019 and that the legislation is amended to extend the deadlines and ensure continued progress. We suggest Congress consider these three additional steps: 1) invite agency heads to articulate a clear strategy for leveraging IT to improve business and mission outcomes (including optimizing enterprise, rather than just IT, costs); 2) adjust the scoring metrics and methods to incentivize the desired behaviors by agencies; and 3) create an integrated and streamlined approach for assessing progress across the diverse reporting demands placed on agencies (FITARA, OMB M-17-22, Cybersecurity Executive Order, MEGABYTE Act, DATA Act, etc.). FITARA scorecards have proven to be an effective, though imperfect, tool for motivating agencies to make changes; continuing to refine them will help avoid them becoming compliance checklists or distracting from important outcomes.

Thank you for giving me the opportunity to share my views with you, and I look forward to your questions.

Acknowledgments

I would like to acknowledge my fellow Gartner analysts for contributing their intellectual capital to spur innovation across the technology industry. Specifically, I would like to thank my fellow Gartner government research colleagues (Katell Thielemann, Kris van Riper, Rishi Sood, Cathleen Blanton, and Rick Howard) for their contribution to this testimony and for their collective wisdom in supporting government technology issues.

Mr. HURD. Thank you, Dr. Holgate.

I would like to now recognize the chairman, Chairman Meadows, for his first round of questions.

Mr. MEADOWS. I thank you, Chairman.

Thank each of you for your insightful testimony. Ms. Killoran or Ms. Conley, let me come to you. Out of the I guess it was \$14 billion that you spend in IT, how much of that actually is grants to States?

Ms. KILLORAN. Seven-point-two billion.

Mr. MEADOWS. All right. So out of the \$7.2 billion to States, which States are doing the best job of implementing that money?

Ms. KILLORAN. So that—we would have to get back with you through our grants program because that is automatically done through our grants and is not actually part of what the CIO and CFO look at —

Mr. MEADOWS. So, you have no idea which State is doing— do you not see a problem with that?

Ms. KILLORAN. Well, the way that the FITARA works—and we actually asked for clarification when the bill came out—is is whether agencies should be responsible for the grants funding or not. And the guidance we got from OMB is that grants would be excluded from the oversight.

Mr. MEADOWS. I agree with that. So, you are not having to focus on this \$7.2 billion according to FITARA, is that correct?

Ms. KILLORAN. That is correct, sir.

Mr. MEADOWS. All right. So, let me ask you the follow-up question because I thought that is where we were going. If you are only having to look at the remaining balance, why are we at D's across the board? Why are we not making better progress? Because, you know, I can understand if it is a big number. Why are we not making better progress?

Ms. KILLORAN. So, within the large Federal agencies—so, this is my third federated agency—so started at Treasury and then spent nine years and 11 years at DHS and now here. When you're in a large federated agency, it takes us a little bit of time to establish those foundations.

Mr. MEADOWS. So, assuming that it takes a little bit of time, when are we going to see an improved score?

Ms. KILLORAN. So, you'll actually see—when we talk a little bit, we actually have some cost savings that we have. We actually have a plan for the data centers. So, we —

Mr. MEADOWS. So, when are we going to see an improved score?

Ms. KILLORAN.—expect—we're expecting to see some scores change within the next 12 to 18 months.

Mr. MEADOWS. All right. So, Mr. Powner, let me come to you. Is their plan aggressive enough based on other agencies? Should we be expecting more?

Mr. POWNER. Yes, I think you should. So, I—clearly, they have a FITARA implementation plan they've made progress on, as Ms. Killoran has said. I think when you have the large Federal agencies, federated agencies, there's a real opportunity to go after that commodity IT because a lot of those components, there's an opportunity to look at duplication across those components.

The other thing is when you look at the data for HHS on data centers, they've actually closed a lot of data centers and done a decent job on that, but there's not much in related savings. So, we need to look real hard at the related savings and also at their optimization —

Mr. MEADOWS. So, Ms. Conley, what happened to the money?

Ms. CONLEY. Thank you very much for your question. Thank you very much for your question.

In terms of what's happened to the money, at HHS, Beth mentioned we're a large federated organization.

Mr. MEADOWS. Yes, I have only got five minutes.

Ms. CONLEY. Yes. Okay.

Mr. MEADOWS. Just what happened to the money?

Ms. CONLEY. In many cases with these data center consolidations we have gaps in IT spending, meaning there are things that we need to do within our IT portfolio, and oftentimes, the savings that are realized through these different consolidation efforts and modernization efforts are plowed back into those respective systems and infrastructure to provide things that we know need to be done to provide secure, reliable —

Mr. MEADOWS. So, without oversight of Congress you are just re-programming the dollars?

Ms. CONLEY. So, many of those dollars are re-plowed into the very same systems and infrastructure —

Mr. MEADOWS. So, let me understand. You close down a data center and you plow it back into the same data center?

Ms. CONLEY. Well, if I might give you an example with our financial systems modernization effort that we just upgraded our financial management systems in 2016. We moved to the cloud implementation. As part of doing that, we saved some money, but at the—and maintained our operations and maintenance costs at the same level, yet we were able to provide things like disaster recovery —

Mr. MEADOWS. All right. So —

Ms. CONLEY.—and more to—better value to the government —

Mr. MEADOWS. So, Ms. Conley, Ms. Killoran, let me be specific. We are looking very closely at these numbers, and it is going to have implications from an appropriations standpoint. So, let me come back to you, Mr. Powner. How much does DOD spend on IT annually?

Mr. POWNER. So, it's about close to 45 percent of the spend, which is \$95 billion, so it's well into \$40 billion range.

Mr. MEADOWS. So about \$40 billion, and I notice they got an F on the transparency and IT dashboard. I mean, why is that?

Mr. POWNER. So, what happened recently is there were about \$15 billion that was on the dashboard that just went away. And what we understand is that it's been classified, we believe, under the national security system umbrella. And it's okay because there is an exemption for national security systems, but to have \$15 billion magically appear under that umbrella doesn't seem right and

Mr. MEADOWS. Well, it doesn't seem right to me either, and so here is what I would ask for you to do, and I will close with the chairman's indulgence. We are being asked to fund DOD above this

\$603 billion that the President has requested. In fact, some in our conference want it to be \$640 billion. Take the message back to them, unless they get their heart right on this, there will be no support for increasing that. And I don't know how to make it any clearer. I will let my colleagues on the other side of the aisle talk about perhaps HHS and some of the others. But with DOD, it is going to require Republican votes to increase it, and I for one, unless they get their heart right on the transparency, am not going to be very supportive if you will take that to them if you would.

Mr. POWNER. Will do.

Mr. MEADOWS. Thank you. I will yield back.

Mr. HURD. Ms. Kelly, you are now recognized for five minutes.

Ms. KELLY. Thank you very much.

In my opening statement, I talked about the hiring freeze that was ordered, and in April, the Office of Management and Budget issued a memorandum to all agencies requiring them to reduce their civilian workforces. The OMB memorandum fulfills a key objective of the President, and I quote, "the long-term plan to reduce the size of the Federal Government's workforce through attrition."

Mr. Powner, is retention a critical factor in maintaining an effective IT workforce, and how so if so?

Mr. POWNER. Yes, clearly, you need to retain the good employees we have, but also, too, we have significant gaps when you look at the IT workforce not only from a cyber perspective but also with some of the other key disciplines, systems engineers and architects and the like. So that's always been a big challenge in the Federal Government.

Ms. KELLY. I know we have talked about that before, and do we attribute it to just the lack of a pool to pick from and also the salaries we might not pay?

Mr. POWNER. Yes, that's true, and I think that's why it's critical that when you look at your IT workforce as a whole and some of the challenges with the salary challenges the Federal Government faces, you need to supplement that appropriately and be really strategic about how you do that with contractors because that can be done with contractors, and that right mix is what you really want to obtain.

Ms. KELLY. Okay. Thank you.

Dr. Holgate, in your assessment, can agencies make the necessary improvements under FITARA if they don't have the flexibility to hire new employees or replace vacancies?

Mr. HOLGATE. Well, certainly, it's highly dependent on the approach that agencies take in responding to OMB M-17-22. There's latitude given in that memorandum and actually an encouragement for agencies to explore technology-enabled operational efficiencies and effectiveness. If agencies are adequately creative about their response to that memo, they should have the flexibility to be more creative and use IT more effectively in their response.

The danger, frankly, is if they take a more reactionary tactical approach and treat it more as a cost-cutting exercise, in which case it can result in relatively haphazard across-the-board reductions without that strategic foresight, without that projection for longer-term opportunities that they may be foregoing. So that's the danger in the memorandum itself is just the nature of the response by the

agencies themselves. We haven't seen those responses yet in terms of how agencies are thinking about those challenges, but that's the key issue there is how are agencies going to actually shape their response.

Ms. KELLY. Well, off the top of your head can you give an example of what being creative means, what that could mean or could look like?

Mr. HOLGATE. Yes, so, for example, you know, leveraging the IT talent that they already have and possibly supplementing it with additional talent in the near term to enable them to automate traditional tasks or mission space, to be more creative across agency boundaries, to reimagine the way agencies deliver services. There are opportunities like that that require a certain amount of creativity and are critically dependent on IT to enable those types of opportunities.

So, if agencies—again, if agencies treat this more as a cost-cutting exercise and in an across-the-board fashion, they may sacrifice those long-term opportunities just by virtue of, you know, reducing cost in the short term.

Frankly, Gartner's written a lot of research on cost optimization at the enterprise level and the opportunities that IT can present with those opportunities. We've also written a fair amount about the risks of cost-cutting, in particular by taking a blanket approach and foregoing the future opportunities.

Ms. KELLY. Thank you. Ms. Killoran, in your written testimony you state, "Recently, HHS conducted an IT workforce inventory and we found that workforce shortages and ever-increasing workload often create an imbalance that hinders employees' ability to attend training or obtain certification." This seems like a serious problem because, as your written testimony states, many of HHS's 3,000 IT workers, and I quote, "do not have the diverse expertise necessary to support current Federal IT needs, including IT project and program management, architecture, or cybersecurity." Did I hear you correctly?

Ms. KILLORAN. That is correct.

Ms. KELLY. What are some of the gaps in skills in staffing that you attribute to the shortage in IT expertise at your agency that you mention in your written testimony?

Ms. KILLORAN. So, we have—as Mr. Powner indicated, we have significant decreases of our needs in cybersecurity, enterprise architecture, systems engineering are the predominant areas where we have the most significant shortfalls, and then obviously programmatic as well.

We actually have worked with our chief human capital officer to start building true capability and roadmaps on competencies that needed to be done for each of these areas all the way from a GS-5 up to what an SES would be. We have identified over 25 different critical positions at this point and have roadmaps for 11 of them.

OMB and OPM have determined that this is a great model. We are actually helping to do the Federal CIO workforce community at this, and OPM is trying to adopt that model Federal-wide at this time.

Ms. KELLY. I see my time is up, so I yield back.

Mr. HURD. I thank the gentlelady.

Now, I would like to recognize the gentleman from California, Mr. Issa. You are recognized for five minutes.

Mr. ISSA. Thank you, Mr. Chairman.

And I am going to follow up maybe just quickly. My question is one of timing. I am hearing people say we don't have enough resources, we don't have enough time. You know, I came to Congress in 2000, or was elected in 2000, sworn in first January 3rd of 2001. Basically, I was elected when Amazon was founded. In 2006, you know—well, I will give you 2009 Uber was founded, Instagram in 2012, Snapchat in 2014. In 2014, we took an \$82 billion spending and said we were going to deliver to the CIOs real authority to do a job that it had previously not had budget authority, often—and at least in the case of the Affordable Care Act—had three non-professionals each pointing at the other saying they didn't have the ability to stop a bad project.

We did that after we had written off in Dayton \$1 billion at the Air Force, the Department of Defense, on a project where they simply got to the end of \$1 billion in spending and said it won't procure parts accurately.

So, I think this first question will be for the GAO. Mr. Powner, tell me, why is it I should accept that companies today will launch on Amazon and be world-class, global with apps that allow for tremendous ability to take labor out and put efficiency into things as complex as a million cars around the world being there when you want one? Why is it I have to accept that it takes four years and the progress is minuscule?

Mr. POWNER. Well, we shouldn't accept it. I mean, we spend now for the fiscal year 2018 budget that's north of \$95 billion on IT, and we all know that a lot of that goes towards the old O and M. But 20 percent of —

Mr. ISSA. We know the cost of a NOOK has gone down —

Mr. POWNER. Yes.

Mr. ISSA.—if you are buying a desktop.

Mr. POWNER. But 20 percent of \$95 billion is a lot of money. And here's the interesting thing is we do see pockets where we do it right, so we don't—I don't—we don't want to hear that you can't do it right. I mean, we see pockets within DOD, within the intelligence community. The weather satellite that we just launched that provides great weather warnings, I mean, yes, it took a little longer and maybe a little more money, but there are these pockets of success, so we need to continue to replicate that, hold CIOs and the agencies and actually agency heads accountable. I think some of the CIOs need some help from the agency heads to write these CIO authorities. And going back to the DOD story, I think DOD is the last organization in the world that should be exempt from FITARA. If any organization needs a private sector-type CIO, it's DOD.

Mr. ISSA. Oh, trust me, we negotiated to try to get less exemptions, and they have their own little world. Quite frankly, they said they had already fixed it with their earlier bill. And yes, we need to have less exemptions.

But, Ms. Killoran, let me ask you a question, having been with three agencies and now as a CIO of this one. We gave you budget authority; we gave you the ability to work with your peers to look

for, if you will, interagency opportunities. Have you taken advantage of any interagency opportunities where you looked at your other CIOs and said let's do this together? Let's go up on an Amazon cloud and have one common software platform that we can share for certain types of uses, whether it's H.R. or other areas?

Ms. KILLORAN. So, at this time, not across the Federal agencies, but we —

Mr. ISSA. But why not? Do you lack authority?

Ms. KILLORAN. The—no, it's not a lack of authority. It's understanding what we have within our department first and understanding what we have and where those opportunities might be across the Federal Government. So, what we have done internally is trying to get our own house in order in understanding what we have first, and then that allows us to be able to start interacting better with the other Federal agencies.

Mr. ISSA. So, following up on that, cataloguing all the software and characterizing it is an element for CIOs to evaluate each other, right?

Ms. KILLORAN. Yes, sir.

Mr. ISSA. And the potential cost savings if one agency is up on a cloud with a next-generation software that does something and the others are using, I don't know, a DEC Alpha or something, that means that you can get immediate savings if you only knew, right?

Ms. KILLORAN. I think if there's a—that's a "yes but" because sometimes there are capabilities but then they have to be modified and altered based on security requirements and interfaces that different agencies need, but at least it would be nice to understand what's available.

Mr. ISSA. Well, once the student loan program gets fixed with its interface with the IRS, hopefully, it will be world-class, so I agree with you that sometimes there are security problems.

Let me just close with one question. When I hear that \$7.5 billion in grants and similar money at many other agencies were determined by the Office of Management and Budget not to be for the CIO to oversee in any way, shape, or form and thus, you know, basically avert the intention of FITARA, which was to give budget authority and financial control, just an opinion but I would like to hear your opinion. Should we speak to OMB and see if, in fact, they would rethink that?

Ms. KILLORAN. I think understanding again that realm of possibility, and so just as you mentioned —

Mr. ISSA. Because the act doesn't say it. That is an interpretation.

Ms. KILLORAN. That's correct. But, I mean, to your point of realm of possibility, there are a number of capabilities and services that the grantees are given that might also help not only our Federal agency but others that are doing similar-like services. So being able to have some, especially when you're interfacing and having some commonality of services, if each of them is doing them in silos, it makes it very difficult to show those capabilities.

Mr. ISSA. Thank you. And, Mr. Chairman, that is not an original thought. Many of us remember when the Affordable Care Act gave many, many billions of dollars to various States, who essentially stood up the exact same platform but each one inventing it, some

succeeding and some failing. This was part of the genesis for Mr. Connolly and I working on this.

So, thank you for your indulgence. I yield back.

Mr. HURD. The gentleman from the Commonwealth of Virginia is now recognized.

Mr. CONNOLLY. I thank the chair. And just to follow up on Mr. Issa's point, obviously, if 100 percent of that \$7.2 billion in grants were designed to support 50-year-old legacy systems, and that is all it did, we would be very bothered by that and we wouldn't want you to persist in that investment. We would want you to pressure those grantees to upgrade their IT. So, at some point we are concerned about that, and you need to be, too. So, I echo what Mr. Issa had to say.

Mr. Powner—and by the way, Dr. Holgate, thank you. Your testimony was terrific. I mean, I think you laid out a very powerful strategic framework for why this bill was passed and what we intend for it to achieve. And I just want to thank you. I think it was one of the best articulations of what we are about from a witness in a long time, so thank you.

Mr. Powner, and thank you for all of the work you and GAO have done. You have done a marvelous job in making this not only a high-risk item but at the very top of the agenda. It is not sexy, but, Lord, can it lead to savings and more importantly, make us so much more efficient in delivering services to the people we serve. That is really what this is about.

Why is data center consolidation so important? From your point of view, why is it such a high priority in the Issa-Connolly bill?

Mr. POWNER. Well, we have very inefficient data centers that are out there. Remember, we got into this in 2010 because the average server in the Federal Government was utilized about 10 percent. That metric now, the target is 60 percent of our servers, so we have underutilized equipment, underutilized facilities, and frankly, some of them are so old we could do a lot to improve our security posture, too, by upgrading these centers.

And I do think, back to your sunset comment earlier, I mean, there's at least \$1.5 billion that we're aware of that is on the table beyond 2018, and I think if you really press DOD and some of the other large organizations, there's probably a lot more.

Mr. CONNOLLY. In your 2016 report on this subject, you said that the consolidation plans could save taxpayers more than \$8 billion by 2019. Is that correct?

Mr. POWNER. That's correct.

Mr. CONNOLLY. How much has been saved to date?

Mr. POWNER. So, it's been about \$3 billion of the \$8 billion has been saved to date, so pretty good progress.

Mr. CONNOLLY. Real money?

Mr. POWNER. Real money.

Mr. CONNOLLY. Bigger than the entire grant program of HHS, \$8 billion, I mean.

Mr. POWNER. That's right.

Mr. CONNOLLY. I mean, my colleague Mr. Meadows made the point that we got to get our arms around the savings. If you're effectuating savings but we're not accounting for it, you know, the risk is people call it zero. So, Mr. Powner, could you comment on

Ms. Killoran's explanation for why we have underreported or underachieved data center savings at HHS even though they are, in fact, doing their job; they are consolidating?

Mr. POWNER. Yes, I—there's been consolidations. The dollars are minimal when you look at the millions of dollars that have been reported there. It sounds like there's probably more that's not reported that are getting reinvested.

I think the important thing here is the transparency, and back to the MGT Act, you want to create these working capital funds at departments and agencies for reinvestment. Let's make darn sure that the reinvestment is on the priorities, and if you don't have transparency, there's no assurance that it's on the priorities.

Mr. CONNOLLY. I would hope, Ms. Killoran—and it sounds like you would—you might sort of following the footsteps of USAID and reach out to GAO so we have a better mechanism for capturing the actual good work you are doing and the savings they are effectuating, but also that we in fact—where we are reinvesting, we are reinvesting in the priorities that Mr. Powner just talked about. Are you willing to do that?

Ms. KILLORAN. So, thank you for the question, sir. We actually talked before the hearing to do just that.

Mr. CONNOLLY. Okay. Great. My final question because I know I am going to run out of time, Mr. Powner, why is DOD so obstinate? Why are they so resistant? And you heard Mr. Meadows say from a Republican point of view take back a message. I don't speak for all Democrats, but I think most of us on our side of the aisle would echo his sentiments. The enormous frustration that that is the biggest single appropriation of the Federal Government and it is getting bigger, and they seem to inoculate themselves from all norms of accountability. And it is very frustrating. For example, OMB directed agencies to submit plans for detailing data center consolidations, is that correct?

Mr. POWNER. Correct.

Mr. CONNOLLY. And what is the Department of Defense's plan?

Mr. POWNER. They didn't get it in on time. It recently did come in, but they were very, very late. By the time we wrote that report, it was not in.

Mr. CONNOLLY. So, were there other agencies also failing to submit?

Mr. POWNER. No, they were the only remaining one.

Mr. CONNOLLY. They were the only agency. And aren't they also the only agency yet to achieve what is called an unqualified audit of their books?

Mr. POWNER. That's correct. The comptroller general has testified

Mr. CONNOLLY. And don't they exempt themselves from what other civilian agencies subscribe to in terms of a GSA list of sort of off-the-shelf generic products that can be purchased at a lower cost?

Mr. POWNER. Yes, there's some of that.

Mr. CONNOLLY. Isn't this special? And didn't we have a hearing a few weeks ago in this committee about \$125 billion, billion with a B, wasted by the Department of Defense that GAO uncovered?

Mr. POWNER. Yes. Yes.

Mr. CONNOLLY. A hundred and twenty-five billion, right? So, my final question, I am sorry, but why the resistance?

Mr. POWNER. I think when you look at the DOD accountability and organization structures, it's spread over too many organizations. You have the CIO shop, you got the management organization, you have the acquisition shop, and it's spread over those different organizations. And I think other than the CIO shop, IT doesn't get the right importance and visibility.

When you look at the data center consolidation, at one time DOD alone was about \$4.8 billion in savings. They backed off of that significantly. I think you really need to look at their IT spend. Look at embedded IT at DOD, weapons systems, satellite systems. I think a CIO type would really benefit some of those large acquisitions at DOD and help with the cost overruns and the lack of delivery.

We've had some discussions recently with folks on the Senate side on—in terms of their authorization committee, and the—we just laid it on the table that when you look at embedded IT and other things at DOD, it would benefit from a private sector-like CIO type.

Mr. CONNOLLY. Thank you, Mr. Chairman.

Mr. HURD. The distinguished gentleman from the great State of Michigan is now recognized for his five minutes of questioning.

Mr. MITCHELL. Let me start, Ms. Killoran, as much entertainment as it would be to have the Department of Defense be here, and truly, I think everyone would be thrilled to have a discussion with them about their score, I would like to chat with you a little about your testimony. You indicated that 34 of the 39 goals that you had set up for your implementation plan had been achieved or were on target. Is that accurate?

Ms. KILLORAN. Yes, sir.

Mr. MITCHELL. Then how is it that you still have a D-minus score?

Ms. KILLORAN. So, the goals that we have go to the different elements that are in the FITARA guidance provided by OMB, making sure that we are putting forward the things such as establishing delegations of authority —

Mr. MITCHELL. Okay.

Ms. KILLORAN.—reviewing our IT budgets.

Mr. MITCHELL. Mr. Powner, can you give me any guidance as to what you think that score will be shortly? Because a D-minus is not exactly stellar.

Mr. POWNER. Well, clearly, when you look—incremental development, they had a high score, so they're—HHS doing a good job there. The savings to—the two areas we score on savings, very low scores because of the reported savings on commodity IT and data centers. And then another thing, when you look at their dashboard, they're quite green. Only about 14 percent of their investment dollars is red or yellow. That's really—that's not a lot of risk when you look at their investments, and they've got a lot of risky investments there. That's why they get a low score there.

Mr. MITCHELL. So, what do we expect—I appreciate that. You didn't give me much indication of what we expect their score to be in a year from now. I think we need to have an idea where we ex-

pect these agencies—what they expect of themselves to be 12 months from now.

Mr. POWNER. Well, I would hope when we get the reported savings that within six months to a year we see an improvement in the score.

Mr. MITCHELL. I spent 35 years in private business. Only in government do we say things like we hope to see improvement, which, with all due respect, doesn't answer the question I asked, which was what do we think, what do we believe the score will be? I am talking about HHS; they are here. What do we believe it is going to be? Ms. Killoran, do you have an answer for me in what your target is for that score a year from now?

Ms. KILLORAN. So, as I indicated, we are working to make sure that we are updating and working with GAO on our numbers. So, for example, one problem we have is around the savings. One is around the fact that, as Ms. Conley indicated, we are reinvesting those, so working with GAO how to capture the savings as we are reinvesting to show that at least we did save them in these particular areas. We are getting ready to post an \$85 million savings in data centers onto the dashboard today. We are also working to make sure that we are modifying our investment capability to improve our acquisitions.

Mr. MITCHELL. Well, let me express this. I appreciate that. And it is obviously not just HHS. If this sheet came up at our monthly management meeting or my quarterly meeting with my board of directors, we wouldn't have been in business anymore. That much red and yellow—and we used the same scorecard, red, yellow, green—and obviously, paying attention to what is red and what is yellow was critically important. And we had goals in terms of when we were going to move those. And the problem I have across the board is we don't have dates, we don't have are we going to be green on this within the next year or yellow on this. It is we just hope to see improvement. And that is—in my opinion, to get improvement is wholly inadequate.

Dr. Holgate, let me ask you a question real quickly because I am running out of time as well. You talk about cultural change needs that are needed in these agencies in order to see meaningful gains. One of the things I note in, again, the scoresheet is in many cases the agencies that have particularly bad scores—poor scores, let's put it that way—the CIO does not report to the Secretary or the Deputy Secretary. Now, let me explain to you, in my company the chief technology officer reported to me, and believe it or not, I knew where to find him 24/7 because we couldn't get hacked with student data records. We could not have that happen.

Give me some examples of how you think we—what we need to do to get the culture changes from these agencies so in fact it gets the attention it warrants?

Mr. HOLGATE. Well, so one aspect I alluded to in my testimony about inviting agency heads to come in to explain to the committee what their attitude is toward IT on behalf of their CIO as an important enabler of business and mission outcomes that IT represents. And the question is do agency heads fully embrace that as an opportunity that they need to capitalize on, or do they treat IT as an afterthought and expense that must be minimized? And

that's the cultural change I'm referring to because, frankly, most Federal agencies treat IT not as a strategic asset; they treat it as a headache that they need to minimize.

Mr. MITCHELL. Well, and because of that, correlated to that is because they treat it as an issue like that, we also get inadequate cybersecurity. The two go hand-in-hand. The cost of acquisitions and how we efficiently acquire technology is one thing, but if you are treating it basically as a nuisance, guess what, we have security risks on our IT, and we have seen them across the Federal Government.

Mr. HOLGATE. Absolutely. And contrary to the private sector that treats cybersecurity as an enterprise risk issue, as I alluded to, that's a distinct cultural difference that the Federal Government hasn't adjusted to yet. We've seen repeated encouragement that the Federal Government has gotten to treat cybersecurity as an enterprise risk issue. We've seen some recent evidence of that in the cybersecurity executive order that was just recently issued, but we haven't seen that fully adopted yet at the Federal level.

Mr. MITCHELL. Well, I thank you. My time is expired.

And, Mr. Chair, I would like to have a conversation with you at some time about how it is we mandate some structural change to these departments so that the CIO gets the attention it warrants. Thank you.

Mr. HURD. I am going to recognize myself for a little bit of time.

I would like to start off by thanking the minority staff for the suggestion of Dr. Holgate to this panel because I think it has been very valuable.

And, Dr. Holgate, am I paraphrasing you correctly when I say that agencies can make their IT centers not a cost center but something that drives business and mission outcomes?

Mr. HOLGATE. Yes.

Mr. HURD. And is it fair to say that in order to achieve that, that the agency head needs to recognize the importance of cybersecurity, of how their IT networks drive business and mission outcomes?

Mr. HOLGATE. Absolutely.

Mr. HURD. And would that also mean that having the CIO report directly to the agency head, isn't that an important step?

Mr. HOLGATE. It's certainly relevant. It's not necessarily necessary based on the relationship that the agency head has with the CIO, but it would certainly be an indicator that the agency head has taken that much more seriously.

Mr. HURD. An indicator, great.

Ms. Conley, you are the deputy assistant secretary, and you are the acting CFO?

Ms. CONLEY. I'm not longer the acting CFO. We have another individual that's come in as part of the new administration that is the acting CFO. I'm the deputy assistant secretary for finance, as well as the deputy CFO.

Mr. HURD. So that is the position you are going to be in for some time?

Ms. CONLEY. I believe so.

Mr. HURD. And you had previous experience in the private sector in helping provide financial management strategies to private sector companies, public sector?

Ms. CONLEY. That's correct.

Mr. HURD. And how long have you been at HHS?

Ms. CONLEY. Eleven years at HHS now.

Mr. HURD. So, Ms. Killoran does not report directly to the deputy or the agency head. I think that is a problem. Would you agree or disagree with that?

Ms. CONLEY. I—it depends I think I would say. How do you like

Mr. HURD. Well —

Ms. CONLEY.—that pause? But I would say—so if I may —

Mr. HURD. So, let me rephrase the question.

Ms. CONLEY. Yes.

Mr. HURD. Why wouldn't Ms. Killoran report directly to you or the agency head?

Ms. CONLEY. So, we actually—Beth and I are actually peers. We're both deputy assistant secretaries. She's in charge of information technology; I'm in charge of finance. And we have a suite of what we would call our CXO suite. So, it covers finance, it covers

Mr. HURD. So, who is your boss?

Ms. CONLEY. My boss is the assistant secretary for financial resources, who then reports —

Mr. HURD. And who is her boss?

Ms. CONLEY. The assistant secretary for administration.

Mr. HURD. And who is the boss of the assistant secretary for administration?

Ms. CONLEY. Both of those assistant secretaries report to the deputy secretary —

Mr. HURD. And then the deputy secretary's boss is?

Ms. CONLEY. The secretary.

Mr. HURD. If my count is right, that is like three people —

Ms. CONLEY. Right.

Mr. HURD.—right, in between the IT center and the C suite or the head of the organization. Would you have ever advised a private sector company to organize their organization that way?

Ms. CONLEY. Well, it would depend upon the span of control. So, if you have an organization that's headed up and the deputy, you look at the span of —

Mr. HURD. Mr. Powner, does that make sense?

Mr. POWNER. I think if we want to have, as Dr. Holgate said, CIOs as strategic partners, you've got to report to the box at the top. And I think a key question is for the agencies at the head is what are the three things we're doing to transform our departments or agencies? Technology will be involved in that. And what's the role of the CIO in helping us get there? And I don't think you get the right answers to those questions, Chairman Hurd.

Mr. HURD. Ms. Killoran, \$14.2 billion, that is the IT spend?

Ms. KILLORAN. Thereabouts, sir, yes.

Mr. HURD. Seven-point-two billion is these grants —

Ms. KILLORAN. Yes, sir.

Mr. HURD.—which you don't have to oversee, so that is \$7 billion. How much control do you have of that \$7 billion?

Ms. KILLORAN. Of the grants, none.

Mr. HURD. No, the \$7 billion.

Ms. KILLORAN. Of the internal?

Mr. HURD. Yes.

Ms. KILLORAN. So, through the delegation, I have authority over all of it.

Mr. HURD. So, you can stop any program —

Ms. KILLORAN. Yes, sir.

Mr. HURD.—from happening, and you could buy anything that you need to put on your system?

Ms. KILLORAN. They would have to go through the organizations to—the appropriations go directly to our operating divisions.

Mr. HURD. So why do you not know what all software you have on your system?

Ms. KILLORAN. So, for example, just in prepping for this hearing, over the last year just in Microsoft alone we have over 170 contracts that bought Microsoft products. And as you go through them, you have to go through individual resellers. To fix that problem, we're using the cybersecurity continuous diagnostics and mitigation capabilities so that we can inventory ourselves —

Mr. HURD. So are you telling me that there is not software out there that would go out and figure all this out and spit back a —

Ms. KILLORAN. Yes, sir. And that's what I'm saying. That's what we're actually putting in place, and we'll be in some —

Mr. HURD. Okay. And how long does that take?

Ms. KILLORAN. So, we're putting that in place before the end of the year. So, we've done the hardware capability, and by the end of this fiscal year, we're putting in software —

Mr. HURD. And what is taking six months to do that, to implement it?

Ms. KILLORAN. So, the reasons is that there have been challenges with working with DHS in getting the license we need and the capabilities because we far under-scaled what we thought we would need, and so making that gap so that we have the totality of the licenses we need to deploy.

Mr. HURD. Ms. Conley, does it make good financial sense to not know how many software licenses an organization has?

Ms. CONLEY. No, sir, it doesn't, and that is something that we recognize the need to get control over so that we can make this a far more efficient process. It's very important. All the software we run in the Department is running off of software with licenses. That is a real opportunity for us to begin to consolidate and have greater sight across the organization to make better use of our licenses.

Mr. HURD. Ms. Killoran, how many times have you met with the good director of HHS?

Ms. KILLORAN. The Secretary, sir?

Mr. HURD. Secretary, excuse me.

Ms. KILLORAN. Since his appointment, three times.

Mr. HURD. And you have been in the position since 2014?

Ms. KILLORAN. I started—in this position I started in December of 2015 and actually became the permanent CIO last July.

Mr. HURD. And how many times have you met with the number two?

Ms. KILLORAN. Currently, obviously, our number two is vacant. The previous —

Mr. HURD. The acting number two?

Ms. KILLORAN. I have not met with the acting number two. Previous, though, the previous acting deputy secretary, we met almost biweekly, and I did also go to the secretary's quarterly meetings with all of the operating division heads.

Mr. HURD. Have either one of you all suggested to the new leadership team of HHS a reorganization of HHS to ensure that the CIO reports closer than three layers down from the Secretary of HHS?

Ms. CONLEY. Well, as you may know, agencies are going through and implementing this new executive order and giving thoughts to ways in which we can reorganize our organizations to make them

Mr. HURD. Have you all come to a conclusion of where the CIO should sit?

Ms. CONLEY. There has—it's still predecisional in terms of the results of those discussions.

Mr. HURD. Predecisional, I love that word. So, are you providing guidance, insight, perspective on where that should be?

Ms. KILLORAN. So, the way that we're—the Department is looking at it is they actually looked at the totality of the work and how we do that better. I was personally involved in some of those working groups and made recommendations through that process.

Mr. HURD. And what were the recommendations?

Ms. KILLORAN. So, they were around how to change the culture

Mr. HURD. Let me rephrase the question.

Ms. KILLORAN.—and how to change —

Mr. HURD. I am trying hard not to be like—your recommendation should be the CIO reports to the agency head or the true number two, all right? This is pretty standard practice in industry. It should be standard practice across the government. And if agency heads are supposed to be responsible for the ultimate protection of the digital infrastructure, the person that has the authorities to do that should be directly under them. So, this isn't complicated, so let's stop making it complicated. And since we are in a period of this new implementation with the perspective that the White House on this, which is right, suggests that you report directly to the person that is—where the buck stops. This isn't hard. This isn't hard. So forward it. And maybe we need to write a letter to them and say, hey, just everybody do this because this is ridiculous. And the fact that it is going to take six months to figure out all the licensing that you have makes zero sense.

My last is—anybody else? Yes, Robin Kelly.

Mr. CONNOLLY. Oh, I am sorry.

Ms. KELLY. This is not even really IT related, but, Mr. Powner, I know you have something to do with all the agencies under the Federal Government, and I was just saying to my colleague, it just sounds like there is just a lack of management structure, period, nothing to do with IT. Are all the agencies like this, like trying to decide who reports to whom or what the pecking order is?

Mr. POWNER. Well, it differs. I mean, there's—have of them report to the box, half don't, right? Some of them that report to the box still don't have authorities, some that don't report to the box

do. I mean, it is so mixed, but I think the key is if you have a major—Chairman Hurd, back to your point. If you have a major cybersecurity breach at an agency, who are you going to call up in front of Congress for—to answer why. It's going to probably be that dep secretary, along with a few others. But I don't know why a dep secretary would not want to rely on a CIO to transform the agency and to secure an agency because if something happens, they're going to be the ones up here answering. Look what happened at OPM. It was the director of OPM that was up here answering questions, and it didn't fair very well for them.

So, I think the focus on—keep pushing with your grades. I tell you what one thing that happened with your grades—I know you released them last night and there was some media articles—we have four agency CIO shops call GAO this morning and wanted to talk about the grades. That's good. That's a good thing. So, I'd say keep pushing.

Ms. KELLY. And I am just asking because before I came here, I was the chief administrative officer of Cook County, and I know, you know, there were people that reported directly to me about what was going on. I had like 10 agencies under me. So, it just sounds so confusing. I am not blaming you. It just sounds so confusing and you need some advice from Dr. Holgate or something. It just sounds very confusing. Thank you.

Mr. HURD. Mr. Connolly.

Mr. CONNOLLY. I was just going to offer to cooperate with you, Mr. Chairman. I like your idea of maybe what we do is kind of inventory outstanding issues that could have been handled administratively and write a fairly comprehensive letter to our former colleague Mr. Mulvaney. He was a member of the committee. He is familiar with these issues. I think he would be receptive. And I would be glad to work with you, and I know Ms. Kelly would, too, I am sure on a bipartisan basis to get that done.

Mr. HURD. Yes, because when the next—thank you. I am going to recognize myself again. When the next cyber attack happens, right, and we have gone through all these conversations, guess what? We are dragging everybody up in front here. If we have to use subpoenas, we will. We have done it before; we will do it again. And I want to make sure that you have all the authorities you can. That is why we are working hard to get MGT because instead of putting some of that money back into some of—you know, buying services you may not need, why not use that money that you realize and that savings on the highest-priority issues within your organization? That is the point of all this.

And, Mr. Powner, why are the grades so bad when it comes to software licensing?

Mr. POWNER. That's a tough one because—we issued a report several years ago that—we had 22 of the 24 agencies had complete inventories. We've only had one uptick with three. Now, to be fair to the agencies, like at NASA there's a partial inventory that Renee Wynn there, their CIO, has used to achieve some savings. I think a key thing why we don't have complete inventories is the CIO authorities. I think there's pockets within these federated agencies that CIOs cannot—they don't have good visibility into what's going on. And I think it's a direct reflection on the CIO au-

thorities why we don't have comprehensive software license inventories.

Mr. HURD. Good question. Ms. Killoran, my last question. You have roughly 3,000 employees within the IT shop. Do we have job descriptions for all of them?

Ms. KILLORAN. There are job descriptions, but they vary. That's one of the things that we're working with both internally within HHS and now at a Federal level to try to have standard job descriptions for the same types of work. It has been a potential issue.

Mr. HURD. I didn't write my note down. You named it something.

Ms. KILLORAN. So, we actually have competency roadmaps for each of our workforce, and we've done 11 of these competency roadmaps for particular IT series from a GS-5 all the way to—up to an SES, including what certificates and skills they should have at each step.

Mr. HURD. And you are comfortable OPM can take what you all are doing and export that to other agencies?

Ms. KILLORAN. Yes. We're actually in the process of doing that as we speak.

Mr. HURD. Do you have an idea of when that process should be completed?

Ms. KILLORAN. So, the first step of that they are expecting to have done I think it's the first quarter of 2018. So, they're taking those 13 and trying to requalify them, yes.

Mr. HURD. Okay. That is really helpful on the next project we are trying to work on, so we have got to know what our gaps are in our IT staff.

So, seeing no further business, without objection, the subcommittees stand adjourned. Thank you all for being here.

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

APPENDIX

MATERIAL SUBMITTED FOR THE HEARING RECORD

**Questions for David A. Powner
Director, Information Technology Management Issues
Government Accountability Office**

**Rep. Robin L. Kelly, Ranking Member
Subcommittee on Information Technology
Committee on Oversight and Government Reform**

**Joint Subcommittee Hearing on “The Federal Information Technology Acquisition
Reform Act (FITARA) Scorecard 4.0”
June 13, 2017**

1. **According to the most recent FITARA scorecard, 21 agencies do not have a complete inventory of software assets as required by the Making Electronic Government Accountable By Yielding Tangible Efficiencies Act of 2016 (MEGABYTE Act). It is my understanding that incomplete or inaccurate data pose significant security and management risks to federal agencies.**
 - a. **Can you summarize the risks the federal government faces when agencies lack a complete inventory of software assets?**

Without a complete inventory of software assets, federal agencies may not be able to effectively manage their information technology (IT). In particular, agencies risk purchasing too many software licenses, resulting in unnecessary duplication and wasteful spending, or too few licenses, resulting in additional fees to purchase more.¹ In addition, if an agency exceeds the number of agreed upon users, it risks the possibility of noncompliance with license terms from the copyright owner. To help ensure that the legal agreements that come with procured software are adhered to and that organizations avoid purchasing unnecessary software, proper management of software assets, including a complete inventory, is essential.

- b. **Can you summarize the risks that the federal government faces when agencies do not have a complete inventory of their IT assets, broadly?**

Without having a complete inventory of agencies' IT assets, the federal government faces several risks.² Specifically, the lack of a comprehensive IT asset inventory presents a security risk. If agencies are not aware of all of their assets, they cannot secure them, resulting in a vulnerable security posture and an increased risk of undetected theft and loss of assets. In addition, without such an inventory, an agency may not be able to effectively manage projects and systems, or make informed decisions regarding its IT and the associated costs.

¹GAO, *Federal Software Licenses: Better Management Needed to Achieve Significant Savings Government-Wide*, GAO-14-413 (Washington, D.C.: May 22, 2014)

²GAO, *Information Technology: Agencies Need to Improve Their Application Inventories to Achieve Additional Savings*, GAO-16-511 (Washington, D.C.: Sept. 29, 2016); *Library of Congress: Strong Leadership Needed to Address Serious Information Technology Management Weaknesses*, GAO-15-315 (Washington, D.C.: Mar. 31, 2015); *Federal Information System Controls Audit Manual (FISCAM)*, GAO-19-232G (Washington, D.C.: February 2009); *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity, Version 1.1*, GAO-14-394G (Washington, D.C.: March 2004).

Finally, the absence of a complete inventory can increase agencies' risk of unnecessary, duplicative purchases and, as a result, wasted funds.

To identify and address duplicative assets, agencies can use the PortfolioStat³ initiative, which requires agency-wide IT portfolio reviews. Federal agencies have historically struggled with managing their portfolios and, as a result, in February 2015, we added improving the management of IT acquisitions and operations to our list of high-risk areas for the federal government.⁴

c. For the inventories of software assets that agencies currently have, what checks are in place to ensure that this data is accurate?

The agencies that have software asset inventories can use automated tools to collect, track, and help ensure the accuracy of data. In this regard, the Department of Education, the United States Agency for International Development, and the General Services Administration use automated tools to maintain their software inventories. Specifically, the Department of Education has implemented the "Software Asset Management Tool" that is intended to enable centralized software license control. In addition, the United States Agency for International Development tracks its software assets using an automated tool called System Center Configuration Manager 2007. Finally, the General Services Administration uses several automated tools, including IBM MaaS360, that allow the agency to monitor its software asset usage.

d. What steps did the Department of Education, the United States Agency for International Development, and the General Services Administration take to earn their scores under the new "Software Licensing" category that was previewed with the release of the current FITARA scorecard?

The Department of Education, the United States Agency for International Development, and the General Services Administration regularly tracked and maintained a comprehensive inventory of software licenses. Further, the United States Agency for International Development and the General Services Administration demonstrated that they were analyzing agency-wide software licensing data to identify opportunities to reduce costs and better inform investment decision making. For example, the General Services Administration:

- established an official asset repository/inventory that serves as the system of record for all agency software assets and is used to track license data, such as cost, deployment, allocation, status, and lifecycle stages from procurement to retirement;
- designated IT personnel to serve as asset managers responsible for the creation and maintenance of proper asset documentation for all software;
- established procedures for using automation tools to, among other things, track and maintain the agency's software license inventory; and

³Recognizing the proliferation of duplicative and low-priority IT investments within the federal government and the need to drive efficiency, the Office of Management and Budget launched the PortfolioStat initiative in March 2012. OMB requires federal agencies to conduct annual agency-wide IT portfolio reviews to, among other things, reduce commodity IT spending and demonstrate how their IT investments align with their agencies' missions and business functions.

⁴GAO, *High-Risk Series: An Update*, GAO-15-290 (Washington, D.C.: Feb. 11, 2015).

- established procedures to compare software usage to purchased software through the use of its automated inventory tools.

Gartner, Inc.
 4501 Fairfax Drive
 8th Floor
 Arlington, VA 22203
 (703) 387-5600

House of Representatives
 Committee on Oversight and Government Reform
 Subcommittee on Information Technology
 Subcommittee on Government Operations
 2157 Rayburn House Office Building
 Washington, DC 20515

Dear Chairmen Hurd and Meadows:

Thank you for the additional questions and the opportunity to respond.

1. *One of the major challenges and opportunities the federal government faces in its information technology (IT) reform efforts is wasteful duplicative systems. The Federal Information Technology Acquisition Reform Act (FITARA or Act) requires agencies to eliminate unneeded data centers while optimizing the remaining ones by 2018.*
 - a. *What impact could a long-term workforce reduction have on the ability of agencies to meet the FITARA timeline for completing all data center optimization and closure efforts?*

Federal agencies require an appropriate strategy to support agency mission needs, and the right resources and skills to support it. A long-term workforce reduction, if done indiscriminately and despite broader strategic priorities, could be detrimental not just to data center optimization specifically, but more generally to the viability of agency IT organizations and to the vitality of agency operations. Agency heads must think strategically (over a longer horizon, in a broader context) about the agencies' missions, priorities, and desired outcomes, when making decisions about their people, technology, and investments. Among the private sector companies that we work with, investments in IT fuel digital innovation to transform customer services to a digital backbone, rather than focus on outdated paper processes or physical offices. Wise investments in information and technology are critical to strategic business restructuring and can both improve outcomes and reduce costs. Thinking tactically – treating government reform as a near-term cost-reduction exercise – and downsizing everything equally (including the workforce) is short-sighted and misguided. We have already noted the disproportionately large segment of federal IT spend – over one third – that occurs outside of CIO authority (“shadow” or “business unit” IT). Continuing to focus on IT reductions (of workforce or operational budget) limits the CIO’s ability to deliver results. Further,

it encourages a spending shift that lacks proper coordination, and with little or no oversight – making strategic action more difficult, if not impossible.

Outdated, underfunded and undermanned “back-office” capabilities have disproportionate impacts on agency operations and long-term agency health. In general, IT, acquisition, finance, and human capital functions have a “minimum viable product” staffing level below which they cannot continue to support agency operations. Many agencies currently have workforce levels that are in danger of falling below the minimum viable product level. Permanent workforce reductions may limit agencies’ ability to conduct data center optimization internally, which may lead to a requirement to outsource these functions to third-party vendors with the ability to perform the optimization tasks. Moreover, in some cases, these functions must potentially be increased or enriched to enable agencies to achieve strategic transformation – reshaping and reimagining an organization’s operations, service portfolio, business model, or mission accomplishment requires different skills and competencies from the workforce. Achieving strategic objectives, as well as accomplishing the specific objectives outlined in FITARA, requires sustained attention from a revitalized and revamped workforce – retraining may not suffice. The focus of workforce transformation must be on what is needed for the future, not just reducing what they have now. Otherwise, agencies will miss deadlines and strategic opportunities.

- b. What are the implications to federal IT more broadly if data center optimization and closure efforts are not completed in accordance with either the current timeline set forth in FITARA, and any future timelines should Congress extend any of the deadlines?*

The continued drag on IT funds imposed by – among other factors – a persistent inventory of data centers would be insidious. We already highlighted¹ the significant portion of the federal IT budget consumed by operations and maintenance (O&M) of current services. Furthermore, GAO has noted the continuous growth of O&M expenditures concurrent with a continuous reduction in strategic investment in development, modernization, and enhancement (DME). A significant portion of the O&M growth is the effect of the myriad purpose-built, mismatched, and/or outdated systems and applications that depend on substantial contractor support every time new functionality is needed, and not necessarily just because of data centers. Enactment of the Modernizing Government Technology (MGT) Act, combined with other existing flexible financing authorities, could help restore a healthier balance between O&M and DME by addressing the application inventory that complicates the data center optimization efforts. However, the ability

¹ See the IT Dashboard, and Gartner’s 2017 CIO Agenda: A Government Perspective and IT Budget and Benchmarking Survey.

to act decisively requires a cogent mission- and outcomes-based strategy. Carrying a large data center inventory indefinitely, combined with a growing “technical debt” in legacy modernization, is an unsustainable combination. The shift from “data center consolidation” to “data center optimization” should have sent a signal to federal agencies to look beyond their physical footprint and focus on cloud-enabled opportunities. Some smaller federal agencies (e.g., the International Trade Administration and the Federal Communications Commission) have used deadline-driven approaches to eliminate their data center footprint entirely within 2 years or less, with attendant reduction in O&M expenditures and resultant greater operational flexibility. Absent a similar sense of urgency, and without a greater level of agency business and mission ownership and accountability for overall costs of agency operations, the federal government risks continuing to bear an unsustainable level of fiscal constraints.

2. *This past April, the Office of Management and Budget (OMB) replaced the President’s hiring freeze with a memorandum directing agencies to, “[i]dentify workforce reductions over a four-year period...consistent with discretionary outyear levels included in the FY 2018 budget.” If agencies take a broad approach to OMB’s workforce reduction directive and make across-the-board reductions to their workforce, what risks does such an approach pose to the federal government’s efforts to improve in the area of IT acquisitions and modernization?*

Applying an across-the-board reduction would represent substantial risk, and not just in IT acquisition and modernization. With submission of high-level draft Agency Reform Plans due June 30, and submission of Agency Reform Plans expected in fall 2017, agencies may be inclined to revert to historic instincts and apply non-strategic, “shared pain” approaches, equally distributing cuts across a workforce. Strategically assessing agency missions, functions, and services, and deciding which ones to enhance, downsize, streamline, consolidate, or discontinue – potentially in collaboration with other agencies in cross-cutting fashion – are deliberations in which CIOs should be included as key participants. Agency heads must consider IT-enabled business efficiencies and invest accordingly, and take a risk-based approach to assessing the impacts of cutting IT services indiscriminately. Early indications have been that while CFOs and CHCOs (as keepers of money and people) have been invited to identify reform opportunities, CIOs have not. That omission not only risks missing technology-enabled opportunities, it also risks insufficiently considering the relationship of IT to agency operations. It not only jeopardizes goals for improved IT management and modernization, it also neglects opportunities for efficiency through IT-enabled automation, improved operations through more effective use of technology, and cross-agency consolidation, collaboration and co-creation of reinvented and reimagined service delivery. Moreover, without adequate consideration of IT’s role in agency operations and preserving a fully functional IT organization, agencies place their operations at heightened risk for system and service outages, compromise, and/or failure.

Lastly, in light of the technology-enabled opportunities OMB invited and encouraged in M-17-22, thoughtful and strategic approaches to Agency Reform Plans should show evidence of expansion and enhancement of critical IT and IT-related functions.

CEB (now Gartner) research on federal IT talent trends indicates that significant cuts in the IT workforce could have unintended consequences to modernization efforts. One study, the IT Talent Dashboard, indicates that 52% of the federal IT workforce is over the age of 50, but only 9% of the federal IT workforce is less than 35 years old. These workers under the age of 35, often called Millennials, represent 34% of the total US workforce and a significant share of private sector firms' IT departments. One potential risk is that hiring freezes and IT workforce reductions could exacerbate generational workforce trends and create capacity gaps for retained staff with the skills to manage modern IT systems on modern IT platforms.

3. *In your written testimony for the hearing, you stated that "[a]gency heads, of course, must also recognize the importance of, and prioritize accordingly, recruitment, retention, and development of a competent workforce."*
 - a. *What best practices should agency heads follow for recruiting, retaining, and developing an effective and sustainable IT workforce?*

Gartner's research on recruiting, retaining, and developing an IT workforce (see Overview of How to Plan, Recruit, Develop and Retain a Skilled IT Workforce) has identified several recommended practices, including how to: plan for the profile of IT talent that meets business needs; recruit top IT talent to build a high-performing IT organization; and develop and retain an IT workforce to continually drive competitive advantage. Similarly, our Value-Focused HR for transforming public sector HR advocates a similar approach, particularly in light of public sector resource challenges and when federal agencies have been facing workforce reductions.

CEB (now Gartner) also contributed to the White House's TechHire Initiative and developed an Employer Playbook, designed specifically to help federal agencies and private sector employers better attract and retain IT talent from non-traditional sources. The Employer Playbook features real-world best practices of effective approaches to onboarding and retaining employees for tech positions across different industries. Our playbook is publicly available and profiles exemplar organizations that hire successfully from nontraditional sources and we documented their approaches for the benefit of other employers.

Ultimately, successfully managing a competent workforce through a period of change requires a conscious, strategic approach:

- Prioritize critical roles by understanding business and mission strategy and IT's role in it, and identifying critical capabilities and roles;

- Project potential gaps through forecasting of talent needs, projecting potential shortfalls, and managing succession risks;
- Mitigate risk areas through scenario planning and creating options (including development, advancement, and alternative staffing models) for employees and the organization; and
- Engage with employees to promote effective communication and involve the workforce.

b. What recommendations would you have for Congress for improving the ability of agencies to hire and retain the IT workforce needed to fully address the challenges agencies are facing in the area of IT acquisitions and modernization?

There is already a broad portfolio of tools and statutory authorities available for federal agencies: Presidential Innovation Fellows; other existing excepted service, direct-hire, and similar hiring authorities as well as recruitment and retention incentives, including cybersecurity hiring authorities; FITARA (and specifically Expansion of Training and Use of IT Cadres), and the Program Management Improvement Accountability Act (PMIAA, and its requirements for program and project management personnel standards). Creative approaches to acquisition – including both “incubators” like the DHS Procurement Innovation Lab and the HHS Buyers Club, and more systemic initiatives like the TechFAR and GSA’s Category Management – have been promising although not formally codified, and need to be sustained. Adding further legislation may be counterproductive, in light of existing authorities and tools. However, oversight of the use of these authorities, in an integrated fashion, would provide more insights into the level of their government-wide adoption and implementation, and should help create a broader understanding of, and comfort with, the tools already at agencies’ disposal. OMB added a requirement that federal agencies adopt additional elements in their human capital plans around acquisition, IT, and program management skills, intended to encourage maximum use of existing authorities. Greater elaboration on the “yes/no” responses sought by OMB could afford an opportunity for a deeper discussion with agencies about the maturity of their human capital strategies and their level of adoption of available tools. Engaging agencies in a review of their human capital plans, their strategic talent deficits (particularly in IT, acquisition, program management, and finance), their efforts to close those gaps, the adequacy and sufficiency of the available authorities and flexibilities (and moreover the completeness of their understanding and use of them), should be an ongoing aspect of oversight of FITARA implementation.

Agency heads, through their CIOs, ultimately need to set the standard of focusing on transformation and not just on infrastructure (or data center optimization). They need to empower and/or recruit CIOs with the skills and desire to pursue those

objectives, and reshape their workforce to give them the necessary capabilities and capacity.

Thank you for the opportunity to provide additional clarification.

Sincerely,

A handwritten signature in black ink, appearing to read 'H. Richard Holgate', with a stylized flourish at the end.

H. Richard Holgate, PhD
Research Director