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HEARING

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AND REFORM

HOUSE OF REPRESENTATIVES

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Wednesday, December 11, 2019

HOUSE OF REPRESENTATIVES
SUBCOMMITTEE ON GOVERNMENT OPERATIONS
COMMITTEE ON OVERSIGHT AND REFORM
Washington, D.C.

The subcommittee met, pursuant to notice, at 2:52 p.m., in room 2154, Rayburn House Office Building, Hon. Gerald Connolly presiding.

Present: Representatives Connolly, Norton, Khanna, Meadows, and Grothman.

Mr. CONNOLLY. The committee will come to order.

Without objection, the Chair is authorized to declare a recess of the committee at any time.

Sorry for the delay but we had an extra unplanned vote that took up some time, and my friend, the Ranking Member, Mr. Meadows, and I were both delayed. I beat you, Mark, by one minute.

Mr. MEADOWS. You are younger than me.

[Laughter.]

Mr. CONNOLLY. I now recognize myself for my opening statement.

Since the enactment of the FITARA Act, the Federal Information Technology Acquisition Reform Act, in 2014, this subcommittee has maintained steady and bipartisan oversight of implementation of the law. The benefits of continued oversight, which were lacking in the predecessor structural law, Clinger-Cohen, are clear: across the government, agencies have improved Federal information technology acquisition practices and management practices.

In fact, the FITARA scorecard's success has led this subcommittee to incorporate other aspects of Federal IT into the grades over the years. Our framework is not rigid. The subcommittee has augmented and changed the scorecard to take cognizance of other important components of Federal IT, such as cybersecurity, and incorporated other constructive feedback from agencies.

Today, the scorecard incorporates grades adapted from three additional pieces of legislation, including the MEGABYTE Act, the Modernizing Government Technology Act, MGT, and the Federal Information Security Management Act, FISMA. The bottom line is that the FITARA scorecard works and continues to hold agencies accountable for implementing the best IT practices. The evidence is visible today in that chart.

In November 2015, the average FITARA grade was a "D" across all participating agencies. Over the past four years, agencies have incorporated new, sometimes challenging metrics and higher stakes, and yet, the average overall agency grade today is trending up. It is now above a "C", a full grade improvement, not trivial.

The witnesses from the Department of Homeland Security and the National Aeronautics and Space Administration, who are going to testify today, model this progress. In the eighth scorecard from June 2019, DHS and NASA received the worst grades of all agencies, a “D-”. While there is still room for growth, the CIOs here today should be recognized for the progress they have achieved. In the ninth FITARA scorecard, today’s, DHS is a “B” and NASA a “C+,” material progress.

Unfortunately for some agencies, and in some categories, progress has slowed. Today, I hope to hear from our witnesses and GAO about what it takes to move beyond these hurdles to ensure efficient IT acquisition and management practices. We must continue to see the dividends from putting resources toward replacing legacy IT systems, migrating to the cloud, and maintaining a strong cyber posture.

This subcommittee recognizes that each agency has its own unique attributes. Agencies vary greatly in their personnel and budget size, and in the number of missions, components, and programs that fall within their purview. Large, federated agencies such as DHS and NASA likely face additional challenges when implementing the best IT practices across their enterprise because of this complexity.

Despite these challenges, improvements are possible. Progress in Federal IT takes political will and the recognition that the CIO needs a seat at the leadership table directly and a critical role in an agency’s management decisions. Both DHS and NASA scorecards reflect increased grades given their agencies’ commitments to give the CIO or a CIO direct reporting access to the head of the agency. Ms. Wynn, I am pleased to see that NASA recently reversed course on its reporting structure after the Ranking Member and I both expressed our concerns in writing, and we thank you for that.

With the ninth scorecard, this one, our subcommittee acknowledges that some other agencies have taken steps toward direct reporting structures. DHS, the AID, and the Department of Treasury received partial credit this cycle for having a direct report to the head of the agency and indirect reporting to an Undersecretary or Assistant Administrator for Management. For DHS, the authority to drive change in IT practices across the entire department is of the utmost importance. The DHS IG reported on numerous IT deficiencies in components like the Federal Emergency Management Agency that hindered the agency’s recovery operations following catastrophic hurricanes and wildfires. Lives depend on FEMA doing its job and doing it well, and that is what the importance of this finding really is.

Finally, I would like to take some time to reflect on the actions of the Administration regarding data center consolidation. At our last hearing, the Federal CIO, Suzette Kent, testified that she would continue the push for aggressive data center closures in the Office of Management and Budget’s revised Data Center Optimization Initiative policy. After all, the law calls for that consolidation. It is explicit in the law. And we, both Mr. Meadows and myself, and the subcommittee were very gratified to hear Ms. Kent’s re-

dedication or recommitment to the explicit commitment of data center consolidation.

In June, OMB released new agency data center guidance, however, that changed the entire baseline for how agencies define and count data centers. Just one year ago, agencies reported on more than 4,700 such centers that they planned to continue to operate. In 2019 data center inventory, however, the number dropped by nearly 50 percent to 2,400 data centers because of a definitional change, not because of consolidation, and I think that is of concern to us because it bypasses the whole point. Whether it is deliberate or bureaucratic, one does not know. But we do not want to miss the need to achieve that goal.

When we passed the MGT Act that both Mr. Meadows and I also sponsored, it was to be able to allow reinvestment in the enterprise through the savings effectuated through implementation of FITARA, primarily this, because data center consolidation is what frees up capital. That is what gives you the cost savings. If you play games with the definition of what is a data center or what constitutes consolidation, you miss the benefits. So we want to hear more about that, but we are concerned about it, and we want to make sure no one is playing games or doing an end-run; and even if it isn't deliberate, that unwittingly we are actually evading the purpose of the law. After all, the law is a good-government law. It is a bipartisan bill to try to bring agencies into the 21st century.

So we are eager to hear the testimony today, and I want to again thank my colleague, Mr. Meadows, who has always been there on this issue, and then some, and I just thank him as being an equal partner in this enterprise. Thank you.

Oh, Mr. Meadows. I recognize the Ranking Member.

Mr. MEADOWS. I will be very, very quick. Thank you, Mr. Chairman, for your leadership on this issue, and the very fact that we are having this hearing is the emphasis and the priority not only of the Chairman but of members broadly. I know it is not a topic that brings in the cameras and members come rushing in.

I do want to let you know, though, for our two witnesses that are here, to kind of give a synopsis of what you have done — Ms. Harris will certainly attest to this — we pay very close attention to this. It is actually now starting to become indirectly part of the appropriations process. We are looking at it. We want to make it a more formal part of that where literally we reward you for doing a good job, and both of you are here today to talk about your successes.

Certainly, efficiency in government as it relates to IT is critical. I have shared this a number of times. We spend more on IT than we should, and I say that because it is \$100 billion, if you count all of the agencies that we name and don't name. It is over \$100 billion a year, and when you look at that kind of number, I used to get more computing ability in my private-sector real estate company than some agencies do with the amount of money that we spend. So we have to do a better job.

That being said, we know that there have not been rewards. So I am committed both on the fiscal side of things, which is hard for this conservative to say, but also on the reform side of things, to work with not only the two of you but all the agencies. Ms. Harris

and your colleagues, I want to thank you both for your continued work on this.

And without further ado, I think I will yield back to the Chairman so we can hear from all of you.

Mr. CONNOLLY. I thank the Ranking Member. Thank you very much.

I now want to welcome our witnesses.

Carol Harris, Director of IT Management Issues at the Government Accountability Office. Welcome back.

Elizabeth Cappello, Acting Chief Information Officer, U.S. Department of Homeland Security.

Renee Wynn, Chief Information Officer for NASA, the National Aeronautics and Space Administration.

And, I will point out, an all-woman panel.

Thank you for being here.

If you would please stand and raise your right hands, we will swear you in, which is the habit of our committee.

[Witnesses sworn.]

Mr. CONNOLLY. Let the record show all three of our witnesses answered in the affirmative.

Thank you so much. You may be seated.

Without objection, your written statements will be entered into the record in full. We would ask you within a five-minute timeframe to summarize your testimony as best you can.

And we will start, Ms. Harris, with you. Welcome.

STATEMENT OF CAROL HARRIS, DIRECTOR, IT MANAGEMENT ISSUES, GOVERNMENT ACCOUNTABILITY OFFICE

Ms. HARRIS. Thank you, Mr. Chairman. Chairman Connolly, Ranking Member Meadows, and members of the subcommittee, I would like to thank you and your very excellent staff for your continued oversight on IT management and cybersecurity with this ninth set of grades.

Overall, nine agencies' grades went up, four went down, and 11 remain the same. Also, for the first time ever, three agencies received an "A" grade, including two "A+'s," and I would like to commend USAID, the Department of Education, and GSA for earning these top grades.

I will now share some key highlights from this ninth scorecard. First, I will start with the CIO reporting structure.

The CIOs of USDA and NASA now report to the agency head or deputy, which brings the total number of agencies with this direct reporting structure to 16. In addition, DHS, Treasury, and USAID have established acceptable CIO reporting relationships that, while not perfect, have enabled them to achieve partial credit in this category. This progress would not have happened to this extent without your scorecard and your oversight.

Turning to data centers, the grading was suspended in the prior scorecard to provide the Federal CIO the opportunity to share OMB's plans for revising its data center optimization initiative at that hearing. At your direction we have reintroduced these grades, and the change increased the overall grade of DHS and decreased the overall grade of Interior, Labor, and state.

OMB's guidance is now final, and unfortunately the concerns I raised at the last hearing about the revisions remain unchanged. Among other things, OMB's guidance revises the classification of data centers and data center optimization metrics. For example, OMB's new data center definition excludes roughly 2,300 facilities that agencies previously reported on in Fiscal Year 2018. Many of these excluded facilities represent what OMB itself has identified as possible security risks. Some are also large facilities that agencies will keep operating but will no longer be reporting on. SSA has five facilities over 8,000 square feet, and state has two over 10,000 square feet, as an example. In addition, there are 194 data centers over 1,000 square feet for which closure progress will no longer be reported as a result of the redefinition.

Accordingly, the subcommittee and the committee will lose the ability to track and measure progress in this area because the baseline for comparison will have changed. Moreover, the changes will likely slow down or even halt important progress agencies should be making to consolidate, optimize, and secure their data centers.

I will now turn my comments to DHS and NASA. These agencies collectively plan to spend \$8.6 billion on IT this year. For each of them, roughly 80 percent of their IT spent is on operational systems. DHS has an overall "B" grade, which is a solid improvement from the past four scorecards in which it hovered between a "C" and a "D-". NASA, too, has made noteworthy progress from its "F" grade on the first two scorecards back in 2015 to a "C+" today.

Some positive areas to highlight for both. They have comprehensive software license inventories and use them to make decisions and save money. These agencies also have highly effective IT portfolio review processes which have led to a collective \$2.6 billion in savings and cost avoidances since 2012. For DHS, progress in the area of incremental software development is still rather low. Only about 55 percent of its IT projects are delivering functionality every six months, as OMB has called for. For NASA, the lack of transparency in its evaluation of major IT investments is troubling. NASA spent \$442 million on major IT in Fiscal Year 2019 and did not rate any of those investments as yellow or red.

Mr. Chairman, this concludes my comments on the overall scorecard and the results for these two agencies. I look forward to your questions.

Mr. CONNOLLY. Thank you very much. I just wanted to mention, Ms. Harris, I will assure you we are not going to lose our ability to evaluate by virtue of OMB obfuscating the baseline. If necessary, we will work with you to create/recreate the baseline we have been using, and that is how we will continue to monitor and score agency performance. But we are not going to allow either the evisceration or the dilution of the baseline that has served us so well and agencies so well. Thank you.

Ms. Wynn?

**STATEMENT OF RENEE WYNN, CHIEF INFORMATION OFFICER,
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION**

Ms. WYNN. Thank you, Chairman Connolly, Ranking Member Meadows, and the members of the Subcommittee on Government

Operations, for allowing me to appear before you today to provide you an update on NASA's implementation of the Federal Information Technology Acquisition Reform Act, or FITARA.

NASA's global information technology infrastructure plays a critical role in every aspect of NASA's mission. Today is an especially exciting time to work at NASA as we work toward delivering the first American woman and the next American man to the moon in 2024.

NASA's new Artemis program will use a long-term presence on the moon to test, build, and validate new capabilities for human missions to Mars. My team looks forward to playing our part in this great endeavor.

Effective IT management is not an easy task. As the CIO, I must balance innovation with mission needs, costs, and evolving threats. NASA has come a long way from our initial FITARA score, and more work remains. As an example, in 2010, NASA had 79 data centers. Today we have 19. This is a 75 percent reduction, resulting in the repurposing of approximately 80,000 square feet of space and generating about \$36.2 million in savings since Fiscal Year 2012. When reducing our data center footprint, we also increased our use of cloud computing. NASA currently has more than 10 petabytes of data in the cloud and uses more than 1.4 million commercial cloud computing hours per month.

To its credit, over the last several years NASA has transformed its IT governance structure to empower the CIO with greater authority. For example, the CIO directly reports to the Administrator, and I have access when needed. The NASA CIO and most of the center CIOs sit on all key NASA decisionmaking councils, and the CIO has direct authority and oversight over the center CIOs, including their IT and acquisition decisions.

Within NASA, IT is now regarded as a strategic agency resource, with the CIO having clear authority to approve the agency's IT spend plan. In doing so, NASA is strengthening the agency's ability to rely on IT resources with agency missions, goals, and programmatic priorities. My office continues to work closely with our customers to better understand and support their mission and mission support needs. My office is even integrating team members directly into the Artemis program, ensuring cybersecurity risks are mitigated at the earliest stage.

Additionally, my office continues to participate in NASA's mission support future architecture program, or MAP. Through MAP, NASA is implementing a phased approach to transform mission support services into more efficient enterprise operating models. This includes realigning budget authority and lines of reporting, improving the sharing of capabilities across our centers, and strategically assessing and aligning the work force to support this transformation. My office is on track to complete our MAP assessment and planning by December 2020.

When speaking about NASA, it is important to remember that cooperation with our Nation, the public, and scientists across the world is one of NASA's founding principles. Therefore, NASA seeks the widest practical and appropriate distribution of information from our missions, but in doing so we must also safeguard our IT assets against well-resourced and highly motivated threat actors.

The reported number of cyber incidents against NASA continues to increase because we have greater visibility into our network. I am confident that NASA continues to appropriately address these threats. Some of the metrics that I provided in my written testimony demonstrate that. Additionally, I would like to publicly congratulate NASA's Identity Credential and Access Management team for being named a finalist for the prestigious 2019 National Security Agency's Frank B. Rowlett Award, an award that recognizes outstanding Federal Government excellence in the field of cybersecurity.

In conclusion, I appreciate the opportunity to appear before you today to assure you that effective IT management is a top priority for NASA and its senior leaders. NASA looks forward to continuing to work with Congress and our other Federal cyber partners to ensure that NASA's IT global network remains secure, effective, and resilient. I would be happy to answer any questions you may have.

Mr. CONNOLLY. Wow, right on the nose. Excellent job.

Ms. Cappello?

STATEMENT OF ELIZABETH CAPPELLO, ACTING CHIEF INFORMATION OFFICER, U.S. DEPARTMENT OF HOMELAND SECURITY

Ms. CAPPELLO. Chairman Connolly, Ranking Member Meadows, and distinguished members of the subcommittee, thank you for your continued commitment to achieving the goals of FITARA and the opportunity to appear before you today to share the Department of Homeland Security's progress in meeting these goals.

Across DHS, our components serve disparate missions at various operational tempos, requiring information technology at locations across the globe. As a career Federal specialist from within DHS, I know that providing capability for this complex agency requires a strategy that advances the mission, optimizes the organization, enhances service delivery, and strengthens cybersecurity.

The DHS Chief Information Officer is accountable for the efficient and effective use of IT resources across DHS. As part of my statement, I would like to highlight a few areas of success that relate to FITARA's scorecard metrics, the Department's cybersecurity posture, cloud adoption, Agile development, and data center consolidation.

Cybersecurity must be at the core of everything we do in information technology. At DHS, my office operates the enterprise-wide area network that connects the 240,000 DHS Federal employees, more than 4,300 physical locations, and dozens of mission-essential applications. An important layer of protection for this ecosystem starts at the enterprise Security Operations Center, or SOC, which is focused on the risk of attack from hostile cyber actors.

The next levels of defense in-depth occur within the components themselves. To ensure consistency in cybersecurity across all levels of the Department, we implemented the Cybersecurity Service Provider Program this year. The CSP Program tailored the well-established Department of Defense SOC accreditation program for use within the Department of Homeland Security, and this past year the U.S. Immigration and Customs Enforcement SOC received ac-

creditation, and DHS will continue assessments of the remaining DHS SOC's throughout this fiscal year.

Given all these efforts, I am proud to note that the Department's improved cybersecurity posture is evident on our Federal scorecards, including FISMA and FITARA. Our cybersecurity strategy is not static, however. As DHS continues to make great strides in cloud adoption, we must update our enterprise security model, our policies, and our architecture. We must eliminate the barriers to cloud migration while supporting information assurance.

The perimeter defense approach is evolving into zero trust, which very simply means that we eliminate the concept of trust from our technology enterprise. This architecture will better protect DHS IT assets from compromise through improved monitoring and strict access control. At the same time, the Department is implementing the new OMB TIC 3.0 and the streamlined authority to operate process to facilitate the cloud environment.

The Department is also committed to developing and retaining a skilled cyber work force. We are partnering with the Office of the Chief Human Capital Officer as they develop the Cyber Talent Management System to manage the entry and training of cyber talent within DHS. Additionally, DHS supports a cyber internship program and numerous engagements with educational institutions.

Cloud adoption also requires re-skilling the work force. By integrating cybersecurity with incremental development, we ensure that DHS operates a resilient and responsive technology enterprise. DHS is focused on building Agile skills so that security, development, and operations are an integrated culture. We host an annual Agile Expo highlighting the best practices from across the Department.

At DHS, we understand clearly that data center consolidation is a top priority for the Chairman and the Ranking Member of this subcommittee. FITARA focus has led DHS to continue enterprise data center consolidation and cloud adoption. For example, we have almost eliminated our on-premise email system and will continue with migrating out of the DHS Enterprise Data Center 2.

DHS requires secure, responsive, and resilient information technology to execute its mission. I am proud of our efforts thus far and excited about our continuous improvement. But as I said in my written statement, there is certainly more room for progress. As a leader with success in these areas at the component level, I look forward to working with this subcommittee and actively engaging across DHS to improve our enterprise using FITARA as our yardstick.

Once again, thank you for the opportunity to appear before you today, and I look forward to your questions.

Mr. CONNOLLY. Thank you so much.

And thank you all for your thoughtful testimony.

The Chair calls on the distinguished Congresswoman from the District of Columbia for five minutes of questioning.

Ms. NORTON. I thank my good friend from Virginia, and I appreciate this hearing. I do believe it is an important hearing. We are obligated to have it for good reason.

It is interesting to note that the CIO is understood to have such an important role that the subcommittee reduces an agency's over-

all grade in its annual FITARA scorecard if that person does not have that role reporting to the agency head.

So, Ms. Wynn, in the last FITARA scorecard that was in June 2019, NASA had demoted the position of the CIO; and, of course, NASA reversed course after the Chairman and the Ranking Member, Mr. Connolly and Mr. Meadows, wrote to the Administrator, and the future of the CIO was changed. I don't know why it was demoted. I don't know if you know.

But how has your role changed since the Chairman and Ranking Member wrote and you were reporting directly to the agency head?

Ms. WYNN. Thank you for the question. My role remains the same with the short-term move to our mission support directorate. That role never was changed. It was only my reporting authority to the —

Ms. NORTON. Well, that is what I am trying to find out. What difference does the reporting authority—it was the reporting authority that was at issue.

Ms. WYNN. That was at issue, and then that was returned. The intent of the agency was to try to gain some —

Ms. NORTON. And how has that mattered to you is my question. If you report directly to the agency head, why does that matter to you?

Ms. WYNN. It helps me when I am reporting in particular on cybersecurity events, to be able to get easy access to the Administrator, which I remain to have that access to him. I think there are a couple of other issues in IT that get to be significant, and we certainly have easy access to report any of those issues to him.

Ms. NORTON. So I think that justifies your action, Mr. Chairman, very much so.

This committee is very concerned about the skills gap in technology across the Federal Government. There are a lot of places you can work and make a lot more money, and we certainly appreciate your work.

IT management and acquisitions is listed in the GAO's annual high-risk list. Let me ask Ms. Wynn and Ms. Cappello, what steps are you taking, or should we perhaps take, to strategically manage your human capital to ensure DHS and NASA have the work force that you need?

Ms. WYNN. I will start, and you can take it from there.

One of the things is the continued support of this committee, as well as Congress, in terms of taking a look at the importance of hiring cyber-skilled personnel and letting them know that working for the Federal Government, and the missions in particular —

Ms. NORTON. Well, you should be doing that as well.

Ms. WYNN. Yes, we are, and we need your support to do that. At NASA, the one thing is we are not, except geographically, struggling with hiring right now, but I know that we keep a constant eye on making sure that we are looking at new ways to recruit individuals. We certainly get out there and tell them about our mission and how they can be a part of protecting our mission.

Ms. NORTON. Do you go into the colleges?

Ms. WYNN. Yes, we do go to the colleges, and we work in a number of different ways. We get into the high schools and the elementary school level as well.

Ms. NORTON. Oh, I appreciate that, yes.

Ms. WYNN. Yes. So we —

Ms. NORTON. Let them begin seeing the Federal Government as a place you want to come to.

Ms. WYNN. Absolutely. And so with the continued support of the Hill and a lot of recruiting practice, we continue to work on this effort. But I do know that my colleagues in other Federal agencies do have some significant challenges. There are geographic areas that are challenging for everybody.

Ms. NORTON. Yes, I understand that. So people need to be doing it across the United States.

I do want to get this question in. I notice we have an all-female group here testifying, and I am pleased with that because that is not what we see across the profession. So let me ask Ms. Wynn and Ms. Cappello, as female senior-level technology officials in the Federal Government, help us to learn what we should be doing to encourage more minority and female entrants into the field of information technology.

Ms. CAPPELLO. Ma'am, thank you for recognizing the rather historic panel that we have today. I think you bring up an incredibly important topic. Diversity in our work force at every level serves our mission. Whether it is females, minorities, cognitive diversity, it is incredibly important that we attract the very best talent. I think one of the ways that we begin to do that is by setting the example. We are here, we are at the table, and we are given a voice. So when someone, a young woman or someone from the minority community, looks up and says is that a place where I want to work, do I see people that look like me, well, you do; we are here.

We need to be out there mentoring. We need to be out there talking about our agencies. We need to be talking about technology. And I agree with Ms. Wynn, that starts at the elementary school, the middle school, the high school level. Certainly, we are recruiting at the college level. But if we want to get folks excited about DHS, I think it is incredibly important for those of us who are in senior leadership, especially women and minorities, to be out talking to the community and here is what we have to offer here in DHS or in NASA or anywhere else in the Federal Government.

Mr. CONNOLLY. And to your point, if I may, I think having our agencies aggressively get into schools where they can show role models for women and minorities and mentor them, and even adopt programs, I have seen incredible work done by — I will pick an agency — DARPA on robotics. The enthusiasm among young people, and it doesn't matter whether they are boys or girls, what backgrounds, is just contagious. So that interaction can also — you all can make a difference too, to Ms. Norton's question.

I am afraid the gentlelady's time has expired.

I now recognize the gentleman from Wisconsin, Mr. Grothman, for his five minutes.

Mr. GROTHMAN. First question for Ms. Wynn. NASA has a department-wide working capital fund, correct? I understand you are evaluating the establishment of an IT-specific fund, right? What is NASA's timeframe as far as coming up with a solution, and what steps are you taking?

Ms. WYNN. We finished an initial analysis to look at our current working capital fund and other working capital fund authorities this past summer, and right now we are marching toward making a decision within our IT council, as well as with our other senior leaders, by the end of Fiscal Year 2020.

Mr. GROTHMAN. Okay. Do you have any specific plans to work away from any of your legacy systems, your legacy systems all around?

Ms. WYNN. So, at NASA we have two types of legacy systems, and there is a set of legacy systems that we have to be very careful with because those are our flying assets, our satellites, and some of those were started back in the '60's. So for those, we are not thinking about modernizing, but we are taking the best precautions that we can in order to protect those flying assets.

Then there is the legacy that definitely needs modernizing, and we work across the agency to identify what those projects are and then prioritize those projects for funding. In the last year I had \$10 million to provide specifically to modernization activities in Fiscal Year 2019.

Mr. GROTHMAN. When you talk about systems that are flying, you mean things that are still around 50 years later?

Ms. WYNN. Yes, 10 years and much longer.

Mr. GROTHMAN. Okay. I suppose stuff can stay up there forever and you keep using it, right?

Ms. WYNN. Yes. Because a new satellite program costs millions of dollars, NASA takes great prudent measures to evaluate each mission that is in flight each year to see if the value of the data coming back versus the cost of a new mission, as well as other protection needs, good-neighbor policies in space, and then proceeds with either continuing the mission or stopping it.

Mr. GROTHMAN. Okay.

Ms. HARRIS, I was going to ask you the same question. What progress have the agencies collectively made in transitioning away from legacy systems?

Ms. HARRIS. Well, unfortunately, when you take a look at the total IT spend per year, \$90-plus billion, 80 percent of that \$90 billion-plus is still mired in the O&M, the operations and maintenance category. So the Federal Government still has quite a bit of work to do to reduce the amount of legacy IT.

Mr. GROTHMAN. When you say legacy, I mean, things have changed so much in IT, it kind of amazes me. When you say legacy IT, when does that date from normally?

Ms. HARRIS. It could be anywhere from the 1970's or 1960's to 1997, to even as far as three years ago. It depends. But when we talk about legacy, we are talking about systems that are in desperate need of either modernization or being turned off because they present security vulnerabilities, among other things.

Mr. GROTHMAN. I am trying to think of industries that are data heavy. I suppose financial services, insurance, that sort of thing. Do you ever take a look and see how old systems are around or how many legacy systems are around, say, in those types of industries?

Ms. HARRIS. We haven't done work, sir, in examining what you just described, the financial management services community, in

terms of how old the systems are. But what I can tell you is that back in June we did a report on the top-10 legacy systems across the Federal Government, and what we found is that for these 10, the majority of them lacked modernization plans. So they didn't even have plans in place in terms of the game plan moving forward, whether they were going to shut them off or how they intended to modernize. So that is a problem, and that is systemic across the Federal Government.

Mr. GROTHMAN. I think the thing that frustrates me is we should know what is going on in the private sector in data-heavy operations, right? And my guess is if you went into — it probably doesn't matter what insurance it is, probably health insurance is the most data heavy, but whichever field you go into, my guess is you would find very little that has been floating around for even more than 15 years. I would think that if you collect that data or collect data from other places, you would find how out of whack the government is. Is there any reason why you don't? Because presumably all three of you want to update things, and I would think you would have a lot more ammunition if you could say we checked in with such and such insurance company, they don't have things floating around here for more than 12 years. Is there any reason why you don't do that?

Ms. HARRIS. Sir, the work that we do is driven by the requests that we receive from committees and members. We would be happy to take on a request like that if that is something that the subcommittee would be interested in sponsoring.

Mr. CONNOLLY. We can work with the gentleman from Wisconsin in formulating such a request, and I thank you for the idea.

The Chair now recognizes the distinguished Ranking Member of the subcommittee.

Mr. MEADOWS. Thank you, Mr. Chairman.

Ms. Harris, what would be the top three things that you would recommend this committee focus on? We are now at our ninth report card. So we have seen some trends, we have seen what works and what doesn't work, and you and your colleague have been very helpful in helping us address certain areas to modify. So what would be the top three things that you would recommend we pay attention to over the coming year?

Ms. HARRIS. No. 1, continuing to be aggressive on data center consolidation; No. 2, looking at the —

Mr. MEADOWS. I am sure the Chairman liked to hear that. I mean, that is his number-one priority. So the fact that it is your No. 1, you get an "A" for the day, and maybe even an "A+" on the FITARA scorecard.

Mr. CONNOLLY. That is a motion I second.

Mr. MEADOWS. Go ahead.

Ms. HARRIS. The second being continuing to be aggressive with the agencies on the CIO reporting structure. We still have five that are no, and we need to make sure that those five turn into yeses. And then the third thing is looking at the working capital funds, making sure that agencies have — the CIOs have — the funds necessary to modernize those legacy systems that are in their house.

Mr. MEADOWS. All right. Let me followup. On the legacy systems, so much of the money is spent on O&M and not capital purchases.

Do you think we could substantially lower our operating and maintenance costs if we invested significant dollars — and significant system-wide would be hundreds of millions in terms of infrastructure. Do you think we could systemically change the trend of our O&M expenses?

Ms. HARRIS. Yes, I do.

Mr. MEADOWS. All right. By a factor of — I mean, could we reduce O&M by more than 15 percent? Too healthy? Ten?

Ms. HARRIS. I think it is hard for me to say at this time, but I think that if —

Mr. MEADOWS. Let me ask it a different way, then. How much are we spending on programmers that know what I would call dead programming languages?

Ms. HARRIS. We are spending, actually, a notable amount. I don't have the figure on me, but it is a notable amount.

Mr. MEADOWS. Do we have young people that we are training on COBOL and Fortran now because guys like me with gray hair that learned it a long time ago are dying off?

Ms. HARRIS. The new folks that are coming into the work force are not interested in learning those archaic languages. And so I think that —

Mr. MEADOWS. So we are going to run into a problem, I guess, with our cap on Federals, because at some point the supply and the demand — if I knew that you needed a Fortran programmer, I might refresh my abilities. But if I can only get paid similar to what I am getting paid in other areas, I guess that is going to be a problem, isn't it?

Ms. HARRIS. Yes, it is going to be a big problem.

Mr. MEADOWS. All right.

Ms. Wynn, let me thank you on behalf of the Chairman and myself for actually listening to the reporting structure. It was actually something that Ms. Harris and her colleague let us know when we were doing a review. We sent a letter, and I just want to say that it changed my attitude. I have a reputation for asking real tough questions. You are not supposed to agree with that. But it changes my attitude, and I think the Chairman would agree that even though you are not at an "A" or an "A+", it changes my attitude on the fact that you are willing to look at that. So if you would take that back to the Administrator and just let him know that, and thank you for your work. I would love to see, not in your verbal answers, but if you could come up with three things that you are going to prioritize for our next scorecard, we can kind of be familiar with that and that would be great. Obviously, data center consolidation needs to be one of the three. All right?

Obviously, I was checking your scorecard and where you have been and where you are at DHS. Again, I want to thank you. These hearings can be very difficult, and we will have other FITARA hearings that don't go quite as smoothly, but I want to thank you.

Here is the one concern that I do have. DHS is so big, and when you look at — sometimes because you are so big, you can actually overlook a lot of things when you are getting a good grade, because part of the grading is relative to where you have been. So it gets tougher. The more scorecards we have, the more finite we become with what we are looking at. So if you would try to look beyond

just the next scorecard and where you are with your agency. Obviously, you have had a lot of turnover. So what we would love to do is make sure that we get those same three things from you.

And with that, Mr. Chairman, I know we will have a full FITARA hearing later on. I just want to say thank you. Thank you, GAO, once again. You have delivered, and we appreciate that, and I yield back.

Mr. CONNOLLY. I thank the gentleman and thank him again for his leadership and partnership in this enterprise. We couldn't have done it without him.

And as the gentleman indicated, the next FITARA hearing will be the 10th. I think it will be an expanded hearing where we will take an expanded look at implementation and compliance, so we look forward to that.

The Chair now recognizes the gentleman from California, Mr. Khanna, for his five minutes.

Mr. MEADOWS. Would the gentleman yield for just a second?

Mr. KHANNA. Absolutely.

Mr. MEADOWS. I just want to wish your daughter a belated happy birthday.

Mr. KHANNA. Well, thank you very much.

Mr. MEADOWS. I remember her birthday, and so congratulations.

Mr. KHANNA. That is very kind of you, Representative Meadows, and I appreciate our friendship.

And thank you, Mr. Chair.

Mr. CONNOLLY. I am sorry I wasn't there. I was getting ready for the FITARA hearing.

Mr. KHANNA. Well, that is more important.

Mr. CONNOLLY. Believe me, that was a tough choice. The birthday party sounded pretty enticing.

Mr. KHANNA. We still have cake if you need some.

Mr. CONNOLLY. Good. Thank you, Mr. Khanna.

Mr. KHANNA. I appreciate that. I appreciate the Chair's and Representative Meadows' work on FITARA and in a bipartisan way making government more technologically proficient.

As you know, the 21st Century ID Act passed last Congress, and the implementation is ongoing. Ms. Wynn and Ms. Cappello, what steps have you taken to implement the law?

Ms. WYNN. Well, I think the first step was education, to share with people what the law was about, and then identify a plan that would be appropriate for NASA to do the implementation steps. Many steps of the law are fairly broad and big, and so we just broke it down to bite-sized pieces at NASA.

I think the big thing to the success is really understanding what you wanted out of the law, what is expected, and then outlining for my leadership team what we needed to do to deliver here at NASA in a way that was supportive of the law, as well as our mission.

Ms. CAPPELLO. Thank you for the question. My office at DHS is responsible for accessibility and 508 compliance, and so we are a little bit excited about the opportunity to leverage user interface and user experience as we redesign the website.

I think basically what we are doing right now at DHS is following the GSA three-phase maturity model. So we are using the principles, we are looking at user experience guidance, and then

following the web design code. I know the team at DHS that is working on this project has got a plan that they are putting together, and it is going through the process right now for review, and I would expect it to be submitted rather soon.

Ms. WYNN. And if I might add, in advance of that Act we had already started to take a look at our external footprint and started to shrink that down so the work that we have left is now very much aligned with the Act itself, and we appreciate the focus on it. But as you know, our website, our web presence for any Federal agency is also an attack surface.

Mr. KHANNA. I appreciate that.

The subcommittee has seen steady improvement across the government over the course of nine FITARA scorecards. It appears that large decentralized agencies have had a more difficult time implementing FITARA than small or medium agencies that have one clear mission.

Ms. Harris, what challenges do large and decentralized agencies have in implementing IT initiatives, and what steps do you recommend that they can take?

Ms. HARRIS. Well, it is not surprising that these large federated, decentralized agencies have a tougher time than the smaller ones with a single focus. A large part of the success that we have seen at these large federated agencies in areas of the FITARA scorecard such as software licensing is centralizing the collection of information so you have a centralized inventory, for example, in this case software licenses, that you are able to then make decisions about economies of scale across the enterprise as one example.

So I would start with centralizing the collection of information, whether it is licenses or anything else, mobile phones, other inventory that you might have.

And then also it is really about establishing relationships with the CIOs at the component level. I think Ms. Cappello actually could speak quite eloquently about the successes they are seeing at DHS in terms of the synergies that they are experiencing between the component CIOs and herself in order to be able to more effectively manage at that department-wide level. But that is a major step as well, establishing that communication and instituting institutional processes across the department so that these component agencies will fall in line and be able to provide the information that is needed at that department level so that sophisticated management decisions can be made.

Mr. KHANNA. I appreciate that.

Ms. Wynn, can you describe your relationship with NASA centers and facilities and what authorities you have over NASA's IT and challenges that you have seen?

Ms. WYNN. Yes. So, I am happy to report that all the center CIOs actually report to me.

Mr. KHANNA. That is good.

Ms. WYNN. Yes, this is a great place to start. And then also each of the centers themselves, as well as myself, sit on key decision boards at the agency, whether it be at the center or at the agency level, and this allows us to learn about the mission as well as influence the decisions that would come down and affect our infrastruc-

ture, or make suggestions on better ways to implement cybersecurity principles.

Mr. KHANNA. Thank you. Thank you all for your leadership and expertise.

Mr. CONNOLLY. Thank you, Mr. Khanna. Thank you so much for being here today and your interest in the subject.

To Mr. Khanna's last point, Ms. Wynn, I like hearing that the other CIOs report to you. One of the things we wanted to do, and we hoped to do it in an evolutionary rather than a mandated way, was to have what we call in Latin "primus inter pares," first among equals.

Mr. MEADOWS. Show off.

Mr. CONNOLLY. I know; I can't help it. In six years, I have to use it sometime.

We could have mandated, but we chose to respect the Federal culture and let it evolve. But when we started — and I see Rich Buetel, who helped write this bill when he was on the committee staff — we had 250 people in 24 agencies called CIO. You would never see that in the private sector, ever. I don't care how big or small, they would be one. So you are the model. That is exactly what we want to happen. There has got to be somebody who reports directly to the boss who has the authority, responsibility, and accountability for IT management, procurement, and reduction of legacy systems. So, congratulations again; that is great.

Your agency is a lot more difficult because it is this compressed hodge-podge, but are you making progress in that respect, Ms. Cappello?

Ms. CAPPELLO. Chairman, thank you for the question. I think it is very interesting when you look at DHS. We were created 16 years ago, and I think it is safe to say that of all the large Federal agencies, we have the most disparate mission sets. So while I certainly appreciate and understand the intent behind the reporting structure as described, my concern would be responsiveness to the operational tempos and to the individual mission sets. I think what we are doing in DHS right now that is really exciting and really useful is we have strong working relationships amongst the CIO community. We probably have a little bit of competitiveness as well, especially in regards to cloud adoption and Agile development and modernizing our applications. I think what the disparate mission sets allows us to do and the responsiveness in the CIO community is, for example, CBP is a very large component agency, more than 70,000 employees. In their mission set, they had to develop an analytics capability very early on. So they are able to bring best practices/experiences to the conversation as the next part of DHS looks to adopt analytics, and we have examples of that across DHS. I would say our HSI under Immigration and Customs Enforcement has done such tremendous work in computer forensics in its child exploitation space.

So while I fully understand the concerns around the reporting structure, I would offer that in DHS there is an awful lot of value in the technologists being able to respond directly to the operational requirements.

Mr. CONNOLLY. It is a good point you make, and I think that is why we respected the culture. That is why we didn't, by fiat, say

there will only be one. We didn't do that because we understood that this is a disparate Federal Government, lots of different agencies, lots of different missions. Some are more narrowly focused and it is easier to do. Some are much more complicated, with multiple missions.

But what we want to avoid, though, is this: It is not me; it is her; it is somebody else other than me, and no one is responsible, and no one is accountable. That is how you waste gazillions of dollars, and that is how projects go awry. Someone has to be vested with the primary responsibility and the primary accountability, that you are empowered, you are imbued with decisionmaking, and that is the model we want to move toward. We will respect the evolution, but not forever. That doesn't mean there can't be individual pieces, but you get what I mean, because the private sector somehow is able to do it.

I worked for a company before I came here of 42,000 people. We were into everything. I mean, we did engineering, we did science, we did pharmaceuticals, we did government contracting, we did cybersecurity, all kinds of things. We had one CIO, and that company to this day has one CIO. So it can be done, and it is probably the preferred model over time.

Ms. Harris, final question. We started out by talking about data center consolidation, and I, like Mr. Meadows, was very pleased that that was the first of your top three in answer to him, and I am glad to hear it. I just want to cite that GAO found, as of August of last year, agencies had closed 6,250 data centers and had plans to close an additional 1,200, leaving the Federal Government with 4,716 data centers left. As a result of the closures, agencies had achieved \$1.94 billion in cost savings for Fiscal Years 2016 through 2018, so there is more in this last year, and identified an additional \$42 million in cost savings. That amount is still \$38 million short of OMB's goal under the previous guidance of \$2.7 billion. But the point is that is where the savings are. That is where the savings are if we are going to retire these legacy systems, if we are going to reinvest in the enterprise.

So that is why we are concerned about OMB guidance on what will be acceptable. We want explicit language that says close them, consolidate them, and we were worried, and we thought we had gotten the reassurance that this new guidance that included the vague term "optimization" allowed people to avoid consolidating and achieving these savings. Your comment? And feel free to expand on what you said in your testimony so it is clear for the record why are we concerned about what OMB is doing.

Ms. HARRIS. Absolutely. We are taking significant steps backward from where we were even just four years ago. The focus and the priority needs to be on consolidation because that gives you the large amounts of money that you need in order to reinvest back into modernizing agency infrastructure. So that is why the number-one priority, when you asked me the top three, has to be consolidation of these data centers.

And with this redefinition of data centers, we are losing visibility into 2,300 facilities, and that is a problem because agencies are going to lose focus on consolidation as being a top priority. In addi-

tion to that, there are security risks with not monitoring these facilities, even if you are not going to consolidate them.

So we do anticipate — we have ongoing work right now evaluating the OMB guidance. We do expect to issue that report sometime soon, and we will make recommendations to OMB which will include taking another look at the policy and the classification of the data centers. Even if they maintain that current definition which excludes 2,300 centers, at this point the agency should be keeping a pulse on those that are now lost because of the things that I described in my oral statement.

But again, this is a major issue, and I do look forward to working with your staff in order to ensure that we maintain this baseline, whether it is through OMB guidance or through work that we will do with you.

Mr. CONNOLLY. Well, I am going to operate on the assumption that everybody is highly motivated and of good intention. And with that assumption, I am also going to operate on the view that this change has unintended but negative consequences.

Ms. HARRIS. Yes.

Mr. CONNOLLY. And with that operative principle, I am going to consult with the Ranking Member, and maybe we can work our magic like we did at NASA at OMB. But, I mean, this would have real consequences. This is where the savings are. If you want to effectuate a whole host of things, modernization of the enterprise, retirement of legacy systems, upgrading of cyber, streamlining management to make it more efficient and hierarchical, all of it flows from the ability to effectuate these savings, and it is in the billions of dollars. It is not trivial.

So we have to get this right, and we will gladly work with you, and I know my friend will also be part of this enterprise to try to make sure OMB understands our concerns, and maybe we can get this right before the next FITARA hearing.

Mr. Meadows, anything else for the record?

If not, I want to thank our witnesses for being here today. I thank everybody for coming. You can see the press table is loaded. I don't know what else anyone is interested in today, but Mr. Meadows and I, let the record show, are still doing our jobs. And I thank our staff for putting through another great hearing.

This hearing is adjourned.

[Whereupon, at 3:54 p.m., the subcommittee was adjourned.]

