Introduction

Chairwoman Hassan, Ranking Member Paul, and Members of the Subcommittee: thank you for the invitation to testify on legacy information technology in government on behalf of the United States Digital Service (USDS). I am honored to be here, alongside my colleagues Clare Martorana and Dave Zvenyach.

While I am newly appointed as the Administrator of USDS, I am also a returning public servant. My government career began at the FDA, where I was an intern evaluating the safety and efficacy of medical devices. Later, I went to OMB, where I worked on programs supporting energy innovation and our challenged automotive sector. After joining the HealthCare.gov rescue team, I helped stand up USDS, and led our work there in healthcare for the first three years. I am excited to be back at OMB and to return to USDS as its Administrator. We have a unique opportunity to address the challenging problems affecting the delivery of government services to the American public.

United States Digital Service

The mission of USDS is to ensure that government services are delivered well, using the best of technology and design. We leverage capabilities, tools, and best practices from across sectors and industries to strengthen essential government programs. We do this in partnership with government agencies by recruiting and hiring top technical talent to staff projects across the government and work side-by-side with agency civil servants. We also collaborate closely with our technical partners across the government, including agency CIOs, the Federal CIO, and GSA. We're proud to have a track record of convening teams that partner with agencies to define and deliver on urgent and ongoing programs.

At USDS, we are focused on improving delivery in a few ways:

We aim to make services more straightforward and sustainable, making it is easier for the public, including families, small businesses, and Veterans, to get the services they need. We also aim to increase accessibility to these more straightforward and sustainable models by making it simpler for agencies to launch new services with more efficient business processes, and simpler for IT organizations to build and maintain necessary tools. We publish "playbooks" to share best practices, and we provide service blueprints for others working toward change in this space.

Additionally, we approach programs by centering objectives around the people we serve. We orient implementation towards providing good outcomes for people who need and use government services. For example, when we think about new mothers applying for WIC, or school nurses who must track and report COVID testing in their school, we design the process, implementation strategy, and technical build around what will create the best possible outcomes for them. This

often requires an explicitly iterative process that incorporates user research, strategic technical road mapping, agile development, and continuous improvement.

Another critical component of our approach includes finding and empowering great people – both career civil servants and new public servants. We strive to bring the best practices and skills from across the country, and we do this by recruiting team members with diverse and relevant backgrounds to bring their expertise to our critical mission, as well as scaling best practices. This model has successfully helped us deliver excellent services and has resulted in help filling other roles in public service, including some USDS alumni who wish to make a more long-term commitment. We recruit for our organization, but we have learned that the long-term success of programs requires hiring capabilities across the government. That is why we have been working with agencies and the Office of Personnel Management (OPM) to develop new techniques and capabilities across the government to evolve hiring processes.

USDS has successfully partnered with many agencies, our work on OPM's mainframe is a good example. OPM required specific expertise and response skills coupled with the experience to help with both remediation and a strategic plan forward – capabilities where USDS excels. Our model enables us to support agencies quickly in these critical moments. Given the engagement scope and timeline, we also partnered closely with agency staff and other teams like the Technology Transformation Service to work towards building capacity for the long term.

We work on longer term, broader projects as well. When implementing The Medicare Access and CHIP Reauthorization Act of 2015, the Centers for Medicare & Medicaid Services partnered with us early on to ensure that the program systems and data platforms were well designed to meet the program objectives, and to support a successful launch. They engaged us early which led to an iterative and user-driven policy process hand-in-hand with strategic technology development, utilizing new more iterative contracting vehicles, leading to stronger and more durable decision making and systems.

IT Management: Building towards better outcomes
Technology exists as a means to an end, not as an end in itself.

I started my career as a medical device engineer; the primary objective of my work was to help people live longer, healthier lives – it was not to build a widget for the sake of building a widget. Additionally, we had to think about the safety and efficacy of the medical devices, which is deeply dependent on how straightforward the device is to use - for example, how easily it fits into someone's life and frame of reference.

I look at IT similarly. It exists to make our work faster, more scalable, more accessible, and more efficient. Yet, our focus should remain on creating optimal outcomes for users – harnessing technology at every step to make the work easier – and to avoid becoming captive to the technology. This requires constant, iterative work.

IT systems are continually changing for many reasons. Sometimes, the capabilities needed change and evolve, or the other IT systems that an application must exchange data with change or increase, or an operating system need updating, hardware needs replacing, and preventative updates need to be applied to thwart malicious attacks. If we fail to do these things – if we don't invest over time, or if we don't make changes because we are afraid of the possible impacts – then we will amass technical and maintenance debt. This is how a system can become a legacy system.

Mission-critical systems are essential to evolve and improve; the riskiest option is usually leaving something alone for too long without updates or improvements. Software is never done.

To continually work on the technology, the right people must be in place. We know that private-sector companies are competing for technical talent – because strong technical talent is a necessity for operational success in today's tech-enabled world.

Additionally, we require the ability to budget and plan appropriately to serve mission needs. Budgeting and strategic planning for this work and continual adjustment and execution are critical and challenging in any organization. Organizations make difficult and explicit decisions about which systems to evolve and which systems to deprecate, often based on the needs of their users.

Lastly, it is critical to have the appropriate incentives and mechanisms for teams to do the right thing every step of the way. Determining an organization's mission and ensuring the technology is constantly pushed to align with that mission is essential for long-term success. That includes considering how the technical teams and their products are evaluated, how security is managed, and how reviews and oversight drive focus.

Legacy IT in Government: Building adaptable tools and organizations
Consistent with the definition in the Modernizing Government Technology Act, a "legacy" system is one that is "outdated or obsolete." It can be easy to call all old technology systems "legacy," – but that's an overly broad application of the term. Truly obsolete systems pose risks which must be mitigated through better planning, but for the majority of systems focusing on legacy versus non-legacy is not accurate and does not address the true concern, which is whether systems are keeping pace with the mission they serve.

Many older systems operate well enough to accomplish their mission. With a bit of tuning and maintenance, they would be in a good place and shifting them to new platforms would be expensive and risky.

Yet, since the typical technology industry best practice of ongoing development is atypical in government systems, other systems can become underperforming systems long before they are technically "legacy," meaning outdated or obsolete. Every year, these systems accumulate technical debt – as they are not being iterated on – and they inch closer to becoming "legacy." When they do truly become legacy it is not usually a sudden event. We can see this coming, but our processes frequently make planning ahead and implementing preventative measures challenging. If we invested in an ongoing evolution that allowed for regular updates to keep them well-aligned with agency missions, they would serve us well for longer periods.

All of this occurs because the success factors outlined above are not prioritized.

Modernizing a legacy IT system is not an all-or-nothing proposition. It is a long process, with an overall strategic vision, goal, tactical and technical development, and decision-making along the way. It requires an iterative plan to manage and mitigate risks and long-term commitment with consistent support.

If we want that process to be successful, we need to invest in technical expertise and leadership. We must have people to do the work; with the right skills, expertise, the proper strategic engagement, and the proper authority to make these things happen. Decision-making is a constant exercise for a technology portfolio, not something you can do once and then set aside.

Federal procurement also offers challenges, USDS has invested significantly in developing best practices that work in government and in training procurement experts across agencies to improve performance, but we need to do more centrally to keep up with future progress.

The policymaking and implementation process is also biased toward "new" – new eligibility rules, new program requirements, and new systems for each program, for each agency. This proliferation leads to many parallel and duplicate systems, increasing the burden and complexity of evolution and maintenance and the probability that they will not be maintained or harmonized for users. Without a robust process for working with and evolving what we already have to encompass new programs, we are destined to continue making interactions more confusing and duplicative for users. Improving upon this will require a more collaborative technical assistance process, which includes coordinated perspectives to help clarify what already exists and what the tradeoffs are for building something new versus evolving what we have or decommissioning what is outdated.

Lastly, the oversight and incentives for teams often lag best practices, pushing teams toward reporting over functionality, outdated requirements, and disincentivizing change.

The Opportunity Ahead: Building simpler, more secure, cheaper systems by thinking about the person on the other end

The public – and most importantly, people who rely on government services – do not care how many agencies exist, where the boundaries are, which legislation created which system or eligibility, or what the color of money is for maintaining a system. They want a straightforward experience when they interact with government programs. They want systems and programs that work together, meet their needs, and deliver the outcomes they expect clearly, minimizing their stress and the burden on their lives.

It is not easy to design programs that fit together thoughtfully and intuitively for users. And it is not easy to build processes that can continually evolve to meet their changing needs. But it is the right thing to do for the public, and if we do that, we will be dramatically more likely to build systems to support it that are more robust, better maintained, and better evolved than the status quo.

In collaboration with our agency partners, the three of us seated in front of you are already working hard to coordinate and collaborate on the appropriate shared capabilities necessary in such a world by empowering that talent, focusing the experience of those we serve, and implementing agile development and procurement.

We have outlined some of the challenges that make it more complex, and we look forward to working with you to design solutions. Thank you for the opportunity to testify, and I look forward to your questions.