DAY ONE PROJECT

COVID-19 Presents an Opportunity to Invest in Federal IT Modernization

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Summary

COVID-19 has reshaped every facet of our social and professional experiences. What began for almost all of us as a short-term work-from-home event has turned into a prolonged crisis that will have lasting effects on how we interact with each other and do business. Even as vaccine rollouts continue and offices slowly start to reopen, much work will continue to be remote. Employees are likely to work staggered schedules or in predefined groups in order to maintain social distancing for an unknown period of time. Many meetings and tasks that went virtual during the pandemic will likely stay that way. And employers of all types, including governments, will continue to rely heavily on technology to keep employees and customers connected and engaged.

The pandemic accelerated an already rapid ongoing shift to a tech-driven world. As a nation, we must similarly accelerate investments in information technology (IT) to support this new normal. COVID-19 has already exposed critical weakness in existing U.S. IT systems at the federal, state and local levels. Technical problems delayed millions of Americans from receiving unemployment benefits,[1] and are now delaying millions more from receiving timely vaccines.[2] Remote work is raising equity issues[3] and cybersecurity concerns,[4] and periodic internet outages have caused major disruptions to school and work.[5]

The upshot is clear: our investments in IT modernization and cloud computing over the last 10 years have not been sufficient. It's time to start talking about the next steps the United States can and must take to lead at the federal level, ensuring that our nation's IT infrastructure and tools can securely and adequately support all remote workers while providing secure, reliable, and state-of-the-art online services.

Challenge and Opportunity

The COVID-19 pandemic has underscored the importance of a national long-term vision for supporting remote workers, virtual learning, and online services. The pandemic's far-reaching effects have showcased the benefits of cloud-based technology infrastructure and applications

[1] Zakrzewski, C., "The Technology 202: State unemployment websites are crashing amid record number of claims," *The Washington Post*, April 2, 2020.
[2] Ross, C., "Vaccine registration technology is failing. Here's how the Biden administration could fix it," *Stat News*, January 14, 2021..
[3] Tanguay, G.A. and Lachapelle, U., "Remote work worsens inequality by mostly helping high-income earners." *The Conversation*, May 10, 2020.
[4] *Security*, "Remote work and COVID-19 brings new challenges in securing cloud services" October 20, 2020
[5] Mihalcik, C, "Internet outages hit East Coast, causing trouble for remote work, school," *CNET*, January 26, 2021.

(including improved cybersecurity, continuity of operations, flexibility, and portability), while also reinforcing the need for IT modernization to support such services.

Last year, the IT industry collectively laid out principles for IT modernization in response to COVID-19.[6] These principles include:

- Support deployment of commercial technology to assist federal, state, and local governments in managing the pandemic.
- Target funding to ensure that federal agencies on the front lines of COVID-19 response have the necessary resources to support remote work.
- Fund state and local governments to ensure robust, continuous implementation of critical programs like Medicaid and unemployment insurance, including allowing use of a percentage of provided funding to support IT requirements.
- Prioritize funding for the Technology Modernization Fund,[7] while increasing the flexibility that agencies have to use the fund for pandemic response.

Plan of Action

We propose three specific actions for the Biden-Harris Administration to lead by example and put these principles into action for the federal government. This in turn will maximize the impact of federal investment in our nation's IT systems, while encouraging institutions at the non-federal level to prioritize IT modernization as well.

Action 1: Develop agency-specific "IT Investment Roadmaps"

The Administration should require every federal executive agency to develop a three-year "post-COVID" IT investment strategy that recognizes the realities of a transformed work landscape that is likely here to stay. Such strategies could include, for instance, plans to enhance remote access, increase the use of cloud computing and enable the deployment of mobile application. As a key step in developing these roadmaps, the White House Office of Management and Budget (OMB) should initiate and maintain an inventory of "obsolete or outdated" IT systems that fit the Modernizing Government Technology Act's definition of "legacy" technology.[8] In cases where IT systems or software are no longer supported, the government must make risk-based determinations as to whether or not the systems and/or software in question should be modernized, replaced, or maintained to the extent possible. The IT Investment Roadmaps should include clear and concrete actions, inform agency budget development, and be updated annually to reflect evolving technologies and priorities.

[6] Information Technology Industry Council, "Principles for IT Modernization in Future Stimulus Package."
[7] "Overview," The Technology Modernization Fund, https://tmf.cio.gov/.
[8] Bohannon, M., "How commercial tech supports government COVID response," *Federal Computer Week FCW*, August 10, 2020.

Action 2: Prioritize financial support for the Technology Modernization Fund

The Technology Modernization Fund (TMF) is a federal funding vehicle authorized by the 2017 Modernizing Government Technology (MGT) Act that supports efforts to "deliver [tech-based] services to the American public more quickly, better secure sensitive systems and data, and use taxpayer dollars more efficiently."[9] Though the MGT Act authorized the TMF at $500 million, it has only received $150 million over four years and consequently has only been able to fund a total of 10 government IT modernization projects. Increasing Investment in TMF Is necessary to jumpstart and maintain robust IT modernization.

Action 3. Increase overall federal spending on cloud computing

The federal government should increase overall federal spending on cloud computing (estimated to be $7 billion in FY 2020), with particular emphasis on hybrid cloud solutions. Hybrid cloud solutions "[combine] a private cloud with one or more public cloud services, with proprietary software enabling communication between each distinct service."[10] Hybrid cloud provides flexibility by allowing users to switch between cloud types as needs and costs shift. The federal government should invest in emerging commercial technology approaches (e.g., containers and microservices) that use hybrid cloud to enable data and applications to be flexibly migrated to and from cloud providers. These practical, agile solutions are key to replacing obsolete or outdated systems with modern, citizen-centric alternatives.

Conclusion

By embracing the principles of IT modernization established in this proposal, the Biden-Harris Administration can (1) more effectively target its IT investments to support remote workers; (2) ensure continuity of critical government functions and essential services; and (3) accelerate a needed transition to cloud and other more efficient and flexible technologies across the U.S. IT landscape. These investments will lead to a better and more secure remote workforce, ensure that all federal employees have access to the tools needed to carry out their work, and improve the ability of the federal government to deliver world-class customer service under even the most challenging circumstances.

[9] U.S. General Services Administration, "The Technology Modernization Fund."
[10] Citrix, "What is hybrid cloud?"

Frequently Asked Questions

What is the Technology Modernization Fund (TMF)?

The TMF was authorized by the Modernizing Government Technology (MGT) Act of 2017. The MGT Act established a government-wide working capital fund housed at the General Services Administration to help "deliver [tech-based] services to the American public more quickly, better secure sensitive systems and data, and use taxpayer dollars more efficiently."[11] The MGT Act also authorized federal agencies to establish agency-level working capital funds for the purposes of modernizing government's aging information technology.

Why invest in IT modernization now?

Since the COVID-19 pandemic began, the vast majority of federal employees and federal contractors have been guided by "work-from-home first" policies. This reality has placed strain on federal networks, increased cybersecurity needs, and forced agencies to rethink operations on the fly. Technology, which has historically been underfunded in the public sector, has played a critical role in ensuring that the federal government can continue to carry out its public missions even while most of its personnel are remote. But the shift to a largely virtual work environment has not been seamless. Internet outages have caused disruptions, online platforms built to deliver online services usually provided in person have been buggy, and cybersecurity threats remain. With much of the federal transition to remote and virtual environments likely to persist even beyond the end of the COVID-19 pandemic, there is a clear need to invest in federal IT modernization now.

The federal government already has a lot of planning documents. What will IT investment roadmaps add?

COVID-19 has changed the way we think about work. Our government's IT investment planning must evolve as well. Many existing federal IT plans are based on old thinking and prioritize support for outdated IT systems and capabilities. These legacy plans are insufficient in light of the radical transformations the pandemic has introduced to the workplace, including a workforce that will likely be forever more mobile and more remote. New IT investment roadmaps will guide rapid, meaningful investments in the state-of-the art systems and capabilities that make sense today.

[11] U.S. General Services Administration, "The Technology Modernization Fund."

How do we ensure that remote work doesn't compromise cybersecurity?

Cybersecurity has been and continues to be top-of-mind to federal policymakers, especially as it relates to the remote workforce. Investments in modern IT capabilities like hybrid cloud solutions (as called for in our proposal), as well as flexibility to allow agencies to use emerging approaches such as zero-trust architectures, will help the federal government ensure that remote workers and networks are secure.

How can we ensure that federal IT modernization continues post-pandemic?

The investments we make in federal IT modernization during the pandemic can kick off a sustained commitment to invest in tomorrow's technology today, rather than yesterday's technology tomorrow. Detailed, well-designed IT Investment Roadmaps and related capital planning will be essential in achieving this goal, as detailed throughout this proposal.

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