



AUGUST 2017

# LEADING AMBITIOUS TECHNOLOGY REFORMS IN GOVERNMENT



PARTNERSHIP FOR PUBLIC SERVICE

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This issue brief is the second in a series by the Partnership for Public Service and Accenture Federal Services. It is designed to explain the fundamentals of the federal IT environment to new career and political leaders who are not technology experts. Our objective is to assist federal leaders in harnessing the power of technology to accomplish their goals.

Throughout this year, we have been interviewing federal technology experts, current and former government executives, and private-sector innovators to capture their insights and recommendations.

Our first issue brief focused on building a winning technology team. It highlighted the key players involved in technology reforms and outlined strategies to build partnerships and get results.

In this second issue brief, we provide a point of view and approach for leaders who are getting started on ambitious technology reforms in their agencies. We also highlight important realities new leaders need to know about the federal IT process, before they embark on major changes—including the potential for surprises.

# LEADING AMBITIOUS TECHNOLOGY REFORMS IN GOVERNMENT

Government leaders now have an opportunity to drive bold IT reforms in their agencies to keep pace with the evolution of technology. “Government is on the verge of a paradigm shift in terms of how technology is being absorbed by organizations. It is becoming completely different than operating technology in past decades,” said Dave McClure, former associate administrator at the Office of Citizen Services and Innovative Technologies at the General Services Administration.

Federal agencies are beginning to take advantage of technologies like cloud computing that provide a low-cost way to store and use massive amounts of data. They are shifting to more flexible approaches to build IT systems in months, instead of years, and are sharing, adapting and reusing technologies rather than building from scratch.

Both the Trump administration and Congress have made IT modernization a priority. This consensus reflects widespread concern that legacy systems and practices constrain mission performance, pose significant security risks and simply cost too much to maintain.

The White House has launched the American Technology Council, which in June held its first meeting with tech industry leaders to discuss IT modernization and identify cross-sector solutions to government technology challenges. In cybersecurity, implementation of the May 2017 executive order called, “Strengthening the Cybersecurity of Federal Networks and Critical Infrastructure” is

underway. With guidance from the Office of Management and Budget, agencies have conducted and reported cybersecurity risk assessments and developed plans to implement the National Institute of Standards and Technology cybersecurity framework.

At the same time, the Modernizing Government Technology Act passed the House of Representatives in April 2017 with bipartisan support. It would establish a central fund for modernizing IT government-wide, and would authorize working capital funds at 24 large agencies, allowing them to bank savings generated by IT improvements for future projects. The White House supported this legislation, and has included a request for a centralized IT modernization fund in the president’s fiscal 2018 budget.

These moves build on the Federal Information Technology Acquisition Reform Act, known as FITARA, designed to improve how the federal government purchases and manages technology. It elevated the role of chief information officers in acquisitions, helping to better connect purchasing with the agencies’ technology needs. Government-wide implementation is in progress, with guidance from OMB.

With these activities underway, leaders will be called on to take concrete steps to improve IT operations in their agencies. This issue brief offers advice, tips and strategies from current and former government leaders who have led successful technology reforms in government.

## What to Know

# The Potential for Surprises in Federal IT

New leaders in government who are looking to drive bold technology reforms may be in for some surprises regarding how the federal government funds, acquires, builds and manages technology. The experts we interviewed stressed that understanding the constraints, identifying agency assets and empowering staff to work creatively makes bold technology improvements possible. New leaders should know the extent to which the following apply.



### **GOVERNMENT IS HUNGRY FOR CHANGE, INNOVATION AND NEW APPROACHES TO MANAGING TECHNOLOGY**

In his opening remarks at the inaugural meeting of the American Technology Council, Senior Advisor to the President Jared Kushner said, “Before I came to Washington, many warned me that the bureaucracy would resist any change we tried to implement. So far I have found exactly the opposite.”

The experts we interviewed agreed. “I have countless stories of private sector people coming in and interacting with career technology folks and saying that they wish they had a workforce like that,” said McClure. Terence Milholland, former chief information officer and chief technology officer at the Internal Revenue Service, agreed. “Most of the workforce works their tails off,” he said. “People care and want to do the right thing for their agency’s mission, despite all the constraints.”



### **AGENCY IT SYSTEMS HAVE BEEN PIECED TOGETHER OVER DECADES, MAKING THEM EXTREMELY COMPLICATED**

Many agencies are running huge IT systems that have been repeatedly altered and supplemented over decades as the laws and regulations guiding agencies’ work change. Due to this complexity, new leaders need to invest time in understanding the history and structure of their agencies’ IT systems before trying to advance bold reforms.

“In most government agencies, IT systems are more complex than what first meets the eye,” said Richard Spires, former CIO at both the IRS and the Department of Homeland Security. “First, have the attitude that you need to learn and understand the systems you will be working with so you can have good context.”

For example, IRS systems for assessing and processing taxes are based on rules from a tax code that is tens of thousands of pages long. As the tax code has evolved, the agency has had to add more systems to deal with the complexity, according to Spires. The IRS runs more than 350 large-scale IT systems, some dating from the 1960s and some based on modern technology. Many are patched together to support the IRS’s businesses processes.

Similarly, IT systems at the Department of Veterans Affairs have become increasingly complicated as laws governing the agency have changed, according to Roger Baker, the former CIO at the VA. When Congress revised the GI Bill in 2011 and varied cost of living payments for benefit recipients by location, it required an entirely new IT system to alter how the agency calculates payments and delivers funds.



## **DECISIONS ON SPENDING AGENCIES' MONEY ARE NOT ALWAYS IN LEADERS' HANDS**

New leaders might be surprised by the restrictions on how they use their IT funds, said Milholland. For example, Congress may provide money for building a new system, but not authorize funds to maintain or upgrade that system in the future. “I had to eat the costs of sustaining everything,” he said.

Additionally, federal acquisition rules prevent leaders from simply selecting and purchasing technology they feel best meets their needs. “You have to have fair and open competition in government,” said John Morenz, CTO at the Social Security Administration. “You don’t always get the best technology. You get the system that meets the requirements at the least cost, or that is technically acceptable.”

This highlights the need for new leaders to invest time in understanding the federal budget and acquisition processes, and forging relationships with agency staff, OMB budget officials and congressional staff. “Know how the federal budget process works, including the details, politics and oversight aspects,” McClure said. “Spend time with individuals in your agency that construct the budget. Know the budget cycle so you can work in concert with it, not against it.”

New leaders also should find out if their agency has working capital funds that can help support long-term IT investments, and follow action on the proposed Modernizing Government Technology Act, which could provide an additional source of longer-term funding.



## **PROTRACTED FEDERAL ACQUISITION AND BUDGETING PROCESSES COMPEL LEADERS TO PLAN FOR TECHNOLOGIES THAT DO NOT YET EXIST**

The effect of the complex and lengthy federal budgeting and acquisition processes is that it takes years from when agencies begin to plan for new IT systems to when those technologies are built or acquired. With the speed of technological change, today’s proposed state-of-the-art systems may be out of date by the time they are implemented.

Since technology continues to change rapidly, IT contracts need to have an element of flexibility and adaptability, which can be a difficult proposition in government. For accountability purposes, “IT budgets are often expected to be done with decimal-point precision,” McClure said. “You get one shot, so you better put down exactly what you will need or spend.”

“You need crystal ball foresight,” said Andrew Jackson, former assistant secretary for management at the Department of Education. For example, he noted that smartphones were not prevalent in 2007 when the Department of Education entered into a 10-year IT infrastructure contract. When writing the provisions of that contract, it would have been difficult to anticipate how important it would become for the department’s IT systems to be compatible with the mobile technology that became widespread quickly.



## **FEDERAL IT WORK IS CARRIED OUT BY CONTRACTORS, ADDING TO MANAGEMENT CHALLENGES**

New leaders may be surprised that much of the IT workforce in their agencies is made up of contractors. “There’s an intense reliance on contractors to get the job done, particularly in IT,” Jackson said. “It’s on a scale vastly different than the private or nonprofit sectors.”

This dynamic can present management challenges for leaders overseeing IT reforms. Agency staff working with industry not only have to be technologically savvy enough to understand what companies propose, but also must be experts at managing and overseeing a complex federal contracting process. They also must ensure that contracts provide companies with the financial incentives that compel them to modernize IT rather than simply maintain costly legacy systems.

## Where To Start

# Tips for Improving IT from the Outset

Given these realities, and the complexity of the federal IT landscape, agency leaders seeking to improve technology may feel overwhelmed. The experts we interviewed offered tips for where to start on leading a technology transformation.

### COME IN WITH AN AGENDA AND COMMIT TO CHANGE MANAGEMENT

From the beginning, know and commit to your overarching technology goals. “You can’t just pronounce innovation in government,” McClure said. “It requires the equivalent of a campaign: preaching, speaking and doing.” This kind of drive toward a desired end can stave off the fear of the unknown that may cause staff to resist major transformations. “It’s a 24-hour change management exercise that doesn’t occur easily,” McClure added. “You are busting cultures.”

### FIND “DOERS” AND OTHER AGENCY TALENT THAT CAN MOVE IT PROJECTS ALONG

Before bringing in new staff, leaders should focus on understanding how to position existing talent better. It is important for leaders to take the time early on to understand their employees’ challenges, skills and weaknesses, and then work to fill in the gaps.

Leaders should find the best agency talent, people who are “able to get things done and keep things moving,” said Jackson from Education. “Focus on cultivating and identifying that talent and then putting them in charge.” Understanding employees’ interests and talents can help leaders move them into roles that could increase their effectiveness and interest in their work.

At 18F, an office within the GSA, leaders set up two-day workshops to problem-solve and move toward product goals. Through these sessions, leaders were able to identify employees who embraced new approaches to creating technology solutions, according to Jesse Taggart, former director of 18F’s Product Strategy & Design. It was a useful approach. The “doers” would step up and contribute, and reveal their enthusiasm and comfort with change, she said.

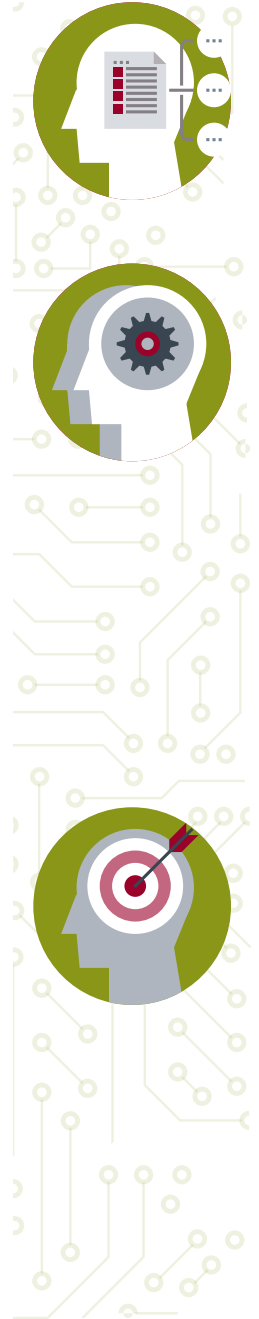
### UNDERSTAND WHAT YOU CAN CHANGE AND AIM FOR QUICK WINS

New government leaders are bombarded by government policies, procedures, rules and laws, some of which do not make sense in their particular organizations. They should examine which technology policies they have the power to influence or change, and garner some quick wins, according to interviewees—which sometimes can mean avoiding technology changes that would be more harmful than helpful for their agencies.

“Leaders need to be aware that many of these laws and policies aren’t handcuffs, they are guard rails,” said Bob Brese, former CIO at the Department of Energy. “They are designed to keep you out of jail, not to keep you from making intelligent business decisions.”

A win sometimes can come from a simple but bold decision to not do something. For example, when Terence Milholland began his job as CIO at the IRS, the agency was concerned about meeting a new OMB guideline to change all passwords to a minimum of 12 characters. Many officials felt the change would not improve security and that employees would forget their passwords and be locked out of important systems.

“It was a guideline, not a rule or a law,” Milholland said. “I made the decision to not do it because it didn’t make sense for us.”



## GET CYBER SMART

The president's executive order on cybersecurity makes it clear he intends to hold top agency leadership accountable for cybersecurity, and new leaders will be keen on helping their agencies avoid network intrusions.

The first step is to understand the agency's risks and assets, according to Sarah Bloom Raskin, former deputy secretary at the Department of the Treasury. "There are tons of data in every agency," said Raskin, who led many cybersecurity improvements at Treasury. "Each agency needs to first understand where its high-value assets are buried. For example, are they in one division where they are being managed quite well? Or are they shared amongst various divisions within the agency in a decentralized fashion? If decentralized, where in the agency does control for the assets reside?"

Many leaders lack this information, which makes it difficult to manage their agencies' assets well.

Another good early step is to categorize data and assets by importance, with the goal of identifying and creating strong defenses for the most important data, according to Ron Ross, a fellow at the NIST. "Complexity is the primary problem with cybersecurity," he said. "There are too many things to worry about. As you build out more IT components, the infrastructure gets more and more complicated. This increases places for adversaries to attack us."

To fend off and protect against the potential for highly damaging attacks, Ross led the development of the Federal Risk Management framework at NIST. Leaders can use the framework to decide how critical a set of data is and pick the right level of protection.

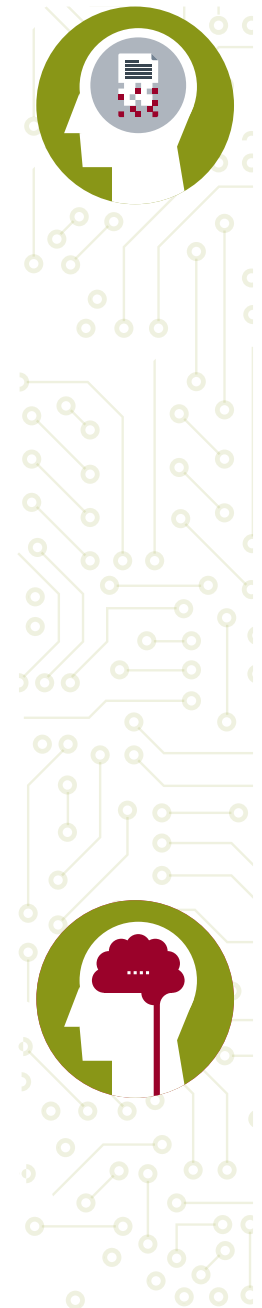
Leaders also can benefit from scrutinizing and minimizing the number of "privileged users," that is, those who are allowed access to critical data. "There needs to be constant pruning of your privileged user list done at the very top level," Raskin said. "If it's not driven from the top, there is a temptation for the agency to get sloppy, and unwittingly be bringing in or leaving in users who present vulnerabilities to the agency's data. So many breaches are attributable to an absence of good implementation on good processes."

## DEVELOP THE BUSINESS CASE FOR IT TRANSFORMATION

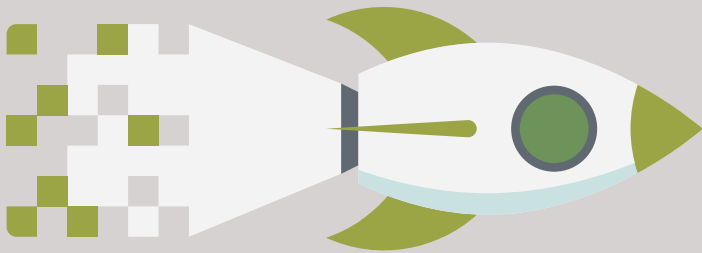
Leaders should formulate a clear plan for IT transformation, including the costs, and the benefits for the agency's mission. "Start by building a solid business case," Jackson said. "If it's just a cool idea with no plan and no fundamental impact, the chances of it lasting are slim."

A solid business plan also will be critical to help secure funding from OMB and Congress, according to Morenz, at SSA. A credible plan should detail the people and processes an agency will use to modernize its technology, how long it will take, and how much it will cost and why.

SSA's plan also details some of the benefits of modernization, based on independent studies. The details for the first two years are very specific, while years three to five are broader outlines, allowing the agency to make the adjustments the plan inevitably will need.



# Technology Transformation at the Federal Communications Commission



By empowering his staff to solve problems, and building on early successes that led to future results, David Bray led technology transformation efforts at the Federal Communications Commission from 2013 to 2017 that resulted in technology that better supports the mission, and at a lower cost. Bray, former senior executive and CIO at FCC, said he set challenging goals and pressed his staff to meet them. He also encouraged them to take risks and offer new ideas by supporting them through both missteps and successes, he added.

In 2013, the FCC was facing formidable technology challenges. The agency was spending about 85 percent of its IT budget on the operations and maintenance of more than 200 legacy IT systems. It lacked an effective telework solution, and was not using modern IT practices, such as agile development.

When Bray joined the agency in 2013 as the 10th CIO in eight years, he set out to motivate his team to accomplish small goals early that could build momentum toward technology modernization on a larger scale.

He determined in his first months that improving IT systems to support telework could be a quick success that would meet a pressing agency demand and set the stage for other advancements. With a timeframe for rolling out a solution originally estimated at 12 months, Bray challenged his team to get it done faster. He supported his team in thinking creatively, and taking an agile approach by quickly deploying new features and continuously incorporating insights and improvements.

He viewed this telework project as an opportunity to set the tone for how his team would function. He gave team members autonomy to make decisions, and reduced layers of approval. He also took steps to prove to his team that he would stand behind them when they took a chance on a new idea.

“The first time something went wrong was with virtual desktop. There were a few bureaus and offices where rollout didn’t go as well. I took all the complaints,” Bray said. “I had asked the team to take a risk and move with speed, so any issues were my responsibility as a leader.”

Bray and his team were able to implement a virtual desktop solution in four months. “It was faster than they were used to operating,” he said. But the outcome demonstrated that this

collaborative kind of problem-solving could yield fast, cost-saving results.

In 2015, the FCC worked on another new project that followed the same path. It created the Consumer Help Center, a website for the public to submit comments, solicit help with pending requests, and look at agency data and information.

The team originally estimated the project would cost \$3.2 million and take 18 months to build and launch a new system. Bray pressed his team for an alternative. “It was actually a new employee that suggested the idea of using software as a service,” Bray said. The agency chose to purchase and customize an existing system rather than build one from scratch and was able to launch it in just six months.

These choices drove the FCC to rethink how it solved technology problems, and paved the way for a larger technology transformation, an initiative Bray called “Operation Server Lift.” This project involved transferring FCC’s servers in Washington, D.C., to a data center managed by a commercial service provider who could run the servers at a significantly reduced cost.

To make the multistep move, the agency had to rely on career staff and six contracting groups to take the agency’s IT infrastructure offline, disassemble it, pack it up for transport and reassemble it at its new location. In the span of a week, this move allowed the FCC to reduce IT operations and maintenance spending by 35 percent, freeing funds for other projects.

According to Bray, his focus on talent was the biggest key to success. He recommends leaders come into a new environment with the intention of understanding the challenges that face agency staff and the contractor workforce. Leaders should work to remove these barriers, while also empowering employees to offer solutions, collaborate where they had not before and take risks, he said. “IT efforts fail because they don’t focus on people. The focus for someone in my role should be 80 percent people, 20 percent IT.”

It is important to identify and achieve early objectives and build momentum toward greater improvements, but it must be part of a bigger plan, Bray said. “Quick wins without a strategy can very easily become a distraction. It’s important to focus on what overarching problems you are trying to solve and work to solve them as a team.”



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