DIGITAL TRANSFORMATION:

Reshaping federal IT through people, platforms and procurements

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By Adam Stone

In its quest for digital transformation, the federal government is arguably halfway there: It’s digital, but it has not transformed.

Two decades ago, the Clinger-Cohen Act enabled government’s use of digital tools, opening the door for IT leaders to begin sweeping out paper-based processes in favor of more mechanized solutions. Today, much of government can be described as digital, but many federal agencies have yet to reap the benefits of true transformation.

Data management, integration, automation across and among agencies — these remain elusive for IT chiefs bogged down by budgetary constraints, antiquated processes and a cultural resistance to change. The cost and complexity of legacy systems make it hard to move forward: The Government Accountability Office estimates 75 percent of federal IT funds go to supporting operations and maintenance of hardware and software solutions.

At the same time, citizens and government workers alike clearly want and expect the long-awaited transformation of government.

Three in four citizens want government technology leaders to innovate more, according to the most recent Accenture Public Service Global Citizen Survey. They see the basis for the innovation in a more integrated use of technology. For example, 46 percent support having multiple agencies use their data for cross-agency service delivery, something that rarely happens today.

Government IT leaders are on board with this vision. Digital transformation is the top-ranked business priority among government chief information officers overall, according to Gartner’s 2018 CIO Agenda Survey. Yet, many find themselves unable to realize their transformation ambitions: Only 6 percent of federal managers rate their agency’s digital transformation tools as excellent, according to a survey by Accenture and the Government Business Council.

Despite the hurdles, some see government on the brink of change, with a new era of digital empowerment just around the corner.

When he was serving as the General Services Administration’s deputy commissioner and director of technology transformation services, Rob Cook told the House Committee on Oversight and Government Reform:

“The path to a successful IT future is possible and within our grasp. Such a transformation, though, will require changes to both culture and policy.”

- Rob Cook, Former Deputy Commissioner, General Services Administration
What will it take to usher in this new era? In this paper we’ll consider three key drivers of change: People, platforms and procurement. Specifically:

- The evolution of the federal CIO as a necessary condition of transformation.

- The platform-based approach to IT architecture as a key enabler.

- The need to reshape an overly prescriptive procurement process in favor of more nimble approaches to IT purchasing.

Before diving into these foundational elements of modernization, though, we will set the stage by looking at the best and worst of government IT transformation, some past misses, and recent wins.

In March 2017, GAO went to Congress with a roster of IT flubs. Included on the list of failures were:

- The Department of Homeland Security’s Secure Border Initiative Network program, ended after the department invested more than $1 billion in the effort.

- The Office of Personnel Management’s Retirement Systems Modernization program, canceled after $231 million went toward the agency’s third attempt to automate federal employee retirement claims.

- The Department of Veterans Affairs’ Financial and Logistics Integrated Technology Enterprise program, scrapped due to challenges in managing the $609 million program.

For all the misses, there have also been some wins, instances in which government agencies have successfully leveraged their digital investments to significantly enhance systems and services.

- After several revisions to its technology governance, NASA now reports its CIO “has visibility into and oversight of all NASA IT,” paving the way for a more consolidated and coherent approach to technology change.

- The Small Business Administration brought in a modernization team to revamp its website, implementing a new content management system, establishing a modernization road map and systematically enhancing the customer experience.

- Health and Human Services in a 2017 report to Congress said it had implemented a periodic review to ensure IT stays current to mission.

“This is accomplished through an iterative process by which requirements and solutions evolve through the collaborative efforts of development teams, stakeholders and end users — our customers,” said Beth Anne Killoran, HHS deputy assistant secretary for information technology and CIO.

These examples help illustrate the art of the possible. Government can pivot off stultified legacy systems toward a new, more broadly empowered vision of IT. Let’s consider people, platforms and procurements as the three-legged stool upon which digital transformation stands.

People & processes:
The role of CIO

Transformation begins at the top. For government to shift its IT assets into a modernized modality, the role of CIO must first pivot. Rethinking the top tech job is key to change, as it is the CIO who must push forward the transformation agenda.

“Most agencies put all their money toward keeping the lights on with these old legacy systems, and have a hard time meeting the needs of new missions and customers. ... The CIO needs to head up the change and articulate that vision, to build trust in a proactive way.”

- Jerad Speigel, Managing Director of Accenture Federal Services

In fact, government has been slow to rethink the role of the tech chief, failing in many cases even to empower that IT leader with a clear job description. In November 2017, the GAO reported to Congress that only four of 24 agencies had clearly defined the role the CIO is to play in certifying “incremental development,” identified by GAO as a key metric of IT transformation.

Agencies have struggled as a result. Library of Congress Inspector General Kurt Hyde told a House committee last year that his agency’s CIO “was not given the authority to make librarywide decisions on IT governance, capital planning and asset management,” as a result of which “the organizational structure of the IT function did not foster strategic planning and good IT governance.”

Some agencies have taken bold steps to empower the CIO. In 2016, the Department of Labor, for instance, expanded its IT program review board process, giving the CIO a broader and deeper role in the planning and execution of IT projects.
“Agencies are mired in decades of technical debt and broader thinking is needed to dig ourselves out of this hole,” said Dave McClure, federal CIO advisory lead at Accenture Federal Services.

CIOs need to draw back from day-to-day micro concerns and focus their energies on the big picture. “We have seen it evolve in the private sector,” said Tony Scott, former U.S. federal CIO. “The CIO’s role is one of architecture and orchestration, more than it is about [minute] control. It’s about being responsible for the design of how things will work, which means working closely with the business processes.”

Here’s a litmus test for CIOs to determine whether they’re driving strategic change or merely spinning their wheels. Chart the architecture of information systems against the departmental org chart. If they line up, you’re doing it wrong: IT is being built to match an organizational structure, rather than being aligned with specific business outcomes.

“Rather than map to some organizational hierarchy, they need to be mapping it to where the information actually needs to flow,” Scott said.

**Spotlight: Department of Veterans Affairs**

In 2006, the VA got an enforced head start on the re-envisioned CIO, when news about security breaches led to a restructuring of the IT hierarchy.

Before the change, “it was completely decentralized — every hospital and regional office — and doing its own thing. You had inconsistency, duplication, cybersecurity issues,” said VA’s recent acting CIO Scott Blackburn.

Centralizing the IT function gave VA tech leadership a fresh start. With the CIO role clearly and centrally defined, “we are able to make smarter decisions on purchasing, smarter decisions on cybersecurity. Rather than have a bunch of different things on the network, we do it once and we do it right,” Blackburn said. “It’s cheaper and also more effective. It allows us to do things like choose a single off-the-shelf solution when we need a major systems upgrade.”

Having seen what a strong, central CIO can accomplish, Blackburn offers a vision for other agencies. “The CIO has to be a thought partner, someone who can say: ‘How do we deliver more efficient service? How do we deliver online services and all the things the private sector is doing?’” he said. “To do that, the CIO needs to play a more strategic role, being a peer at the table with business leaders.” Some say that to drive business transformation, the CIO must first push for cultural change.

“Organizations can’t just introduce a new way of working and expect everyone to embrace the changes or even be able to learn new tools and processes immediately,”

- Swarnali Haldar, CIO of the National Archives and Records Administration

That agency “is very focused on processes of engagement, where business units contribute to the development and review of new business needs in conjunction with IT. Those business needs focus on how to evolve processes, not just procure new tools or infrastructure.”

That raises the bar yet another notch. Rather than just fix hinky email, the CIO must drive large-scale business evolutions. And to do that, he or she must first push for deep-seated cultural change. How to make all that happen? Some say the art lies in finding the cracks in the rock, the smallest places where a savvy tech chief can get transformation started.

“You look for the people who are willing to work with you, the people who have the mission in their heart, and you move forward incrementally,” said Department of Transportation CIO Vicki Hildebrand.

Her vision: Start small to drive big changes. “I am interested in doing as much as I possibly can while I am here, so speed is really important to me. If I had all the time in the world and a blank piece of paper, I would draw my own nirvana. But I can’t do that. I have to look at the best possible route that is actually available.”

Others describe the evolving role of the CIO as a shift from an internal focus to an external focus. To drive digital transformation, the government IT leader who used to worry about keeping the servers up and running must instead worry about the entirety of the citizen experience.

“Email and servers, those are all Lego blocks,” said Sovan Shatpathy, chief technology officer at Amtrak. “We are looking at it from the outside, mapping the entire journey. Ignore the channels and look at the individual. What is that person’s experience from beginning to end? The ‘outside’ perspective starts with the end customer or the end actor and considers a solution that covers that entire journey to create an immersive and compelling experience.”

Technology leaders who can adopt this new role must then make the next
move: a shift away from siloed legacy solutions toward a platform-based vision of IT architecture.

Platforms: The future IT architecture

Government can no longer afford to undertake massive, specialized technology projects in pursuit of over-prescribed and narrowly defined functionalities. “If you have a mission customer who needs something done and you take that approach, it will be hugely costly and the requirements will shift over time. Software just isn’t built like that anymore,” Speigel said.

The alternative: platforms based on commonly accepted standards, that can support an ever-expanding, ever-changing user base. It’s the next logical step, some will argue. The Obama administration tackled issues around openness and citizen engagement. This paved the way for a new approach to the underlying architecture of government IT.

“Now we can finally address these older mission systems that have so far been one-offs,” Speigel said. “When CIOs embrace those modern platforms, then they can come to the table with something really valuable.”

Some have already moved to embrace the notion of a platform-based approach to technology. In early 2018, for example, the U.S. Department of Agriculture applied for funding under the governmentwide Technology Modernization Fund, with an eye toward building platform-based visibility across agency IT assets.

“One of Shatpathy’s first moves when he joined Amtrak three years ago was to define a platform-based approach to IT. Today the train operator has shed most of its specialized, siloed systems in favor of seven or eight big-name, commercially available platforms. Moving to a platform-based architecture aligns Amtrak with industry standards and gives it room to adjust IT as new needs emerge.

“By its very nature, this horizontal view gets me something that I don’t have today. That’s the essence of what it’s going to bring on the customer experience and all those other things because it’s helping us put measures and metrics and outcome-based value to our leadership,” said Chad Sheridan, CIO of the USDA Risk Management Agency.

Having seen the way inflexible, customized applications can stymie productivity, DOT’s Hildebrand sees her agency moving in this direction, too. “Today we will have one transportation mode that has a customized registration system; and another mode has the same process, but it’s built in a different technology with different resources,” she said. A better approach would be one that leverages a single model against multiple mission needs.

Rather than continue to develop point solutions, agencies should instead build IT for broad, underlying functionality, and then layer specific applications on top of that common infrastructure. “You want to think about the generic capabilities that every application needs: It needs login, it needs security. These are services you can build into a platform and then deliver by wrapping an [application programming interface] around it. It’s a much more flexible model, one that allows you to evolve as the business need evolves,” Hildebrand said.

Spotlight: Department of Veterans Affairs

Two years ago, the VA began prototyping its Lighthouse program, a platform approach meant to bring new service offerings to the table. Eleven health care systems have already signed on to participate in the system, which offers open APIs to onboard emerging capabilities. “We look at Lighthouse as a platform, in that we can expose an API and multiple applications can be built on those tools,” said Drew Myklegard, product owner for Lighthouse. “VA is not a software company, it’s not in our DNA, so we wanted to shift away from building the applications while at the same time speeding time to market for new ideas. That’s where the API-first platform comes in.”

An open, collaborative platform creates both a space and methodology for meeting end users’ evolving requirements. “We don’t currently know all the needs of our veterans. We’re offering a platform where others can build, to combine things in novel ways that we haven’t thought of,” Myklegard said. “The platform approach gives us a common set of standards where providers can unlock their data.”

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“When it comes to shared business processes that make up much of the IT operation, we should ride on top of the major tech implementations that Fortune 500 companies are leveraging. They are mobile-first, cloud-first, data-driven and pervasive. If I can ride on the large-scale reliability of major providers, why would I run massive data centers or custom applications of my own? It doesn’t make any sense,” Shatpathy said.

The universality and scalability of a commercial platform approach...
can enable government to take advantage of the latest iterations in digital thinking and advances such as machine learning, as well as business intelligence systems. Nearly impossible to graft onto clunky, antiquated systems, such innovative tools can be readily implemented in a platform-based architecture and could help drive the kind of automation and interconnectedness that define digital transformation in its truest sense.

“All federal agencies should be looking at how these tools can be appropriately used,” Haldar said. “A well-thought out implementation strategy will help organizations realize the huge, potential wins in situations where those investments could introduce major mission efficiencies.”

USDA has been a lead player in demonstrating how a platform can directly drive citizen service.

The department has been on a bold mission to streamline its IT organization, reducing the number of CIOs within USDA from 22 down to one, with seven assistant CIOs. Along with this structural change, the department has streamlined its infrastructure, consolidating 39 data centers to a single data center and a backup. Most significantly, USDA has streamlined the customer experience with a platform-centric approach that includes online service portals with self-service capabilities and integrated data for common customers. A parallel, internal move enables department employees to access human resources and IT functionality through a single online platform.

Speigel cites this as a powerful example of the way in which a thoughtful approach to IT can push digital transformation. “If you are a farmer and need to do business with USDA, [you] may have to go to six different organizations. It’s been very fragmented,” he said. “They are completely modernizing, bringing the experience online, bringing the agencies into a single, common vision. They are fixing the perception of government by legitimately making government a more seamless experience.”

**Procurement: Smarter buying drives digital adoption**

In their quest to realize the full value of their digital investments, government technology leaders are hampered by their procurement processes. Draconian purchasing methodologies are meant to ensure responsible use of taxpayer funds. Too often, though, these safeguards stand in the way of digital adoption. New buying practices could lessen the burden while still ensuring responsible use of public resources.

It would help if government IT could get out of the mindset of ownership. Rather than buying big systems, agencies can invest in cloud services, buying just what it needs without having to undertake an elaborate request for proposals each time the demand changes. For this to happen, though, procurement practices may need to be adjusted.

“That’s a different type of contract, and as the federal government moves to more shared services, contracts will change with those services, as well,” Haldar said. Such a shift could come hand in glove with a more agency-wide approach to procurement. “To embrace digital change, an agency needs its IT governance to be more cooperative and collaborative across units, looking at shared efficiencies rather than every unit doing the same thing on a different platform. The more communication and transparency, the better.”

**Spotlight: Department of Veterans Affairs**

The VA has found a way to speed procurements using “micro-purchases,” buying IT in $3,500 increments.

“A lot of the things we do might cost tens of thousands of dollars for a small business, not millions, and yet inside government you are always at a couple million dollars or more. So we are targeting the $3,500 threshold, sending out small pieces of work to small business who don’t have the big proposal-writing shops but who have the right people and can get the work done,” Myklegard said.

Dubbed “Innovation to the Rescue,” the micro-buys allow the agency to speed procurement, with a low-risk, try-and-fail philosophy that speeds good ideas to the fore. “I can get it on the street quicker, I can make awards faster and I can receive the deliverables quicker,” Myklegard said. “It also gives me a new group of vendors coming in and proving themselves, and if it’s not what I want, I’ve only invested $3,500 and not a million dollars. We learn from the first try and we get to the final product much faster.”

Experts endorse this approach, saying government could ease the procurement problem by shifting away from the massive IT buys that predominated in the past, in favor of smaller, more timely projects - “doing things in small sprints, in an iterative way,” as Speigel describes it.

Others advocate for a new alignment between IT and the federal procurement function. In the past,
What does it take to transform IT?

- People, especially a strong, mission-focused CIO.
- Platforms as the architectural underpinning.
- Procurement reform and new purchasing methodologies.

Together, these three elements form the infrastructure upon which government can embrace IT transformation. With many of the digital tools already in place, and with emerging off-the-shelf solutions readily available, government can streamline operations and enhance citizen services. The transformation of IT promises to drive new efficiencies, leverage the power of open data and ultimately make government more responsive to public needs.

tech leaders have drawn up specs for the procurement shop, with little in the way of follow-up communication. That's not how it works in industry, where the end user is intimately engaged in the buying process. Scott said the federal government could move closer to that model without risk to the integrity of the process.

"Right now, the procurement people will independently and almost blindly try to secure what you've asked for, without any communication with the requestor," he said. "You want the people who have a stake in the outcome to be part of the procurement process."

Some say that the platform-based IT strategy, as described above, inherently supports a more effective approach to procurement. In building a platform-centric architecture, Shatpathy turned to a small handful of major vendors; and with standing arrangements supporting those IT implementations, it's easy for him to go back for additional tools and services as needed.

"The platform-based strategy ensures that we already have enterprise agreements in place, whether it's Microsoft or Adobe or someone else. We have mega-agreements that allows us to grow and shrink based on demand," he said. "Then if I need to go and procure something that is missing from my ecosystem, I buy something that is in harmony with what we already have."