AGENCIES DRAW A NEW MODERNIZATION BLUEPRINT



govloop

Introduction

Is the rip-and-replace era of modernization finally coming to an end? Maybe not yet, but a growing number of agencies, faced with perpetually tight budgets, are beginning to look for new ways to inject new technology into their aging IT environments.

Rather than undertaking massive, multi-year programs to replace legacy systems in one fell swoop, they are thinking more tactically: How can they update existing systems in small ways to improve performance? Or how can inject new solutions that work alongside legacy systems to deliver new capabilities? That's the focus of this guide.

We begin by looking at the latest trends in modernization technology and practices, including Gartner's list of **five tech trends that government agencies should watch**. We also share some insights from a recent report on the **aging IT workforce in government**.

Ann Dunkin, the Chief Information Officer at the U.S. Department of Energy, sees continuous modernization as one of several options that an agency might consider as an alternative to old-school rip-and-replace. In an interview with GovLoop, she gives examples of different approaches that DOE has taken both to manage legacy systems and meet emerging requirements.

In the same vein, a growing number of agencies are looking to **accelerate their adoption of emerging technology**, both by revising obstructive policies and procedures and by fostering a culture of innovation.

As Dunkin told GovLoop, it likely will take a long time to bring about a significant change to the modernization mindset, but clearly that shift is underway.

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The 2025 Modernization Playbook

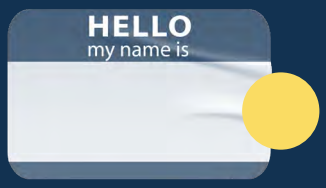
5 TECH TRENDS TO WATCH

According to Gartner, here are the top technology trends that government chief information officers should watch →



Adaptive Security

Artificial intelligence will rapidly become a standard part of most threat detection and incident response plans, augmenting not replacing staff.



Digital Identity Ecosystems

Government agencies could play a vital role in the development of systems for managing the use of digital identities across the public and private sectors.



AI for Decision Intelligence

Machine learning, analytics and generative AI will help enhance human administrative decision-making and improve government service delivery.



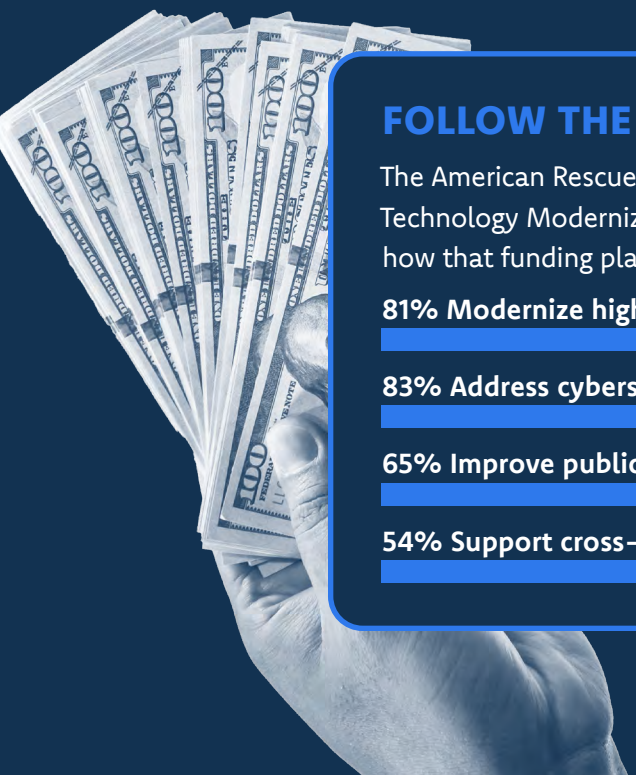
Digital Platform Agility

Commercial cloud services and low-code application platforms will enable agencies to develop and deliver new services more quickly while also controlling costs.



Programmatic Data Management

AI-based automation platforms will help agencies enhance their use of data in decision-making and planning enterprisewide.



FOLLOW THE MONEY

The American Rescue Plan (ARP) injected $1 billion into the federal government's Technology Modernization Fund, with a focus on supporting four key areas. Here is how that funding played out across 52 total investments:

81% Modernize high-priority systems

83% Address cybersecurity needs

65% Improve public-facing digital services

54% Support cross-government collaboration and scalable services



EMERGING TECH CAUSES MODERNIZATION HEARTBURN

Federal agencies increasingly are looking to accelerate their adoption of emerging technologies (see p. 5). But there's a catch: Many modern solutions require a modern infrastructure. That is a big concern of federal IT leaders, according to the recent EY Center for Modernization survey of public-sector officials. The survey found:

- **64%** of federal respondents were worried that their infrastructure could not handle emerging tech.
- **69%** were also worried about having enough funding to modernize the infrastructure.
- **42%** were concerned about outdated hardware.
- **35%** were concerned about outdated software.

STATES BET BIG ON CONSOLIDATION

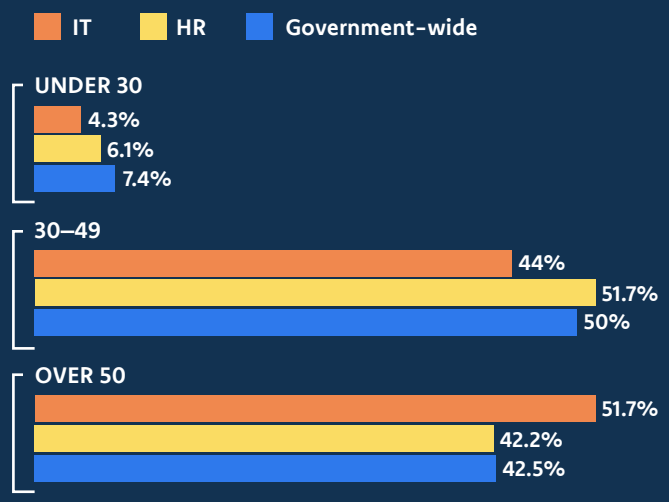
In their efforts to improve the delivery of services to agencies, many state chief information officers (CIOs) are consolidating/centralizing different aspects of IT operations, according to a recent survey by the National Association of State CIOs. Top areas include:

- **90%** — Consolidating infrastructure
- **69%** — Consolidating services
- **64%** — Centralizing IT project management/oversight
- **60%** — Centralizing tech procurement in CIO organization
- **48%** — Consolidating IT personnel in central office

THE AGING IT (AND HR) WORKFORCES

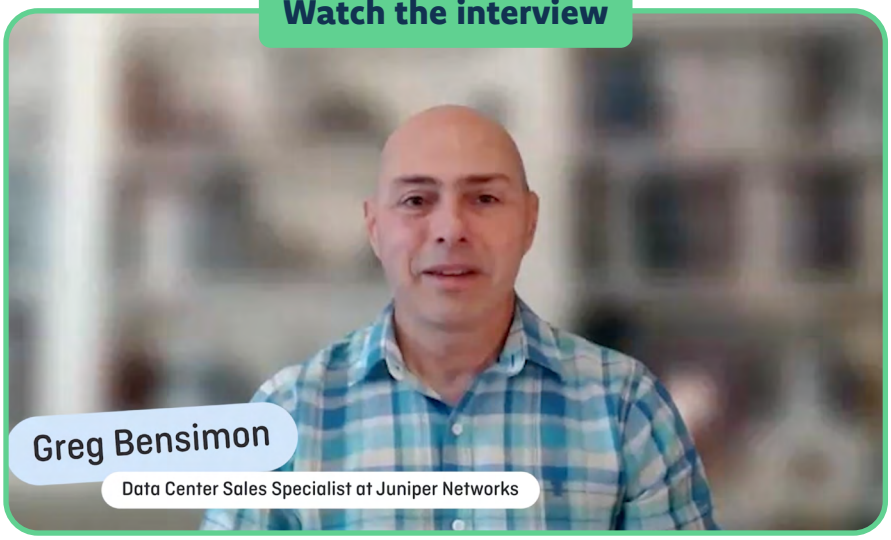
To benefit from modernization, agencies must ensure their employees have the skills to work with new technology. One concern, according to a study by the Partnership for Public Service, is that in many agencies, IT employees, and the human resources employees who help hire them, are an aging population.

"This trend is good for institutional knowledge and continuity, but an ominous sign for the future," the report states. "Agencies must do a better job recruiting and retaining younger workers in these fields to prepare for future challenges."



How to Improve Network Reliability in the Modern Data Center

Watch the interview



The data center network has evolved dramatically in recent years. What was once seen as simply a collection of switches and ports has become more of a distributed system that manages the flow of information through a large, complex computer.

This model makes it possible for agencies to scale operations in ways previously unimaginable and to pivot quickly to emerging solutions, such as artificial intelligence. But it also raises the stakes when it comes to reliability.

In this video interview, Greg Bensimon, Data Center Sales Specialist at Juniper Networks, talks about steps that agencies can take to improve network reliability. Key topics include:

- The role of automation in improving reliability of the network
- The importance of testing across all phases of the network lifecycle
- The ongoing need to ensure that the network's operational state stays aligned with the intended state

"How do we build one of these networks in a way where it just works on Day 1. And then how do we turn it over to the operations team in a way that they can make moves, adds and changes reliably and react and recover from unintended changes on Day 2 and beyond?"

Greg Bensimon
Juniper Networks

ABOUT JUNIPER NETWORKS

Juniper Networks has extensive experience working with federal agencies and the armed forces, supporting their specialized networking and security requirements. We offer federal-certified solutions for those missions that demand unfailing network performance. Juniper Apstra, our data center management software, is an intent-based management tool that automates and validates data centers, with no vendor lock-in, and provides for simplified deployment and use.

LEARN MORE

The New Modernization Mindset: Focus on Innovation

Technological change happens faster today than in the past, and innovations can bring about great things. It's no wonder, then, that government agencies are eager to acquire, develop and use new tech as soon as possible. But it's not always easy for them to get their hands on emerging technologies. To change that, many agency modernization initiatives are putting a new emphasis on innovation.

One reason for the holdup is the requirements that public-sector organizations must meet. For instance, they must be sure of cloud security and unbiased datasets feeding AI. But agencies are increasingly unwilling to wait. Here's a look at how five state and local government organizations are forging ahead with emerging technology.

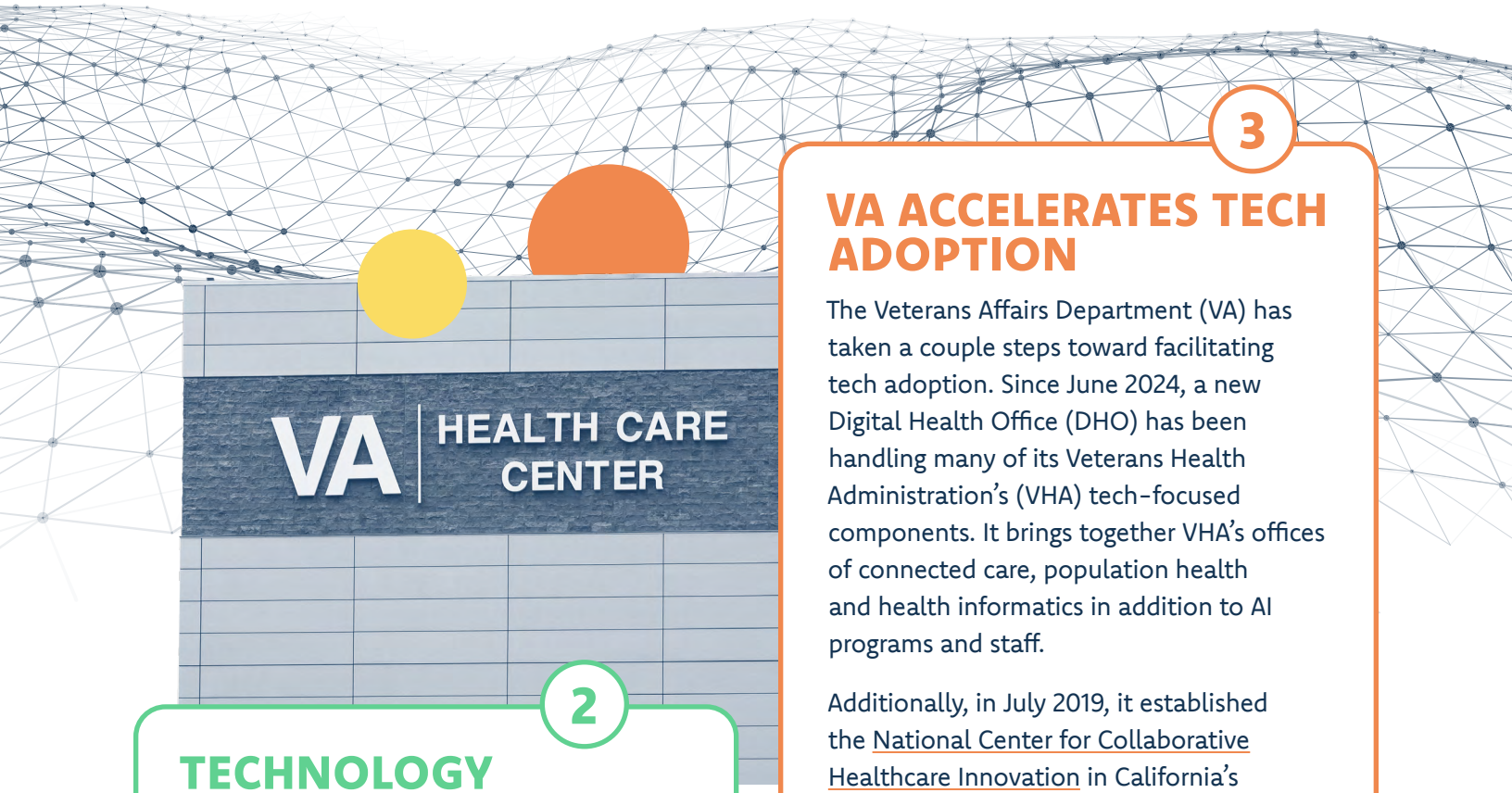


1

FEDRAMP PRIORITIZES EMERGING TECH

Since 2011, the Federal Risk and Authorization Management Program (FedRAMP) has served as a standardized approach to ensuring that cloud technologies meet government requirements for security. There's just one problem: Its certification process is lengthy — up to two years long — and it frequently has a backlog. Those create delays in agencies' ability to use new technology, but the General Services Administration (GSA), which oversees FedRAMP, is changing that.

In June 2024, it announced the Emerging Technology Prioritization Framework to accelerate the adoption of new tech, particularly high-demand generative AI (GenAI) solutions. "The framework is designed to expedite the inclusion of emerging technologies in the FedRAMP Marketplace, so agencies can more easily use modern tools to deliver on their missions," according to FedRAMP.



3

VA ACCELERATES TECH ADOPTION

The Veterans Affairs Department (VA) has taken a couple steps toward facilitating tech adoption. Since June 2024, a new Digital Health Office (DHO) has been handling many of its Veterans Health Administration's (VHA) tech-focused components. It brings together VHA's offices of connected care, population health and health informatics in addition to AI programs and staff.

Additionally, in July 2019, it established the National Center for Collaborative Healthcare Innovation in California's Silicon Valley, a strategic choice to ease collaboration between VA and innovating companies. "The center is particularly exciting because it is uniquely designed as a catalyst to combine strengths from non-health care fields," former VA Secretary Robert Wilkie said.

2

TECHNOLOGY MODERNIZATION FUND PUTS AI AT TOP OF LIST

Also sitting under GSA's umbrella, the Technology Modernization Fund (TMF) is designed to provide funding, technical assistance and oversight for government tech projects. Like FedRAMP, it requires a multi-step approval process that can hinder quick tech adoption.

In February 2024, the fund called for faster evaluation of project proposals that support government adoption of AI. For instance, proposals seeking $6 million or less and having a project timeline of no more than one and a half years will receive an expedited review process.

"Use of the TMF has the potential to accelerate AI usage in government and unlock the innovation that we know we are capable of delivering for the public," said Clare Martorana, TMF Board Chair and Federal Chief Information Officer.



4

VIRGINIA SEEKS CONTINUOUS INNOVATION

Released in May 2023, Virginia's technology strategy takes aim at continuous innovation. "The Commonwealth can realize more business and agency value from its technology investments and more effectively serve Virginians by breaking down operational silos, expanding reuse and best practices, and acting in a more unified way," according to the document.

It has five objectives, including maximizing technology value, which calls on the state to "buy over build to speed IT delivery and maximize assets like [enterprise resource planning] to improve operational efficiency and data-sharing."

Another goal is disciplined, innovative delivery. That means state agencies must accelerate "innovation by increasing opportunities for sharing ideas and fostering best practices across industry, academia, and the Commonwealth," the strategy states.



5

TENNESSEE PUSHES HARD ON GenAI

The Tennessee Department of Finance and Administration issued its fiscal 2025 strategic plan in August 2024 with a focus on modernization and integrating emerging technologies. One of those is AI, with a focus on GenAI. The state established this year an enterprise Information Systems Council policy on GenAI for the executive branch, and a cross-branch group is working on developing an AI framework.

"While predictive-based AI has been used in the State for years, GenAI has the potential to automate tasks, analyze large datasets, and improve accuracy," according to the plan. "However, its widespread use comes with risks that must be carefully managed to ensure data security, avoid bias and disinformation, maintain compliance, and avoid liabilities."



An Engaging Strategy for Audience Outreach

*An interview with **Carolina Prieto**, Solution Advisor for Digital Communications, Granicus*

Improving public trust and engagement doesn't happen by chance. It requires a strategy, a clear metric for success — more than click and open rates — and data to benchmark against. And agencies should realize that their audiences are ever-changing, said Carolina Prieto with Granicus, a company that provides digital experiences to help agencies better serve their constituents.

"When people say, 'Oh, we just want to do better engagement and reach our audience,' there is no fixed 'audience,'" she explained. "It's an influx of people going in and out."

With a continuous flow of data, agencies can fine-tune outreach to their constituents and set realistic definitions of success, she said. If there are 200,000 people in your jurisdiction, should a 10% response rate be your goal? That means hearing from 20,000 people — but do you have resources for that?

DATA DELIVERS

One way to collect data that leads to effective programming, Prieto said, is through always-on engagement, in which you ask someone a real-time question relevant to a stage in their online user journey. For example, asking a website visitor, "How often do you text different providers in your area?" can provide vital information about constituent texting frequency that the agency can use when creating bulletin campaigns.

A/B testing and similar mechanisms also are critical because they help agencies adjust their messaging, she said. "We don't want to be guessing. We want to be collecting information and being super-strategic about what it means," Prieto said. "If an audience member doesn't feel like you are talking to them … they're less likely to engage with you."

BEST PRACTICES

Agencies can scale up slowly; baby steps are OK. "Give somebody a very specific project … for one or two months and have it be really tight," she said. Be clear about your benchmarks — the metrics you're focusing on — and your rationale for doing so. And use multiple channels to reach your audience, advised Prieto.

That includes newsletters, an accessible website, online and in-person events, and SMS/text messaging — "we know that 80% of folks are on their phones," she noted. "We should be thinking about creative multimedia approaches," Prieto said, "especially with complex information the government needs to send."

AN ENGAGEMENT CLOUD

State and local agencies often lack the tools to build and implement an effective communications strategy. But the Granicus engagement cloud, Prieto said, helps organizations understand their audience, create an outreach plan, and then activate those campaigns. Through automation, data insights, and dashboarding, "you can create an ecosystem of engagement in your agency [and] have it run in a way that continues to feed itself," she said.

For example, the City of Bellevue, Washington, used Granicus digital solutions to connect with residents in new ways, including SMS messaging and an "Engaging Bellevue" website that encourages people to submit feedback on various local projects. The city now enjoys a 58% engagement rate.

GRANICUS



It's Time to Think About Modernization in New Ways



An Interview with Ann Dunkin, Chief Information Officer, U.S. Department of Energy

Maybe it's time to think in new ways about legacy systems. Typically, the legacy label is applied to systems based on outdated technology or architecture and so needs to be replaced as a matter of course. But maybe there's an element of legacy thinking in that mindset. DOE's Ann Dunkin thinks so.

Dunkin, who has served in IT leadership positions in both the public and private sectors for more than two decades, argues that not every legacy system needs to be modernized.

For example, much is made of the fact that some government agencies have legacy applications written in COBOL, a programming language dating back to the 1950s. It's true that universities no longer teach COBOL, but guess what, "you can teach a developer COBOL," Dunkin said.

That's not to say that agencies should be content with outdated technology, but they also shouldn't assume that that every legacy application has outlived its value, she said.

A FOUR-PRONGED APPROACH

Rather than assuming that every legacy system must be modernized (as if that were possible), Dunkin suggests considering four options.

Hold steady. The first option — the most counter-intuitive — is to leave a legacy application in place. This is a viable option with specialized applications that, while outdated, are stable and perform as required.

For example, DOE manages numerous legacy applications that support such specialized operations as manufacturing nuclear weapons or managing the operational technology built into the electrical grid. Those systems, for which there is no viable commercial alternative, might be outdated but they do the job.

"If you think about the grid, there's a lot of legacy [technology], but in some cases there's just no reason to modernize it, or not for 20 or 30 more years," she said. "We just need to protect that stuff and make sure it's safe and secure."

Modernize little by little. In other cases, the limitations of a legacy system can cause problems. For example, an agency looking to improve the performance of a public-facing application might find the outdated system architecture makes it difficult to incorporate new functionality or to integrate with other, more modern systems.

Often, an agency can address those pain points by upgrading specific components of an application over time and as needed, rather than resorting to a full-scale overhaul, Dunkin said. "Hopefully, after you've made all those service improvements around the edges, and you've done these different integrations, and you've changed these modules — by the time you have [gotten] to [modernizing] to the kernel of [the] thing, you'll have a lot less to do."

Go to the cloud. On the other hand, in the case of an enterprise application providing common business capabilities, an agency might be able to save itself a lot of time and trouble by switching to a commercial cloud-based software-as-a-service (SaaS) offering, Dunkin said. In the case of DOE, "maybe 90% of our enterprise applications probably should end up being SaaS," she said.

In spring 2024, DOE began work on shifting human resources functions to a cloud-based platform from Workday. It's a significant undertaking because DOE falls under the Chief Financial Officers (CFO) Act, which outlines strict standards and practices around financial management that must be reflected in the HR system. The HR department is taking the lead but working closely with the CIO and finance offices.

As the work has progressed, other parts of DOE that manage their own HR systems have expressed interest in taking part, Dunkin said. "Whenever I get someone in DOE voluntarily saying, 'Well, we think we want to come do that with you,' I think that's a big win."

Go low-code. At DOE and other agencies, low-code/no-code is becoming the go-to option for many software requirements. Low-code platforms, which provide visual interfaces with drag-and-drop functionality, enable users with minimal coding knowledge to design programs and processes very quickly.

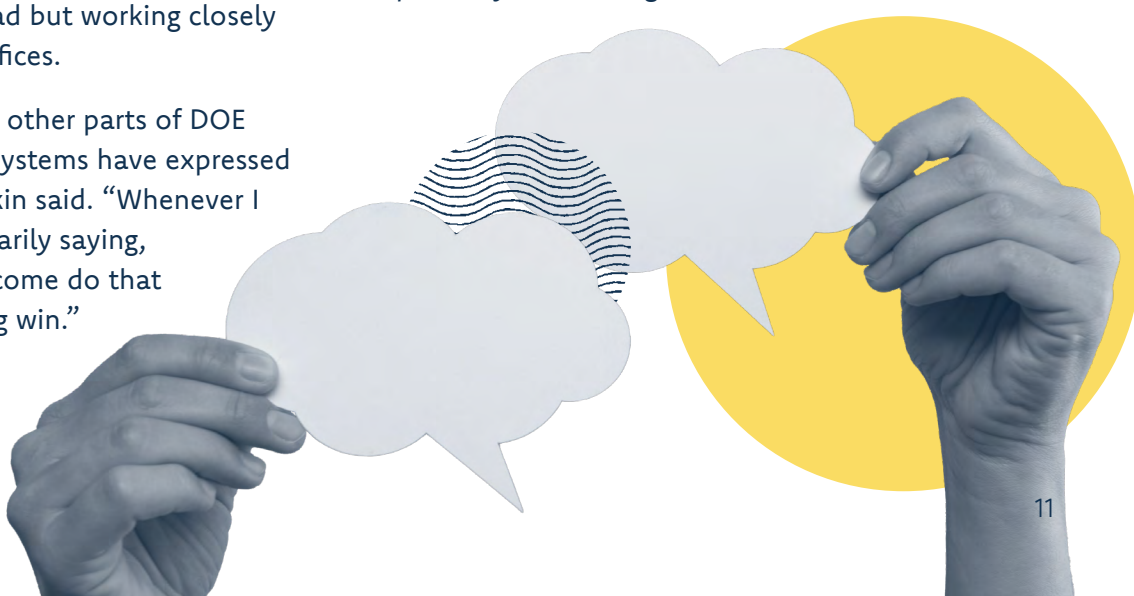
The low-code approach played a big role in helping DOE meet a recent congressional mandate. The Inflation Reduction Act of 2022 includes a program through which manufacturers that invest in different types of advanced energy projects can apply for a tax credit through DOE. That meant DOE needed to create a system to receive and manage those applications, and they needed to do it quickly.

"We've been able to be pretty responsive in building these low-code applications to support these various tax programs," Dunkin said.

SLOWLY BUT SURELY

All that said, Dunkin recognizes that it will take time for many people to start thinking in new ways about modernization, especially in a major department like DOE. From software development and procurement to agency leadership, everyone needs to come around to understanding the value of these approaches and to recognize there's no new risk, Dunkin said.

It's human nature: Some people just want to keep doing things in the old way, she said, "and that will probably take a long time to eradicate."



CONCLUSION

This report is the second and final installment of our 2024 Modernization Guide series. Here is a look at our first report:



5 Ways That Agencies Are Ailing From Legacy Systems

The idea of "legacy" systems can seem a bit abstract, especially since the systems involved typically sit in a data center far removed from daily work. But they're like your appendix or wisdom teeth: They are of little interest until they hurt.

Agencies Seek Gains Through Precision Modernization

Often, the best way to get funding for a modernization initiative is to focus on delivering tangible benefits. For example, a lawmaker who might not understand the need to upgrade network infrastructure will likely see the value of providing constituents with more reliable and secure services.

Knowing When, Where and How to Modernize

LeAnn Oliver, Director of Corporate Business Systems, U.S. Department of Energy's Offices of the CFO, talks about the change management challenges that come with modernization initiatives, especially in government.

You can download the full guide here.

ABOUT GOVLOOP

GovLoop's mission is to inspire public-sector professionals by serving as the knowledge network for government. GovLoop connects more than 300,000 members, fostering cross-government collaboration, solving common problems and advancing government careers. GovLoop is headquartered in Washington, D.C., with a team of dedicated professionals who share a commitment to the public sector.

For more information about this report, please reach out to info@govloop.com.

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