

An illustration featuring a central green circle with white text. Surrounding this circle are four hands in purple sleeves. The top-left hand holds a green hammer, having just broken through a purple barrier. The top-right hand holds a green frog with large eyes, having just broken through a purple barrier. The bottom-left hand holds a small green plant growing from a mound of soil. The bottom-right hand holds a smaller green circle with the 'govloop' logo, which consists of the word 'govloop' and two curved arrows forming a loop. The background is a collage of purple and blue textured shapes.

Agencies of the Future: How to Break Down Barriers to Growth

govloop



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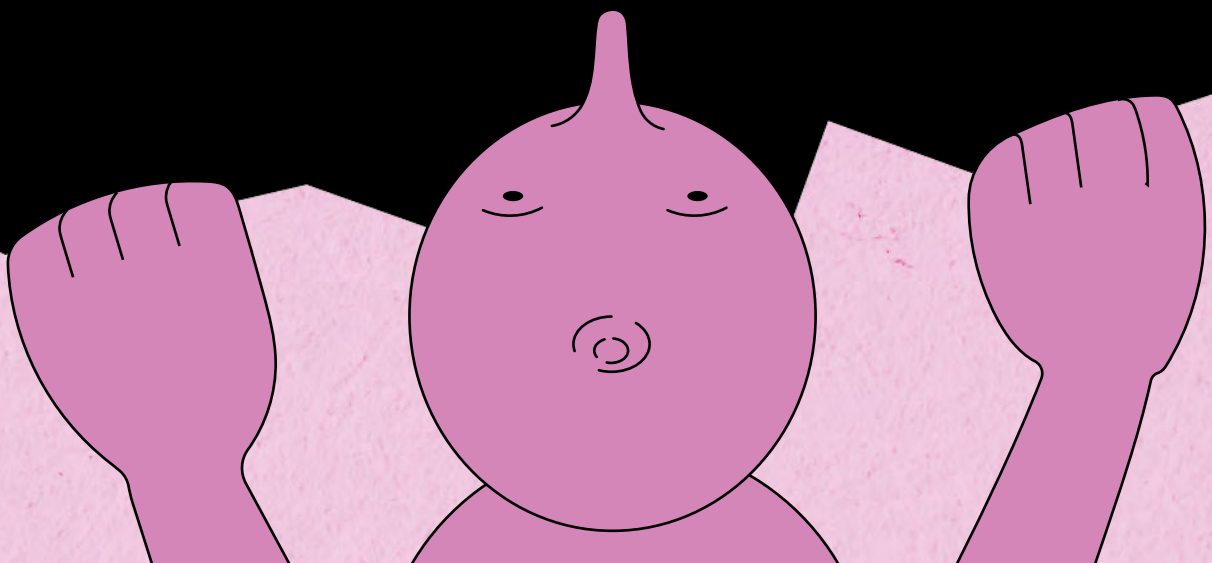
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Introduction

What does the agency of the future look like? After years of deploying new tactics and solutions, agencies have made impressive progress regarding workforce, IT, data and other challenges — but three to five years down the road, will those reforms have been enough? And today, are organizations realizing the full potential of what they have?

In this guide, we look at how agencies are breaking barriers to innovation and equipping and staffing for resilience and adaptability. Government officials share their thoughts on what agencies could and should do, and industry experts weigh in on the tools that can transform employee and customer experiences.

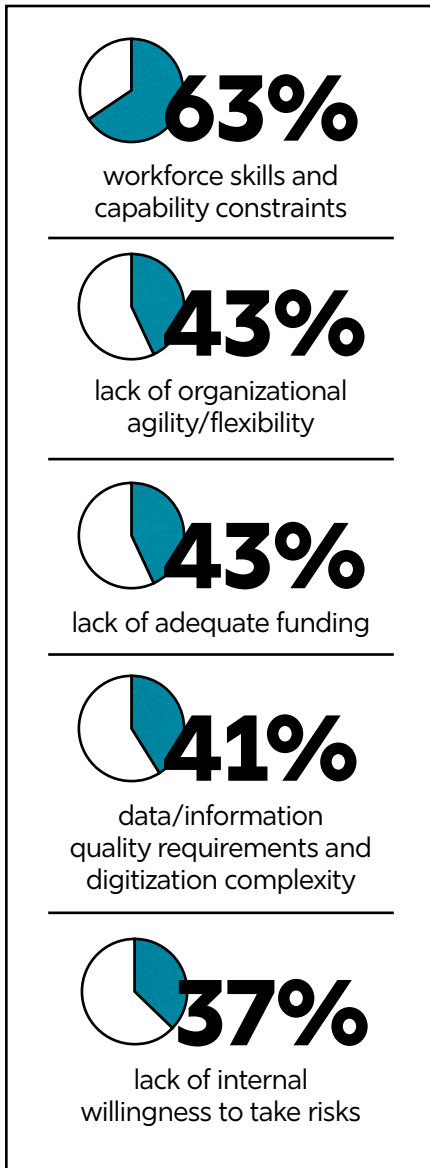
Of course, a guide about future technology must address artificial intelligence (AI), so we explore a federal vision for how government and the private sector will mitigate risks while maximizing AI opportunities. There is much to consider there.

Let's begin our agency-of-the-future conversation by looking at the big picture.



Digital Services: The Growing Edges

According to a National Association of State Chief Information Officers survey, the top five obstacles to expanding digital services include:

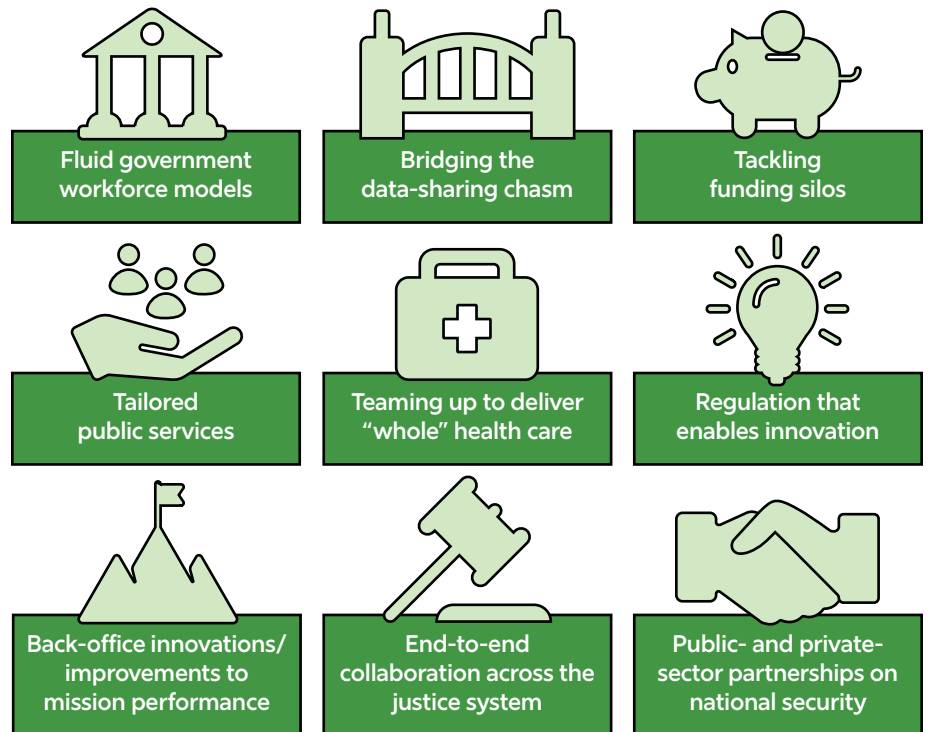


An Innovative Culture: The Long View

Four key pillars for cultivating an innovative government culture in the next 20 years:

- 1 Leadership:** All federal government leaders would have high standards for effective leadership and would be skilled at engaging others, leading change, achieving results and becoming self-aware.
- 2 Workforce:** The federal government would become a sought-after place of employment for potential candidates because of its cutting-edge approaches to solving problems and a range of available opportunities such as fellowships and “tour of duty” programs.
- 3 Process:** Innovative processes would revolutionize the federal government’s ability to quickly implement policy to serve the public more effectively.
- 4 Partnerships:** As federal officials become bigger players in driving innovation within and across agencies, forming stronger partnerships with state, local, tribal and territorial governments will be the standard for sustaining lasting change.

9 Trends Reshaping Government

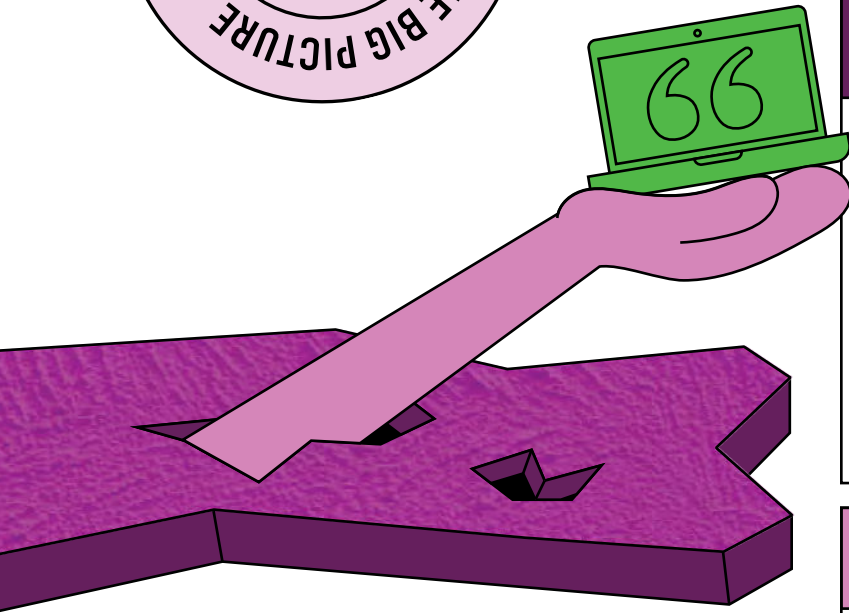


Source: Deloitte



Agency of the Future: Quotable Quotes

Here are some insights from government leaders who spoke at GovLoop virtual and in-person events during 2023. **The agency of the future, they said, is...**



Adaptable

"If you had asked me, even five years ago, when our agency would be utilizing AI or SMS or even working from home, I would have said maybe in 20 years. But we're doing all of it, and it's way easier than you think."

Nichole Conway, Program Manager for the Missouri Department of Social Services, on government employees' surprising ability to embrace change

Constituent-Centric

"Anybody who works adjacent to a web property or digital service needs to walk through that digital service as though they were the customer. They need to do that so they understand what are those very obvious pain points, where are the places they should invest in first."

Camille Tucker, Acting Chief Customer Officer at the General Services Administration, on how to build more engaging constituent experiences

Security-Conscious

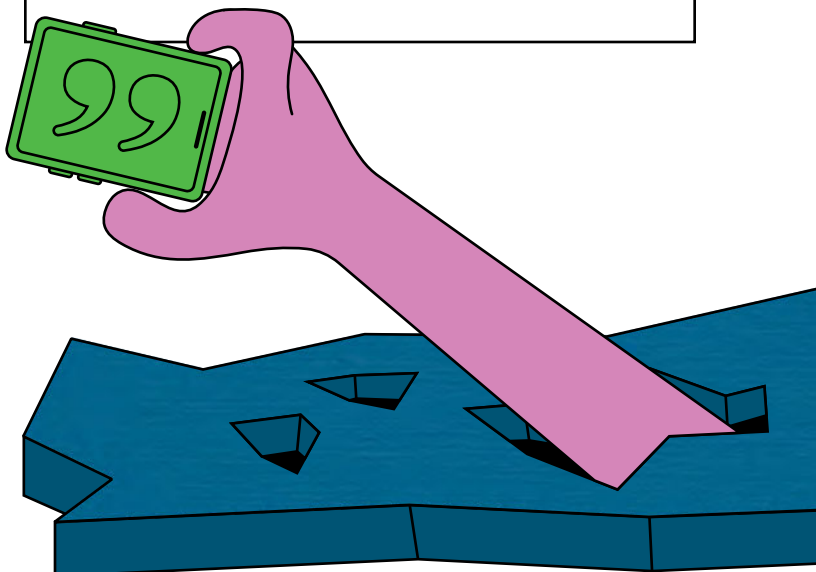
"What we need to do is deploy modern technologies that have security integrated into the design, so that we take the requirement for you to be an expert out of the equation."

James Wolff, Associate Administrator for Information Management and CIO, National Nuclear Security Administration, on the need to stop asking too much of employees

Trusting of Employees

"To enable other people to adapt to changes and transformation, a leader needs to enable trust, to accept people for who they are and give them a say."

Keson Khieu, Business Intelligence Chief in California's Department of Health Care Services, on the need for leaders to trust and inspire employees





Data Protection Requires More Than Monitoring

An interview with Scott Pross,
Vice President of Technology, SolarWinds

solarwinds 

Migrating from state and local governments to federal agencies and back again, data is a dynamic resource. And that presents unique security challenges and the potential for what Scott Pross with SolarWinds calls “data spillage.”

It happens when agencies share information with people who don't need it. Organizations, he said, must ensure that they're sharing data only with approved and authorized people based on use cases that define who should access what and why. “It needs to be shared in a very secure and specific way to ensure we're keeping citizens safe,” Pross explained. If your devices aren't secure, your data is unprotected.

The Foundation

Network security should be considered from the ground up during project development, he said. He compared it to building a house: “You want to ensure the foundation is very stable. You want to ensure that it performs well, is reliable, and is secure.”

That initial effort “is going to slow you down a bit, there's no question,” Pross acknowledged. But in the end, you'll have a solution that won't need frequent patching. Once it's complete, you'll have technology that's going to stand the test of time, he said.

SolarWinds — which allows agencies to administer, manage, and monitor their networks and infrastructure assets with a single suite of tools — can alert organizations to security vulnerabilities before they become problems, he said. That greatly protects agencies and their data. But don't confuse the SolarWinds solution, Pross cautioned, with simple network monitoring.

Observability

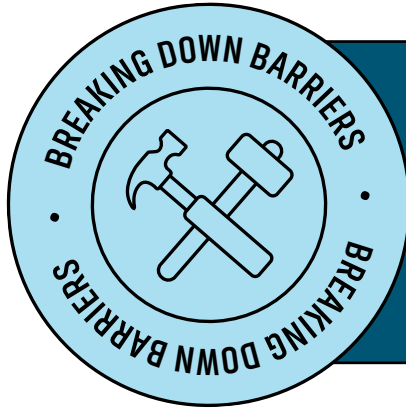
Often called a “single pane of glass” approach, monitoring tells you what's happening on your system — but not why it's occurring, and that's the more important question, he said. The SolarWinds observability tools identify issues on different parts of a network, find a common denominator and direct the agency's attention to where it's needed, Pross explained.

With observability, he said, you can “correlate all the different aspects of your network together and... minimize the amount of work your engineering team needs to do.” And you can eliminate what he called tool sprawl, “where you have a different tool for everything, and you've got to go to 10 different tools to see what each one's doing when there's a problem.” With one platform, agencies can ensure that all pieces of their infrastructure run securely.

AI Opportunities

In the future, AI will allow agencies to be more proactive, Pross said. Systems will self-remediate, automatically resolving security issues before telling humans that the problems even exist. Ultimately, AI will identify trends and determine how to prevent those issues from arising.

“It's going to keep snowballing to the point where AI will really help us ... change how we do things, so we don't even see those problems in the future,” Pross said. “The AI stuff we're seeing right now is incredible but it really is just the beginning.”



The Future of Data-Based Decision-Making

Goal: Ensure that agencies are staying, if not current with technology, no more than one or two cycles behind.

People use assorted metaphors to describe modernization: a journey, construction project, ballgame, etc. But Heather T. Kowalski, Chief Information Officer for Interpol Washington, calls it something else: a lava flow. One improvement needs to solidify, she said, before others can follow, advancing a little further each time.

Some agencies have made more progress with that than others, and agencies with outdated systems are severely limited. For instance, “If you’re on Windows XP and you’re relying on faxes, those tools are so old that [new] analysis tools can’t read [your data],” Kowalski said. “Not only are you not benefiting from what these tools can provide, ... you also can’t contribute anything,” she added.

The further behind your technology is, the more financially difficult modernization becomes because agencies must anticipate their budgets years in advance — often before the tools they need fully exist, Kowalski said.

And with an unthinkable amount of data in the world, errors are inevitable with outdated IT. Automation, however, limits the chances that a tired analyst will enter a name incorrectly and that mistakes will cascade into other agencies.

“The sheer quantity of data that’s being produced ... has forced a way of collecting and storing and labeling and managing that data, which has then led to a drive to use the data, which has driven some new tools,” she explained.

Be Clear and Realistic

It’s easy to be enamored with the latest IT solutions, and non-technologists are particularly susceptible, Kowalski said. But to advance data technology effectively, someone must offer honest feedback about costs, contingencies and restraints — including whether existing infrastructure will support the IT innovation.

“If you haven’t done the hard work up front — your technology, your data processing, your reporting technique — then all you did was pay for some bells and whistles that aren’t really going to benefit you,” she added.

Decision-makers need to remember that they work for the public and be good stewards of taxpayer money. “We need to be careful that we’re not just deploying these solutions so that we can say, ‘Oh, look what I did,’” Kowalski said. “Are we doing something simply to do it, or are we doing it because it really adds value to our mission?”

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Heather T. Kowalski, Interpol Washington

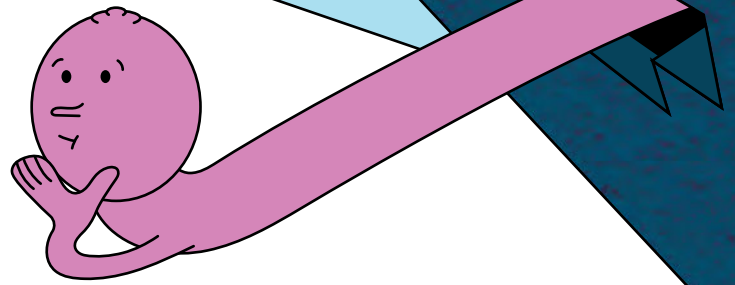
Think Spherically

It would be wonderful if government made decisions that everyone could understand, she mused. But that requires agencies to follow a logical progression of ideas based on what Kowalski calls spherical or 3D education. Instead of thinking just about the data itself, you need to understand what the data connects to.

"We need to understand that everything is related and that everybody needs to learn," she said, so that agency staff know what technology and other options to pursue.

From leaders to strategic technologists to new hires, organizations must train their staff to understand and question data and draw meaningful connections. And, when thinking about modernization one or two steps down the road, agencies need to consider how newer employees use and interpret technology, Kowalski said.

Young workers will replace retirees in significant numbers within 10 years, but young people haven't been trained to question data they find on the internet, and that threatens data integrity, she cautioned: "Your decisions, derived from data, are only as good as the data you have."



A Vision of Collaboration

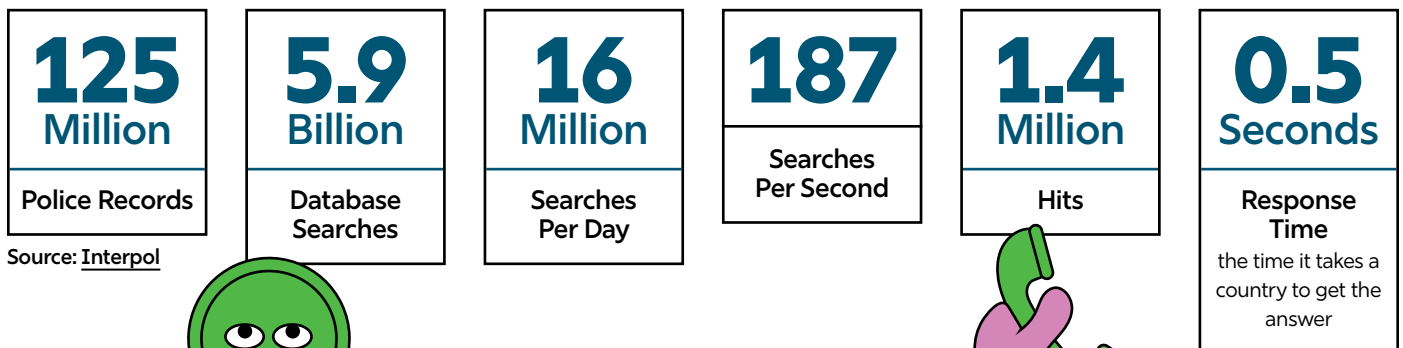
Many rules that prevent interagency data sharing are perfectly valid. But Kowalski said that various events have taught this country about the importance of letting government agencies coordinate.

Right now, Interpol, which is a component of the Justice Department, gets information from its partners, but a significant amount of data remains untapped. "I want to be able to metaphorically knock on the door of, pick an entity, and say, 'Hey, we have these 27 questions. Do any of these trigger anything in your system?'" she explained.

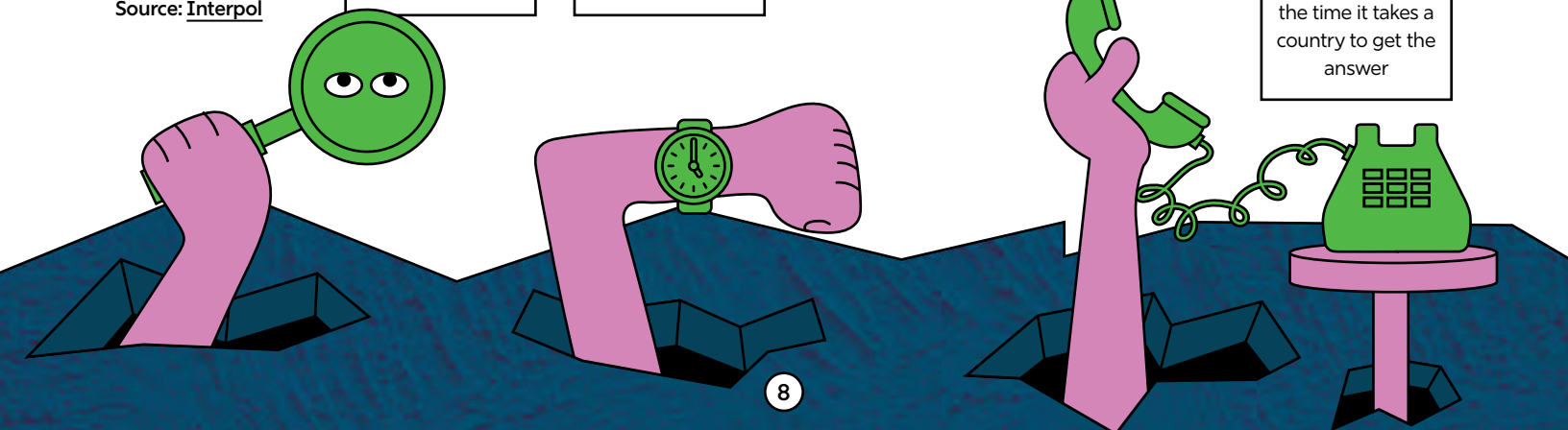
And if the entity says yes, perhaps recognizing a bank account or a person, then "we can get together on a very specific focus... and compare notes," said Kowalski. "There should be a way to connect the pieces."

19 Databases

Every search of Interpol's 19 databases is a potential break in a case for police worldwide.



Source: [Interpol](#)





To Be AI-Ready, Agencies Must Break Free From the Chaos of Connectivity

An interview with Darryn Graham, Solutions Architect, and Fabien Sanglier, Chief Solutions Architect, Software AG Government Solutions



Artificial intelligence (AI) is poised to transform nearly every aspect of agency operations. But to take advantage of generative AI and related solutions, agencies need to get their data under control.

The problem is that agencies have spent the better part of the past two decades integrating point-to-point solutions to address point-in-time problems. But as computing has evolved, with agencies continually introducing new systems and handling increasingly massive amounts of data while expanding to cloud, mobile and edge environments, they've lost the ability to easily access large swaths of data.

The result is a "chaos of connectivity" — a morass of systems that are integrated to an extent, but don't talk to one another.

"Initially, these things were pretty simple and fast to implement," said Darryn Graham with Software AG Government Solutions, an enterprise integration company. "But over time the complexity became exponential. With the size of the agencies in the federal government, this approach is not scalable."

Beyond Point to Point

One way agencies have attempted to work around this chaos is to deploy integration platform as a service (iPaaS), which is a cloud-based platform for managing integration between various software-as-a-service applications.

The problem is that iPaaS often sacrifices power for ease of use or may be unable to scale mission-critical integrations across geographies, IT environments and complex business ecosystems, resulting in multiple platforms — and continued chaos.

Agencies need a platform that addresses all their integration patterns, including data, applications, application programming interfaces (APIs), business-to-business transactions and event-based integration. That's the role of Super iPaaS.

It provides a unified interface of integrations across the enterprise, including hybrid multi-cloud hosting environments, geographies, user identities and teams. Super iPaaS is managed centrally by an integration center of excellence, giving agencies the ability to integrate anything, anywhere, in any way they want.

"That single pane of glass is what the Super iPaaS concept is really about," said Fabien Sanglier with Software AG Government Solutions. "It's that unified view. You can integrate pretty much anything — and everything — everywhere."

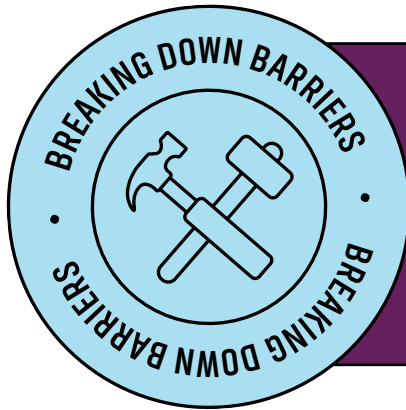
Core Benefits

Super iPaaS offers three core benefits:

- **Agility:** The ability to deploy anywhere and enable the seamless flow of information, allowing agencies to react in real time to changing demands or requirements.
- **Productivity:** A centralized interface and real-time access to data allows users to get more done quickly, increasing productivity and lessening the burden on the IT staff.
- **Governance:** A centralized view provides end-to-end visibility and observability across transactions throughout the enterprise, which simplifies compliance with the full range of regulatory requirements.

In short, it eliminates the chaos of connectivity.

"Using Super iPaaS finally liberates the data sitting in existing systems," Graham said.



The Government Workplace Makeover

Goal: Embrace a more flexible, agile and resilient workplace to accommodate workforce and mission needs.

Charles Hardy, Chief Architect of the General Services Administration's (GSA) Public Buildings Service, is a licensed architect, workplace strategist and certified construction manager. As the agency's lead executive in charge of workplace strategy, he oversees research and development of office innovations.

"The future of work isn't about creating a new type of office," Hardy said. "Rather, it's based on an understanding that the nature of work is going to continue to change."

Open a New Conversation

Since the pandemic, the conversation about workspaces has expanded to more participants — and more options. People have mastered the technology they need to work remotely, the technology itself has matured, and agencies have a much better feel for when an office presence is productive and when it isn't.

"That conversation now is about what you're trying to do, what you're looking to accomplish and how this can manifest in the workplace," Hardy said. "How can space, technology and HR policies enable mission?"

There is no one right answer, he warned, and no single solution will work indefinitely.

"You've got mission changes, you've got people coming and going, you've got leases expiring — all those things make it an ecosystem that's continually changing," Hardy said. "How do you create a solution that is efficient, effective, resilient, changeable and flexible?"

Offer a Curated Choice

"The biggest question about the workplace at the moment is, 'How many people are going to come back to the office?'" Hardy said.

Offices are "not going away... [but] they need to have planned adaptability. The right mix of in-person and virtual work will vary significantly depending on the type of work that's being accomplished, the location, the technology, the organizational culture, and even information and physical security considerations," he said.

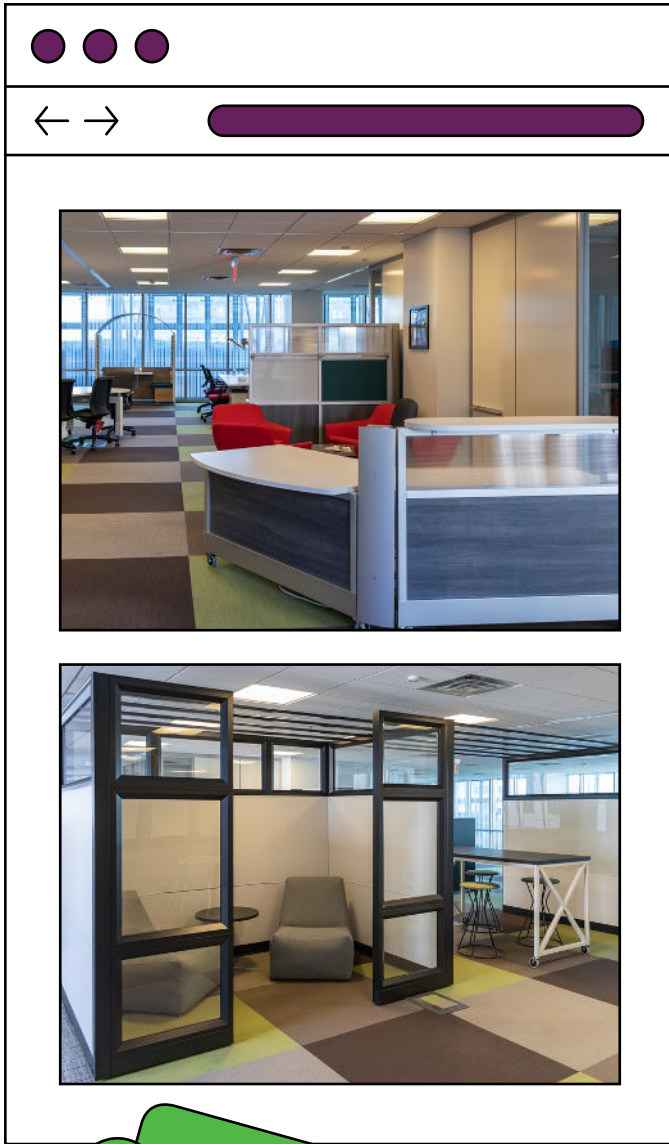
The key for employees is choice — but not infinite choices. "It's not 'whatever you want', but a curated choice aligned with mission: 'Here are two or three different things you can pick from. Which one fits your needs?'" Hardy said.

"Since [my team] started testing workplace strategies in 2005, the most significant workplace feature that attracts and retains talent has remained constant. It's offering that choice," he said.

"The future of work isn't about creating a new type of office. It's based on an understanding that the nature of work is going to continue to change."



Charles Hardy, GSA Public Buildings Service



Make Office Spaces Flexible

It isn't just policies that need to be flexible. The physical space itself should offer options for different kinds of work.

"In our Workplace Innovation Lab, we've got a kind of a residential/commercial mashup," Hardy said. "We've got a couch and a table and things like that, where you can sit and have meetings. We also have standard workstations and other desks and phone booths for privacy."

"But we've also had groups of 70 people picking up the sofa,... pushing chairs together and creating a forum where 70 people can meet in that same place, and then put it back in place, and everybody goes off on their own to individual [workstations]," he explained.

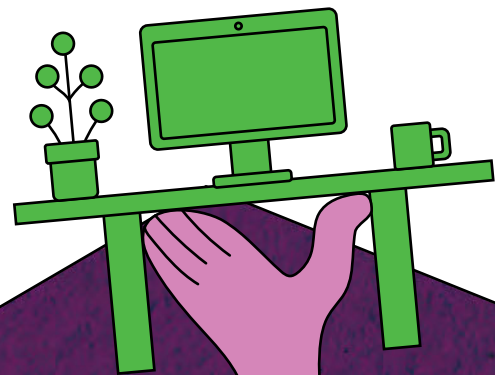
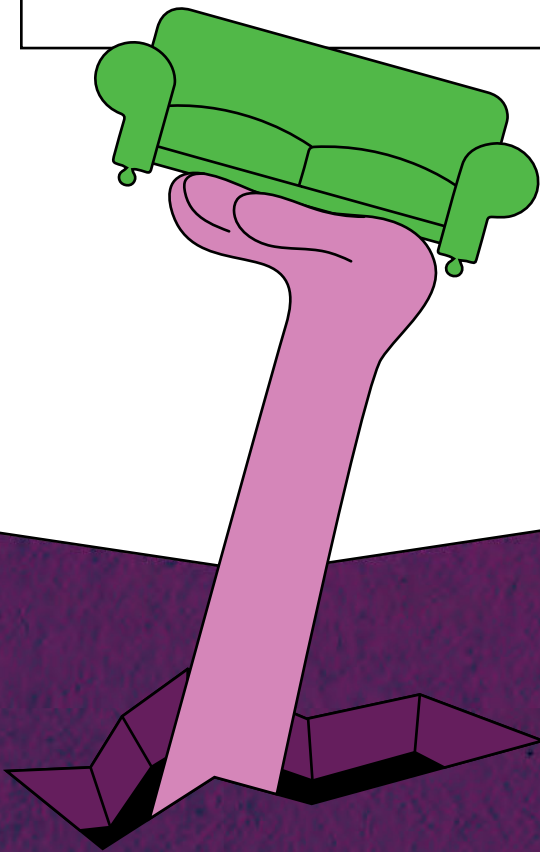
"That flexibility in the space to change to the need of the day and the mission will be super useful as we go forward," Hardy said.

Act Now

Hardy's advice to agencies seeking to become more flexible is simple: Act.

"Do something, and don't wait for things to settle down," he said. "If the winds change, we can address that then and move toward wherever we need to move toward. But if you fail to act, you're stuck in time, and those disruptions become far more impactful as you go forward."

"Create the proper agile and flexible ... and resilient space, [and] you can make those adjustments pretty quickly and pretty easily," Hardy said.





Respond to New Software Needs — Securely

An interview with John Allison,
Director, Public Sector, Checkmarx/TD Synnex

Checkmarx

TD SYNnex

Federal agencies need to make new software available quickly in order to meet emerging mission needs and rising constituent expectations. At the same time, they must protect their systems and processes.

It's an inherently difficult situation. If the code behind a new application has flaws, adding code for cyber defense on top of it "is not necessarily bringing you more security," said John Allison with Checkmarx. "With the money you spent to buy a firewall, would that ... have been better invested in application security, [in] the original application you're trying to secure?"

Agencies are under pressure to get this right. The National Cybersecurity Strategy calls for "secure development practices" related to software, while documents such as the Secure Software Development Framework from the National Institute of Standards and Technology likewise call for robust security throughout the application-development process.

AppSec Testing During Development

So how can agencies release new applications without creating new vulnerabilities? They can embrace a cloud-native platform for application security testing during the development phase.

Testing the security of applications during their development "benefits not only the federal agencies, but the end users as well," Allison said. Constituents can interact with government safely, knowing their personal data is secure, "and agencies are not waiting for delivery to find out that there are critical flaws, and then having to address those after an application has already been delivered."

Seeing Your Application Security Mistakes

The comprehensive Checkmarx One cloud-native application security platform offers agencies the testing they need throughout the software development life cycle. With a holistic set of scanning engines and analytics to help developers discover and remediate vulnerabilities in their preferred workflow, "it offers near real-time response: 'Here are the mistakes you made, here's what you may have overlooked,'" Allison said.

And with the ability to support teams in multiple programming languages, the AppSec platform "integrates seamlessly in [agencies'] build process, so as to not disrupt their workflow," he said. "And it gives leadership a single dashboard to see where everything's going."

The platform includes a risk prioritization indicator — so developers can focus their efforts on an application's most critical vulnerabilities first — and a policy management tool that helps agencies comply with relevant requirements.

Considering Contractor Security

In addition to securing their in-house efforts, organizations can leverage Checkmarx One to ensure that applications built by outside contractors are secure.

"Agencies can mandate application security requirements as part of the processes that their contractors need to meet when developing software," Allison said. And they can go even further, building fee structures that incentivize contractors to reduce the number of security issues in their applications, before they deliver to the government.

"Fixing software after it's delivered is always more complicated and expensive. Let's raise that bar before delivery," he said. For agencies moving in this direction, "Checkmarx is great for helping contractors meet those contractual obligations."



Move Your Data Habits Into the Future

An interview with Tom Scurlock, Regional Vice President of Public Sector, Qlik



Most agencies are sitting on a gold mine of data. But there's so much of it, they can't put the majority of it to work.

"Data is a precious asset," said Tom Scurlock with Qlik, a data and analytics company. "But that asset is only valuable if you can get to it," he added. Agencies struggle, he said, "because the data is in far too many disparate systems for them to access it."

Integration Is Key

Scurlock has found that agencies often spend 80% of their time preparing or connecting data, leaving only 20% for analysis and data-based decision-making. Through Qlik's cloud-based solution, with thousands of connectors that link different types of sources, it's possible for agencies to reverse that 80/20 ratio, he said, so more time is spent on useful action.

"Cloud brings together their data pipelines ... [and] that really empowers their team to make data-driven decisions," explained Scurlock. When data is integrated into a single, cohesive hub, agencies know better how to improve services.

Data Management Is Mission

Employees must be good stewards of public resources. If data is inaccurate, unsecured or incompatible with regulatory standards, the results could be disastrous.

For example, Scurlock said, how agencies handle medical supply chain data could impact public access to health care. Agencies should seek, in his words, "a safe and compliant cloud environment for them to innovate and act with purpose."

A platform such as Qlik's that democratizes data allows employees across the organization to use data to inform their work. That eliminates guesswork, Scurlock said, and enables more specific, intentional agency efforts.

Upskill Data Teams

During data transformation, what's paramount is who's on the team, what skills they have and how prepared they are for change.

Teams will thrive, Scurlock said, when they have "a culture that embraces change to tackle future-oriented use cases with AI and machine learning, automation, predictive analytics and government self-service. ... If they're not ready to use those types of tools, then it's going to be difficult to tackle use cases that are coming at them fast and furious."

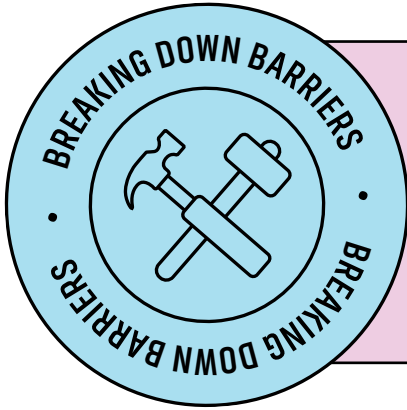
One of Qlik's key features, he said, is built-in AI to support user discoveries, with auto-generated visualizations and narrative insights. The system can help employees expand their skills and work with more datasets in real time.

Think Forward

Sometimes Scurlock sees an agency try to address one specific problem with its data. Instead, he said, it should look beyond that issue and retool the agency's data ecosystem.

"We extend value deeper than that one use case," he said about Qlik's approach. "We look at data quality, we look at their [extract, transform and load], we look at their analytics, we look at who their cloud providers are, we look at all of it."

Because data is the lifeblood of providing public services, its management system must be "built for the future, an ecosystem that can help drive better outcomes for the public," Scurlock said.



Open the Doors to the People You Need

Goal: Adopt skill-based hiring and develop training programs to build the staff you need.

Jon Rogers is Director of Strategic Workforce Planning at the Indiana Office of Technology (IOT), which oversees IT for the state's executive branch agencies. Partnering with the Indiana Department of Workforce Development (DWD), IOT has adapted an existing trade apprenticeship program to train people interested in a career change to IT and recruit them into roles in state government.

"We strongly need agility in the workforce. We need individuals ... who can be very flexible and are intellectually curious about technology."



Jon Rogers, Indiana Office of Technology

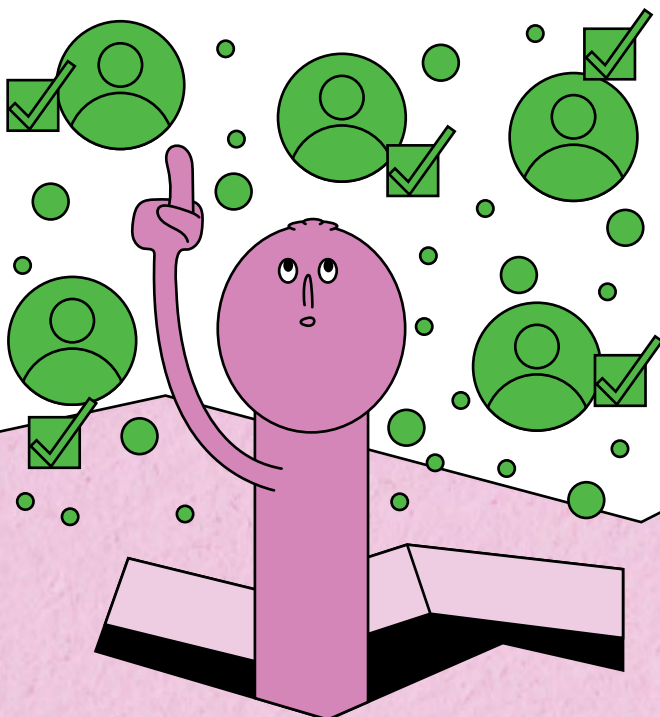
Hire for Skills, not Credentials

Governments at all levels struggle to recruit workers, especially for IT jobs. But IOT is finding ways to expand the pool of eligible applicants. That makes it easier to make good hires.

Working with the Indiana State Personnel Department in 2019, IOT began removing degree requirements from most job requisitions. "We've discovered that through skills-based hiring, we're getting a broader and more diverse candidate pool," Rogers said. "It makes it easier for us to find people who can be good communicators and also have the tech practitioner abilities."

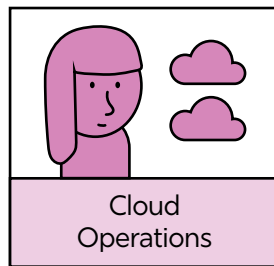
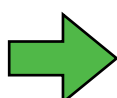
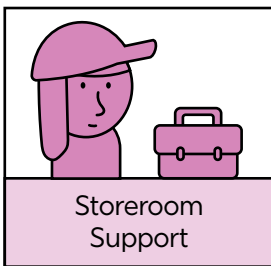
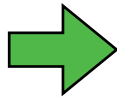
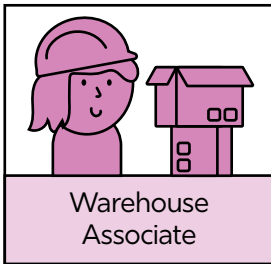
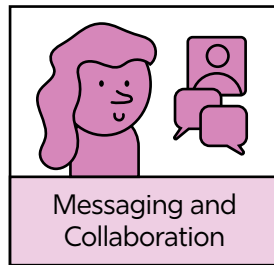
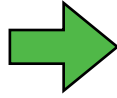
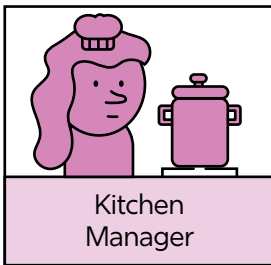
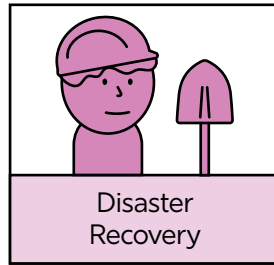
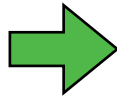
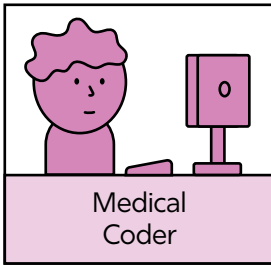
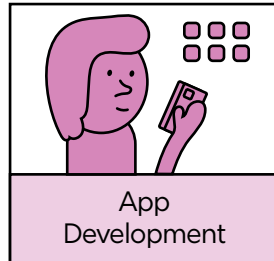
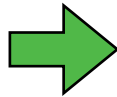
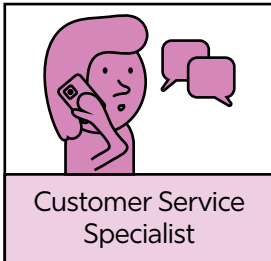
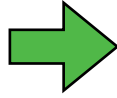
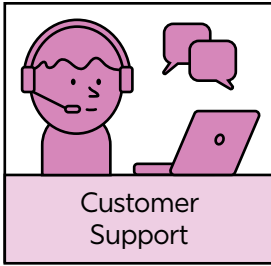
"When you post a job and only have 10 candidates, you have to hope someone in those 10 will have that combination of skills," he added. "When you're getting 100 candidates per requisition, your odds obviously increase." IOT is now exceeding the state average for responses per job posting.

When comparing candidates with varying combinations of education, experience and industry certifications, "it's on us, the employers, to know not what sort of credentials we want to see, but what skills we want to have on that job," Rogers said. "When the person enters on Day One, what do they need to know, and what can I train them to do on Day Two? If I can't articulate the skills that I want out of each of those people, it's on me."



Before:

After:



Train to Build the Workforce and Improve Lives

IOT isn't just welcoming more diverse candidates. It's also established a program that trains people who are interested in working in IT – and the public sector.

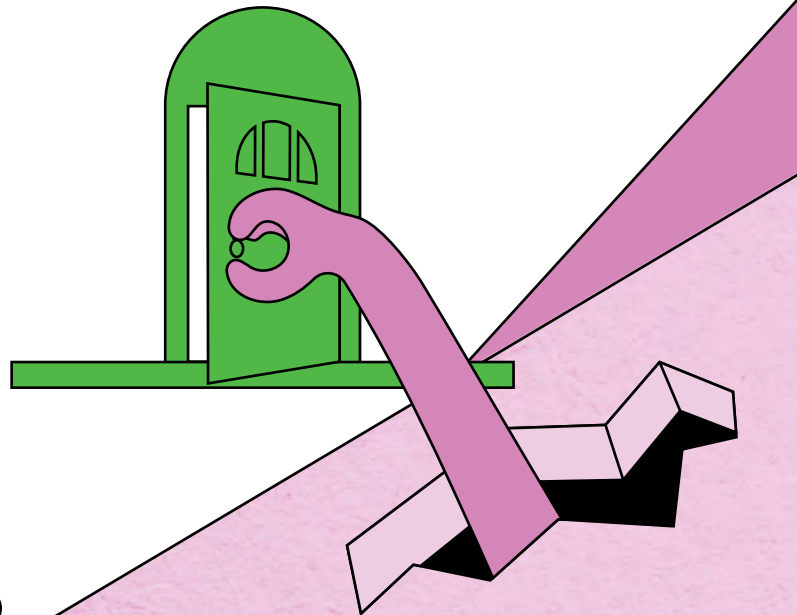
Borrowing the structure from DWD's State Earn and Learn program, State Earn and Learn IT offers paid training alongside IOT teams and opportunities to earn industry IT and cybersecurity certifications. The program takes 12 to 14 months to complete.

"We were the first state agency to use that approach to, quite literally, reskill adults from any other occupation into information technology and security," he explained. "I have someone who was a long-haul trucker who's now doing penetration testing. I have a mechanic who was just promoted to be a Linux administrator."

IOT evaluates candidates on their potential and commitment. "We want to find folks who have the right sort of transferrable skills into this career – the drive for public service, the dedication, the critical thinking, the communication," Rogers said.

The program started with two trainees in 2020 and has graduated 42 so far. Of the graduates, 39 hold state staff positions and one is a contractor. "Our retention rate is 95%," Rogers noted.

Looking forward, "my hope would be that other agencies adopt our model ..., and that we can just find more and more of these wonderful folks who want to work [in government]," he said.





Factoring People Into the Tech Equation

An interview with Winston Chang, Chief Technology Officer for Global Public Sector, Snowflake



The world is changing around us so fast that it's hard to keep pace. Like most other organizations, government agencies struggle to meet new challenges and directives.

"Clearly, the answer is technology," said Winston Chang, CTO at Snowflake, a leading data cloud company. "But it's not the whole answer. The nuance is that the technology has to work in concert with the workforce."

Encourage Adaptability

As much as people fear being replaced by technology, the issue for many agencies is the opposite: a shortage of qualified workers. If an agency wants to improve productivity and other outcomes, Chang explained, "the best way is to increase our talent and our technology together."

That means building a workforce with the skills to adapt to changing priorities and new technologies.

Recruit employees who are continuous learners with a strong foundation in the basics — including data literacy — that will allow them to absorb new ideas, Chang advised, and constantly upskill the workers you have. "Technology will keep evolving, and it's going to require the workforce to evolve," he said.

Choose Flexible Technologies

Flexibility is also the key to making good tech investments. "Think of technology in [terms] of its ability to adapt to the future," Chang said. "We have to be able to change things, to maintain a core, but know it can adjust and shift and be flexible."

That includes having an architecture that facilitates testing and revising new solutions quickly. Agencies need "a technology stack that helps you rationalize, integrate [and], incredibly important, expunge technology you no longer need," he said.

Linking Tech and Personnel

Technology choices need, to enhance the way employees work. "The best leaders are always thinking about how technology empowers their workers, empowers every person on their team to do more and to do better and focus better," said Chang.

"The way I view technology is that it's a force multiplier. Technology basically amplifies your talents," he said.

But it's not a silver bullet. Maximizing the effect of technology requires "getting your data house in order," he said, and that takes human effort. "It's [data] governance, discipline, process, hygiene. There are technologies out there that are absolutely wonderful, but they're like a really good solvent for cleaning. It doesn't [change] the fact that you still have to clean your house."

Snowflake offers a cloud-based data platform that is designed to make it easier for people to get their work done and not get caught up in the technology itself, Chang said. By providing so much functionality in a simple design, "it allows your talent to be focused on the mission," he said.

"If your agency is not invested in technology and human capital, with that cohesive strategy bringing them together, no matter how much money you spend, at best, you're just keeping up with everyone else. You will never get ahead," he said.



Building Skills for Growth

An interview with Steve Dobberowsky, Director of Thought Leadership and Advisory Services, Cornerstone OnDemand



Growing their workforce talent is one of agencies' biggest concerns.

"We're not developing our teams fast enough to address some of the needs that we have," said Steve Dobberowsky with Cornerstone OnDemand, a talent management software provider. "So, how do we become a skill-based organization?"

As technology jets forward, skill-building is a key determinant of career trajectory. Agencies can find ways to support employee development in ways that benefit both workers and their agencies, and Dobberowsky outlined a few methods.

Embrace Skill-Based Hiring

The Office of Personnel Management's current focus on skill-based hiring is a significant shift from prior approaches to the issue, he said. When degrees and certifications don't match requirements, learning potential is what makes applicants stand out.

Dobberowsky would like to see skills-based thinking woven into onboarding, so the process emphasizes professional development and helps new hires grow into leaders. That would allow for better succession planning and offer new career pathways, he said.

Manage for the Future

Managers can use knowledge of an organization's future needs to find gaps in capabilities, Dobberowsky believes. Although competencies ensure that tasks can be performed in the present, skills make an employee prepared to pivot and grow when things change. That's because skills are forward-looking, he said.

To support well-rounded development, he recommended rotational assignments that allow employees to undertake tasks outside their usual areas.

And whether it's basic compliance or specialized training, it helps to consider development from three angles: What does the organization need, what does

the individual need and how can we work collectively to develop? That's what Dobberowsky calls the "you, me, we" approach. Each area has priorities, but they must work together, he said.

Establish a Learning Culture

Individual growth is growth for agencies also, and employees can leverage their professional trajectories to support their organizations. Collective problem-solving and knowledge sharing — the "we" Dobberowsky mentioned — factors in here.

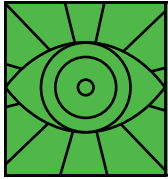
"The components that we're focusing on when we talk about skill-based development and skill-based approaches to talent management are building a culture of learning and growth," he said. Agencies can create environments that allow for safe experimentation, and growth improves both performance and retention, he added. A development-friendly environment is one in which people naturally want to stay.

A Learning Platform

Cornerstone's learning solutions support collaboration and skill-based communities within organizations. They embody "you, me, we" through educational pathways and employee recognition. In addition to handling robust compliance activity, the learning system hosts user-created content, helps managers access talent cultivation data, and delivers educational opportunities within employee workflows.

"It brings in that learning at the point when I actually need it," Dobberowsky explained. And for managers, he said, "it really gives you the opportunity, as an organization, to make talent decisions with data."

It all adds up to levels of transparency and applicability that help managers communicate the "why," calming employee fears about change. And, it creates an environment that facilitates staff and agency growth.



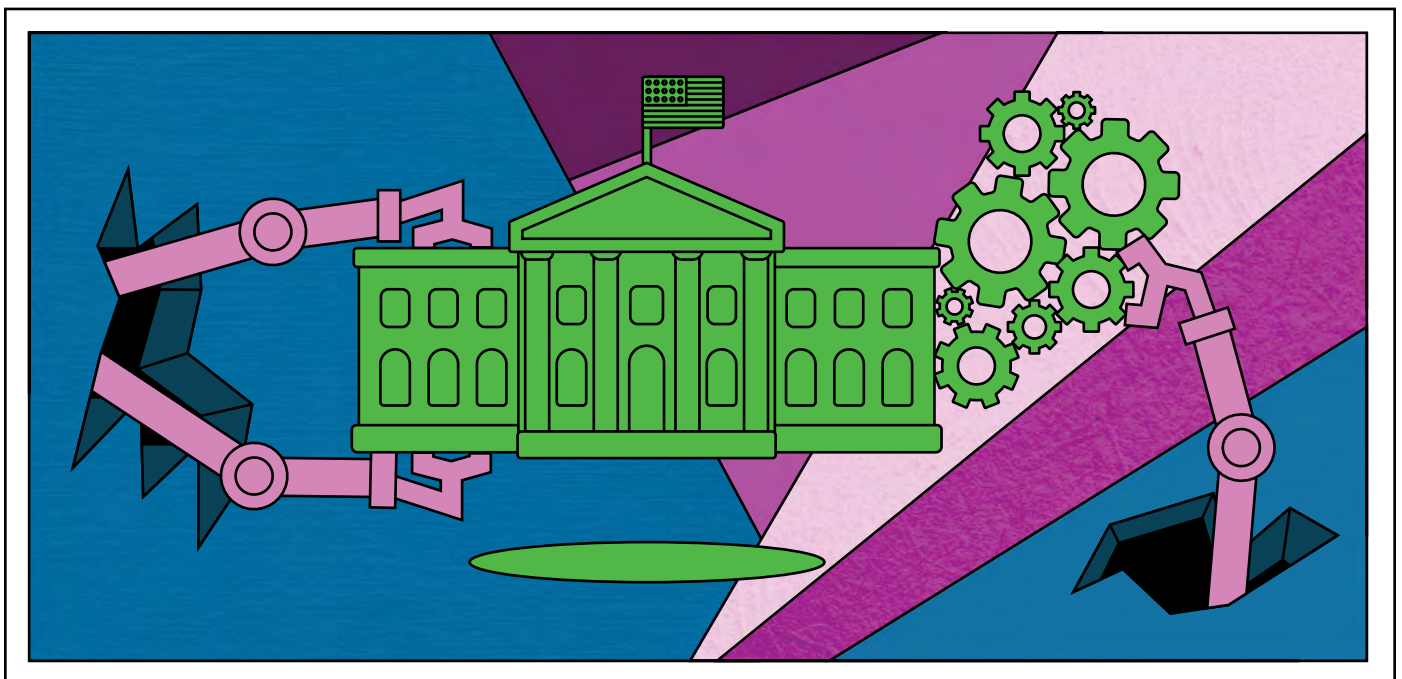
A Vision for AI in Government: The AI-Savvy Agency

AI could be one of the most significant areas of growth and development in government, as well as in places where the private sector and government meet. It is already transforming data collection, analysis and access, cybersecurity, and workforce management.

The White House's Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence (EO) lays out a strategy focused on monitoring, regulating and staffing the development of AI-based innovations. The order calls for guidelines in specific areas of government concern, including national security, intelligence, defense, justice and law enforcement, energy, health care, and transportation.

AI could improve government operations and services, but it also poses risks. How can agencies prepare to deal with them while making the most of what AI might offer?

Following is what the EO envisions.



Some Agency Uses of AI

- The Environmental Protection Agency uses AI tools that estimate chemical exposure and the probability that a chemical might reach the general population.
- DOE uses AI to leverage a broad, multimodal data stream to predict and understand natural disaster scenarios.
- The Department of Agriculture employs AI to create hydrologic models of spring-summer river flow volumes across the western United States and Alaska.

Personnel Power

There is a clear strategy for surging AI talent in government.

For instance, the EO states that within 45 days of its Oct. 30, 2023, issuance, the White House will convene an AI and Technology Talent Task Force to identify best practices for recruiting and retaining AI staff, and within 180 days of the issuance, the task force will issue a report on government's AI hiring progress.

In addition, the Office of Personnel Management will offer guidance on how agencies can use incentive and flexible pay programs to attract AI experts and will head an interagency working group to develop best practices for hiring AI talent across federal agencies.

Under the order, each agency must appoint a Chief AI Officer to coordinate work on AI and mitigate risks. Working with a governance board, the officer will develop processes for AI testing, including the use of red teams, or internal "hackers," who work to expose system flaws. Generative AI is of particular concern.

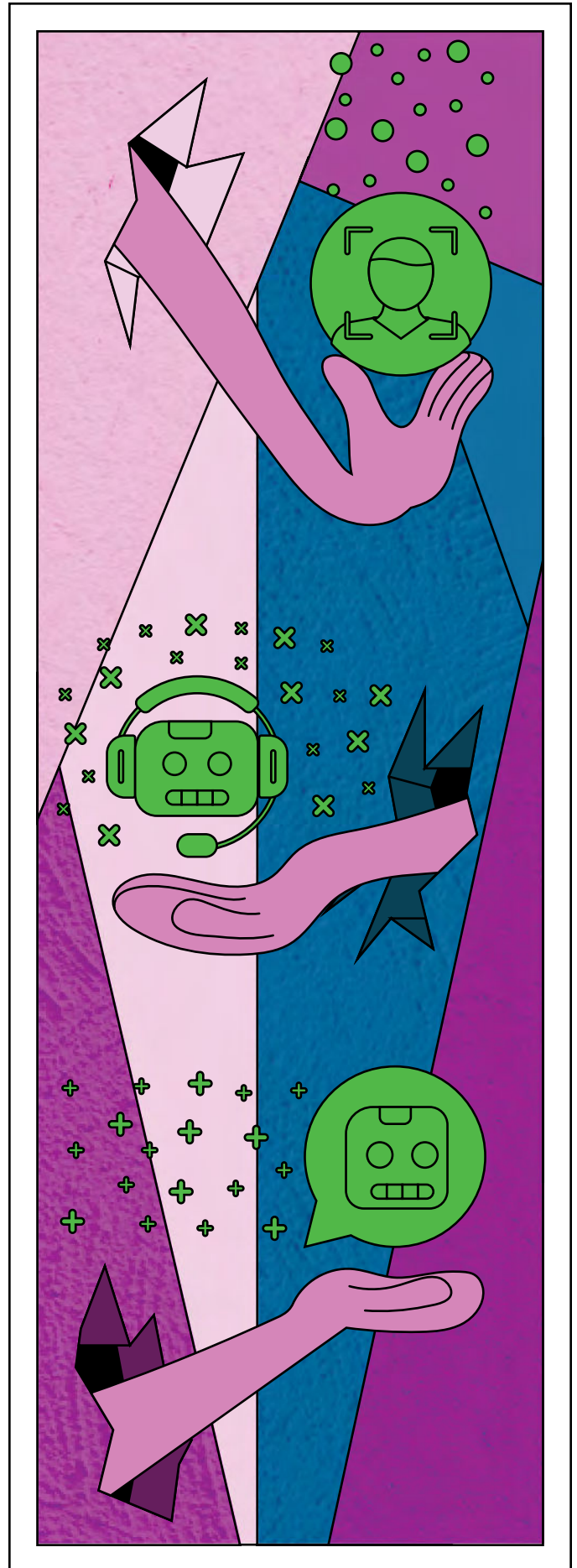
All this ties in with [AI.gov](https://ai.gov), which offers a portal to apply for federal job and fellowship opportunities and to find classes for building AI skills.

Safety First

One of the biggest challenges is ensuring that AI technology is safe for use in and outside government.

That's why the EO requires the National Institute of Standards and Technology to set rigorous standards for red team testing of AI safety before systems are released to the public. Protecting critical infrastructure is a priority concern. In addition, the Department of Homeland Security will establish an AI Safety and Security Board and will work with DOE to assess chemical, biological and nuclear risks.

The EO calls for an advanced cybersecurity program to develop AI tools to locate and repair vulnerabilities — building on an ongoing [AI Cyber Challenge](#), a two-year competition to create new, AI-based security tools. And the order emphasizes strengthened development of and research into new privacy-preserving techniques, including cutting-edge AI systems.



Steps Toward Equity

The [Blueprint for an AI Bill of Rights](#) acknowledges that irresponsible AI use can create discrimination and bias, and the [EO on Advancing Racial Equity and Support for Underserved Communities Through the Federal Government](#) directs agencies to work against algorithmic discrimination.

The new EO goes further, outlining additional actions to lessen discrimination, such as implementing algorithmic training and coordinating with the Justice Department's federal civil rights offices to develop best practices for dealing with AI-related civil rights violations.

Targeted concerns include housing, policing and criminal justice, labor and workplace, and agency support regarding the AI entrepreneurial ecosystem. That relates to facilitating technical assistance for small developers and "AI breakthroughs" for small businesses.

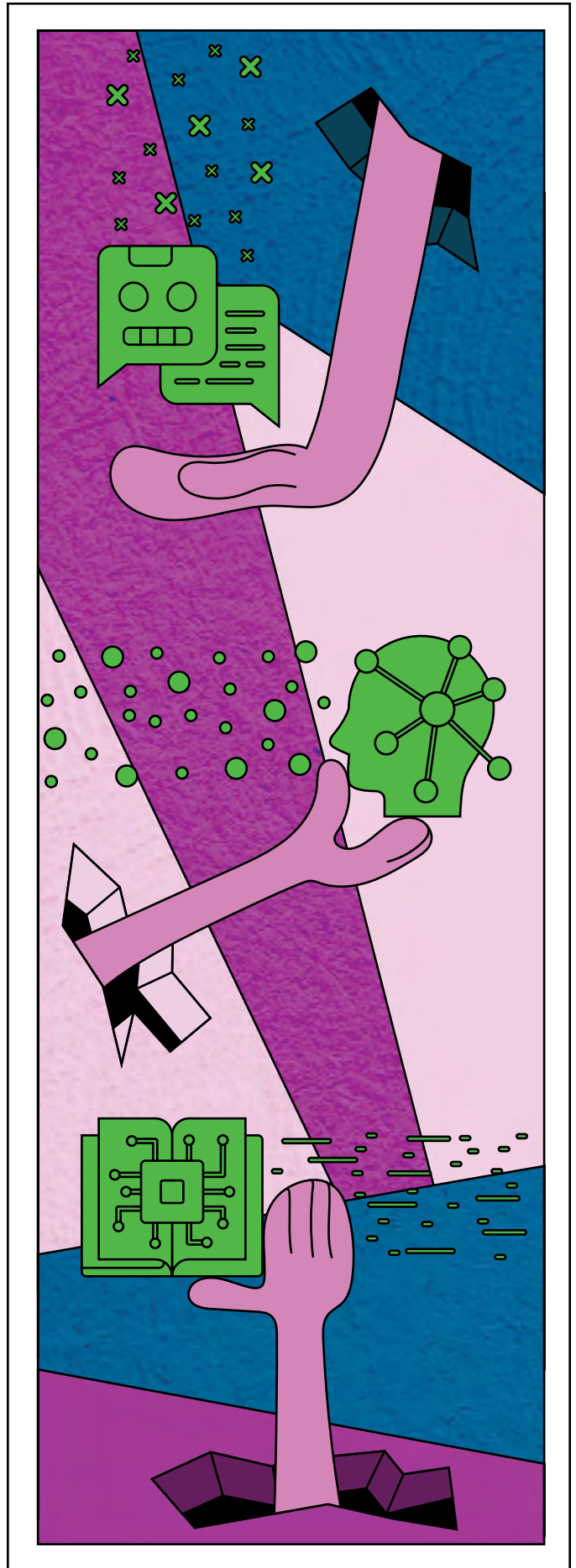
Making Friends With Machines

While there is still room to improve AI staffing and safety, there also is enormous potential in AI. Recognizing that, the EO lays out plans "to help agencies acquire AI products faster, more cheaply, and more efficiently."

The order foresees AI-based advances in education and research and creates a [National AI Research Resource](#) — a "shared research infrastructure that would provide AI researchers and students with significantly expanded access to computational resources, high-quality data, educational tools, and user support." The EO also calls for expanded grants for AI research related to health care and climate change. In turn, all those endeavors will inform government work.

"Harnessing AI for good and realizing its myriad benefits requires mitigating its substantial risks," the EO states. "This endeavor demands a society-wide effort that includes government, the private sector, academia, and civil society."

"In the end," the order continues, "AI reflects the principles of the people who build it, the people who use it, and the data upon which it is built."





Testing AI Calls for New Tactics

Insights from David Colwell, Vice President of AI and Machine Learning, Tricentis



Artificial intelligence (AI) brings exciting new capabilities to government IT. But working with AI, especially generative AI, means fundamental changes in the way software is developed and tested.

In October 2023, the White House issued its Executive Order on the Safe, Secure, and Trustworthy Development and Use of Artificial Intelligence. The EO calls for prioritization of safety and security and consumer protection against fraud and discrimination.

A New Approach to Testing and Validation

Recent advances have made building AI-driven applications deceptively fast. “A chatbot that would have taken years to build can now be built in a matter of weeks,” said David Colwell with Tricentis, a provider of automated software testing solutions. But that upends the traditional wisdom that it should take about as long to test new software as it took to develop. “It’s best to forget that spurious correlation ever existed,” he said.

The EO emphasizes invalidation in software testing — that is, not only checking that it meets requirements, but also assessing risks.

Organizations have been comfortable releasing software without allowing time and space for developers to explore ways that it could misbehave, according to Colwell. That was partly because traditional algorithms were confined in ways that guarded against unwanted results.

But AI’s inner workings are effectively unknowable, he explained. “There needs to be a much higher focus on exploring the negative space around what you expect the system to do.”

That means a testing process that’s independent of the development team.

Bringing in the Red Team

The EO calls explicitly for red team testing of AI — where independent groups attempt to force the application to make errors.

“Red team AI testing refers to a structured effort to identify vulnerabilities and flaws in an AI system. [It’s] based on Cold War-era battle simulations where red teams attack and blue teams defend against intrusion,” Colwell said.

The red team needs to be fully independent from the blue team that built the software. It should have its own project owner or manager and be free of the time pressure applied to the development phase.

Getting Up to Speed

Because AI is so different, even the most experienced software developers will need training to work with it effectively. For example, although IT teams won’t need to know how to train an AI model, they will need to understand how AI training works. Likewise, they’ll need to know about prompts, contextual grounding and other safety features.

And they need to understand the importance of being transparent about how AI is used.

How Tricentis Helps

The Tricentis Continuous Testing Platform includes everything agencies need to support the full testing life cycle across their enterprise application landscape. It covers packaged applications such as SAP and Salesforce and custom and cloud-native applications. It also integrates with open-source and DevOps tools to centrally manage testing activities and connect continuous test automation into delivery pipelines.



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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