

Introduction

Change is necessary to remain relevant, but sometimes the headaches of complexity can leave us feeling overwhelmed and stuck. That's true whether the task is creating workforce policies, designing more reliable tech systems or trying to improve daily workflows.

So how do you plan for the road ahead when there are multiple variables at play? The first step is acknowledging that there's a cost to inaction — beyond just dollars and cents. You might not feel it today, but as you'll hear from Corona Ngatuvai with the state of Utah, delays exacerbate challenges and risks when left unchecked.

Throughout this resource, you'll gain insights from both public and private sector doers and visionaries who are using technology to transform how their agencies operate and serve the public. They first shared their best practices and case studies during GovLoop's recent virtual event, which you can watch in full using the link below, and read about in the following pages.

You'll learn about the importance of creating a culture of agility, one that enables processes, employees and the technology that both depend on, to quickly adapt to change.

Kelly Taylor, Director of the Colorado Digital Service, put it this way: "I don't care how great your application is. If it's not resilient, if it's not there when people need it the most, it doesn't matter."

Read on for practical ways your agency can become more resilient and ready to embrace change.

[Watch the recorded session](#)

Experts



Corona Ngatuvai, Enterprise Architect, state of Utah



Jason Dudash, Principal Specialist Solutions Architect, Emerging Technology, Red Hat



Kelly Taylor, Director, Colorado Digital Service



Shonte' Eldridge, Certified Project Management Professional, Executive Government Advisor, Amazon Web Services, State and Local Government



Gary Chen, Research Director, Software Defined Compute, IDC



Tom Swamson, Deputy Chief Information Officer, city of Philadelphia

Is Modernization Worth the Effort?

3 Factors to Consider

Given a limited budget, how do you make a go/no-go decision on an IT modernization initiative?

Try approaching it like a home improvement project, said Corona Ngatuvai, Enterprise Architect for the Utah Department of Technology Services.

As every homeowner knows, it's never a simple numbers game. Yes, every project has its price, but that price is only part of the story.

For example, let's say you bought a house with a swamp cooler – that is, a system that cools the house by evaporating moisture, rather than blowing cold air. You would much rather have traditional AC, but making the change would not be cheap. Is it worth it?

Ngatuvai said you would look at three factors:

- **Cost.** How much would installing AC cost upfront, and what's the return on investment?
- **Maintenance.** How much would it cost to maintain the existing system if you chose not to replace it? In other words, at what point will ongoing maintenance costs eat into any costs you avoid in installing the new system?
- **Risk.** What are the risks of postponing a decision? For example, could you find yourself dealing with more costly problems in the event of a breakdown?

Case in Point: Data Center Migration

For Utah, these dynamics came into play with its data center migration initiative.

Prior to the pandemic, the state planned to move its primary data center from the capitol in Salt Lake City to Taylorsville, which is 13 miles away. The state chose to delay the project and focus its energy on COVID-19-related efforts.

While a necessary decision, the delay had ripple effects that became apparent when the state resumed work on data center migration in April 2021, Ngatuvai said.

For example, state officials were planning to upgrade data center hardware as part of the migration project, which introduced some risk. "Because that project was on hold, we couldn't address that at the time, and that equipment continued to age," he said. "As it aged, our plans strategically changed to say, 'How do we mitigate all of this aging infrastructure while planning on a data center move from Salt Lake to Taylorsville?'"

That question, in turn, led to a broader discussion about their data center strategy. Given the growing concerns about hardware infrastructure, they are now looking for ways to shrink their on-premises footprint as much as possible, Ngatuvai said.

"Where our initial goal was to move things from Salt Lake to Taylorsville, we now are considering all options to say, 'Hey, can we move things into the cloud?'" he said. "And if we can't move it to the cloud, then what other options do we have to get it out of Salt Lake?"

Bottom Line: Such a discussion would not have happened if Utah officials were looking at upfront costs alone. By factoring questions about maintenance and risk as well, they are more likely to end up with a better long-term strategy.

What is your agency's biggest barrier to modernization?

- Funding
- Policy
- Workforce
- Leadership
- All of the above



Driving Transformation With Direction and Vision

What problem are you trying to solve?

The above is an expression that's niche-famous within the government tech community. The simple question serves as an important reminder and warning for teams: Don't get caught in the weeds. Answer the question.

The United States Digital Service (USDS) emblazoned the phrase on stickers that have found their way into tech offices around the United States. Kelly Taylor, formerly of USDS, is the Director of Colorado's Digital Service, and from USDS to CDS, he's brought the stickers with him.

"It's never about 'How do you build this thing?'" Taylor said. "It's really about 'What are the problems you're trying to solve?'"

How, then, do you get from problem to solution?

Below are two problem-solving case studies from Philadelphia and Colorado, accompanied by insights from AWS and research from IDC.

How Colorado Solves Problems

Colorado's been very forward-moving as a "technology progressive" state, Taylor said, using Google Drive and offering citizens digital driver's licenses. But COVID-19 put its transformation to the test, all the way down from strategy to technology.

The state has 64 counties and 53 local health agencies, and COVID-19 data collection was county-controlled. But, of course, the effort to contact trace and monitor cases extended beyond counties; those efforts were carried out statewide.

The state had the job of aggregating, analyzing and reporting back information to the population, despite receiving information from all kinds of systems. But because of its transformational approach, Colorado found a way.

"We got involved, our tiny little team, and said, 'Hey, let's do some user research. Let's talk to contact tracers. Let's talk to the local public health agencies.'" Taylor said. "And we did that, and teased out more of an accurate view of what everyone needs."

Pairing up with acquisition teams, the state created a vendor matrix to ensure that its solution would check all the boxes. The procurement team sat through interviews and listened to users' concerns before reaching the final stage.

A two-week bake-off for the final vendors in consideration took place, during which they built APIs, created sandboxes and performed usability testing. That way, users were more comfortable with the final result.

"Instead of just checking boxes, they could actually trace a test case, and then give feedback," Taylor said. "That combination is super powerful."

Lesson Learned: Continuous improvement and human-centered design is the wave of the present, not the future. Bring procurement teams to the table and have them discuss with users what the end experience should be. Then, try out solutions together.

"We've seen this marriage of UX and procurement coming together," Taylor said.

Industry Advice: "The people who are actually ... the boots on the street, [make] sure that they're also part of the process. Because they may figure out all of those areas that you weren't even thinking of," said Shonte' Eldridge, a certified project management professional and Executive Government Advisor for Amazon Web Services' State and Local Government market.

How Philadelphia Solves Problems

True tales of transformation take many different forms.

An obvious example is when a city can roll out an accessible and intuitive application that's there for residents when they need it.

But it could also be as "joyous" as when the Philadelphia Eagles win their first ever Super Bowl — mind you, with a backup quarterback running a trick play to seal it — and the city website reliably and unfailingly provides residents flocking downtown with parade information. Still, even that isn't Deputy Chief Information Officer Tom Swanson's favorite story of transformation in Philadelphia.

"My favorite example, however, is we built an application a few years ago called atlas.phila.gov," Swanson said.

Atlas.phila.gov consolidated a slew of applications, aggregating their information. Afterward, just based on typing in one address, users could access all the pertinent information they needed on the property.

A year after the application came to fruition, Swanson noticed a department had cleared the deed information batch a year early. He went to the department head to inquire how and why they'd gone through that information so quickly.

The answer: Atlas decreased walkup traffic seeking information on deeds by 80% because people could retrieve their own information and access it 24/7. Staff then moved onto other projects and cleared backloads they'd not been able to reach.

"It's about people being able to focus on other things they need to do," he said.

Lesson Learned: Swanson said he's grateful for the conversations he had three years ago, communicating openly about the importance of operating budgets. With these projects, he believes he was able to prove the value of IT, which let them get the funding and communication necessary to continue the work.

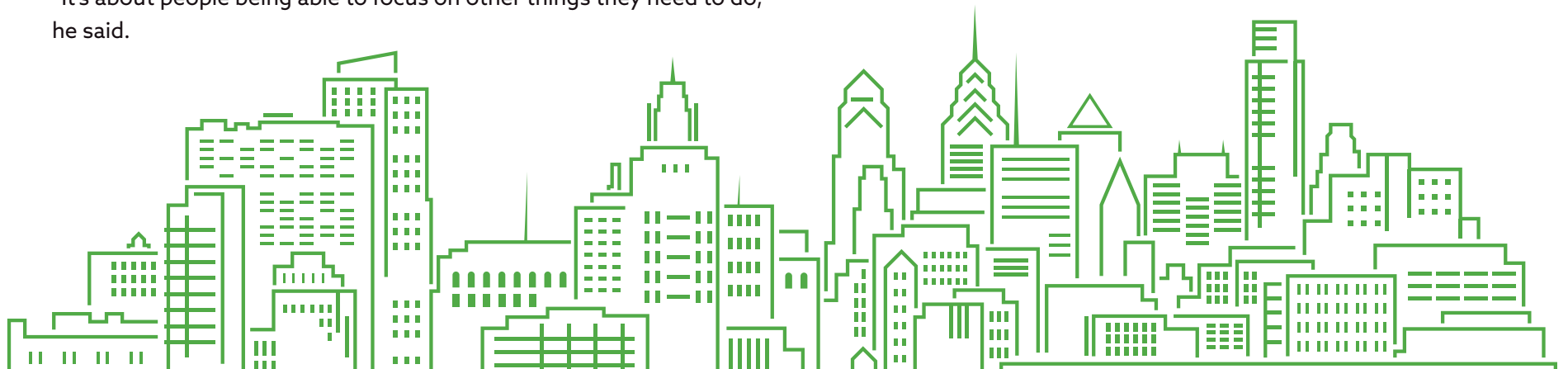
"We showed the value of IT organizations and what they can do," Swanson said.

Industry Advice: "The time to bring in IT is not after the business decision has already been made. It really is involving the technologists for finding out what the problem is, and then working with the technology department, or the IT department, to solve it the best way," said Eldridge with Amazon Web Services.



Idea Box: For years, agencies have grappled with the high costs of maintaining and operating IT systems. The result is that agencies have less available funds for modernization and innovation. Federal programs like the Technology Modernization Fund aim to give agencies the capital funds they need to improve existing systems. "Our research shows that in the federal government, it's about 75% that's allocated [to maintenance] and demands diversification. ... Try to change that.

— Gary Chen, Research Director of Software-Defined Compute for IDC



Powering Your Agency's Transformations With Innovation

For some, innovation might feel like a magic spell that governments are expected to cast whenever they must adapt to change.

But the reality is innovation remains out of reach for many agencies. It's easier said than done when people and dated processes seem to resist change. Upgrading technology also becomes harder the more budgetary, labor and regulatory constraints agencies have. Together, these factors are making the agility governments need for innovation and transformation feel daunting.

Enter cloud-native technology. Cloud-native technology refers to the systems, processes and tools designed for rapid change with cloud computing. Cloud computing decentralizes IT infrastructure so resources like data storage are available anywhere at any time. Agility and innovation are the ultimate goal of going cloud-native with government transformation efforts.

"Successful organizations have adapted to expect change and are constantly transforming themselves," said Jason Dudash, Principal Specialist Solutions Architect for Emerging Technology at Red Hat, an open-source software provider. "Cloud-native technology will enable you to do so many parts of that transformation."

Dudash explained three ways agencies can leverage cloud-native technology to fuel innovation and transformation.

Score Quick Wins

No agency can change lanes if its employees are reluctant to drive cars. Subsequently, rapidly scoring victories with cloud-native tools can demonstrate the technology's value to skeptics. For example, cloud-native software can be designed, secured and launched in a fraction of the time this process takes with legacy software.

"This is where cloud-native has a role in giving teams the agency they need for short-term wins," Dudash said.

Gradually, cloud-native tools create more agile agencies that innovate and transform more easily.

Establish Metrics

Not only do people need to change for innovation to flourish, but processes do too. Agencies should measure how their cloud-native tools are performing to decide their next move.

Take software testing. By gauging how long it takes their software to recover from testing errors, agencies can improve these products to make them more resilient.

"Transformation strategy is driven by business and agency requirements," Dudash said of why metrics matter. "How do you know if you've actually succeeded?"

Continuously Evolve

To keep up with change, agencies must constantly innovate and transform. One option for continuous innovation and transformation is avoiding inflexibility.

"Make sure what you're designing today isn't locked into a single technology or vendor," Dudash said.

Open-source software and Kubernetes, for example, can help accelerate innovation. Open-source software's source code is available to anyone for any purpose, making it ideal for innovative collaboration. Kubernetes, meanwhile, is a platform for deploying, operating and scaling computer applications. Cloud-native technology fits easily with both tools, generating exponential returns on innovation and transformation for agencies.

Bottom Line: "Technology is supposed to be the enabler," Dudash said. "Given two technologies, the one that is easier to configure and consume is the one that wins."

How AWS and Red Hat Help

Highly available, cloud-based applications are at the core of modern organizations, but they must be configured properly to be effective. Consistent platforms and processes are needed to manage applications across on-premises and cloud environments. Red Hat OpenShift Service on AWS (ROSA) is a fully managed and jointly supported offering that combines the power of Red Hat OpenShift, the industry's most comprehensive enterprise Kubernetes platform, and the AWS public cloud. Together, they deliver an innovative application foundation that helps you optimize processes, provide on-demand services and resources, and speed development of high-quality applications so you can become more agile and successful.

Learn more: www.openshift.com/products/amazon-openshift

Takeaways

7 Ways to Create a Culture of Agility

Here's a collection of tips from this resource to guide your agency's transformation journey.

- 1. Plan for modernization.** If you don't plan for it, you will be forced to modernize, and you don't want catastrophic events to drive your efforts.
- 2. Constantly monitor your priority list.** Make modernization a habit that you can maintain.
- 3. Evaluate modernization holistically.** Three factors to consider when prioritizing modernization projects include cost, maintenance and risk.
- 4. Don't relegate transformation to technology alone.** True transformation must account for people, processes, technology and culture – and how they all work together.
- 5. View technology as an enabler,** while remembering that today's modern tools may become tomorrow's legacy technology. Adapting to change is key.
- 6. Measure metrics.** Solid metrics can help agencies determine how well they've changed and plan for next steps.
- 7. Prioritize continuous improvement and human-centered design.** They are the wave of the present, not the future.



About Red Hat

The adoption of open principles helps the U.S. government start, accelerate, and improve the art of digital transformation—people, process, and technology. As the world’s leading provider of enterprise open source solutions, Red Hat uses a community-powered approach to deliver reliable and high-performing Linux, hybrid cloud, container, and Kubernetes technologies. Red Hat helps customers integrate new and existing IT applications, develop cloudnative applications, standardize on our industry-leading operating system, and automate, secure, and manage complex environments. Award-winning support, training, and consulting services make Red Hat a trusted adviser to the Fortune 500 and 100% of U.S. executive departments. As a strategic partner to cloud providers, systems integrators, application vendors, customers, and open source communities, Red Hat can help organizations prepare for the digital future.

Learn more:
www.redhat.com/en/solutions/public-sector



About AWS

With over 2,000 government agencies using AWS, we understand the requirements US government agencies have to balance economy and agility with security, compliance and reliability. In every instance, we have been among the first to solve government compliance challenges facing cloud computing and have consistently helped our customers navigate procurement and policy issues related to adoption of cloud computing. Cloud computing offers a pay-as-you-go model, delivering access to up-to-date technology resources that are managed by experts. Simply access AWS services over the internet, with no upfront costs (no capital investment), and pay only for the computing resources that you use, as your needs scale.

Learn more: aws.amazon.com



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.
www.govloop.com | [@GovLoop](https://twitter.com/GovLoop)