

# INTELLIGENT INNOVATION: TECH TRENDS TAKING ROOT IN STATE AND LOCAL GOVERNMENTS





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# EXECUTIVE SUMMARY

*State and local governments are the pillars of community.*

While the national government – and the politics behind it – often receives more publicity, state and local governments are what power our daily lives. National parks might be our nation’s treasures, but local parks are where your son or daughter will learn to swing a bat or shoot a basketball. The Library of Congress is where national policy is crafted and researched, but local libraries are the powerhouses of continuous education for all people, from toddlers to the elderly. The Supreme Court can dictate decisions of executive power and national enforcement, but local and state courts decide every day whether a person is guilty or innocent. Local and state employees, technology and policies create a framework that affects change all the time.

Hot-button issues are under consideration today in state and local governments. How will the public sector use and protect the sensitive data of its constituents? How will law enforcement agencies repair trust with their communities? How will tax dollars go back into the public good?

All of this is on the table, but to improve your community, you have to understand the process of how services are delivered. In this guide, we’ll review how state and local governments are executing decisions that dictate the future of communications, cloud technologies, cybersecurity and the workforce.

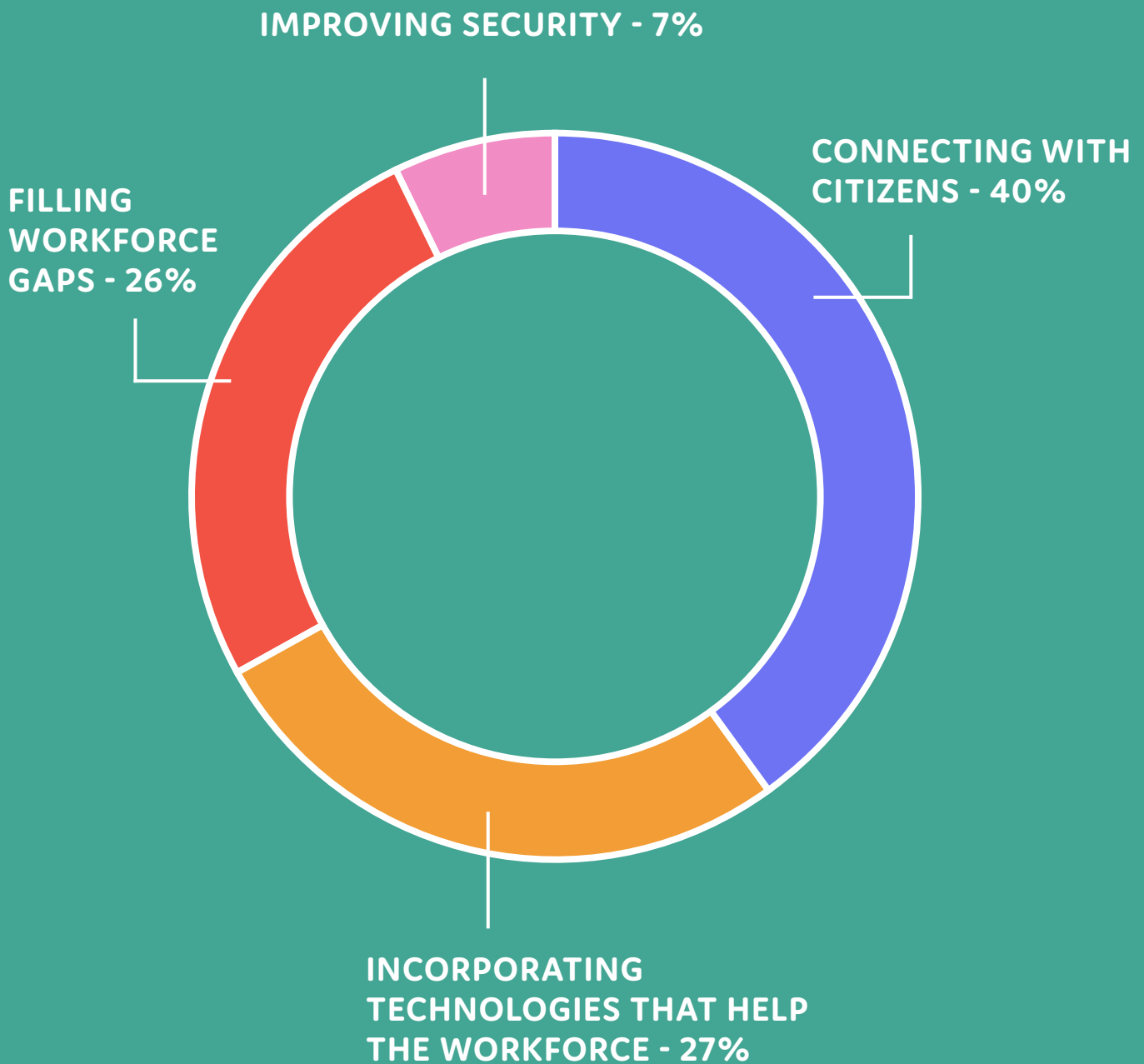
This guide will contain:

- Up-to-date trends in state and local governments
- The newest developments in workforce and technology
- Takeaways from NASCIO and best practices from state and local leaders
- Eight case studies of new practices and technologies
- And more!

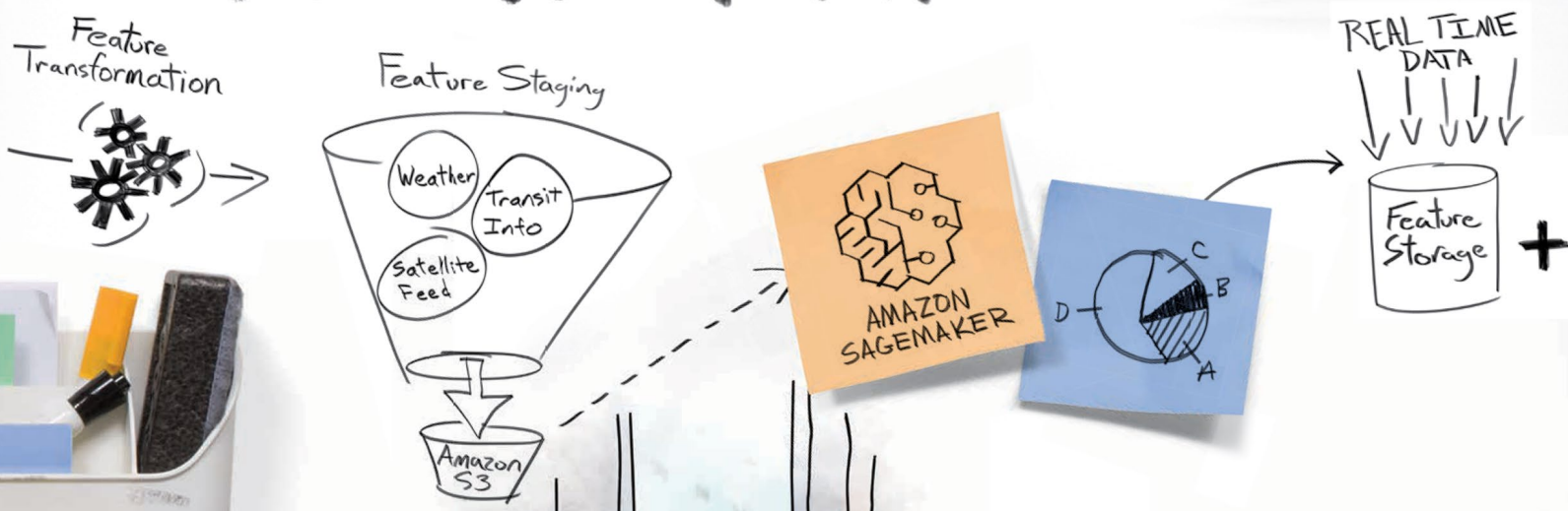


# WHAT IS YOUR DEPARTMENT'S BIGGEST FOCUS FOR 2019?

*At GovLoop, we asked more than 100 readers in state and local governments, "What is your department's biggest focus for 2019?" These were the results.*



# TEACH OLD CITIES NEW TRICKS



**! TRAIN #234:  
ON TIME**

7:00p	100	On Time
8:00p	210	On Time
9:00p	34	Delayed - 10 min
10:00p	404	On Time
11:00p	55	On Time
12:00p	61	On Time
1:00p	206	On Time
2:00p	77	Delayed - 5 min
3:00p	103	Delayed - 8 min

Governments around the world trust the cloud with the most functionality, innovation, and experience.

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## INDUSTRY SPOTLIGHT

# BRINGING IN AN INNOVATIVE WORKFORCE TO DELIVER INNOVATIVE SOLUTIONS

An interview with Hardik Bhatt, Leader for Digital Government Vertical for U.S. State and Local Government, Amazon Web Services (AWS), and former CIO, the state of Illinois, and the city of Chicago

What goes around comes around. People often get into IT and service delivery because they're enthralled by cellphones, video games and robots. These same people want to further the progress of these technologies and develop new ones, such as drones, driverless cars and virtual reality.

Expectations of modernity are just a part of 21st century life, so when state and local governments are operating off of mainframes and delivering outmoded interfaces, nobody's happy – not public sector employees who want to deliver change, and certainly not constituents. Fortunately, the cloud can help.

To learn how the cloud can recruit an innovative government workforce to deliver better services to the public, GovLoop spoke with Hardik Bhatt, Leader for the Digital Government Vertical for U.S. State and Local Government at Amazon Web Services (AWS). Before coming to AWS, which offers on-demand cloud computing platforms to governments at all levels, Bhatt separately served as chief information officer (CIO) for Chicago and Illinois.

“Cloud completely, holistically changes how you manage your government operations, serve your constituents, and it also changes your culture,” Bhatt said.

Government IT systems can be decades old and expensive to maintain. Bhatt said when he was CIO for Illinois, 70% of his investment went toward a faltering and aging mainframe. While Illinois tried to innovate under his tenure, the state

struggled to make all of the strides he wanted it to – because of ball and chain on-premise systems.

Recruiting young workers to government positions can be difficult enough, but potential employees can be further repelled by poor technology.

Cloud expedites workflows and energizes workforces. Anchored by cloud, [Maryland's Total Human-services Integrated Network \(MD THINK\) program](#) was able to quickly evaluate cases, determine aid and report remotely. Because of the cloud, service delivery efficiency went up, and costs went down, meaning that caseworkers could spend more time in the field helping children and less time behind a desk doing paperwork.

Bhatt said that instrumental behind successful cloud adoptions is dropping a project mindset to focus on products. Whereas projects can get caught up in organizational potholes, products directly provide benefits to constituents.

“When you think about product, the first stakeholder that comes to mind is a customer,” Bhatt said.

AWS lets government employees streamline their work and discover capabilities in the cloud, while using familiar suites of applications that are user-friendly and familiar. These services can be immediately turned into front-facing services, such as customer service and election portals, and AWS offers training programs for government employees.

Delivering products, instead of maintaining systems, is a change of mindset for many state and local governments. However, the cultural adjustment can make room for a new public sector workforce that will usher in an era of citizen-first services, all supported by the cloud.

**“Cloud completely, holistically changes how you manage your government operations, serve your constituents, and it also changes your culture.”**

– Hardik Bhatt, Leader for Digital Government Vertical for U.S. State and Local Government, Amazon Web Services (AWS), and Former CIO, the state of Illinois, and the city of Chicago

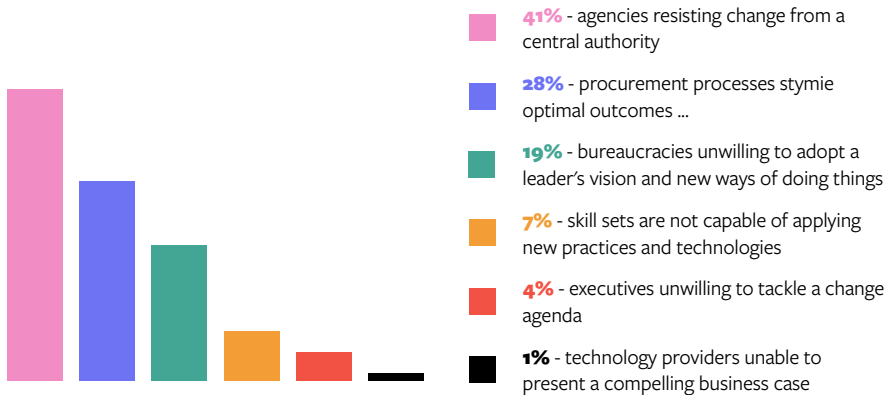
### MAIN TAKEAWAY

Governments need an upgrade of their service delivery because citizens expect top-notch amenities. This change doesn't happen in a vacuum, though. The right workforce, assisted by the cloud, can break the constraints of maintenance to deliver helpful and mission-driven services to constituents.

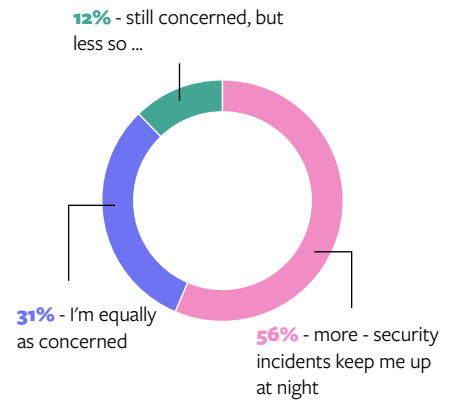
# NASCIO STATS

The National Association of State Chief Information Officers' (NASCIO) Midyear Conference was held in May 2019 in National Harbor, Maryland, for a crowd of state employees, chief information officers and industry representatives. The Midyear Conference reflects on the annual goals of states and shares tips and success stories that can assist other state leaders.

## Which is the biggest impediment to modernizing government practices, service delivery and citizen engagement?



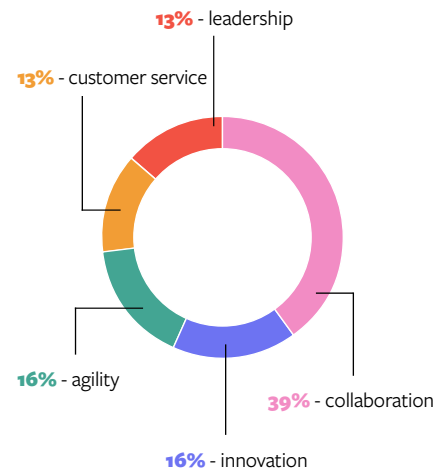
## Are you more or less concerned about security incidents than in years past?



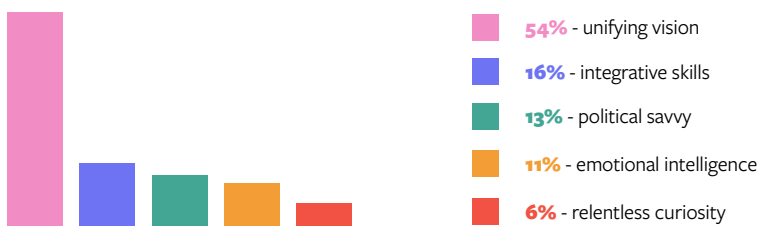
## How do you factor the cloud into your IT modernization initiatives?



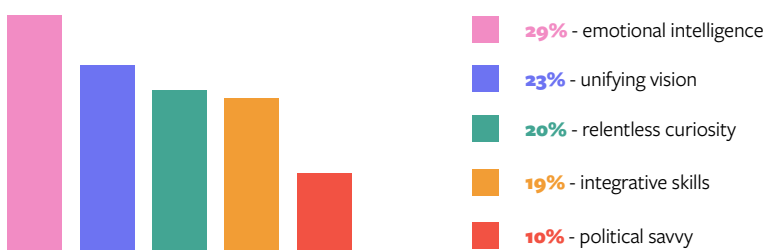
## What skill does your organization view as most critical for workforce transformation?



## In a world of "State CIO as Broker," which of the essential traits do you think is most important?



## Which trait is easiest to you?



Percentages might not add up to 100% due to rounding.



# 5 TAKEAWAYS

## FROM THE NASCIO MIDYEAR CONFERENCE

### 1.

#### SOFT SKILLS ARE IN

Technical expertise will always have its role in government, but moving up the state and local career ladder often requires the honing of softer skills. Soft skills, such as emotional intelligence and brokering partnerships, can be developed and are often the key to successful government missions.

### 3.

#### YOU DON'T NEED A DEGREE IN COMPUTER SCIENCE, BUT FAMILIARIZE YOURSELF WITH CORE IT AREAS

The office computer whiz is no longer on the fringe; technology is a community that includes you. Cybersecurity and IT advancement are incumbent on every member of the workforce, whether that's understanding how to use a new piece of technology or sniffing out a phishing email. Caring about the mission now means protecting important data and preparing to welcome incoming technologies.

### 5.

#### YOUR CAREER WILL STALL IF YOU STOP LEARNING AND GROWING

Rapid change is on the way, but in virtually every government, there are opportunities to acquire knowledge and grow your career. Free online courses and inexpensive training sessions have allowed governments to address targeted areas of need, and individual employees can explore citywide and statewide programs to fill gaps and learn new skills.

### 2.

#### BUSINESS VALUE IS CENTRAL TO EVERY ACTION

Tom Cruise immortalized the phrase “show me the money” in “Jerry Maguire,” screaming until he went red to prove devotion to his client. Governments operate the same way – along the bottom line. Money doesn't always have to be the end goal, but there needs to be a provable result to every interaction when it comes to the mission of state and local governments.

### 4.

#### THOROUGH RESEARCH IS NECESSARY TO CAREER ADVANCEMENT

There's information to be gleaned, whether from publications, research groups, other departments or industry partners. Opening the door to an ongoing current of communication can beckon ideas and changes that were previously unfathomable. There are few skills more important in government than listening – be it to customers, coworkers or mentors.

# In one year, State & Local Government invested \$103B in tech spend.

Are you ready to support the demand?

**Be prepared: bring service &  
project management together  
on a single platform.**



## INDUSTRY SPOTLIGHT

# ARE YOU READY? THE RAPID INCREASE IN TECH SPEND HAS IT LEADERS THINKING DIFFERENTLY

An interview with Andrew Graf, Chief Product Strategist, TeamDynamix

With the federal government spending around \$90 billion on IT annually and state and local governments spending \$103 billion on IT in 2018, plenty of questions arise. But none are bigger than: **Are you ready to be at the forefront of government information technology, and is your department making investments to modernize its approach to IT service and project delivery?**

“The rapid increase in tech spend has placed an immense strain on the IT leaders within the public sector,” said Andrew Graf, Chief Product Strategist at TeamDynamix. “In order to meet this demand, best-in-class IT organizations are leveraging five key pillars to optimize resources, improve service delivery and keep projects on track.” Below are the five cornerstones Graf identified.

### 1. IT Service Management: Create a Stellar End-User Portal

According to HDI, a support call will cost an average of \$22 while a self-service session will be just \$2. So, how can you drive adoption of a self-service portal for end users? Portals need to be easy to navigate and understand, accessible (WCAG 2.0/508 compliant) and linked to both a strong knowledge base and fully automated workflows for service requests. “Focus on where the citizens are having the most pain,” Graf said. “Start there, and then branch out. Because what’ll happen is if people are getting a lot of value, meaning the things they most often ask for are there, then they’ll start coming back.”

### 2. Knowledge Base Design

Along with being easy to navigate and written in the user’s language, stellar portals include a knowledge base that is highly indexed and searchable. This provides quick links to the most accessed content, offers the ability to enhance content, and is accessible via mobile devices.

### 3. Change Management

Adoption of a strong change management process can prevent problems from occurring. In fact, studies show that 80% of unplanned downtime is caused by IT itself. When resources have the time to apply a change management framework, they can greatly reduce the volume of tickets generated.

### 4. Adopt Process Controls/ITIL Framework

Organizations that adopt process controls and/or the ITIL framework can realize tremendous benefits. As a set of practices that imparts practical and strategic guidance for IT service management, ITIL’s overall goal is to improve business service. The business service will be improved when its support system — the specialized capabilities of the process, people, suppliers and technology — is optimized.

### 5. Bringing Projects & Service Together

The rapid increase in tech spend means an onslaught of new projects. To meet this demand, it’s best to keep IT service

management and project management together on one platform. This gives you the ability to manage resources more effectively and quickly gain visibility into work assignments and project outcomes.

**“A single, automated platform gives us better visibility into projects and resources. It improves our ability to plan and adjust, and it makes our department more efficient.”**

– Rick Little, Manager of Application Services for the Interagency Information Technologies Division of the Frederick County, Maryland government

## MAIN TAKEAWAY

In order to keep with rapidly growing demand, government IT needs to optimize its resources.

# CONNECTING WITH CITIZENS THROUGH MODERN METHODS

Connecting with constituents is fundamental for modern governments, but in a world where citizens expect instant service and digital experiences, websites and call centers often lag behind. Governments can, however, use new capabilities to reach out to and connect with communities divorced from government, convey important information and promote the mission of the locality. This is how.

## How a Writer Built One of Government's Most Awarded Chatbots

### Case Study - Montana

Notoriously long Department of Motor Vehicles (DMV) lines emblemize inefficient and ineffective government. In fact, the DMV has become the name brand of bad bureaucracy, much like Kleenex is to tissues or Coke is to soda. As such, you'll see it frequently referenced in articles – including this one.

But in this story, there's a different tale to be told – not one of thumb-twiddling wait times but one of true citizen-centric innovation and the difference one employee can make.

Levi Worts, Public Information Officer for the Montana Department of Justice, Motor Vehicle Division (MVD), began working as a technical writer, meaning he didn't play an upfront and personal role in customer service. But working in a back office in the Bozeman Driver License Station, he heard weekly tirades from customers fed up by the website's accessibility – or lack thereof.

"They were so frustrated with the experience of trying to get information that they were driven to the point that the second they were in the door, they were yelling at the people that they could see," Worts said.

Government websites are usually faceless. If you're lucky, you'll see drop-down menus of obscure subjects in governmental legalese and inoperable search bars. If you're not, you'll be stuck with a site map and links to nowhere. It's not uncommon to see a reference of "as per U.S. Code" or "the Freedom of Information Act (FOIA)." The MVD website was no exception.

While obscure terms and clunky sites might be rudimentary for governmental employees, for most citizens, they're alienating, Worts said.

Tired of hearing the rants, Worts decided to solve the problem as he knew how – not with intense coding or overhauls, but as a technical writer.

"Every time everybody hears that I'm a writer by training, by degree, they're kind of taken aback by it," Worts said. "You make chatbots – what? And you design websites – what? It does sound strange at first, but in fact, writing and being a writer puts you in a great position for numerous reasons to work on those types of projects."

Worts first settled on a website redesign, but without any knowledge of coding or HTML language, he had to find a way to build quickly and produce an end product. That's how he landed on the chatbot as the focus of the project.

Using Tars, an online chatbot-builder, Worts built the product through and through, digesting information already on the website and converting it into an easily navigable, user-friendly search format. Worts worked on the chatbot for months, building in different instances and mapping the results of 30 chatbots back to BEN, or Bot Enhanced Navigation, which is the central chatbot navigation tool.

He took a series of Udemy classes to learn the basics of web design and familiarized himself with content creation products. He developed his own MVD stylebook to ensure consistency in the chatbot. He would rewrite, build in a feature and do the same again. This pattern continued for five months.

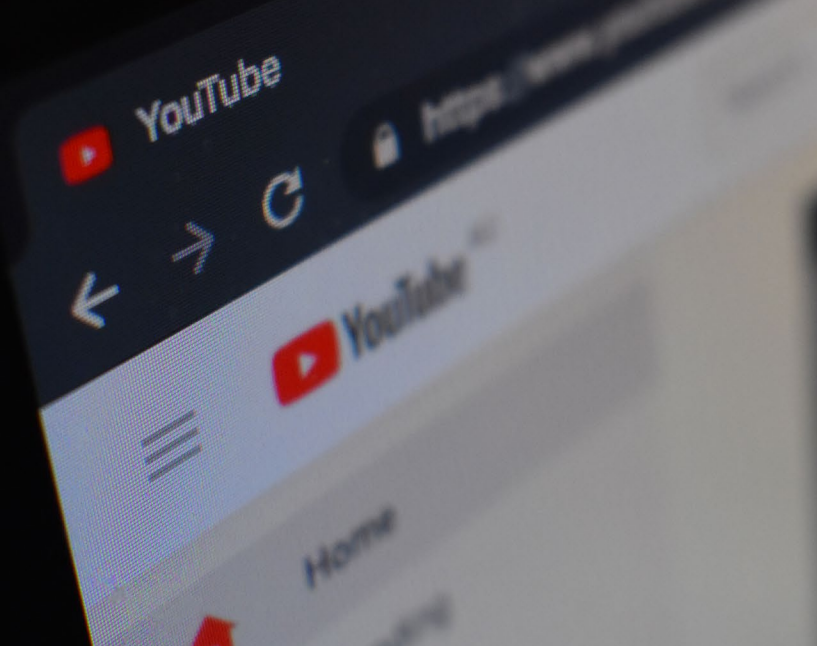
There was no testing or official piloting process, but once it was ready, the redesigned website, captained by BEN at the opening menu, launched.

That wasn't the end, though. In fact, it was just the beginning. A feature that allowed customers to rate the chatbot from one to five stars flooded Worts' inbox with feedback and recommendations – which for the next two months, he fine-tuned in immediate response.

If you go to the MVD website now, it is no longer faceless. You're greeted by BEN, proudly flaunting the badges of government's "Best Use of Online Technology" and the "Innovative Use of Technology" for motor vehicle administrations. BEN can direct you where to go to get a replacement driver's license and what documents to bring, or the chatbot can help schedule you an appointment.

BEN has had over 500,000 interactions, and the Montana Real ID website, an extension of MVD's redesign that is dedicated to ID services, has seen 60 percent of visitors receive information from its chatbot. The websites themselves are incredibly intuitive and easy to use, led by a simple extra project that a technical writer – with no coding experience or computer science expertise – took on.

"All I really did to build this chatbot was open my doors – listen to people talk, which seems so simple," Worts said. "But it was incredibly important to the process because that was my direct line of communication with the audience."



***“We have to go where the people are. We can’t expect them to come to us.”***

*— Kristen Waggener, formerly the Communications Specialist for the city of Lenexa, Kansas*

## Reaching Millions: How a Small Kansas City Used Social Media to Help Heal Tensions

### Case Study - Lenexa, Kansas

What does an internet superstar look like?

Maybe it’s Justin Bieber hitting high notes on his YouTube page to get discovered by a global audience. Or a Harlem Shake flash mob taking over Union Station.

You might not think of Lenexa, Kansas, police officers in this same category. And yet, after a small herd of cows got loose onto the interstate, millions flocked to the scene – online.

“We were able to put some twangy music to that, create a lighthearted feel, and put that out, and it ended up reaching almost 8 million people,” Kristen Waggener, formerly the Communications Specialist for the city of Lenexa, said.

In years past, a mid-America driver stuck in the unusual post-rush hour gridlock would have had a heck of a story to tell at the dinner table. But Dec. 4, 2014, in the era of social media, the moment of chaos – cows running down and across the interstate trailed by a police car, like a border collie, ushering them into a nearby pasture – was captured by a traffic light camera.

Waggener saw an opportunity, during a time of racial and community discord sowed by a spate of police shootings, to

share a feel-good story that could gain some attention highlighting positive – and comical – actions of police officers in the community.

And the post spread quickly. The video was viewed 2.7 million times on Facebook and nearby news outlets aired the footage. It has been shared over 52,000 times, a number higher than Lenexa’s population at the time.

For Waggener, as the social media director for Lenexa, it was a happy and proud moment. But the video, and social media posts in government generally, do far more than offer rosy feelings.

As the Lenexa video was going viral, community emotions were still boiling over following the fatal police shooting of Michael Brown, an 18-year-old black man, in Ferguson, Missouri, under murky circumstances.

The comments section of the Lenexa video reveals the tension and cynicism of the time, with “Hooves up, don’t shoot” and other Ferguson-themed comments popping up.

Disconnect between local communities and police forces can hamper criminal investigations. To build more trust, many police departments have adopted so-called community policing policies, a strategy whereby officers establish themselves as approachable, assistive resources.

“Our police department definitely is always looking for ways to be able to

humanize and reach out to the community and connect with them, so that people do feel comfortable reaching out to them when they need help, because police officers are not supposed to be scary,” Waggener said. “They’re not supposed to be intimidating for people. They’re community resources, and they want to be there for the community when they need them.”

Social media isn’t just an additional medium where governments can air funny videos. Now, it’s a form of two-way communication and a crucial platform for public messaging.

At the time of the interview, Waggener said 60% of her job was related to social media. Responsibilities included coordinating between departments, crafting content to promote events and creating official social media policies for the city. For example, Waggener made a point to address any question posed to the city government on social media within 24 hours.

Different cities have different tones in their social media presence, Waggener said, something that she is familiar with from serving as the Midwest representative for the Government Social Media Organization. Lenexa, known as the “City of Festivals,” uses its 15 social media profiles to promote the more than 20 events it hosts every year.

“We have to go where the people are. We can’t expect them to come to us,” Waggener said.

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## INDUSTRY SPOTLIGHT

# BREAK FREE FROM THE UPKEEP OF AGING IT WITH AUTOMATION

*An interview with Tony Fountain, Cloud Infrastructure and Automation Specialist, Red Hat*

People often fret about getting locked out, but state and local governments should be worried about being locked in – locked into aging systems and prohibitive contracts. With antiquated and convoluted networks, however, it's all that they can do to maintain these systems, instead of improve them.

Patching networks, securing firewalls and configuring applications are all responsibilities that occur from hodgepodes of aging systems, and the result is systems that consume an enormous amount of employee time. Answering these challenges takes a concerted approach, and the solution agencies need to look at is automation.

Automation allows state and local governments to detect, patch and connect systems with minimal employee intervention. To figure out how state and local governments should best deploy automation, GovLoop spoke with Tony Fountain, Cloud Infrastructure and Automation Specialist for Red Hat. Red Hat is a leader in open source technologies and delivers departmentwide automation.

“The overall challenge that these departments are facing with limited IT stacks is how do we approach automation more holistically, similar to the way we've done on the core infrastructure side,” Fountain said. “How do we use a tool that can give us a common language for automation, across all of our networking footprint, thereby helping us to reduce our reliance on specific vendor technology?”

Because of the entanglement of IT systems, patching or maintenance isn't as simple as it should be. Networks have dependencies, and if a vulnerability is patched, the temporary fix could throw off a string of intertwined applications.

Furthermore, state and local IT departments don't have the financial resources or people to constantly survey their assemblage of systems, networks and applications. Problems have to be taken care of retroactively, and it can often take months to find and patch a failure, even with IT departments working quickly.

Automation, however, can patch, maintain and protect systems as soon as a vulnerability is detected. Tests can also be conducted automatically to ensure connected applications are still in working order.

While there are lots of solutions on the market for automation, many require product continuity with one vendor, which is frequently expensive or untenable for state and local governments. Vendor-agnostic solutions, like Red Hat's Ansible Tower, however, let agencies manage IT across platforms and services. Red Hat's solutions, which are common-language and community-sourced, prevent vendor lock-in and enable the automation of all systems.

Fountain said that networkwide, holistic automation can save IT departments more than 90% of their workload on these maintenance requests.

“Now we can let folks focus on more innovative initiatives, with automation making sure the network is hardened, secure and up to speed,” Fountain said.

**“Now we can let folks focus on more innovative initiatives, with automation making sure the network is hardened, secure and up to speed.”**

*– Tony Fountain, Cloud Infrastructure and Automation Specialist, Red Hat*

### MAIN TAKEAWAY

Automation, like anything else, is a community effort. Open source methodologies enable the best products from the best vendors to work together in harmony, instead of clashing with each other and driving up costs.

# CLOUD OPENING DOORS TO DIGITAL CAPABILITIES

New, exciting technologies are in reach. Oftentimes state and local governments just need to make the leap of faith. Cloud is a transition that many have been hesitant about, and it can come with its fair share of difficulties. Successful cloud transitions, however, yield unprecedented service for state and local governments that directly translate to improved citizen experiences. Here's what's happening in the world of cloud.

## Facing the Future: Using Cloud to Engage Emerging Technology

### Case Study - Utah

To this point in time, technology has primarily been literate. It has read the coded command of keystrokes and written out the corresponding function.

Now, however, technology brings far more functions to the table. Modern technology can see through cameras, hear through microphones, feel through sensors and even think through artificial intelligence.

In Utah, they're all coming together through one seamless and integrated center – the cloud.

“By migrating some of our data services to the cloud, it gives you advantages of other things that might exist in the same environment,” Mike Hussey, Chief Information Officer (CIO) of Utah, said.

One area of exploration is facial recognition technologies, which have the potential to detect fraud in official state ID cards. But while the technology is powerful, when working with a limited database of information, it can only achieve a certain level of accuracy. With a more thorough base of information and more inputs enabled by the cloud, the findings can be nearly flawless, needing only confirmation and not tedious examination from a supervising employee.

Testing this new technology, Utah experimented on its own staff. Comparing one employee's first driver's license printed at 16 years old and a current one, a quarter-century later, the software was able to say with 68% certainty that the person in the IDs was one and the same.

Going through all iterations of previous licenses, however, the software was able to predict with 99% certainty that the individual was the same.

“Let the computer just do it every time,” Hussey said. “We've realized we could spend very little a month, and we can run every driver's license through this last check to verify identity. And I think that's exciting for our citizens.”

For citizens, shorter lines at the Department of Motor Vehicles and shorter wait times for new licenses could be on the way thanks to these innovative technologies. Although these capabilities aren't fully rolled out yet, Utah has already implemented other cloud technologies to help alleviate time-consuming burdens.

Utah was the first state to premiere Amazon Alexa voice recognition and response technology, including a practice test for people who are preparing to take their driver's license examination. Hussey said one of his neighbors was struggling to pass the test when studying the written materials, but the Alexa version helped her make the cut.

Utah deployed its Alexa app in 2016 and received 147 usages within the first five days of deployment, despite no promotion. Using Alexa features, citizens can also find out fun facts about the state and information on places to fish – even the bait to use for the best haul.

The same information is available on Google Home devices as well. Users can also access voter information pamphlets and next up, Hussey said, could be instantaneous business license renewal.

Hussey said that these omnichannel communications help the state reach

marginalized communities that typically might not receive the amenities of government services. The voice recognition software, for example, allows people who are visually impaired to access state information and resources without printing out large volumes of braille. Those who struggle with computers and smart phones can also find voice response technologies easier to interact with than their on-screen counterparts.

The use of cloud, and the shared data capabilities that come with it, makes room for single-sign-on capabilities, meaning that a profile can travel with users from online to voice recognition systems. Data is not only shared but also secured between all of the platforms.

Finally, Utah has made feedback, which governments can often struggle to collect and process, a core component of its strategy for a digital government. New cloud technologies are allowing Utah to scan submitted feedback and gauge the tone in seconds, bridging the communication gulf that often persists between government agencies and citizens.

“If we can start crossing some of these divides, then all of a sudden you see huge dividends in peoples' lives,” Hussey said.





## Outside of the Bright Lights, Los Angeles County Pioneers Novel Assessor-as-a-Service Idea

### Case Study - Los Angeles County, California

Survival of the fittest often reveals itself in competition, and nowhere is this more apparent than in the budgeting process. Different departments face off, arguing what mission is most important and why one program should receive more than another. These ruthless and cutthroat politics are as cold as shoulder-bumps in a big city.

Los Angeles is a big city, and Los Angeles County, which is the largest county in the United States with around 10 million residents, is even bigger. And yet, the L.A. County Office of the Assessor has broken free from the rat race to begin an “Assessor-as-a-Service” program designed to help smaller counties’ assessor’s offices maximize their operations given budgetary constraints.

This program is brand new and only enabled by the cloud. Until recently, bright flashing lights not only illuminated Hollywood Boulevard, but also the on-premise mainframe for the L.A. County Assessor’s Office. Everything was housed on a 1970s mainframe, meaning employees were using old “green screens” without even advanced search functionality. In order to launch Assessor-as-a-Service, the office needed to make a change.

“Cloud just seemed the perfect maneuver,” Steven Hernandez, Assistant Assessor for the L.A. County Assessor’s Office said, later adding that the Assessor-as-a-Service would work as a subscription for smaller counties. “We were willing to provide our code and our system to other counties free of charge just because we’re not in the business of making money off our product. We’re here to help each other out,” he said.

The county is familiar with helping others out. Composed of 88 cities and unincorporated areas, Los Angeles County provides needed services like fire, police

and property. The terrain of the county is diverse, encompassing over 4,000 square miles from ocean to mountains. Within Los Angeles County, there are 2.57 million parcels, and 500,000 appraisals are completed a year, resulting in a \$1.6 trillion roll and \$15 billion in revenue to the state.

It’s the exact kind of place that you could envision geographic information systems (GIS), information-sharing and mobility making business a smooth and seamless experience.

But the county could only do so with cloud. Before getting into emerging technologies, first and foremost was to enable basic features like searching and mobile applications.

“We know that we needed to find a solution,” Hernandez said.

The solution was a pay-as-you-go cloud infrastructure that enabled an Agile and measured move of services. Agile and adaptable practices were necessary for an agency so central to the state’s mission to operate while transitioning.

The Assessor’s Office identifies the owner and performs property assessments under the unique environment of Proposition 13, which uniquely affects tax collection and assessment in California. Due to Prop. 13, cloud vendors had previously been unable to offer the L.A. County Assessor’s Office the services it required – especially one capable of handling a large amount of exceptions to regular policy.

Moving to an Agile and tailored cloud, the Assessor’s Office was able to work in three-month intervals to deliver piece-by-piece functionality to end users and improve incrementally – first getting rid of green screens and launching an online portal.

As it stands, the project is entering phase four, which includes a final rollout of all products and full migration – meaning employees from Los Angeles and subscribing counties will be able to access central systems online and remotely. It also will include testing disaster recovery within the cloud.

The final version will reap immediate returns for L.A. County and beyond.

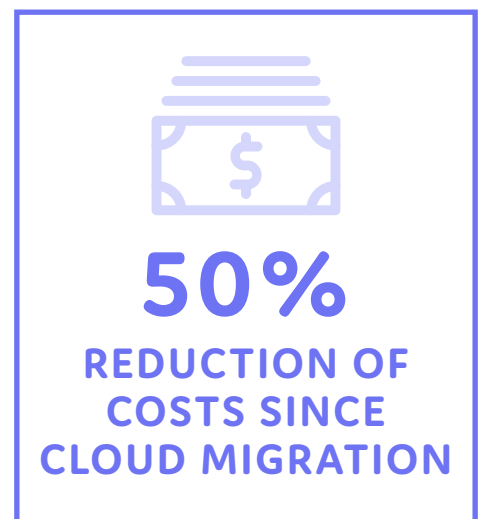
The county will be able to host over 100 formerly separate applications in one online-based suite. These can be accessed from anywhere, including from counties throughout the state, as part of the Assessor-as-a-Service program. Features will include GIS and mobility. Some of these capabilities are already live.

Furthermore, going through a trusted cloud provider, the county was able to circumvent governmental barriers of acquisition to providing the Assessor-as-a-Service program. Not only is the program based on a model whereby the county pays for what it needs, but data security is maintained and ensured by the provider – removing some burden of data protection.

And as far as addressing bumps along the road, Hernandez said that will always be a part of the process. But Agile development that can be tested and deployed on the cloud allows the county to ensure stability at important times of service – whereas on-premise environments could falter in important times, such as elections.

“Nobody is ever sleeping on this,” Hernandez said. “As one developer is going to sleep, another is working on this, so that is helping us to go forward.”

L.A. County is gearing up for the final phase, but the Assessor’s Office has already realized benefits of the cloud migration, including a 50% reduction in its cost operating model.



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## INDUSTRY SPOTLIGHT

# WHAT VISIBILITY CAN DO FOR IT MANAGEMENT

*An interview with Brandon Shopp, Vice President of Product Strategy, Security, SolarWinds*

Any well-constructed business will have a detailed account of its inventory and management policies. It shouldn't come as a surprise that smart government at the state and local level requires the same.

The assortment of IT solutions that state and local agencies acquire can resemble something of a patchwork quilt. What one administration procured can be in direct opposition to the vision of another, and the result is a system that contains different generations of solutions that are hard to monitor and track.

Governments aren't given any special leniency when it comes to managing these applications and modernizing their legacy systems, however. GovLoop recently interviewed Brandon Shopp, Vice President of Product Strategy, Security at SolarWinds, to learn how state and local agencies can manage and modernize their systems in dangerously outdated and muddled IT networks. With SolarWinds solutions, they can monitor and manage their IT solutions with greater visibility.

"There are going to be people that are provisioning things, and they're not always communicating with everybody. The left hand doesn't know what the right hand is necessarily always doing," Shopp said.

Monitoring IT networks is critical for state and local governments that are modernizing their IT in order to coordinate actions and track their ownership of solutions. Across government, duplication and lack of interoperability have chronically posed problems.

However, with visibility, these same agencies can see the full picture of their IT and account for the present while planning for the future. More than just counting products, monitoring allows them to track the usage, performance and interdependencies of different applications. If a state department wanted to modernize a virtualization solution, for example, with the visibility of monitoring, it could plan for – or avoid – purchases that might require revising the workflow of related applications.

Visibility is paramount for cybersecurity as well. By understanding what is in their environment, state and local governments are able to appropriately monitor for vulnerabilities and other risks.

SolarWinds IT Management and Monitoring solutions offer agencies the flexibility to monitor their products and automate processes, reporting highly detailed feedback throughout. The solutions are built to track the status of systems across environments, whether on-premise or in the cloud, and can designate specific solutions for modernization.

"When you're defining scope, it's really allowing you to evaluate infrastructure in smaller bite-size chunks, because the infrastructure's not going to stop evolving when you're trying to modernize your environment," Shopp said.

Along the road to modernization, state and local governments need to define the scope of projects, take inventory, conduct a needs analysis, survey the market and move forward

with initiatives – considering security throughout the process. Following these steps, they can create a ranking of projects and start down a realistic path to a cohesive IT environment.

***"When you're defining scope, it's really allowing you to evaluate infrastructure in smaller bite-size chunks, because the infrastructure's not going to stop evolving when you're trying to modernize your environment."***

*– Brandon Shopp, Vice President of Product Strategy, Security, SolarWinds*

### MAIN TAKEAWAY

When looking at your agency's applications, consider which relationships between applications make sense and which don't. This can impact user ease of use and the ability to share data.

## CIO Conversation

# MISSISSIPPI CIO SHARES TOP 3 PRIORITIES, IMPORTANCE OF CX AND CYBER

*This Q&A is part of a GovLoop series called “CIO Conversations.” Here, we’ll feature conversational interviews twice a month with current and former federal, state and local chief information officers to get to know the people behind the titles. You’ll learn about the perks and challenges of their job, how they ended up in their current position, what’s top of mind for them, how they’ve rebounded from setbacks and more.*

The Mississippi Information Technology Services Department (ITS) is relatively unique in its operations, and with that comes a tailored title for Executive Director Craig Orgeron, who is also the state CIO.

Mississippi’s central IT department does not receive a large amount of funding, and technology budgeting in the state is federated – meaning that individual agencies directly receive IT budgets that they can apply to innovation and issues for their own agency.

Therefore, ITS – and by extension the role of the CIO – differs in some important ways from other states’ IT departments. And still, in other ways, its challenges and goals are exactly the same.

Orgeron would know. With more than 29 years of IT experience, he has served as President of NASCIO and is on the Executive Committee of the Multi-State Information Sharing & Analysis Center (MS-ISAC).

Orgeron assumed his role as Mississippi CIO in 2011 and has pioneered notable cybersecurity, digital signature and citizen experience initiatives. Recently, Mississippi became the second state to launch a voice-enabled Amazon Alexa skill that allows citizens to link a personal state MyMississippi profile with a home device.

He [spoke with GovLoop](#) earlier in 2019 about these and other state IT initiatives.

*The interview below was lightly edited for length and clarity.*

---

### **GovLoop: What are your priorities as state CIO?**

**Orgeron:** Well, I’ve got to tell you — I was thinking of a top three.

### **GL: Oh perfect. We love those.**

**Orgeron:** Yeah, and so I really believe No. 1 is redoing the IT job classification for state government: modernizing the job descriptions, adding new descriptions that didn’t exist or don’t exist – cyber, GIS. We don’t have a specific vertical in the IT job family for those kinds of things.

And then, most importantly for public sector, modernizing the salary structure to bring it much closer to date. So that is a pretty big strategic effort. It’s just wildly important to have great people.

No. 2 is our hybrid cloud project, really for several reasons. It’s going to move us away from very classic “buy it, build it, maintain it” and much more toward a managed service that we want to commoditize and let agencies consume. I think those two words are critical to the way IT is delivered today. And we want that hybrid cloud solution to be able to open doors for consumption of the largest of the public cloud providers.

Thirdly, and this one probably isn’t a surprise but it’s on the list, is cyber. In 2017, our Mississippi Legislature provided great leadership in passing House Bill 999, which enacted the first-ever enterprise security statute for Mississippi. It put in statute the roles and responsibilities of ITS, the roles and responsibilities of agencies, and it formally enabled some security template – you

know, literally a collaborative body that was going to approach security questions in the state collectively.

We had a program before 2017, but that was a big move. So we continue to stay very focused on the culture of cyber in advocating for training, basic hygiene and awareness in agencies and we have other projects.

### **GL: What cyber challenges are you currently facing? And, what is the security posture, especially related to insider threats and ransomware?**

**Orgeron:** So we haven’t necessarily seen an uptick specifically in ransomware in a way that would be catastrophic. You certainly have issues, so let me move back to the first one. I really think of some of the bigger issues are really cyber culture and hygiene. And I say that’s a challenge because of the weakest link mentality.

Cyber is one of those things – you know, in some ways it’s like the analogies I’ve heard. It’s like insurance; it’s like going to the dentist. You could really, maybe get by without going to the dentist for four or five years. Hey, you brush your teeth, and you’re good. But when you get the cavity, you kind of regret not going.

And, in some ways cyber can be somewhat thankless because you can rock along for a while, regardless of what’s happening under the hood, and maybe not run into a problem. And I think that’s the most toxic potential message, right? Nothing bad has happened, therefore nothing will. So I think there’s a constant challenge to stay vigilant.

**GL: With this being a federated state, how does your role itself as CIO vary as compared to one that is more consolidated? Does that free you up to work on maybe more things, such as the MyMississippi Program, as well as the education side?**

**Orgeron:** A lot of times out in the world, if you're not fully consolidated, you're thought of as, "Boy, you all have a ways to go." I definitely think there are challenges. There's not necessarily a consolidated technology budget. I don't know if that's a bad thing. We get a budget, we work with agencies on shared services, and then individual agencies have their own budgets. In my time in this job and in my time in government, I don't know that I've necessarily seen a giant crash of the intersection of priorities not being right.

However, it sounds a little controlling, and I don't mean it that way, but I do think to get us further down the maturity curve there's a question to ask, and the question is: "Are we investing the dollars that we spend collectively the right way?" And I don't think that question gets asked enough.

I'm of the opinion that you can do both. I think you can be distributed with the right kind of governance models, and I think that model can work. I've talked to friends and colleagues at NASCIO that are more centralized, and in some ways, once you get behind closed doors and visit, some of the problems and challenges are the same.

**GL: I actually wanted to ask you about serving as president for NASCIO and bringing that experience back to your current position. I mean, what was that like, what did you learn from it and what did you see from other states as well?**

**Orgeron:** Yeah, it was a tremendous honor, first off, to do it. I get a tremendous amount of value from the NASCIO community, just being able to plug in and understand what other states are doing or how they're doing it.

So I think that's a two-way street. You know, I think when you plug in at a deeper level, you have the opportunity to serve, because obviously serving as president is a second job. You have to be cautious because that's not the job necessarily that the governor's paying you to do. But in return, I think the friendship and the bonds and the connected issues between being able to reach out to other states, learn how other states are approaching certain challenges – just being on the receiving end of that has been tremendous.

**GL: You said you all don't secure a large amount of funding for ITS in general. But what do you advocate for mainly? Is it more so what you think there should be a focus on in the legislative level, or is it more funding matters?**

**Orgeron:** It's a two-pronged thing. We pay attention to our budget and by the nature being who we are, there is a bigger picture, right? So budget hearings are going on now. We attend all of those to hear what agencies are requesting to be sure that

we're in sync, and we understand what's going on. All that is part of the funding side.

So we have several kinds of roles there. In addition, we track legislation initiatives of all kinds – you know, cyber, any kind of technology initiative, sit on boards or commissions or working groups to move the state forward. And, to your point, using the word "advocacy" and I would argue, yes. From a political perspective, we would have an advocacy position, which is being at the capitol in and above capacity.

**GL: I suppose Alexa and those sorts of technologies play into advocating for recognition from the Legislature about what technology can do. Is that a central focus of digital government as well?**

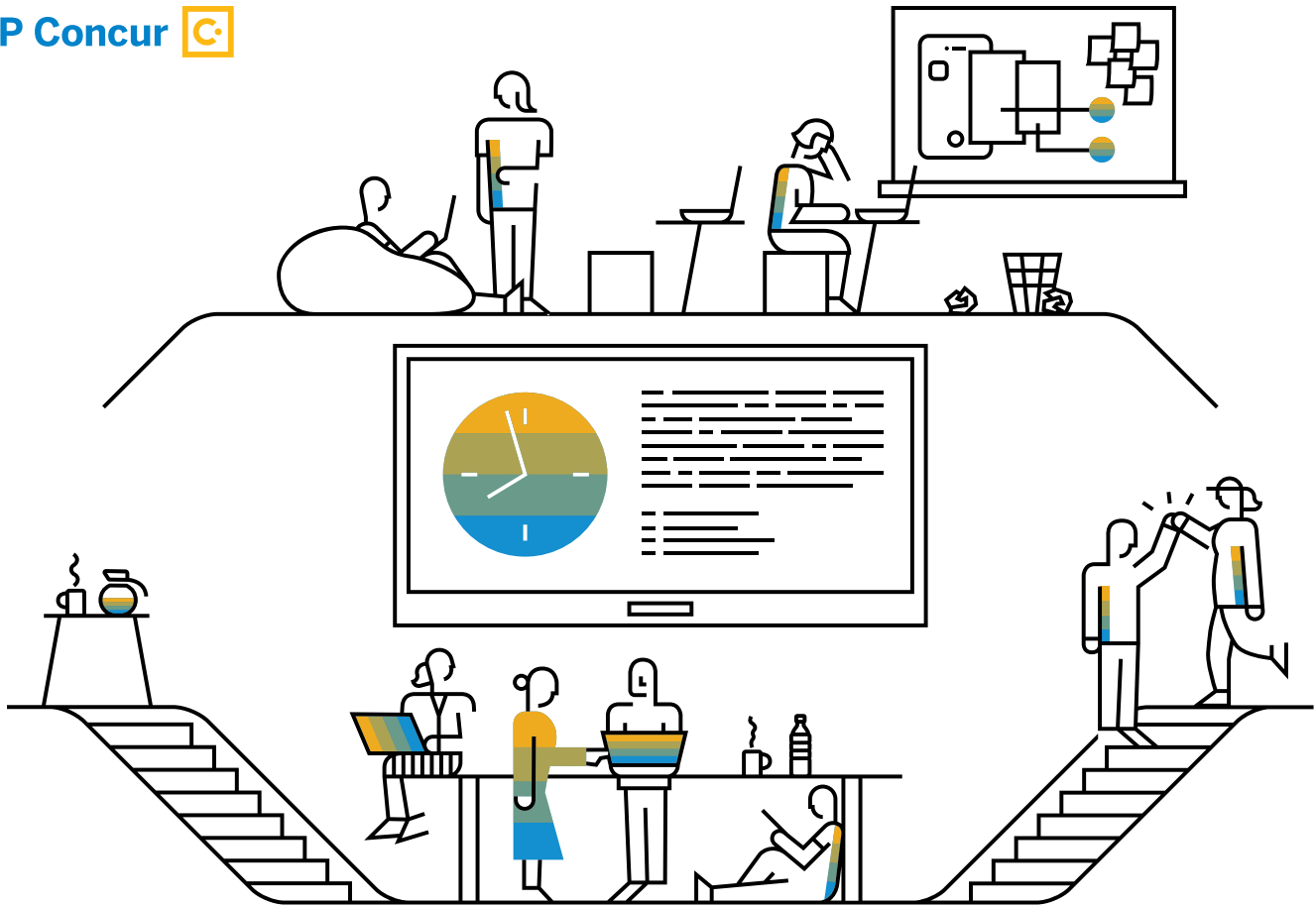
**Orgeron:** I do think whether it was digital assistant devices or watches or other devices, we were talking about voice two decades ago. It's kind of crazy that in the mobile craze, in this device-centric craze, that there's so much more attention being put on the voice side.

So, a quick story: I was at a conference a handful of years ago, and I got to talking to a friend of mine, and we were talking about the Apple Watch. And basically, the premise was "What can you do on that platform?" I mean it's tiny. It can be hard to see. It was really when the watch was newer.

And my friend turned to me and said, "Well you know, it's really all going to be about voice interaction over time." And I kind of thought, it sounds so common sense now to say it, but my parents are an example. As much as they struggle with technology, if you talk to something and it does what you tell it to do, OK. You know that it brings a whole new context and element into the fold. So yeah, of course, in a state like Mississippi, connectivity in and of itself is a challenge – much less the device or the other components of what you need.

**GL: Do you have any tips for the CIOs who might be in similar situations and want to push forward these sorts of citizen and customer experience initiatives?**

**Orgeron:** I tend to think that the innovative cycle is staying pretty tight in terms of moving a solution forward. I don't think there's going to be a lot of options for states. Now, you know we've seen 36 elections last November. Some of that will bring a lot of change to certain states, so I think you'll see the ball moved forward pretty iteratively with a whole lot of new governors coming in and then this coming year of moving that forward.



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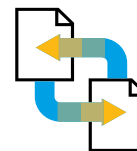
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## INDUSTRY SPOTLIGHT

# HOW STATE AND LOCAL GOVERNMENTS CAN SPEND EFFICIENTLY, RESTORE TRUST

*An interview with Sherri Schuller, State and Local & K-12 Regional Sales Executive and Karin Carbaugh, Sales Director, State and Local Government, SAP Concur*

State and local governments throughout the country face their own unique challenges. But a common difficulty for all is tracking where tax dollars are spent.

Accounts payable departments have to field a variety of expenditures, whether that's expensing an employee's taxi ride or approving a million-dollar contract for a vendor. To be a steward of taxpayers' dollars, however, governments need to ensure that all spending is efficient, transparent and compliant.

Until now, doing so was painstaking and, in cases, could be impossible. With modern solutions, however, state and local governments can achieve holistic and easy-to-access insights into their spending. To learn how state and local governments can reclaim control of their finances, GovLoop spoke with Sherri Schuller, State and Local & K-12 Regional Sales Executive, and Karin Carbaugh, Sales Director, State and Local Government, at SAP Concur. SAP Concur helps governments manage expenses, indirect expenditures and vendor invoices in one central platform.

Tracking expenditures manually is time-consuming, wasteful and often siloed. Worse, it opens agencies up to issues of fraud and abuse when expenditures can't be monitored before they're processed. Schuller said that recently, a state employee went outside of their role to log invoices that paid a family member's account, an auditor found.

"If you don't have the checks and balances to ensure the bills are

compliant or pre-approved, this type of fraud can easily go unchecked," Schuller said.

These problems arise because of decentralization in state and local governments, where spending might be carried out by individuals within different departments throughout the state. To rectify the situation, departments need oversight and insight of spending in real time, which can only be accomplished through up-to-date solutions.

Solutions such as those offered by SAP Concur allow departments to incorporate and automate policies in accounts payable under one umbrella, preventing misuse on the front end for both expenses and invoices. Furthermore, the solution relies on role-based actions within the system and gives supervisors the ability to compare expenditures to historical data.

"Utilizing a payment partner to process the payments offers the most secure and efficient way to pay suppliers," said Carbaugh. "The added benefit of working with a payment partner is that the organization is often able to receive a steady flow of rebates that, many times, can become a revenue stream."

Finally, end users are also the beneficiaries, as they can file expenses and process invoices remotely and easily. If employees, for example, can integrate their ride-sharing apps with expense reporting, they can spend less time filing tedious reports.

"It's not only creating efficiencies and driving costs out of processing these large buckets of spend, but it's also creating employee productivity," Schuller said.

By monitoring and controlling spend, state and local governments can bridge the gap of decentralization, allowing employees to work on the road and departments to operate independently – all under the shield of one streamlined, compliant and transparent government.

***"Utilizing a payment partner to process the payments offers the most secure and efficient way to pay suppliers."***

*– Karin Carbaugh, Sales Director, State and Local Government, SAP Concur*

### MAIN TAKEAWAY

Regaining control of spend helps state and local governments mitigate risks of compliance, inefficiency and waste. With a unified platform to monitor expenses and invoices, employees are productive and departments are consistent.

# CYBERSECURITY AT THE CENTER

Cybersecurity is no longer an afterthought. At least, it shouldn't be, as Baltimore and Atlanta over the last year were awoken to the harsh reality of just how disruptive and costly attacks can be. Confronting threats with shorthanded workforces, state and local governments are having to address cybersecurity in innovative fashions, often sourcing local talent and finding unexpected sources. Here's how governments are staying out of the news.

## Making Cybersecurity Accessible to All

### Case Study - North Dakota

"Dad, where the hell are my classes?"

Two years ago, North Dakota CIO Shawn Riley's daughter cornered him with this very question.

"I looked at her and went, 'Well what are you talking about?'" Riley said. "And she went down this line of 'I want to do this and this, and I don't even see these classes.' And we started this conversation then around that – of women in IT."

States throughout the United States are encountering comparable challenges in cybersecurity – salvos of cyberattacks that strike their networks 24/7. North Dakota is no exception, rebuffing 1,100 attacks every minute, according to Riley. These attacks, which come in a variety of forms, threaten personal data, business gains and critical infrastructure.

And yet for every attack in a minute, there's an open IT job in North Dakota. In March 2019, Code.org identified 1,108 unfilled computing positions in the state, but there were only 117 computer science graduates.

So when Riley's daughter opened up a dialogue about the availability of programs in IT – particularly for girls and young women – he listened. And two years later, the state is making significant progress in making cyber open to everyone.

In North Dakota's first year participating in the SANS Institute's [Girls Go CyberStart](#) and Fast Track programs, 310 North Dakota girls from 28 schools participated – the highest per capita rate of any of the 26 states that were involved.

Furthermore, the state launched an innovative program, the K-20W initiative

– which represents a comprehensive cyber and IT education, beginning in kindergarten and spanning throughout a Ph.D. degree, eventually leading to a more educated and prepared workforce.

Supplementing the reach of the program, North Dakota – despite its low population density – has a bare minimum of one gig broadband in any part of the state, and every school has broadband capabilities.

"In my mind, this is fundamental, like reading or mathematics," Riley said of cybersecurity and computer literacy.

It's not just in Riley's mind; he's garnered the support of the state Legislature and governor, who control the ultimate budget for cyber- and IT-related programs throughout the state.

At the start of 2019, Riley and industry partners hosted a hacking demo within the state capitol to demonstrate how cybercriminals could access networks through phishing and website hoax attacks, stealing tax and Social Security information. Over the last legislative session, Riley met with more than half of the state legislators and engaged key stakeholders within the university and education systems.

Some of those meetings meant bringing along special speakers – young students who could testify to how cybersecurity education programs had helped them.

Legislators have responded, unanimously approving Riley's request to consolidate cyber defense authority across the seven branches of government – executive, judicial, legislative, K-12 education, higher education, cities and counties – into one central office in April 2019.

Riley said good-naturedly, and with a laugh, that when his IT budget wasn't approved as submitted, it was an

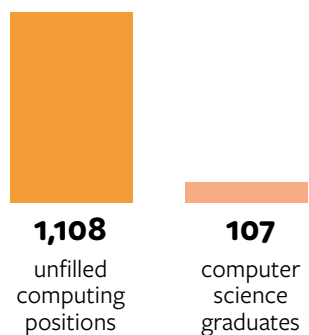
anomaly, notwithstanding the ruthless and parsimonious occasion of budget hearings. His office still received \$14.4 million of his proposed \$16.4 million.

Widespread support has propelled the state to achieve many national firsts – the first state to have an hourlong coding session across schools, the first state to have consolidated cyber defense authority and soon the first state to have a beyond visual line of sight radar system for drone technology, meaning drones can be flown outside of the operator's line of sight.

"We've tried to make it as openly acceptable across the board for everybody to be in these programs, and so that everybody can look at it and say, 'Hey, technology's cool; I want to be part of that,'" Riley said.

The spark that started all of the programs, Riley's daughter, is now 16 years old – and still coding. While she currently lives in Minnesota, she's been able to take advanced IT classes at Bismarck State College and North Dakota State University. The Girl Scouts are leading programs as well, and in the summer, Riley is bringing a troop of Minnesota Girl Scouts to Bismarck State College to learn about cyber.

### In North Dakota







## How Colorado Bounced Back From Ransomware

### Case Study - Colorado

It's not a matter of if but when the next cyberattack will happen. And while state IT leaders can cross their fingers, count their lucky stars and hope for the best, eventually, there will be a breach.

The state of Colorado is shelled with 8.4 million security events a day, and in February 2018, an attack made its way through the wall of defense. SamSam ransomware latched onto Colorado's Transportation Department system. Fortunately, the state was ready for it.

"We take this very seriously," Colorado CIO Theresa Szczurek said.

Because of a newly instituted program, Backup Colorado, the state was able to recover 80% of its data within just four weeks of the attack. In the words of Szczurek, "no data was lost; no ransom was paid."

The Backup Colorado initiative ensures that data can be consistently recovered no matter its format or location. Disaster recovery following the attack was not only successful, but auditable as well.

The Colorado Office of Information Technology (OIT) has created backup and recovery consistency across more than

a dozen agencies with Backup Colorado, and it has the flexibility to move data from tape to disk to cloud solutions as required by OIT personnel.

The state has also ramped up its efforts to stop network intruders from the get-go. Colorado is instituting two-factor authentication to ensure the identity of users on state systems. Furthermore, to protect from insider threats of all kinds and stamp out negligence, the state is hosting quarterly trainings to instill good cyber hygiene into agencies. Some of these lessons can be as simple as putting a laptop to sleep when leaving the desk.

Employee training plans now include cybersecurity, and Colorado has offered continuous cybersecurity education for employees. The state has also implemented official policies for dealing with phishing emails and phone calls, which are becoming increasingly sophisticated and difficult to recognize.

"At a very practical level for our employees, we have a policy protecting from phishing," Szczurek said. "We say don't click. If you receive an email that's suspicious, just delete it. Do not click on anything in the email. You know some emails are created to grab information or install malware, regardless of where you click in the email.

"Some scams even come by phone call. We make our employees aware that if

you receive a suspicious phone call, hang up immediately."

Cybersecurity education programs aren't only offered to state employees. Colorado hosts events for college students to promote careers in cybersecurity – which boast high pay and job security that ranks among the best fields – and demonstrate what those opportunities might be.

For Colorado's OIT, cybersecurity relates back to data. Sufficient data should be open to the public, but from there, how do you secure highly sensitive information, like Health Insurance Portability and Accountability Act (HIPAA) records? While attacks will come, how much can be backed up and recovered?

"I think you should have the 20 Center for Internet Security (CIS) controls in place, and then figure out what programs are best to implement considering the individual needs of your government," Szczurek said. "We have programs in place that protect our inventory of equipment both actively and passively, and we're actually doing continuous vulnerability management so that we risk-rate certain vulnerabilities and then we prioritize based on the potential impact for remediation."

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## INDUSTRY SPOTLIGHT

# NEED AN ASSISTANT? TRY A DIGITAL ONE

*An interview with Patrick Bennett, Vice President of Public Sector, Kronos*

Digital assistants are everywhere. Math teachers have calculators. Writers have spell check. And now, managers in government offices have artificial intelligence (AI) at their fingertips.

Frequently, government agencies and departments are understaffed and short on resources. Overtime assignments and poorly scheduled shifts, often leading to fatigue, are the norm for many vital state and local agencies – including services like medical, fire and police.

Fixing these challenges requires innovation, so GovLoop spoke with Patrick Bennett, Vice President of Public Sector for Kronos, a leading workforce management solutions provider, to find out how AI can help solve issues of scheduling and overtime in the public sector.

“You can view AI as kind of a personal digital consultant. AI within a workforce management system can make recommendations on scheduling and overtime to the manager – marrying labor data with what’s happened in the past to recommend the best fit and utilization for those schedules.”

Government offices are famously treasure troves for data – and that can help managers in scheduling. But sorting through this data to better assign employees is difficult for managers going at it alone. And analyzing that information to predict the future? Forget about it.

With AI, however, managers and HR professionals can make full use of workforce data. AI systems in workforce management aggregate and sift through information, arranging

it with respect to job categories and departments. Viewing important metrics in a central location can help place the “right people in the right place at the right cost,” Bennett said.

Government workforces are complex and challenging to manage, with flexible hours, contractors and public-private partnerships. Agencies also have to meet workforce legislation as well as labor union requirements – especially considering that 34% of public sector workers belong to unions, a rate more than five times greater than that of the private sector. Managers and HR professionals then have to live up to those standards, but they might have no idea whether they’re meeting compliance requirements.

“For many agencies, manual processes are the norm,” Bennett said. “So, they’re trusting their employees to make these decisions, but the data isn’t available or is cumbersome to find in order to make those decisions.”

AI can solve those challenges, even making personalized recommendations for scheduling individual employees. Kronos AI solutions consider factors such as job description and cumulative overtime hours to account for burnout, so agencies can assign employees to the right shifts and positions. AI’s capabilities are further advanced by the cloud, and solutions like those at Kronos, can automatically produce and distribute schedules and run compliance checks based on the agencies’ criteria.

Managing people should not be left up to guesswork. AI solutions drive informed human capital management, using data-driven insights to put

employees in situations where they can succeed.

**“You can view AI as kind of a personal digital consultant. AI within a workforce management system can make recommendations on scheduling and overtime to the manager – marrying labor data with what’s happened in the past to recommend the best fit and utilization for those schedules.”**

– Patrick Bennett, Vice President of Public Sector, Kronos

### MAIN TAKEAWAY

Artificial intelligence is able to do more than collect, gather and act on data in the present. It can help to predict workforce trends, using advanced algorithms that draw off data to forecast burnout and employee retention.

# THE PEOPLE BEHIND THE SCENES

A lot goes into creating the workforce of the future. But nowadays, governments face common challenges in coping with Baby Boomer retirements while preparing for the workforce of today. How do you ensure that different departments set up diverse workforces to work in unison to combat the plethora of challenges state and local governments face? Find out below.

## Building an Analytics Framework Behind a Data-Driven City

Case Study - Minneapolis, Minnesota

Behind a great city is great government. Well, that's "great," but subjective blanket statements are rarely informative or actionable in government. What one considers a great job could just as easily be lampooned as a travesty by a political foe.

Data, contrarily, is what shows demonstrable ways forward for organizations, and offers the proof for what otherwise could only be claimed on instinct or a "gut feeling." In the city of Minneapolis, superlatives aren't pushing the city forward – people and numbers are.

Speak with Patience Ferguson, Chief Human Resources Officer for the city of Minneapolis, and you'll get the data behind the people – lots of it. In her view, analytics is necessary to keep making the case for Minneapolis to be on national lists of best places to live and conduct business. The stats back those rankings up, as the population of Minneapolis is increasing at its fastest rate since mid-20th century suburbanization movements, and the growth is powered by 40,000 city employees across 22 departments.

"This is a city that is data-driven, and so I'm really just modeling what I see in the city already," Ferguson said. "If we have data in terms of how we're leveraging our resources in the community, if we have data in terms of how we are being efficient and effective with taxpayer dollars, then why wouldn't we have data around our most basic asset, which is our human capital?"

Ferguson is responsible for hiring, retaining and preparing talented people to work for the city. There's no simple, uniform

approach to balance out that equation but with data generating the solutions, the city can count on reliable results.

Data can be used by the city to ensure the workforce remains diverse and connected. The city collects information on how long employees remain on staff and the demographics of the workforce. While both of these are important factors, combined they can reveal trends of whether one demographic group – whether in age, sex or race – is leaving the city workforce prematurely at higher rates than others.

So far, the city has pioneered several missions that are supported by data. For example, 82% of the workforce engages in wellness programs that the city has hosted, and in addition to those programs increasing office satisfaction, an ancillary gain has been reductions in benefits costs.

The city is also taking employee engagement surveys once every six months, chopping down the previous cycle of every two years. Therefore, the city can more immediately respond to feedback. So far, data has encouraged the city to explore learning and development programs in emotional intelligence and yielded resource groups to support employees.

"We can not only look at the data, but we can begin to start seeing if the things that we're doing and that we're investing in, as it pertains of our human capital, are making a difference," Ferguson said. "And then if they're not, we could take a step back and then ask ourselves why."

The data does not depersonalize individuals within the government – in fact, just the opposite. The data tells stories, helping to forge communities that promote the standing, excellence and retention of women and African-American employees in the workforce

and thus ensuring that diversity truly offers equal opportunities. The data also shares the successes of groups, offering to higher-ups the business case and value of the workforce and opening the door to improvement. The data shows that Minneapolis employees want more recognition of the important work that they do, as gauged by employee feedback.

To the last point, the city now has the Star Awards, a program that recognizes top-performing individuals and teams within the workforce. The criteria are developed by employees, and this past year, over 400 team members were honored, including a group whose direct efforts helped place people experiencing homelessness in shelters for the cold winter.

At the end of the day, the data has helped Ferguson to field and keep better employees for the city. The Perform Minneapolis platform measures employee performance in relation to mission goals and offers individualized trainings to ensure tangible results. Making sure that everyone is on the same page and has the resources to succeed – no matter their background or stage in life – allows the many faces of Minneapolis city government to strive toward a common goal.

"We have 22 departments. We have over 40,000 employees. We're 92% union," Ferguson said. "But what I can say is that we are an organization that is really here to serve the public good."

***"We can not only look at the data, but we can begin to start seeing if the things that we're doing and that we're investing in, as it pertains of our human capital, are making a difference."***

*— Patience Ferguson, Chief Human Resources Officer for the city of Minneapolis*



## Building the Best Team Across Hundreds of Silos

### Case Study - Mississippi

In constructing a championship team, coaches and general managers try to find a blend of the right people and culture; one of the two is not enough.

A team with the best players will go far but often will crumble at the point of adversity because of a lack of culture, which should anchor the team during rough conditions. A team with the right culture, conversely, will have the wherewithal and cohesion to work relentlessly for the mission, but can lose out to opposition that is simply better at the trade of the game.

Government workforces face similar challenges in recruitment and retention, but the environments they work within are extremely different. When many think of a workforce, particularly one within the IT realm, they think of it as a likeminded team that is tackling similar challenges across the board.

In Mississippi, and in many states, however, the situation is far more complex. IT teams exist not in a singular department but as small branches of large agencies, and often have to fight for their recognition and the acknowledgment of their goals.

“The challenge is: How do you bring collective urgency across disparate agencies that are full of bright and

dedicated public servants ... across 120-plus agencies in Mississippi?” Craig Orgeron, Mississippi Chief Information Officer and Executive Director of Information Technology Services, said.

While many states have centralized IT budgets, Mississippi instead functions as a “federated” state, parceling out IT and cybersecurity budgets to individual agencies. Orgeron’s responsibilities come by way of advocacy, training, fully harnessing the capability of the state data center and pioneering the incorporation of shared service missions.

“You really want to go faster, to do more, but you have to ensure that you’ve got the team, the capability and the foundational pieces are in place,” Orgeron said. “Then, you start moving on to more advanced solutions across the enterprise.”

Finding the right team is one of Orgeron’s top priorities in 2019, and the goal is fundamental to maturing in cybersecurity – the No. 1 goal of NASCIO for six years running. So in fielding the team, one that can work through adversity and bring unique skillsets to each agency, Orgeron has homed in on updating state position listings.

While Mississippi has invested in geographic information systems (GIS) and emerging technologies, the state lacks a specific job category to draw the eyes of would-be recruits. Modernizing

job descriptions in cyber, GIS and other related areas is essential to ensuring that the state can innovate as quickly as it wants, Orgeron said.

“That is a pretty big strategic effort,” Orgeron said. “It’s just wildly important to have great people.”

Orgeron stressed that in the highly competitive fields of technology employment, the public sector needed to upgrade the pay structure for indispensably important positions in the IT field. After all, the team has the culture – but it also needs to have the players to make it work.

“There’s only so much of a delta that you can tolerate to keep really smart, engaged workers plugged in to what it is you’re doing,” Orgeron said.

Still, Orgeron stressed that while the private sector had often been able to lure away talent with higher salaries and flashy perks, the public sector needed to emphasize its generational strengths – its stability and mission. Those, he said, are unmatched by other organizations.



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## INDUSTRY SPOTLIGHT

# FINDING A GUIDE FOR YOUR NETWORKS

An interview with David Smith, National Director for State and Local Government, Citrix

Try to imagine watching TV without a remote. There would be no guide feature, showing you overviews of all the channels, and no searching for apps. Flipping through stations would be time-consuming and random, and forget about features that let channels interact with each other, such as the “last” button or picture-in-picture.

Well today if IT applications and solutions are the channels, state and local governments are the TV – without a remote. These governments exist in disparate and scattered IT environments aswarm with hybrid cloud and multi-cloud applications, but there’s no way to capitalize on all of their features. These applications often aren’t available centrally, and the same challenges that cloud was supposed to answer – issues of silos and isolation – reappear.

Overcoming a tangle of applications and enabling the full range of cloud potential is still in reach, however. To learn how digital workspaces can help state and local governments orchestrate applications in the cloud to promote maximum user productivity, GovLoop spoke with David Smith, National Director for State and Local Government at Citrix. Citrix offers digital workspace – a digital framework that hosts apps, data and desktops – solutions to governments looking to maximize the capabilities of solutions across hybrid cloud and multi-cloud environments.

“Every organization is going to be in a world of hybrid multi-cloud,” Smith said. “The challenge for IT is: Can you control and manage all as one?” The cloud comes with a lot of promises, but simply adopting cloud

applications isn’t enough. To maximize the potential of the cloud, state and local departments need to centrally manage their policies and procedures that should apply to all systems.

Digital workspaces provide this forum, creating a unified hub where state and local governments can manage access, security, automation and usage for all of their solutions, irrespective of whether these features use cloud or on-premise. With a digital workspace, they also control their network, centralizing systems and data to prevent the lockdown of information within one vendor.

Citrix offers digital workplace solutions that are uniquely tailored to hybrid cloud and multi-cloud workplaces, and enables data-sharing, automation and agencywide security across systems.

For employees, these features can be accessed through a central, online platform. Remote workloads are easy to exchange, and specific applications can be tailored for individuals. If a city employee only uses a payroll and calendar function of an HR application, these functions can be presented to the user without needing to navigate through the application.

With digital workspaces, state and local governments are able to promote going to the cloud – attracting the next generation of digital natives while ensuring accessibility for every member of the workforce.

“It’s not just access to applications and data,” Smith said. “It’s the ability to guide work – bringing applications, data and tasks into a single consumable experience to the end user.”

**“It’s not just access to applications and data. It’s the ability to guide work – bringing applications, data and tasks into a single consumable experience to the end user.”**

– David Smith, National Director for State and Local Government, Citrix

### MAIN TAKEAWAY

Hybrid multi-cloud environments are inevitable if they’re not already in your office. To achieve maximum productivity, unlocking these new environments by having applications and workflows interface has to be top of mind for agencies.

# ROADMAP TO MODERNIZATION

## Montana:

Think about how constituents receive government services, not how governments deliver them.



## Utah:

Consider all potential effects of changes, as benefits to technologies can be wider than originally thought.



## Los Angeles County:

Remember the goal of public service and work in unison with other agencies and departments.



## Minneapolis:

Inform your strategy with analytics that tell the best story and can offer new insight to engaging crucial communities.



## Mississippi:

Ensure there are systems in place to recruit and retain valuable people.



## Lenexa, KS:

Stake out a stance and connection with citizens, creating an approachable, relatable brand.



## North Dakota:

Introduce equal opportunities to all parties as soon as possible, as the best ideas come from larger, diverse populations.



## Colorado:

Never take for granted that an incident won't happen just because it hasn't yet, and instead develop recovery precautions.





# IF YOU REMEMBER ONE THING ...

GovLoop asked leaders in state and local governments for one piece of advice for those who are hoping to innovate in their field in government. Here's what they had to say:

“You need to go out and spend time with your stakeholders. You need to do key customer management and understand what your customers’ actual needs are, not what their wants are. And those are some really critical things because your customer knows what they want. They want to fix a problem. And oftentimes they don’t understand what need there actually is to solve that problem.”

— **Shawn Riley, North Dakota CIO**

“A lot of times though there’s these huge chasms that we feel like they’re impossible to cross. Our homeless population: there’s state services, there’s county services and if we can get a better picture of the individual, how we can help them ... I mean that’s really the goal, is to get that data through an ESB or an API or something like that to cross these divides, and we’re starting to see that. We have some initiatives in the state to cross those barriers, and I think you’ll start to see a lot of states doing more of that.”

— **Mike Hussey, Utah CIO**

“We all have to grow ourselves professionally and personally – really something I believe is an everyday process. So if you feel like you’re not a good salesman, or you’re not a good public speaker or whatever, work on those things. If you want be innovative, and you want to present ideas and move things forward, you know those are things that we can grow. And we have to grow to be able to do these types of projects.”

— **Levi Worts, Public Information Officer, Montana DOJ**

“Be a learner. Don’t come in with a set of assumptions that you know everything. But before that, what’s your why? My why is that genuinely I’m here because I genuinely want to help make a difference. And that’s what has driven me. I’m a community-minded person who happens to be in human resources. And so I think the biggest thing someone can do in any profession, but even more specifically in human resources, is to be a listener and a learner.”

— **Patience Ferguson, Chief Human Resources Officer, City of Minneapolis**







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