



The People Imperative

THE 2022 STATE CIO SURVEY



Content

<u>Executive Summary</u>	4
<u>Role of the CIO and Critical Success Factors</u>	6
<u>Workforce</u>	10
<u>CIO Business Models</u>	12
<u>Federal Funding</u>	14
<u>Broadband</u>	16
<u>Enterprise Portfolio Management</u>	18
<u>Digital Services</u>	22
<u>State and Local Collaboration</u>	24
<u>Identity and Access Management</u>	26
<u>Privacy</u>	28
<u>Conclusion</u>	30
<u>List of Participants</u>	32



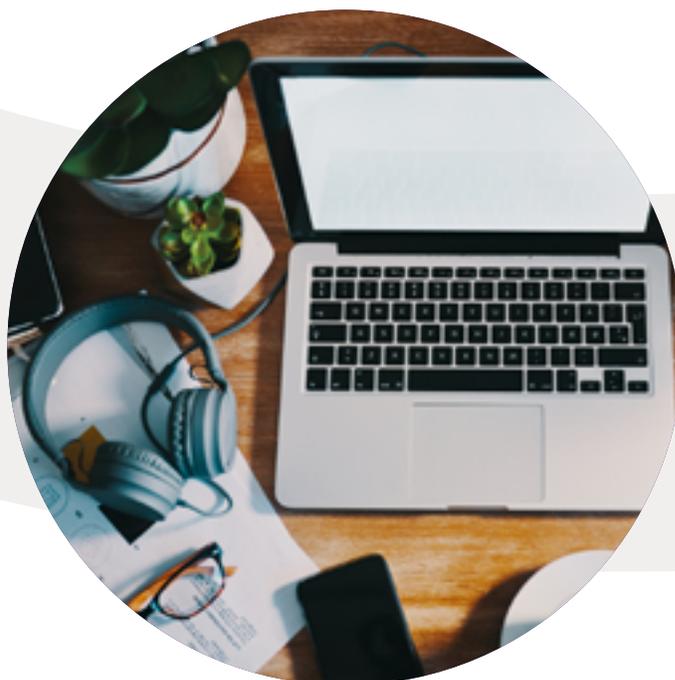


Executive Summary

The year 2022 continues to be impacted by the COVID-19 pandemic, but also has state chief information officers (CIOs) looking to the post-pandemic future and thinking about long-term impacts to the state technology landscape. In this thirteenth edition of the State Chief Information Officer Survey, we received feedback from 51 state and territory CIOs on topics as diverse as business models, federal funding, privacy and state and local collaboration. A major topic that permeated the survey responses was the challenge of maintaining and growing a diverse and sustainable workforce. As one CIO framed it, “Workforce is the single largest challenge any leader faces and getting the workforce component right is the make / break success of the CIO.” We asked a number of specific questions related to CIO organization workforce priorities, but these challenges also presented themselves when discussing the role of the CIO, digital services and collaboration across different levels of government.

CIO Critical Success Factors

We asked CIOs their views on the three most important leadership traits or attributes critical to the success of a state CIO. The top responses were ranked: (1) strategist, (2) communicator, (3) relationship manager. When we asked the same question in 2018, the top three were the same, but in a different order: (1) communicator, (2) relationship manager, (3) strategist. When we asked for one critical piece of advice they would tell a new state CIO, the CIOs focused consistently on three themes: building relationships, supporting your workforce and being a great partner to agencies and others.



Workforce

Workforce continues to be a major worry and pain point for state CIOs, especially in the past few years. We asked CIOs what single action, other than increased compensation, would be most impactful in recruiting and retaining the future IT workforce in their state. The top responses were: reskilling current employees to meet modern IT demands; aligning job titles, classifications and descriptions more closely to the private sector; and increasing remote work options. These responses are very similar to when we asked in 2019. CIOs also shared the strategies and tactics that their state has used in attracting and retaining a highly qualified IT workforce. The top responses were: expanding flexible / remote work; promoting non-salary benefits like greater stability and diversity of experience; building talent pipelines; call to public service; and modifying job prerequisites.

Role of the CIO and Critical Success Factors

French writer Jean-Baptiste Alphonse Karr famously wrote, “The more things change, the more they stay the same.” Such is true to the responses we received in this year’s section on the role of the state CIO and critical success factors. We first asked about the three most important leadership traits or attributes critical to the success of a state CIO. The top responses were (in order): (1) strategist, (2) communicator, (3) relationship manager. When we asked the same question in 2018, the top three were the same, but in a different order: (1) communicator, (2) relationship manager, (3) strategist. The emphasis on being a strategist is not surprising. The role of the state CIO has changed significantly in the last few years with more of a focus on being the business leader of IT. This encompasses leading change, innovation and driving enterprise solutions.

What are the three most important leadership traits or attributes critical to the success of a state CIO?



#1

Strategist

#3 in 2018



#2

Communicator

#1 in 2018



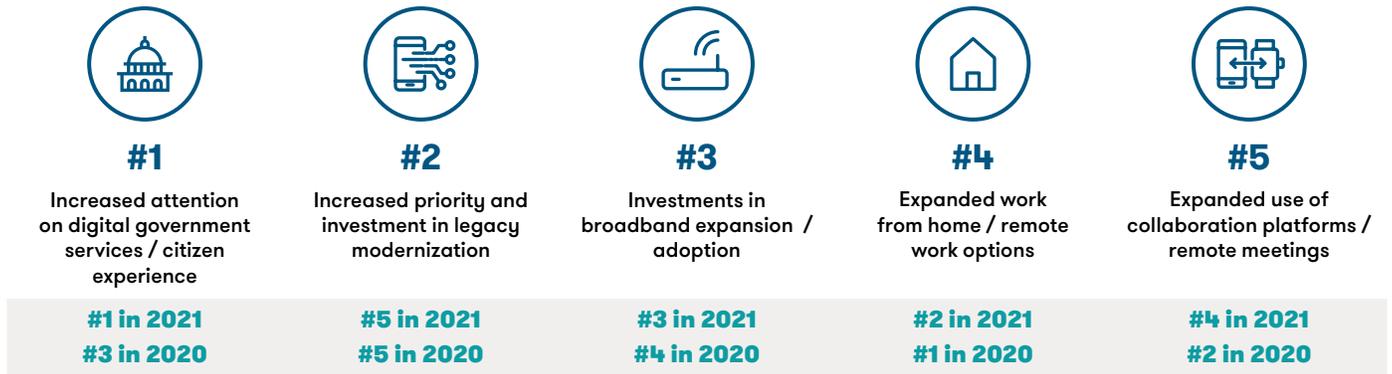
#3

Relationship
Manager

#2 in 2018

Next in this section we asked CIOs to:

Rank the top five business processes, practices, or investment changes that you believe will continue after the COVID-19 pandemic.



Legacy modernization made the biggest jump to number two, up from number five in 2021 and 2020. This is likely because the fragility of these systems were exposed during the pandemic and due to additional funding that has been proposed and provided to states to modernize legacy systems. But, as one CIO told us, “I think all of these continue; I think the ranking is irrelevant.”

Next, we asked about challenges and for CIOs to give some advice from the trenches for new state CIOs and for new governors. When asked about top challenges as a CIO some key themes were:

- Workforce—cited by almost every respondent
- Digital government
- Funding
- Sustaining demand for IT infrastructure
- Cultural resistance to change, alignment with agencies, organizational change
- Cybersecurity

Anytime we ask CIOs for advice from the trenches they do not disappoint, and this time was no different. When we asked for one critical piece of advice they would tell a new state CIO, we got great responses on building relationships, supporting your workforce and being a great partner to agencies and others. Here are some highlights:

“Build relationships with departmental, agency and program leadership to buy into the need for current state assessment, future state definition and roadmap building to get there.”

“Focus on being a trusted strategic partner to the state and the agencies that you serve. Enterprise technology services are important, but all of your focus can’t be on technology services, the strategic leadership aspect is very important.”

“Invest your time in developing relationships with your client agencies, state leadership, vendor partners and fellow state CIOs. You cannot do this alone and having true partners who are invested in your mission is the key to your success.”

“This job requires you to deliver bad news. Success in this job requires having a solution for the bad news you’re delivering.”

“Build a great team and empower them. That is your only job. Your success will not be based on your own merits, but on the qualities of the team that you build.”

As a side note, you’ll notice that no CIO gave advice on how to play the game of politics. In fact, under the top leadership attributes / traits, “politician” came in last. As veteran state CIOs have often told new ones: “Unless you are already a master of politics, don’t be tempted to play. You will die, game over, no reset.”

In addition, we asked CIOs to give us one critical piece of advice for a new governor. Not surprisingly, CIOs stressed the importance of cybersecurity, forward thinking and what role technology can play:

“Place utmost importance on cybersecurity; technology is crucial to every project; include the CIO early in policy discussions and long-term strategy.”

“The success of implementing enterprise change is directly related to the level of support provided by the governor.”

“Your CIO can help you achieve success in all your priorities if they are consulted and brought in early. The CIO is an enterprise-wide business leader and not just a technology person.”

“Technology powers the business of government. Without technology, you can’t deliver for your state.”

“Be patient and also impatient. Patient because all states have a lot of legacy tech they are inheriting and government is NOT easy. But also, impatient because there is a lot to do-- make your priorities clear but also find out what the CIO needs to accomplish those priorities.”

“Care about cybersecurity. One bad event can sidetrack your agenda.”

“Don’t look at IT as the next shiny object or tool... IT is a business function of your state and needs a seat at the table for most of the business and direction discussions.”

Much has changed in the last four years since we asked many of these questions. In fact, only about 20 percent of state CIOs who responded to the 2018 State CIO Survey are still in their positions and responded to this year’s survey. And, as for what is to come for the next year, we don’t know. But, with 13 state CIO transitions in 2021, 10 (to-date) in 2022 and 39 state and territory gubernatorial elections later this year, more will change. Regardless of who is in the position, the role of the state CIO will continue to evolve. One CIO summed it up this way: “The CIO responsibilities today encompass far more contract and operations management responsibilities across business lines than in the past. These challenges require skills beyond technology mastery as the technology implementation is the easiest part of the job.”



Workforce

Workforce has become a major worry and pain point for state CIOs, especially in the past few years. As stated in the NASCIO State CIO **Top 10** for 2022 (where workforce was listed at the number seven spot), workforce encompasses: preparing for the future workforce and reimagining the government workforce; transformation of knowledge, skills and experience; more defined roles for IT asset management, business relationship management skills, service integration.

NASCIO has **published** extensively on the issue of workforce and produced recommendations for state CIOs. The basis of our work has always started with asking state CIOs what needs to change from the status quo. This year in the State CIO Survey we asked, besides increased compensation, what single action should be implemented that would be the most impactful in recruiting and retaining the future IT workforce in your state? The top responses were: reskilling current employees to meet modern IT demands; aligning job titles, classifications and descriptions more closely to the private sector; and increasing remote work options. These responses are very similar to those from 2019. *[NOTE: when we asked in 2017 and 2019, “modernizing office culture” included flexible work schedules, telecommuting, etc. In 2022 we asked specifically about increasing remote work options and expanding flexible work schedules].*

Besides increased compensation, what single action should be implemented that would be the most impactful in recruiting and retaining the future IT workforce in your state?

	2022	2019	2017
Reskilling current employees to meet modern IT demands	35%	25%	N / A
Aligning IT job titles, classifications and descriptions more closely to the private sector	31%	33%	31%
Increasing remote work options	18%	N / A	N / A
Expanding flexible work schedules	8%	N / A	N / A
Streamlining the hiring process and reducing time to hire	6%	14%	10%
Other	2%	N / A	N / A

“Workforce is the single largest challenge any leader faces and getting the workforce component right is the make / break success of the CIO.”

Next, we asked CIOs about strategies and tactics that their state has used in attracting and retaining a highly qualified IT workforce. The top responses were promoting non-salary benefits like greater stability and diversity of experience; expanding flexible / remote work; building talent pipelines; call to public service; and modifying job prerequisites. (NOTE: we added expanding flexible / remote work and modifying job prerequisites in 2022).

What strategies and tactics has your state used in attracting and retaining a highly qualified IT workforce?

	2022	2019	2017
Promoting non-salary benefits like greater stability and diversity of experience	76%	73%	71%
Expanding flexible / remote work	73%	N / A	N / A
Building talent pipelines (e.g., partnering with local colleges / universities / technical schools)	71%	44%	29%
Call to public service	65%	67%	71%
Modifying job prerequisites (e.g. education requirements)	57%	N / A	N / A

Additionally, we asked CIOs for their open-ended comments to this question, and they called for expanded remote work; hiring and retention bonuses; and a faster hiring process:

“Highly skilled IT professionals are in demand, and strong candidates have plenty of job opportunities to choose from. That means we have to make state government an appealing option. We are committed to creating and maintaining a positive workplace environment—one where people are respected, quality work is valued and innovation is welcomed. To do that, you have to know how your agency or organization measures up.”

“This problem is not going away for state government and we need to be more and more flexible with our workforce, offering remote work full-time and hiring out-of-state employees. We also need to at a minimum match county / city government salaries and compensation packages that currently are more advantageous.”

“Government has not yet reconciled itself to the job-hopping culture of today. Our hiring and retention practices are not based on rapid change. A new hire cannot take nine months if people only stay in the job three years. This will take a complete rethinking of the recruiting, training and retention processes or we will simply be underperforming through constant churn.”

The feedback we received from state CIOs can be summed up this way:

- States must modernize job titles, classifications and descriptions to more closely reflect the private sector.
- States must embrace remote work and flexible work schedules and places to improve recruitment and retention. States also must look outside of their state residents to fill workforce gaps.
- More diverse teams are more productive teams and, most job seekers today place an emphasis on diversity, equity and inclusion. State CIOs ignore diversity at their peril.
- States must develop plans to reskill workers whose work becomes obsolete because of automation, modernization, consolidation, etc.
- States cannot ignore looming retirements and those leaving the public sector. Research from [MissionSquare](#) states that 52 percent of state and local workers are considering leaving their jobs voluntarily due to COVID-19.



CIO Business Models

We have asked CIOs regularly over the past several years to describe the role and focus of the state CIO organization. In general, responses have stayed consistent, with the top three roles of the CIO organization reported as supporting strategy, innovation and stabilization of operations. These roles continue to be important this year, although stabilization of operations was viewed as less a priority by a number of CIOs, and instead security and regulatory compliance is rising to a top three role.

How would you describe the current role of the state CIO organization?



Has a voice in state agency strategy and strategic initiatives



Develop, acquire and deliver infrastructure services to state agencies



Ensure IT systems comply with security and regulatory requirements



Drive innovation or modernization programs

We also asked CIOs what plans they had to change the role of the CIO organization or to alter how services would be delivered to customers. While there was a wide variety of responses, the primary theme was one of continued consolidation and centralization, whether of infrastructure, applications, staff or responsibility for IT project procurement or management.

How is the CIO organization moving to deliver services to agencies within the next two years?



We also asked CIOs to describe the reporting relationship between the state CIO organization and any agency-level CIOs / IT directors. We wanted to understand if there were any commonalities or patterns in CIO reporting relationships across the states. Perhaps unsurprisingly, the only pattern we saw was that there is no universal or even prevalent model of organization across the states. We saw the complete spectrum from fully centralized states where all IT staff report directly to the state CIO, to fully decentralized states where there are no formal reporting relationships at all. If there was one commonality that CIOs reported, it was that the most important elements to a well-functioning state IT model were the strength of the governance model and the relationships between the people and organizations in the state.

Finally, we asked CIOs whether there had been any permanent changes to the state CIO organization's roles and responsibilities due to the COVID-19 pandemic. Almost universally, the answer was "No." There were a small number of states where additional responsibilities were consolidated into the state CIO organization, most often related to cybersecurity and remote work, but in general the pandemic does not appear to have led to large-scale changes in the formal role of the CIO. However, what we have seen quite frequently is that the informal influence and importance of the state CIO has increased during the pandemic, and this change is persisting.

Federal Funding

The last three years have seen a nearly unprecedented level of federal funding directed to states. The Coronavirus Aid, Relief and Economic Security Act (CARES), the American Rescue Plan Act (ARPA) and the Infrastructure Investment and Jobs Act (IIJA) all provided states with financial resources that required planning and significant discussion among stakeholders to efficiently distribute. While much of this funding was intended to address the immediate challenges brought on directly by the Covid-19 pandemic, a significant portion of this money, especially through the IIJA, has been or is planned to be utilized by state CIOs to address pressing technology needs. In this year's survey we asked state CIOs several questions about how they have used or will be using federal funding.

Most CIOs indicated that they received some funding from at least one of the federal funding streams, with CARES and ARPA the most prevalent. Even in instances where CIOs did not directly receive CARES or ARPA funding, or had not yet received IIJA money, they often still benefitted. One CIO told us that due to their chargeback model, agencies that did receive CARES funding were able to use this money to pay for services. In another instance a state CIO indicated that they were waiting to receive IIJA funding and were planning to direct that money to broadband deployment and cybersecurity.

While broadband expansion and cybersecurity were frequently cited as areas where this funding would be used, they were far from the only categories. Several CIOs cited efforts to combat COVID-19 as a primary recipient for funds. One CIO stated that they used federal money to fund security enhancements to protect state infrastructure for the public health response, and others identified expenses in the form of laptops and web development for COVID-related websites.

CIOs also identified general infrastructure improvements, talent recruitment, efforts to support a transition to remote work and a migration to cloud data storage as key areas, with many also finding innovative ways to utilize federal funds to support existing IT modernization efforts.

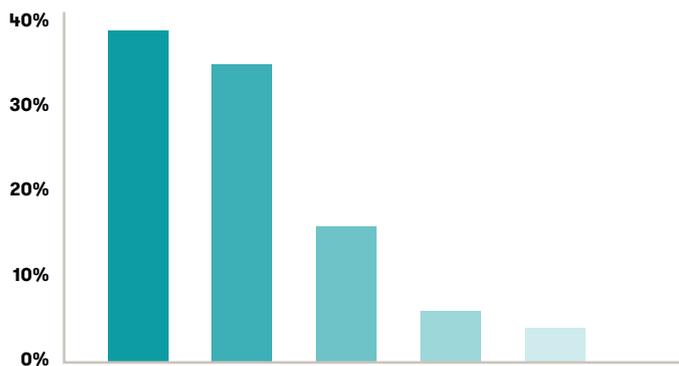
In general terms, how has the funding been used or committed?



One of the most significant programs created in the IIJA is the State and Local Cybersecurity Grant Program. This grant program is intended to provide \$1 billion to states over four years, with an increasing and required state match each year, to address cybersecurity vulnerabilities. The statute requires that 80 percent of the funding be directed to local governments, and states are able to meet this requirement by providing services to localities, rather than direct funding. Guidance was released in mid-September 2022, but states have been planning for this funding for some time now.

We also asked CIOs how they are planning to provide funding to local governments through the State and Local Cybersecurity Improvement Grant Program and a significant number of CIOs are planning to provide services to local governments as part of their cyber plan.

How does your state plan on providing funding to local governments through the State and Local Cybersecurity Improvement Grant Program?



■ Combination of shared services and pass-through funding	39%
■ Unknown	35%
■ Centralized / shared services provided by the state	16%
■ 100% sub-recipient / pass-through funding to local government	6%
■ Other	4%

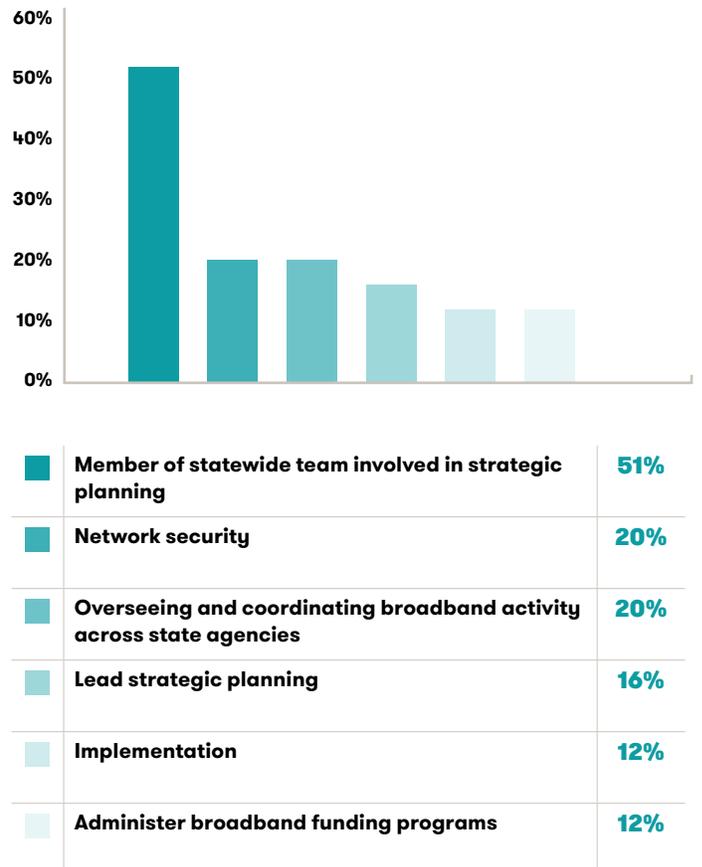


Broadband

Broadband is an issue that has gotten much more visibility in recent years because of the COVID-19 pandemic. Equity, access and affordability are all issues on the forefront of the conversation. State CIOs were typically not leading broadband strategy in states before 2020. And while involvement certainly increased in the height of the pandemic, it seems things have leveled off once more. In this year’s survey we asked what role the CIO plays in the state’s broadband initiatives. This year less state CIOs are involved in broadband strategic planning—51 percent in 2022 compared to 73 percent in 2020. And, still less than a quarter of CIOs are in charge of broadband in their state.

“Digital divide is not just a rural problem; it is also an urban and suburban issue as well. Literacy / enablement programs are equally critical to the success of these efforts which also needs to include cyber hygiene programs for onboarding of new populations to the digital highway.”

What role does the CIO play in the state’s broadband initiatives?



We also asked for CIOs' opinions on the most important needs facing their state's broadband strategy. In 2022, the top answer was the digital divide in rural areas, followed by affordability, mapping / data and accessibility. When we asked the same question in 2020, the ranking was: funding; digital divide in rural areas; and accessibility. It should be noted that, in 2022, funding was ranked first by only 18 percent of respondents while, in 2020, funding was ranked number one overall. Federal broadband funding from the Federal Communications Commission (FCC) grants and Infrastructure Investment and Jobs Act (IIJA), has clearly impacted states.

What are the most important needs facing your state's broadband strategy?



#1

Digital divide in rural areas



#2

Affordability



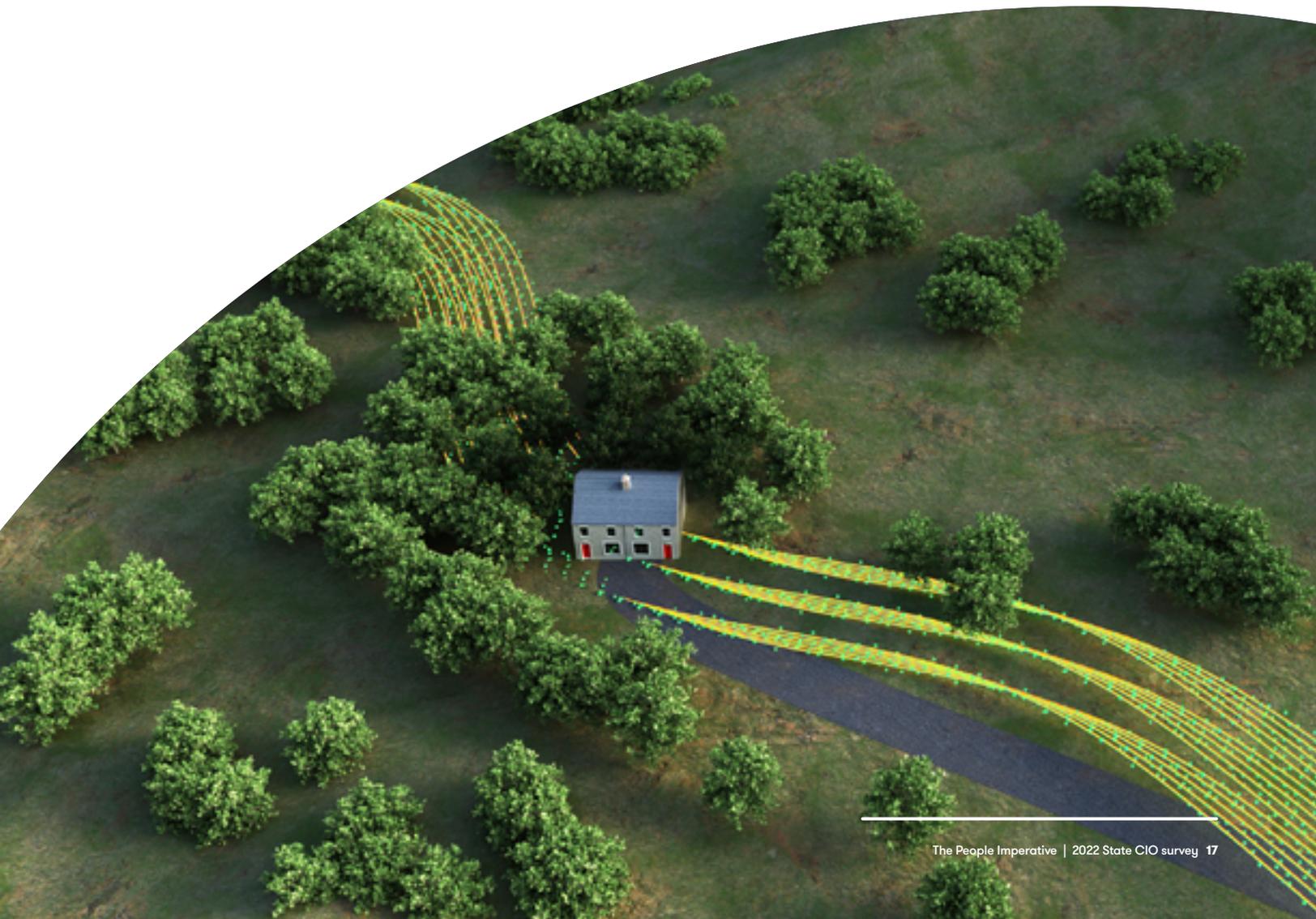
#3

Mapping / data



#4

Accessibility





Enterprise Portfolio Management

This year we wanted to know what strategies, tools and processes are used for prioritizing, planning, managing and reporting against the portfolios of IT investments being undertaken by states.

As other areas of this year's State CIO Survey demonstrate, nearly all state CIO organizations have more project work to do than people and money to do the work. Constituent and agency demand for increasingly complex and sophisticated delivery and coordination of services represents considerable challenges. State CIO organizations must deliver on this demand alongside aging technical environments, constrained budgets and workforce limitations. They must create decision-support approaches to select, prioritize and coordinate projects as a portfolio, align projects with strategic direction, make the best use of limited resources and build synergies across diverse and occasionally contentious agency priorities. Historically, states have approached this in diverse ways and with varying degrees of authority to:

- Mandate the consolidation and streamlining of internal processes and systems
- Save money and minimize risk
- Develop (new) shared products and services
- Improve ways to deliver and support those products and services efficiently and successfully



We first asked where the use of project and portfolio management (PPM) is mandated vs. where it is optional. Sixty-eight percent of CIOs told us PPM is mandated within the central IT organization while 26 percent said it is mandated across all IT organizations in the executive branch (only six percent said it is mandated across all state level IT organizations including executive, legislative and judicial). Twenty-eight percent of CIOs said PPM is optional within the central IT organization; 37 percent across all IT organizations in the executive branch; and 48 percent across all state level IT organizations.

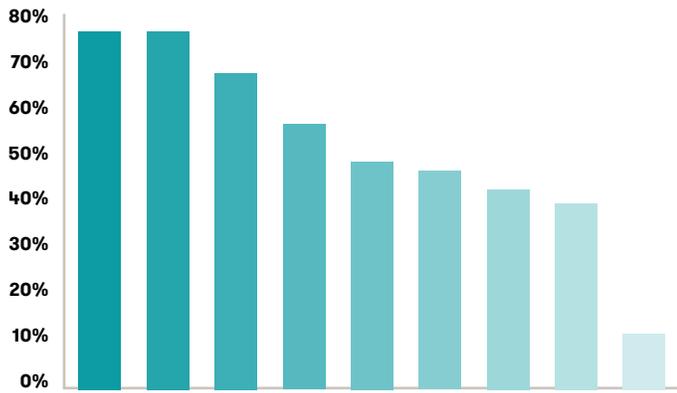
Earlier in this survey we reported that 54 percent of respondents identified centralization of IT project management and oversight as the top direction the CIO organization is moving towards for delivery of services to agencies within the next two years. So, we wanted to know what authority the state CIO organization has to mandate project and portfolio management and to understand how the CIO organization is leveraging PPM to deliver on that direction. Beyond procurement approval, the top levers for authority driven by the state central IT organization for PPM are (1) architecture and standards, (2) legislated in statute; (3) statewide policy and (4) CIO directive.

In your state, where is the use of project and portfolio management (PPM) optional vs. where is it mandated?

	Optional	Mandated
Within central IT organization	28%	68%
Across all IT organizations in the executive branch	37%	51%
Across all state level IT organizations	48%	12%

We asked CIOs how they are using PPM approaches and tools in their organizations and what we found was that, while commonalities do exist at the highest level, state CIO organizations have a wide variety of approaches to each of the three top categories: transparency, project performance tracking and investment justification. While CIOs see the value of PPM and have the authority, many organizations indicate they are challenged to implement it in their state.

How are you using PPM in the state CIO organization?



■ Performance tracking for projects	77%
■ Transparency	77%
■ Support or justify investment decisions	68%
■ Enterprise solution evaluation	57%
■ Capacity and / or resource management	49%
■ Modernization and / or technical debt remediation	47%
■ Optimization and / or rationalization	43%
■ Vendor management / performance measurement	40%
■ Administer broadband funding programs	12%

Additionally, several CIOs gave important feedback on this topic and a sampling of quotes is below:

“We are currently collecting a lot of data but have a low maturity level in this critical discipline that needs to improve if we are going to guide state investments and a modernization strategy.”

“We are investing in this area right now and trying to improve, but our strategy in this area has been lacking historically. Projects and application portfolios have primarily been managed at the agency level, not really across the whole state as an enterprise.”

We found there is no common measure or methodology used for data and information collected and presented for investment justification. Decisions are based on individual state governance structures and are most commonly driven by the state budget organization. Different approaches are used but CIOs indicated that investment recommendations are often made by budget-focused committees and boards while decision authority and prioritization is held outside their organization with the governor’s office. One CIO organization said, “We leverage the work of our IT Strategy Board to develop criteria and weighting factors and then utilize these outputs collaborating with our budget office to assess IT spending requests that are submitted. While we rank and recommend actions to be taken, the governor is the final authority on the topic of what is submitted as a budget request.” We also found that individual project data and information is mostly collected at the agency / project level and presented to the state CIO organization to provide review and input on proposed investments. One CIO told us, “Our central IT organization has an architecture group and business life cycle process to help make these decisions. IT organizations that remain outside central IT have their own process, with only standards and budget approval for control.”

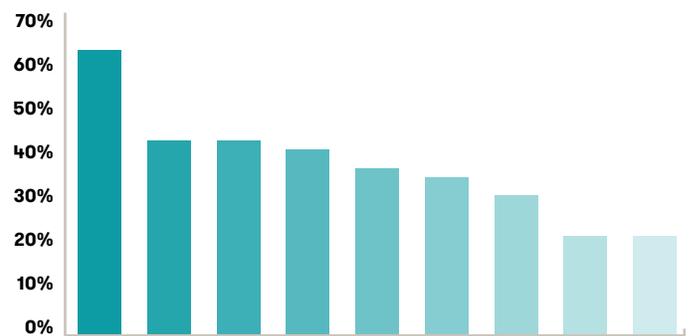


Digital Services

The 2020 and 2021 State CIO Surveys examined the impact of the COVID-19 pandemic as a driver for digital services. State CIOs reported that they were singularly focused on ensuring citizens and users could continue to interact with government during the pandemic. In 2022, states and state CIO organizations are moving fast to embrace digital transformation and technology modernization to achieve objectives, including better citizen engagement, economies of scale and transparency.

This year we asked about major challenges state CIO organizations face in meeting demand for digital services. We wanted to know, in the wake of the pandemic, how state CIO organizations had transitioned from pandemic-driven digital services provisioning and adoption to a longer view sustainment strategy to meet the unabated demand for these services. As with our other survey sections, workforce skills and capability constraints were the clear leaders as the top challenges for the state CIO organizations in delivering digital services. Lack of adequate funding and budget to balance immediate public needs with future critical investment and lack of organizational agility / flexibility tied at number two with data and information quality requirements and digitization complexity constraints coming in closely behind at number three.

What major challenges do you face in meeting demand for digital services?



Workforce skills and capability constraints to deliver / implement digital services	63%
Lack of organizational agility / flexibility	43%
Lack of adequate funding and budget to balance immediate public needs with future critical investment	43%
Data and information quality requirements and digitization complexity constraints	41%
Lack of internal willingness to take risks or embrace innovation	37%
Inability to envision and operationalize new ways of providing government services	35%
Lack of trust in shared digital solution provisioning, coordination and effective support for digital solution offerings	31%
Citizen expectations exceed organizational capabilities	22%
Lack of strategy and vision to implement	22%

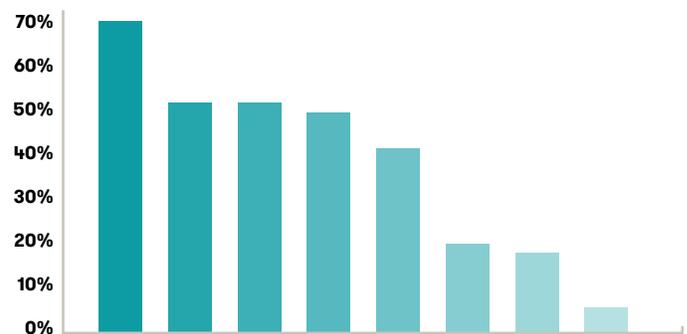


This suggests that while demand for digital services continues to rise, organizations are still struggling to meet that demand due to constraints related to aligning public and internal demand with enough budget resources, staff and flexibility to meet current operational obligations. At the same time, CIOs are expected to embrace new and innovative solutions and emerging technology that fundamentally transforms how IT is developed, delivered and maintained.

We also asked which digital services approaches and solutions the CIO organization has adopted and incorporated into enterprise-wide practice. The top response from CIOs points to a continued emphasis on agile principles and approaches to rapidly deploy solutions and create a continuous feedback loop for improvements. Interestingly, while over half responded that their organizations were encouraging experimentation and innovation to more quickly bring solutions to internal and external users, only ten CIO organizations responded that their state has appointed a chief digital officer.

Additionally, we note that survey respondents indicated that there are some broad strategic goals for statewide digital transformation (e.g. cloud first, citizen access). However, specific mandates, directives or legislation to drive the shift to deliver digital services (and the speed with which this must be accomplished) do not yet appear to be on the horizon in 2022. This indicates that state executive or legislative leadership may lack a broader understanding of the scope, nature and benefit of digital services.

Which digital services approaches and solutions has the CIO organization adopted and incorporated into enterprise-wide practice?



■ Promoted an agile organization to rapidly deploy solutions and create a continuous feedback loop for improvements	69%
■ Encouraged experimentation and innovation to increase the speed to market to bring solutions to internal and external users	51%
■ Used technology for a personalized citizen experience	51%
■ Integrated design thinking and human-centered design concepts in the problem-solving and prioritization process	49%
■ Created a dedicated digital services team	41%
■ Created center of excellence / innovation	27%
■ Deployed automation and AI to uncover user needs	20%
■ Appointed a chief digital officer	18%

State and Local Collaboration

States are continuing to collaborate with local governments, especially on cybersecurity, by building relationships, raising awareness of existing services offered to local governments and exploring cost savings via partnerships with local governments. In this year's survey, we asked CIOs about the services that the state CIO organization offers to local governments. Network services (WAN / LAN); data center hosting; security services / infrastructure; and geospatial information systems (GIS) were the top choices. This is similar to our 2020 survey when network services; data center hosting; GIS; telephony / VoIP; and security / infrastructure services were the top choices.

What services does the state CIO organization offer to local governments compared to 2020?



#1

Network services (WAN / LAN)

59% in 2020



#2

Data center hosting

55% in 2020



#3 (tied)

Security services / infrastructure

48% in 2020

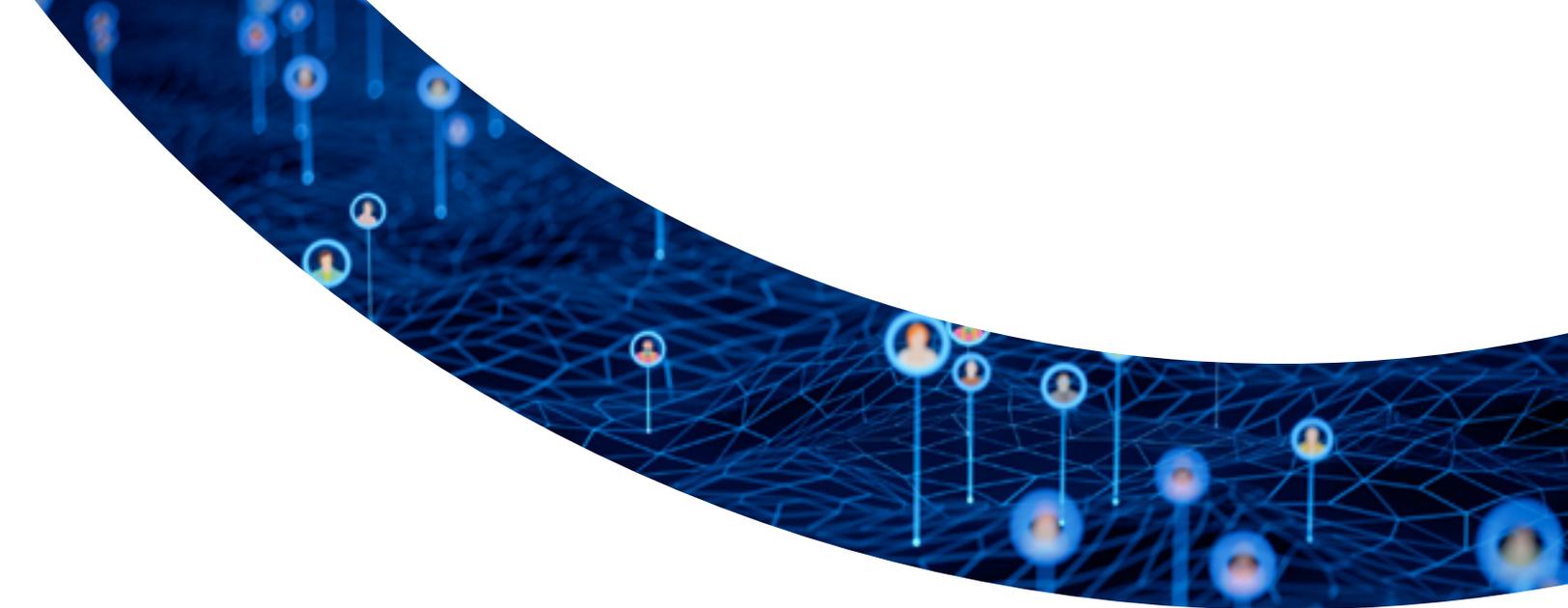


#3 (tied)

Geospatial information systems (GIS)

50% in 2020

	2022	2020
Telephony / VoIP	37%	48%
Digital government / portal	35%	39%
Co-location	33%	43%
IT training	33%	23%
Business continuity / disaster recovery	25%	41%
Email / office productivity / collaboration	25%	39%
Identity and access management	25%	23%
Mainframe services	22%	23%
Storage services	22%	34%
Backup services	22%	39%
Cloud services / hosting	20%	43%
Video / web conferencing	20%	36%



We also asked state CIOs if there had been a change in local government use / adoption of state offerings / services over the past year. Most CIOs say it stayed the same with 35 percent saying it's increased. In the comment section of this question CIOs report that federal grant money has increased the adoption of state services and that cyber service adoption has increased.

Has there been a change in local government use / adoption of state offerings / services over the past year?



35%

Increased



57%

Stayed the same

We also asked CIOs to rank the top major challenges in collaborating with local governments. The top responses were lack of dedicated funding; lack of desire to collaborate by local governments; and lack of clear state authority. CIOs also reported that service adoption is on the rise, but the state needs to do more to educate local governments on adoption.

Rank the top major challenges in collaborating with local governments.



Lack of dedicated funding



Lack of desire to collaborate by local governments



Lack of clear state authority



Lack of technical capacity / knowledge from local governments



Unclear governance model

“We are collaborating with locals whenever possible.”

Finally, we asked what one change would improve the state CIO organization's business relationship or IT service delivery offerings to local governments. CIOs cited:

- Increased awareness
- Willingness of local governments to consume state services
- Regular communication
- More funding / staff to work with local governments
- Increased legislative authority

Identity and Access Management

Identity and access management (IAM) remains a priority for state government—ranking number six on the 2022 State CIO **Top Ten** moving up from number eight in 2021. IAM is essential to enabling effective, relevant and secure interaction and services between state government and its employees and constituents. It is no surprise that 98 percent of CIOs responding to this year’s survey are already including or are considering including identity and access management as an element of their statewide digital strategy. Both this year’s State CIO survey and the State CIO Top Ten for 2022 present clear evidence of the importance of establishing the capability to identify with confidence who is accessing state government services and resources.

Is identity, credential and access management part of a statewide digital strategy?



80%

Yes



18%

Being considered



2%

No

Ninety-four percent of responding state CIOs are pursuing implementation of an enterprise wide IAM solution covering all agencies under the governor’s jurisdiction. Fourteen percent have fully implemented; 58 percent have partially implemented; 22 percent are planning on implementation; and only six percent have no plans to implement an enterprise-wide IAM solution.

Please characterize the status of your enterprise-wide IAM solution (covering all agencies under governor’s jurisdiction) 2022 vs 2021.

	2022	2021
Partially implemented	58%	60%
Planned	22%	21%
Fully implemented	14%	13%
No plans to implement	6%	6%



On the citizen digital identity side, 80 percent of responding state CIOs have either completed or have intentions for an implementation of a citizen digital identity initiative. This capability will be necessary for further enabling digital citizen services with access from anywhere, at any time, from any device.

Please characterize the status of your citizen digital identity initiative 2022 vs 2021.

	2022	2021
Partially implemented	40%	49%
Planned	36%	27%
No plans to implement	20%	18%
Fully implemented	4%	6%

What is the status of digital / mobile driver's licenses in your state 2022 vs 2021?

	2022	2021
Planned	31%	27%
No plans to implement	25%	46%
Under development	20%	6%
Fully implemented and available to citizens	12%	10%
Pilot underway	12%	10%

It is clear from the responses to this section that states are continuing their upward climb toward state government capabilities in identity management, and specifically digital identity management. Movement is positive, but it is also relatively gradual indicating just how complex it is to plan and develop capabilities in identity, access, and credential management. We expect this movement to accelerate next year and beyond.

Privacy

Privacy, as a priority, is slowly gaining in importance in state government. As we know from [NASCIO research](#) on state chief privacy officers (CPOs), the number of states with that position is growing as well. As states put a greater focus on digital services, and collect more personally identifiable information on citizens, there is a greater need for privacy professionals in state government to ensure that information is protected. In addition, citizens are becoming more aware of their privacy rights, feeling distrustful of how information is being collected, learning about privacy in the news and from their legislatures, and demanding more from government.

In this year's survey, we asked state CIOs if their state has passed legislation specifically addressing citizen data privacy that would affect the operations of the state CIO organization. Thirty-seven (37) percent said yes, and 63 percent said no. This is an increase from 2020 when only 29 percent answered yes. As more states have taken up privacy legislation, it's no surprise that addressing citizen privacy, and not just consumer privacy, is on the rise as well.

Has your state passed legislation specifically addressing citizen data privacy that would affect the operations of the state CIO organization?



37%

Yes

29% in 2020



63%

No

72% in 2020

States continue to implement enterprise-wide data privacy policies. This year 67 percent had implemented or were in the process of implementing these policies compared to 59 percent in 2020.

Has your state implemented additional enterprise-wide data privacy policies in 2022 vs. 2020?



41%

Yes

33% in 2020



26%

In progress

26% in 2020



33%

No

42% in 2020

As states continue to put more of a focus on privacy, more states are establishing the chief privacy officer role. From the NASCIO publication, [Privacy Progressing: How the State Chief Privacy Officer Role is Growing and Evolving](#), we know that (as of the time of that publication) 21 states have established a chief privacy officer role. Anecdotally, we know that many more have privacy responsibilities assigned to someone else within the state. In this year's CIO survey we asked, of those states with a CPO or equivalent, how the position's authority is established. Twenty-nine percent said via legislation; 25 percent said agency head / secretary directive; and 11 percent said executive order. In 2022, 20 percent of respondents said the CPO authority is not established compared with 11 percent in 2020. Perhaps more states are hiring a chief privacy officer, but getting the position officially established is taking longer.



Conclusion

As states have begun to look forward to a new post-pandemic normal, the acceleration of digital services adoption that began during the pandemic has been joined by an increased focus on workforce challenges that have become only more pressing. The labor market environment, combined with new hybrid work expectations and the continued evolution in CIO business models, have presented state CIOs with a range of people-related challenges. The ability of CIOs to respond to these challenges will have a significant impact on how state CIO organizations will support their state and citizen customers in 2023 and beyond.





List of states participating in the survey

State of Alaska

Bill Smith
Chief Information Officer

State of Arizona

J.R. Sloan
State Chief Information Officer

State of Arkansas

Jonathan Askins
Director of Transformation and Shared Services Division of Information Systems & Chief Technology Officer

State of California

Liana Bailey-Crimmins
Chief Information Officer and Director

State of Colorado

Anthony Neal-Graves
Chief Information Officer

State of Connecticut

Mark Raymond
Chief Information Officer

State of Delaware

Jason Clarke
Chief Information Officer

State of Florida

James Grant
Chief Information Officer

State of Georgia

Shawnzia Thomas
State Chief Information Officer

State of Hawai'i

Doug Murdock
Chief Information Officer

State of Idaho

Greg Zickau
Chief Information Officer

State of Illinois

Jennifer Ricker
Secretary and State CIO

State of Indiana

Tracy Barnes
Chief Information Officer and Director

State of Iowa

Matt Behrens, PhD
Chief Information Officer

State of Kansas

DeAngela Burns-Wallace, PhD
Chief Information Technology Officer

Commonwealth of Kentucky

Ruth Day
Chief Information Officer

State of Louisiana

Richard Howze
State Chief Information Officer

State of Maine

Fred Brittain
Chief Information Officer

State of Maryland

Michael Leahy
Secretary of Information Technology

Commonwealth of Massachusetts

Curtis Wood
Secretary and Chief Information Officer

State of Michigan

Laura Clark
Chief Information Officer and Chief Security Officer

State of Minnesota

Tarek Tomes
Commissioner and Chief Information Officer

State of Mississippi

David Johnson
Chief Information Officer

State of Missouri

Jeff Wann
Chief Information Officer

State of Montana

Kevin Gilbertson
Chief Information Officer

State of Nebraska

Ed Toner
Chief Information Officer

State of Nevada

Timothy Galluzi
Chief Information Officer

State of New Hampshire

Denis Goulet
Commissioner and Chief Information Officer

State of New Jersey

Christopher Rein
Chief Technology Officer

State of New Mexico

Peter Mantos
Cabinet Secretary and State Chief Information Officer

State of New York

Angelo Riddick
State Chief Information Officer

State of North Carolina

James Weaver
Secretary and Chief Information Officer

Commonwealth of the Northern Mariana Islands

Clifford Aldan
Chief Information Officer

State of North Dakota

Shawn Riley
Chief Information Officer

State of Ohio

Katrina Flory
Chief Information Officer and Assistant Director

State of Oklahoma

Jerry Moore
Chief Information Officer

State of Oregon

Terrence Woods
Chief Information Officer

Commonwealth of Pennsylvania

John MacMillan
Deputy Secretary for Information Technology and Chief Information Officer

State of Rhode Island

Bijay Kumar
Former Chief Information Officer and Chief Digital Officer

State of South Carolina

Jay Meyer
Chief Information Officer

State of South Dakota

Jeff Clines
Chief Information Officer

State of Tennessee

Stephanie Dedmon
Chief Information Officer

State of Texas

Amanda Crawford
Executive Director and Chief Information Officer

U.S. Virgin Islands

Rupert Ross
Director and Chief Information Officer

State of Utah

Alan Fuller
Chief Information Officer

State of Vermont

John Quinn
Former Chief Information Officer and Agency Secretary

Commonwealth of Virginia

Robert Osmond
State Chief Information Officer

State of Washington

William Kehoe
Director and Chief Information Officer

State of West Virginia

Josh Spence
Chief Information Officer

State of Wisconsin

Trina Zanow
Chief Information Officer

State of Wyoming

Bill Vajda
Chief Information Officer







About the National Association of State Chief Information Officers

Founded in 1969, the National Association of State Chief Information Officers (NASCIO) represents state chief information officers (CIOs) and information technology (IT) executives and managers from the states, territories and District of Columbia. NASCIO's mission is to foster government excellence through quality business practices, information management and technology policy. NASCIO provides state CIOs and state members with products and services designed to support the challenging role of the state CIO, stimulate the exchange of information and promote the adoption of IT best practices and innovations. From national conferences to peer networking, research and publications, briefings and government affairs, NASCIO is the premier network and resource for state CIOs.

National Association of State Chief Information Officers (NASCIO)

www.NASCIO.org

Doug Robinson, Executive Director
Meredith Ward, Director, Policy & Research

Contributors: Amy Glasscock, CIPM, Program Director, Innovation and Emerging Issues; Eric Sweden, MSIH, MBA, CGCIO, Program Director, Enterprise Architecture and Governance; Alex Whitaker, Director of Government Affairs



About Grant Thornton Public Sector LLC

Grant Thornton Public Sector is a professional services firm that helps executives and managers at all levels of government maximize their performance and efficiency to meet the increased demand for services. We develop creative, cost-effective solutions to the most difficult problems facing communities around the country. Our commitment to public sector success is burnished by a deep bench of former government executives and a widely recognized body of thought leadership analyzing and recommending solutions to government's greatest challenges.

Grant Thornton Public Sector

www.GrantThornton.com/publicsector

Graeme Finley, Principal
Mary Beth Parisi, Experienced Manager

Contributors: Gloria Funes, Creative Manager; Jennifer Kerber, Director, Marketing, Communications & Government Affairs; Duy Nguyen, Senior Associate



Grant Thornton