

Technology Forecast 2018: What State and Local Government Technology Officials Can Expect



Doug Robinson
Executive Director
NASCIO



Alan Shark
Executive Director
PTI



State-of-the-States 2018: IT Trends and Perspectives

**Technology Forecast 2018: What State and Local Government Technology Officials
Can Expect**

Doug Robinson, NASCIO Executive Director

@NASCIO

FY18 budgets remain cautious. Enacted budgets increase general fund spending by 2.3%. Impact from federal tax reform? CIOs pressured to find **cost savings**, driving consolidation, efficiencies

Growing investments in **cloud services** and X-as-a-Service. Continued evolution from the **owner-operator** business model to more managed services and multisourcing initiatives.

Cybersecurity as a **business risk**. Increased investments, frameworks, enterprise strategy, talent crisis

Growing investments enterprise solutions: cloud, **data analytics**, service integration, mobile, digital government services

FirstNet implementation in 2018: rollout, apps ecosystem, identity management

18 State CIO transitions since January 2018. 36 gubernatorial elections in 2018 – impact on leadership

Top Ten: State CIO Priorities for 2018



1. Security



2. Cloud Services



3. Consolidation/Optimization



4. Digital Government



5. Budget and Cost Control



6. Shared Services



7. Broadband/Wireless Connectivity

8. Data Management and Analytics

9. Enterprise IT Governance

10. Agile and Incremental Software Delivery



Source: State of Utah

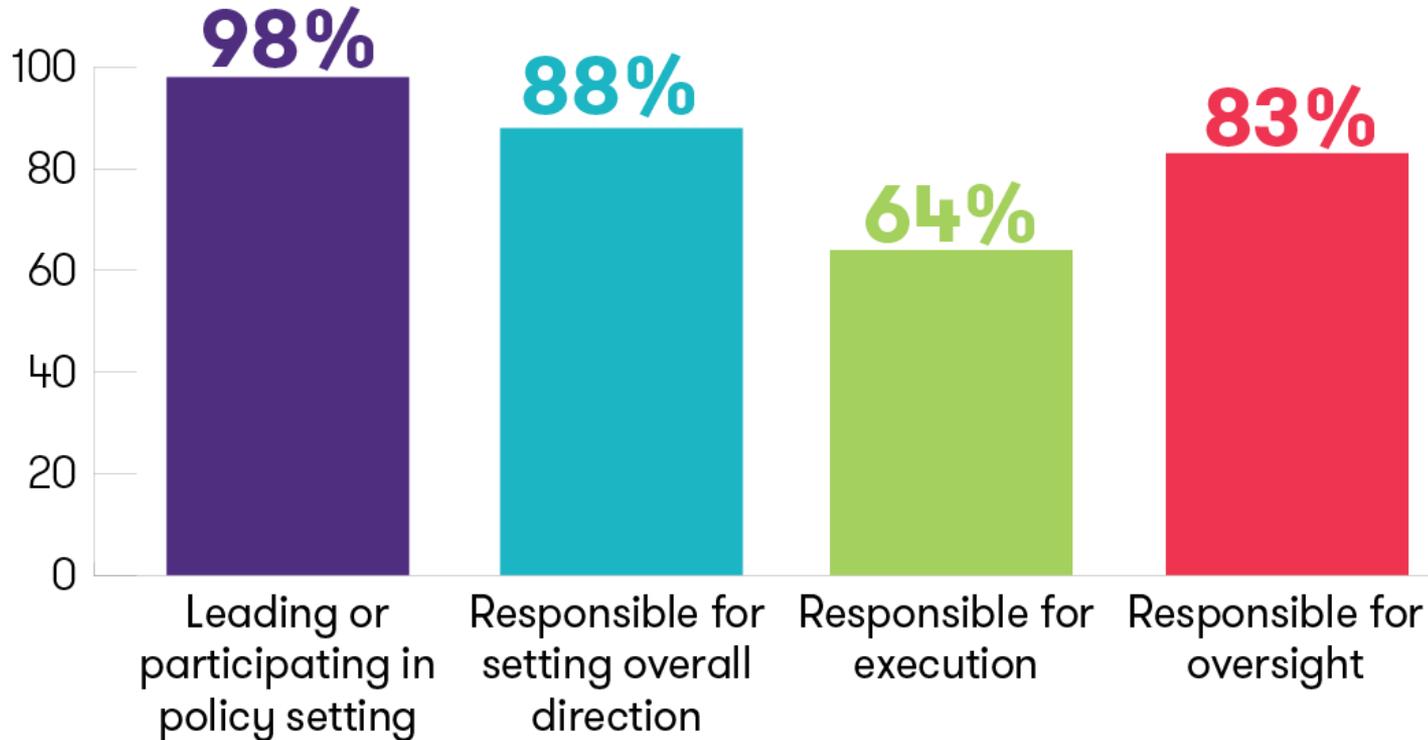
Cybersecurity Maturity in the States is Improving

Risk Based Strategies are Being Adopted

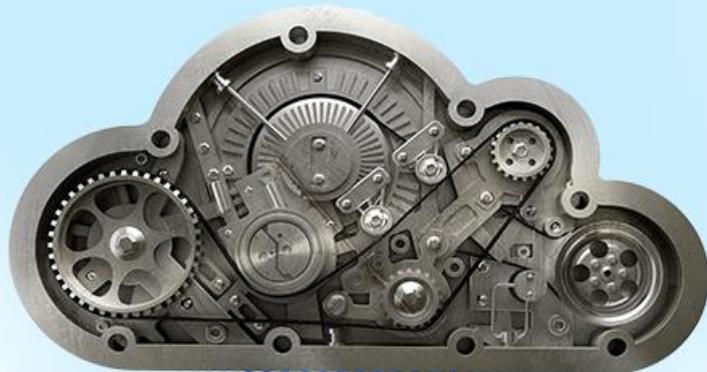
Expect Continued Progress in 2018

Characterize the current status of the cybersecurity program and environment in state government.			
	2013	2015	2017
Adopted a cybersecurity framework based on national standards and guidelines	78%	80%	95%
Acquired and implemented continuous vulnerability monitoring capabilities	78%	80%	79%
Developed security awareness training for workers and contractors	78%	87%	88%
Established trusted partnerships for information sharing and response	75%	80%	83%
Created a culture of Information security in your state government	73%	74%	83%
Adopted a cybersecurity strategic plan	61%	74%	83%
Documented the effectiveness of your cybersecurity program with metrics and testing	47%	52%	57%
Developed a cybersecurity disruption response plan	45%	52%	69%
Obtained cyber insurance	n/a	20%	38%

What is the current role of your CIO organization in administering the statewide cybersecurity program?



Source: NASCIO 2017 State CIO Survey



A NEW ENGINE

Driving Innovation in State Technology



How does your state CIO organization plan to deliver or obtain IT services over the next three years?	2015	2016	2017
Expand existing IT shared services model	62%	72%	60%
Outsource business applications through a SaaS model	55%	66%	52%
Expand existing managed services model	53%	61%	55%
Downsize state-owned-and-operated data center(s)	49%	28%	55%
Expand outsourcing	43%	45%	45%
Introduce a managed services model	26%	17%	21%
In-source some operations that currently are outsourced	17%	19%	17%
Introduce outsourcing as a new service model	15%	17%	33%

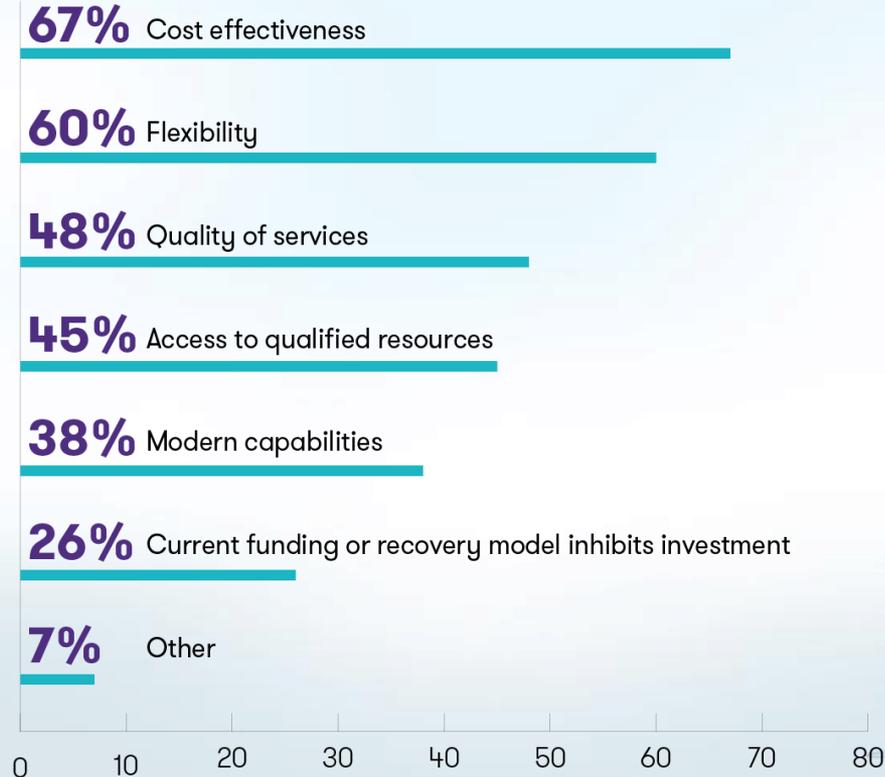
Which business model will drive your investments in the next five years? (state members only)

Choices	Results
On-Premise, Centralized/Enterprise Model	20%
On-Premise, Distributed/Federated Model	8%
Off-Premise, Centralized/Enterprise Model	55%
Off-Premise, Distributed/Federated Model	17%



Business Models, Sourcing and the CIO as Broker

What are the top three strategic or operational issues that are driving the increase in the use of brokered services?



Source: NASCIO 2017 State CIO Survey

Cloud Migration Strategies

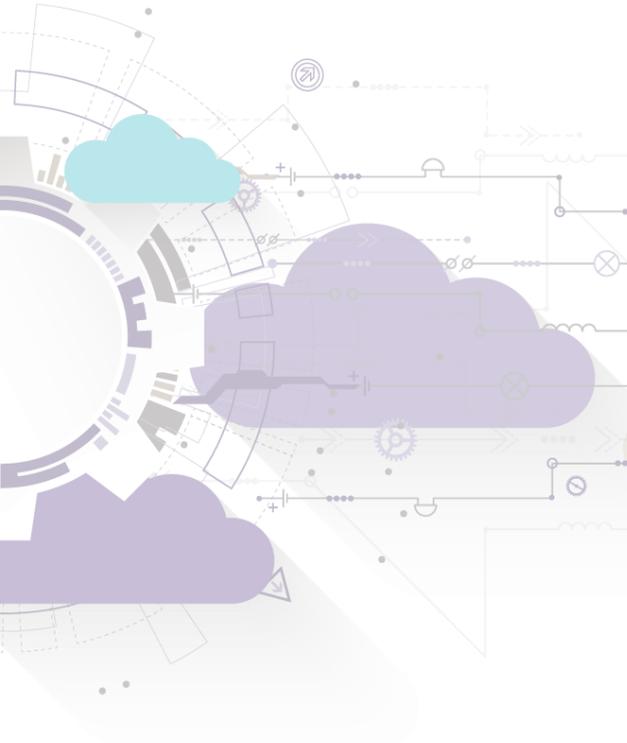
Does your organization have a strategy to migrate legacy applications to the cloud?



28% Yes, cloud migration strategy in place

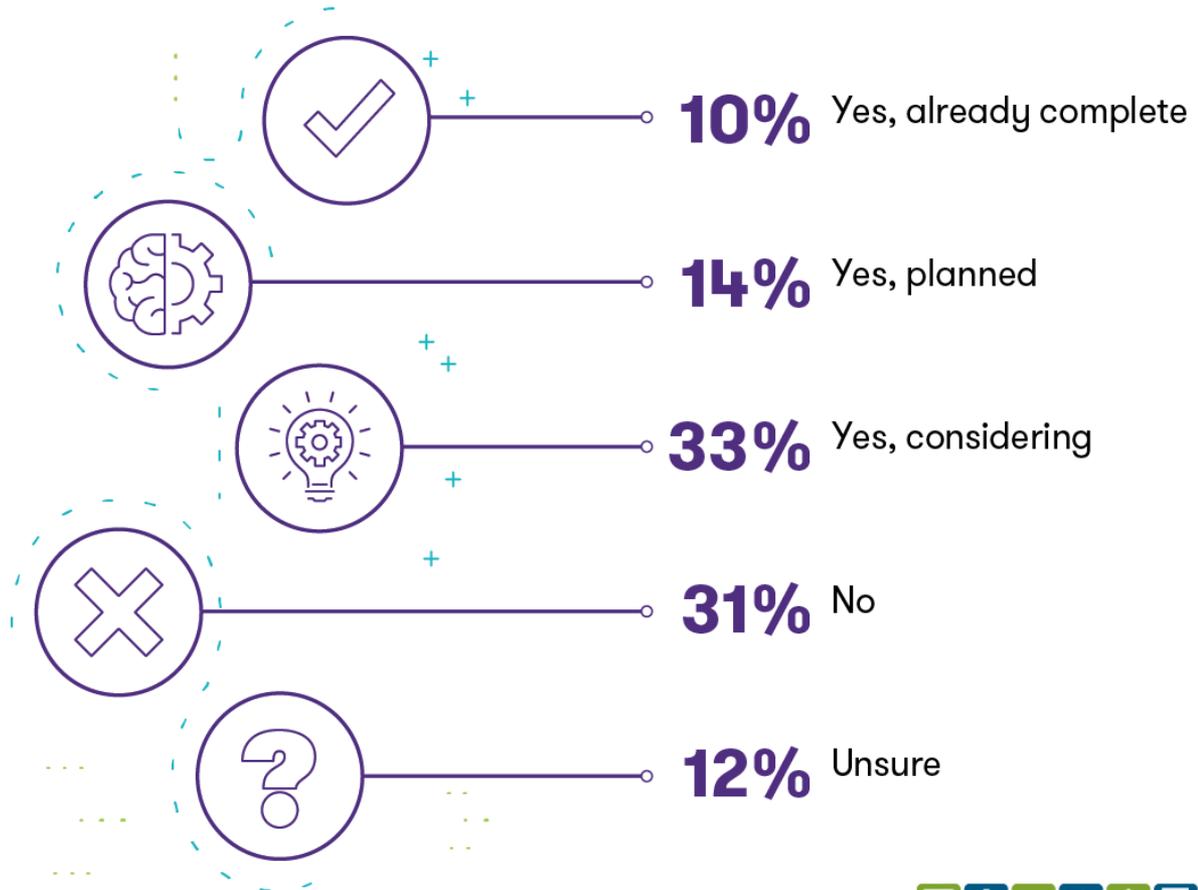
55% No, but cloud migration strategy in development

17% No cloud migration strategy planned





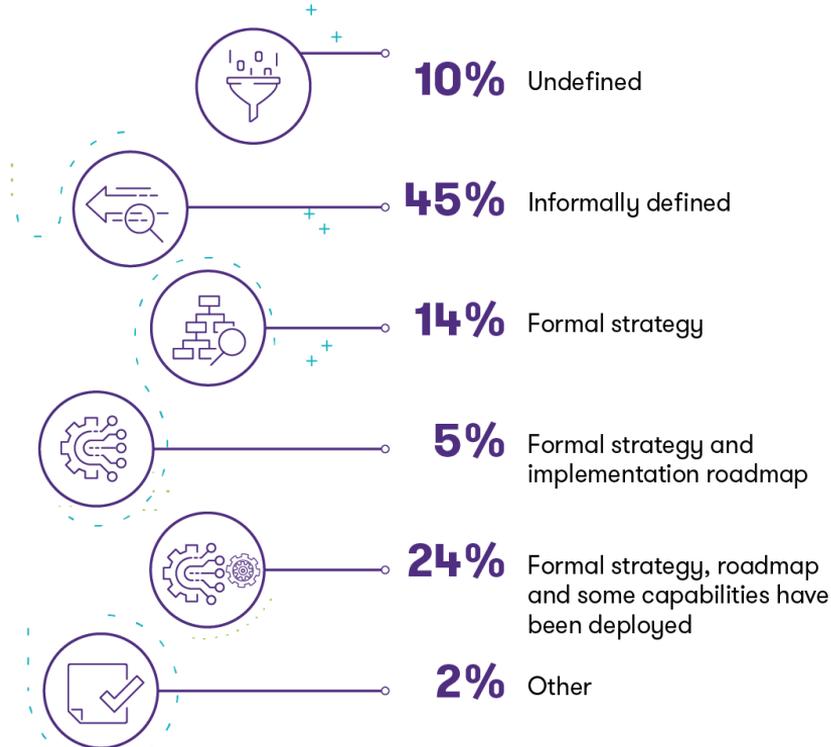
Are you planning to move to an off-premise Mainframe-as-a-Service solution in the next 2-3 years?



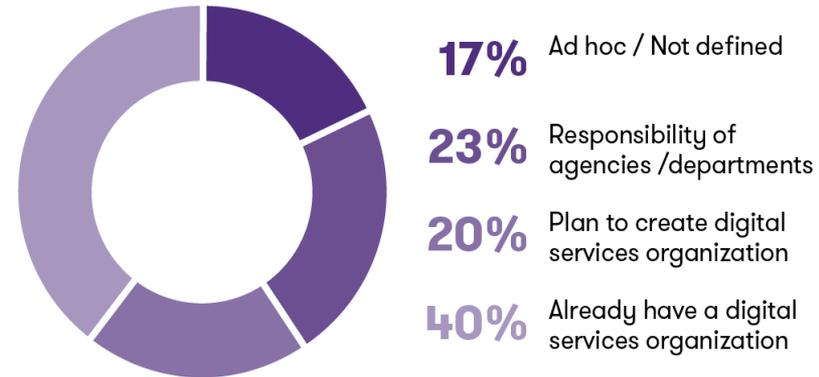
Source: NASCIO 2017 State CIO Survey

State CIOs and Digital Government

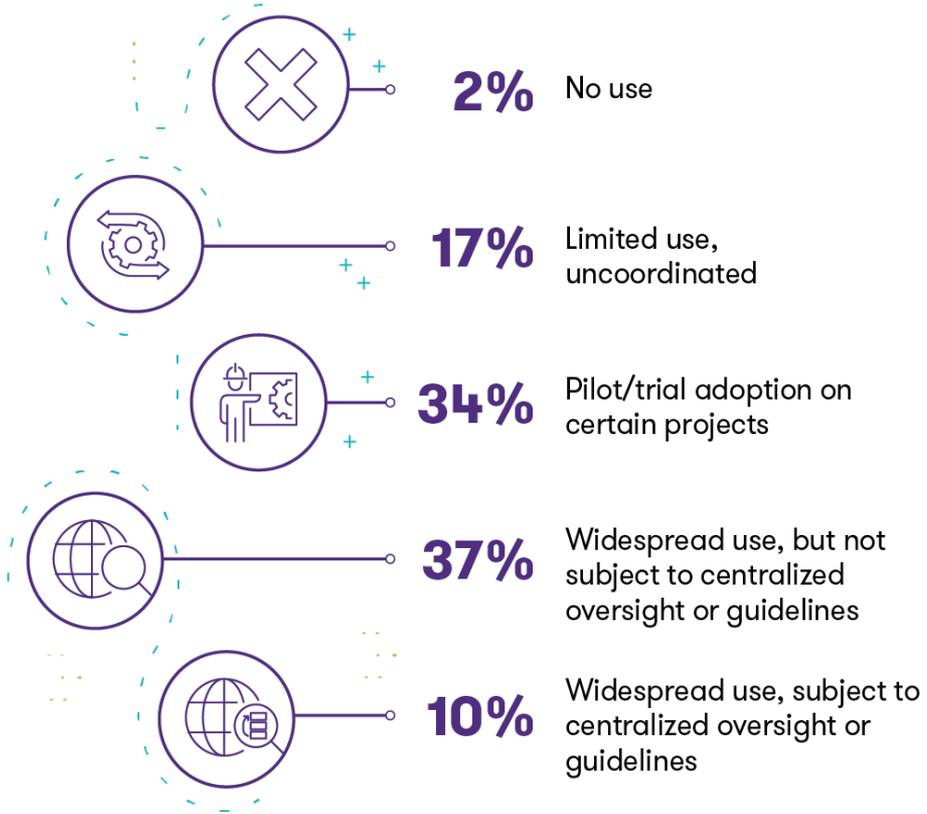
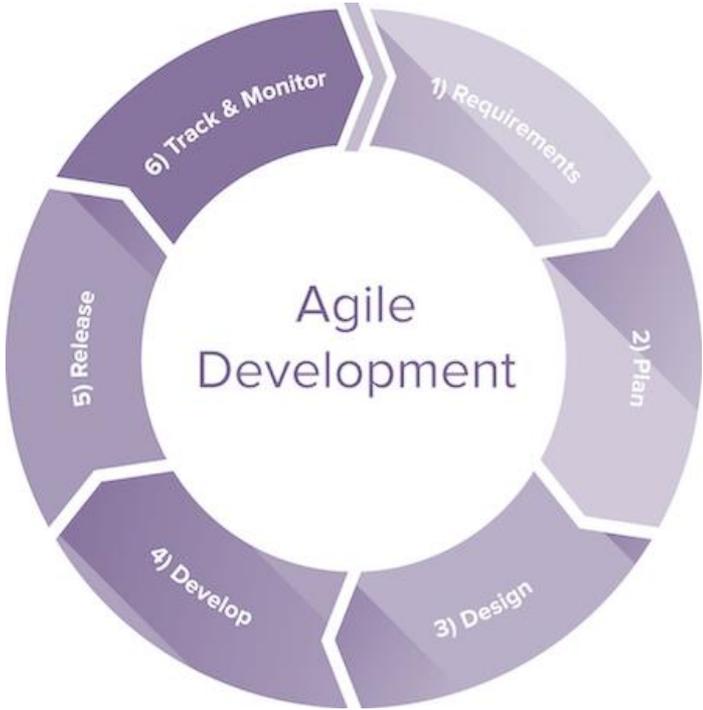
What is the current status of digital government in your state?



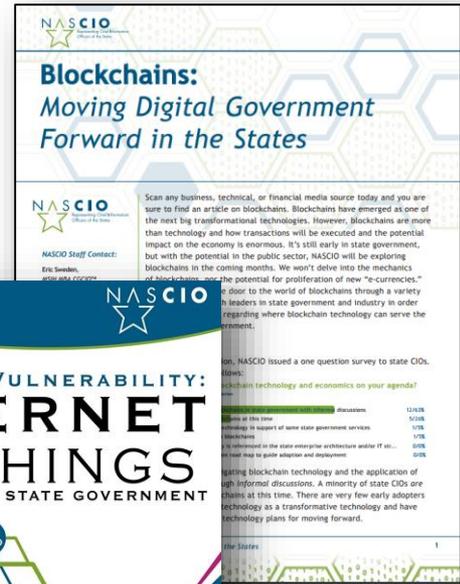
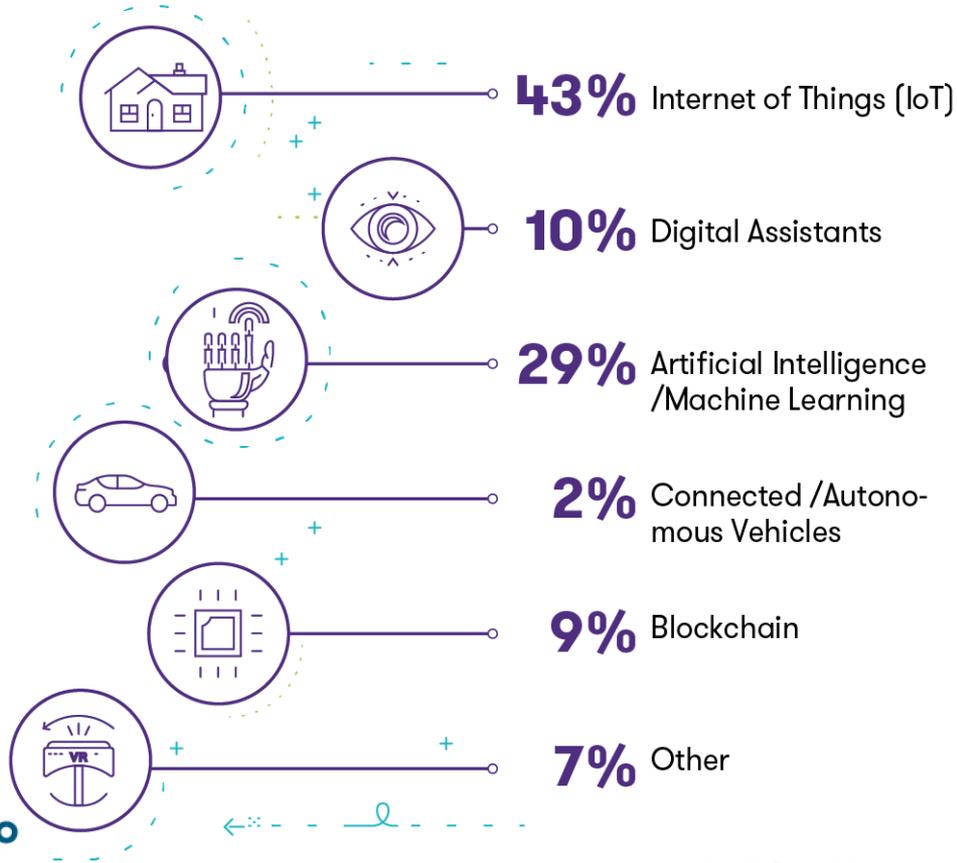
What is your approach to delivering digital government services?



How would you characterize the use of Agile or incremental software development approaches within your State?



What emerging IT area will be most impactful in the next 3-5 years?



Source: NASCIO 2017 State CIO Survey

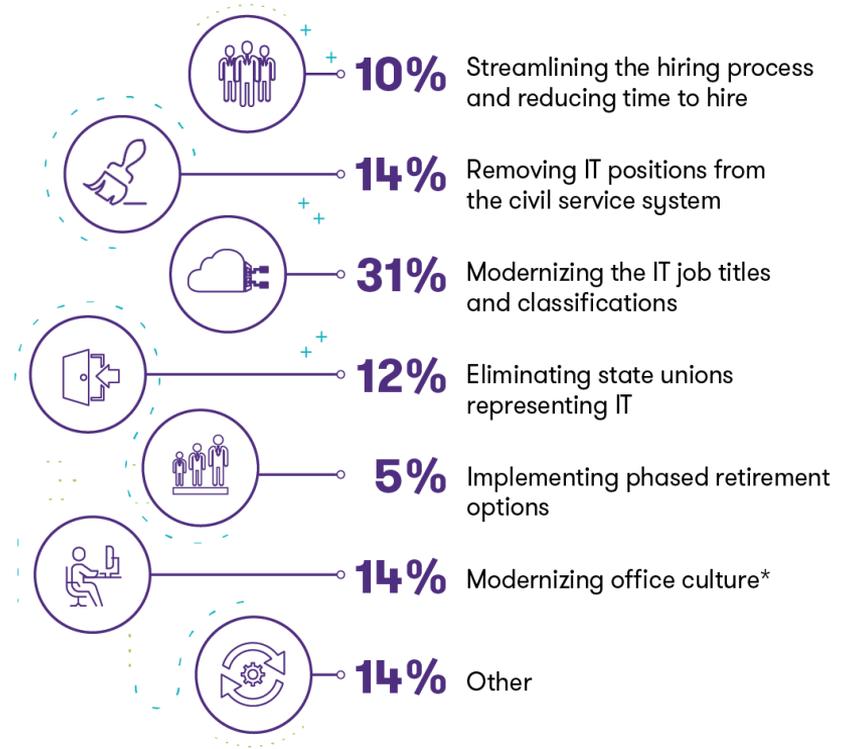


State IT Workforce



Photo: AWS, State of Tennessee

What single personnel reform could be implemented that would be the most impactful in reforming your State IT workforce?



**(i.e. flexible work schedules, telecommuting, etc.)*

What to Expect in 2018

Continued state IT transformations

More focus on enterprise cybersecurity

Disaster recovery/business continuity

Citizen-centric digital government: IAM

Rise of the Machines: AI

More hyperconverged infrastructure

The C-suite continues to expand

Net neutrality: response from the states

Emerging technologies oversight: state vs federal

Data Sharing Series Part 1

Advancing Digital Government: BETTER DECISION-MAKING Through Data Sharing Agreements

NAS CIO
Representing Chief Information
Officers of the States

NAS CIO Staff Contact:
Eric Swadlow, MEMB ABA CIO/CIP®
Program Director,
Enterprise Architecture &
Governance

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201 East Main Street
Suite 1400
Lexington, KY 40507
Phone: (859) 314-9153
Twitter: @NAS CIO
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Introduction

It has become almost a given that any function within state government can be and must be better informed when making decisions and generating policies that create desired outcomes for citizens. That necessary informing or information needed for decision making comes from inside as well as outside the enterprise in focus, whether it is an agency, a task force, or the office of the governor. It has also become almost a given that jurisdictional and agency decision making must obtain much of its essential information from outside the agency itself. In 21st century more and more state is born-digital and the advent of digital government makes data sharing more possible than ever. Data sharing enables digital government and is further enabled itself by digital government.

As government moves into 21st century with system modernization efforts, citizens are also demanding streamlined government services, a one-stop-service that will be informed about the citizen's whole circumstance. This along with federal and state mandates forces government to collaborate across programs and services in new ways. However, policies, tribal program requirements, and legislation sometimes gets in the way providing support for this concept – an enterprise view.

Increasingly, some of the outside information that resides within state government can be obtained from state open data portals. Some information can be classified as sharable through a state-wide information sharing clearinghouse. In this case the policy for information sharing is supported through legislation and an enterprise-wide, multi-agency, or cross-jurisdictional memorandum of understanding (MOU). But other information that is hard more closely and classified as such is often difficult to obtain. And then some sensitive data and information is bound to be used there in the question of how to obtain it again as a continual information flow to inform operational as well as strategic decision making.

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SHRINKING STATE DATA CENTERS

A PLAYBOOK FOR
ENTERPRISE DATA CENTER
CONSOLIDATION

NAS CIO Staff Contact:
Any Glascock, Senior Policy Analyst
Marshall Webb, Senior Policy Analyst

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Data Classification Series Part 1

Better Data Security Through Classification: A Game Plan for Smart Cybersecurity Investments

NAS CIO Staff Contact:
Any Glascock, Senior Policy Analyst
Marshall Webb, Senior Policy Analyst

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Today, it is not uncommon for the true and core value of a state to reside in its data assets, specifically the information it collects, develops, and stores, and in the products it develops and sells that are comprised of the data, or derived from the data. We live in the information age; information is the fuel for the engine that propels virtually every decision that is made in business today.

Data is risky business. Data is an asset. Data can truly make the difference between life and death for states. Take Indiana for example, who used data analytics to collapse the state's unacceptable infant mortality rate. It is no coincidence, then, why state chief information officers (CIOs) ranked data management and analytics—e.g. data governance; data architecture; strategy; business intelligence; predictive analytics; big data; roles and responsibilities—as a top priority for 2017. Additionally, in the National Association of State Chief Information Officers (NAS CIO) 2016 State CIO Survey, 58% of state CIOs characterized data governance as essential or high on their strategic and operational plan.

Within the state CIO's strategic agenda and operational plans, how well-would you characterize data governance management?

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Blockchains: Moving Digital Government Forward in the States

NAS CIO Staff Contact:
Eric Swadlow,
MEMB ABA CIO/CIP®
Program Director, Enterprise
Architecture & Governance

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Scan any business, technical, or financial media source today and you are sure to find an article on blockchains. Blockchains have emerged as one of the next big transformational technologies. However, blockchains are more than technology and how transactions will be executed and the potential impact on the economy is enormous. It's still early in state government, but with the potential in the public sector, NAS CIO will be exploring blockchains in the coming months. We won't delve into the mechanics of blockchains, nor the potential for proliferation of new "e-currencies." NAS CIO will open the door to the world of blockchains through a variety of conversations with leaders in state government and industry in order to begin discussions regarding where blockchain technology can serve the mission of state government.

Survey Results

To begin the discussion, NAS CIO issued a one question survey to state CIOs. The results are as follows:

To what extent is blockchain technology and economics on your agenda?

Response	Percentage
1. I have no interest in blockchain	10/18
2. I am interested in blockchain at this time	10/18
3. I am exploring blockchain technology in support of state state government services	1/18
4. I am piloting discussions on blockchains	1/18
5. Blockchain technology is referenced in the state enterprise architecture under IT...	0/18
6. Developed a blockchain road map to guide adoption and deployment	0/18

Better Decision-Making through Data Sharing

State IT Procurement Negotiations: Working Together to Reform and Transform

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INASPO
National Association of State Procurement Officials

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Grant Thornton

CompTIA

The 2017 State CIO Survey
October 2017

A NEW ENGINE Driving Innovation in State Technology

accenture consulting

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AGILE IT DELIVERY:

IMPERATIVES FOR
GOVERNMENT SUCCESS





2018 PTI Top Issues and Policies

Dr. Alan R. Shark

Executive Director

Public Technology Institute

and

Associate Professor

George Mason University Schar School of Policy & Government

OUT	IN
1. Cyber Security as a concern	Cyber Security as a crisis
2. Perimeter-Based Security Focus	Holistic Active Monitoring and Response Systems
3. Hacked	Ransomware
4. GIS	IVIS (Interactive Visualized Information Systems)
5. Touch	Voice
7. Smart software	Artificial Intelligence (AI)
8. Robotics	Robots/Bots
9. IQ (intelligence quotient)	EQ (emotional intelligence quotient)
10. Virtual & Augmented Reality	Mixed Reality
11. Credit Cards	Bitcoin
12. Database transactions	Blockchain
13. Big Data for Public Consumption	Big Data for Data-Driven Decision Making
14. IOE (Internet of Everything)	SIOE (Secured IOE)
15. Hiring IT Staff (internal)	Managing IT staff (external)
16. Cloud Computing	Managed Services
17. Converged Infrastructure	Hyperconvergent Infrastructure

Source: Dr. Alan Shark, January 2018

Top IT Strategies, Management Processes, and Solutions for 2018 (ranked)

Provided City & County IT officials with the list of priorities identified by NASCIO and asked them to rank them.

Results of Two Combined Polls

- Poll of County IT Officials conducted December 2017: PTI and the National Association of Counties IT Standing Committee
- Poll of City IT officials conducted by PTI January 2018



Top IT Strategies, Management Processes, and Solutions for 2018 (ranked)

PTI / Local Government Priorities

1. Security and Risk Management
2. Consolidation/Optimization
3. Cloud Services
4. Budget, Cost Control, Fiscal Management
5. Enterprise IT Governance
6. Data Management and Analytics
7. Digital Government
8. Shared Services
9. IT Staffing (not on the NASCIO survey)
10. Broadband/Wireless Connectivity
11. Agile and Incremental Software Delivery

Top IT Strategies, Management Processes, and Solutions for 2018 (ranked)

Local Government

(State Government)

1. Security and Risk Management (1)
2. Consolidation/Optimization (3)
3. Cloud Services (2)
4. Budget, Cost Control, Fiscal Management (5)
5. Enterprise IT Governance (9)
6. Data Management and Analytics (8)
7. Digital Government (4)
8. Shared Services (6)
9. IT Staffing (not on the NASCIO survey)
10. Broadband/Wireless Connectivity (7)
11. Agile and Incremental Software Delivery (10)

Robots 'to take 50% of our jobs by 2050 and outperform humans at almost anything'

Prof Moshe
lack of direct

e of a



06.12.15

This Calculator Will Tell You If A Robot Is Coming For Your Job

The answer is yes. The real question is when.



This Calculator Will Tell You If A Robot Is Coming For Your Job

The answer is yes. The real question is when.

BY ADELE PETERS 3 MINUTE READ



Is a robot coming for your job? Now you can find out via an algorithm, appropriately. A handy calculator from NPR, based on research from

WILL ROBOTS TAKE MY JOB?

ABOUT

Enter your job

or show [random example](#)

1.5%



toptal matches you with top developers who are guaranteed to succeed.

ADS VIA CARBON

Chief Executives

SOC CODE: 11-1011.00

Determine and formulate policies and provide overall direction of companies or private and public sector organizations within guidelines set up by a board of directors or similar governing body. Plan, direct, or coordinate operational activities at the highest level of management with the help of subordinate executives and staff managers.

AUTOMATION RISK LEVEL

Totally Safe

or 1.5% probability of automation

PROJECTED GROWTH

-1%

by 2024

MEDIAN ANNUAL WAGE

\$181,210

or \$87.12 hourly

PEOPLE EMPLOYED

223,260

as of 2016

66%



Toptal matches you with top developers who are guaranteed to succeed.

ADS VIA CARBORN

Janitors and Cleaners, Except Maids and Housekeeping Cleaners

SOC CODE: 27-2011.00

Keep buildings in clean and orderly condition. Perform heavy cleaning duties, such as cleaning floors, shampooing rugs, washing walls and glass, and removing rubbish. Duties may include tending furnace and boiler, performing routine maintenance activities, notifying management of need for repairs, and cleaning snow or debris from sidewalk.

AUTOMATION RISK LEVEL

Robots are watching

or 66% probability of automation

PROJECTED GROWTH

6%

by 2024

MEDIAN ANNUAL WAGE

\$24,190

or \$11.63 hourly

PEOPLE EMPLOYED

2,161,740

as of 2016



2018 Top Policy Issues

- Net Neutrality
- Privacy
- Surveillance
- Artificial Intelligence
- Capital budgets vs. Operations Budgets
- IT Modernization
- Rural Broadband
- FirstNet
- Autonomous vehicles



QUESTIONS?

