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

Doug Robinson
Executive Director
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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

Source: NASCIO State CIO Ballot, November 2017

Cybersecurity Maturity in the States is Improving

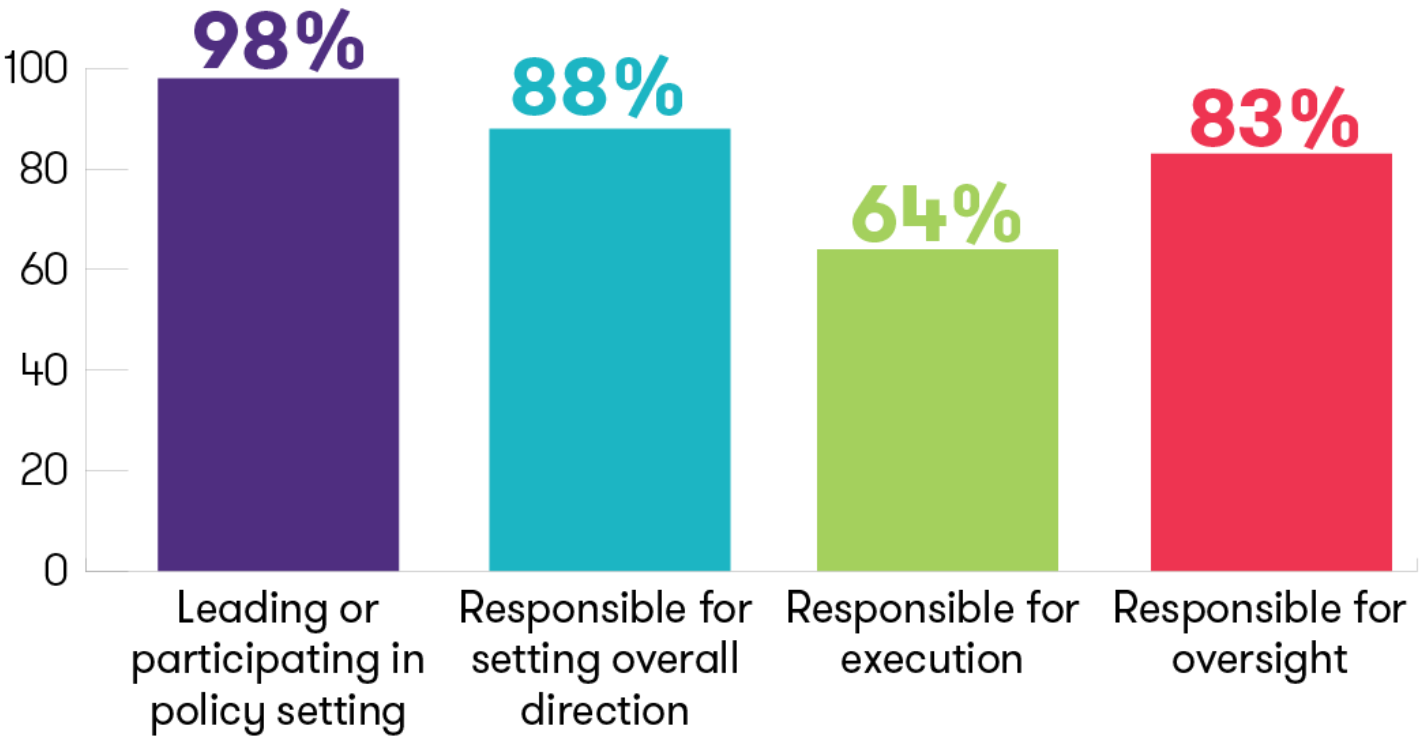
Risk Based Strategies are Being Adopted

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%

Source: NASCIO 2017 State CIO Survey

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



Source: NASCIO 2017 State CIO Survey

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Representing Chief Information Officers of the States

Grant Thornton

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The 2017 State CIO Survey
October 2017

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%

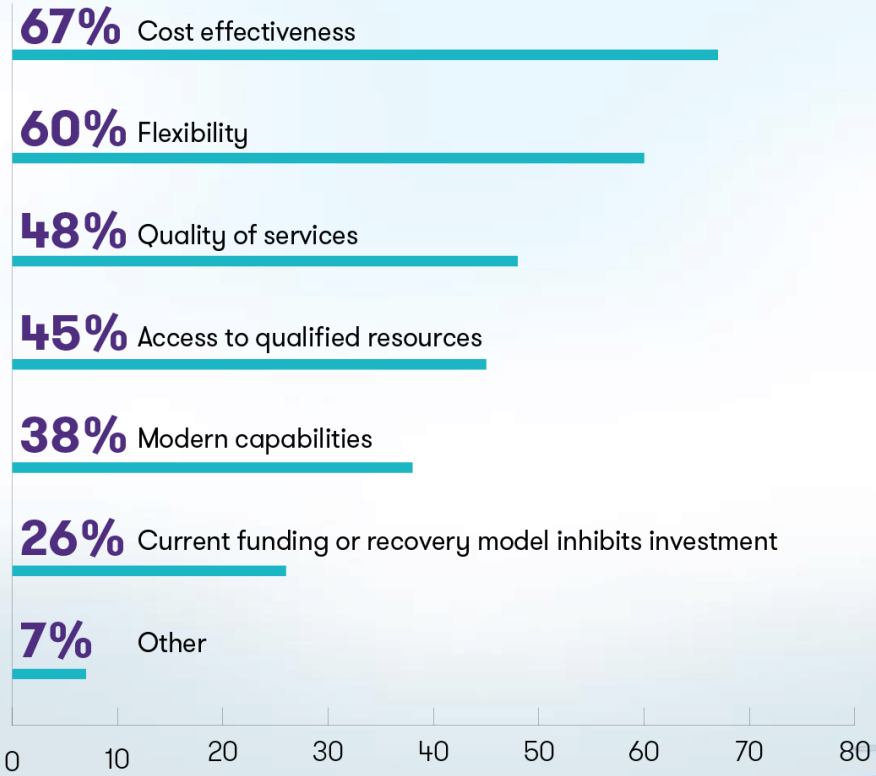
Source: NASCIO 2017 State CIO Survey

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?

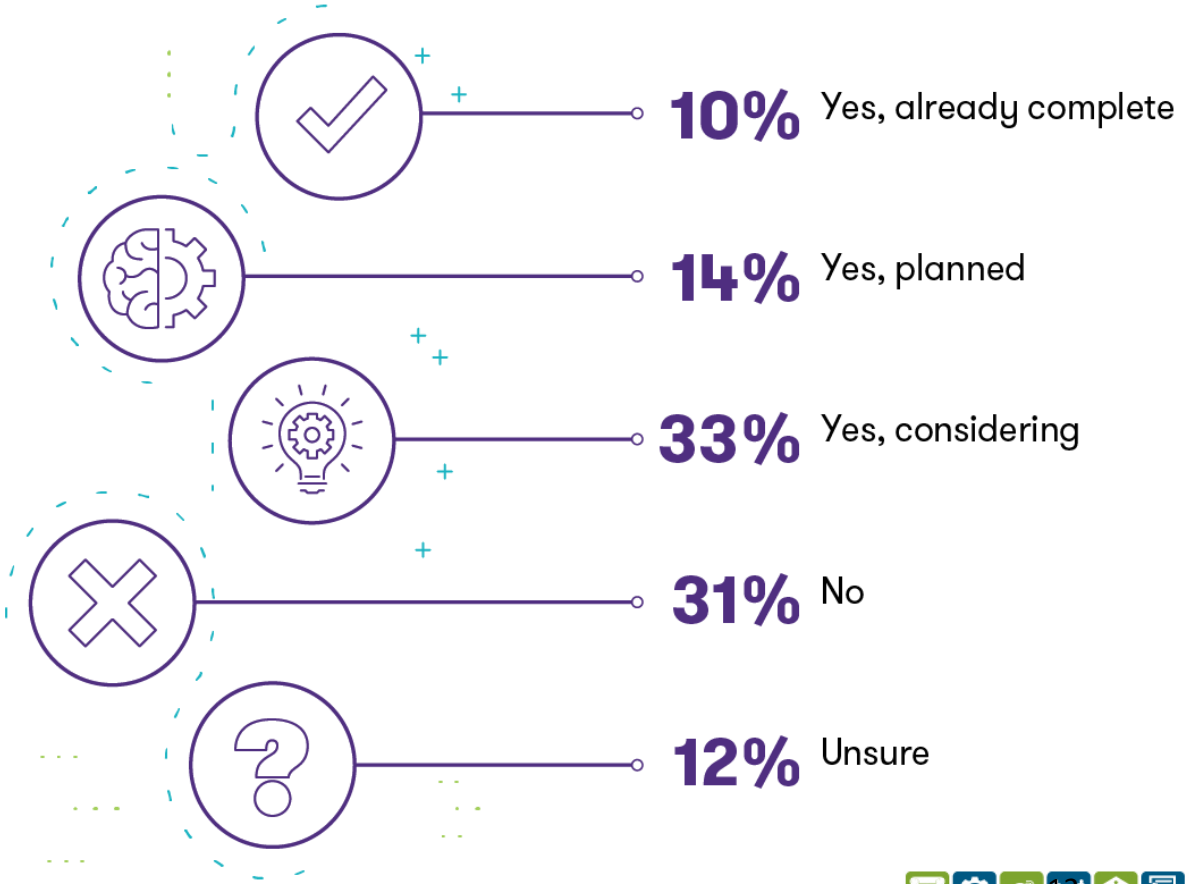
28% Yes, cloud migration strategy in place

55% No, but cloud migration strategy in development

17% No cloud migration strategy planned

Source: NASCIO 2017 State CIO Survey

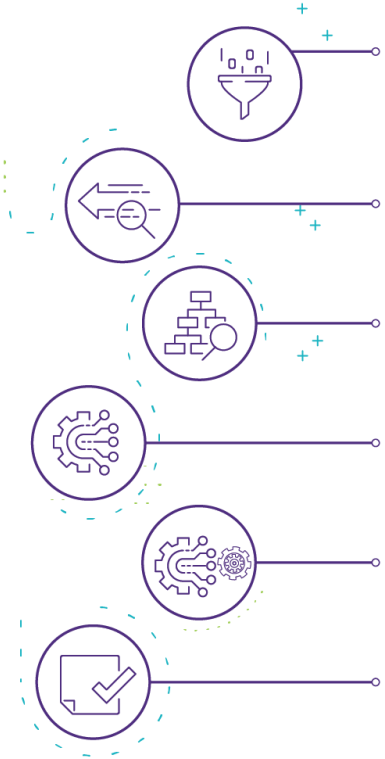
Are you planning to move to an off-premise Mainframe-as-a-Service solution in the next 2-3 years?



Source: NASCIO 2017 State CIO Survey

State CIOs and Digital Government

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

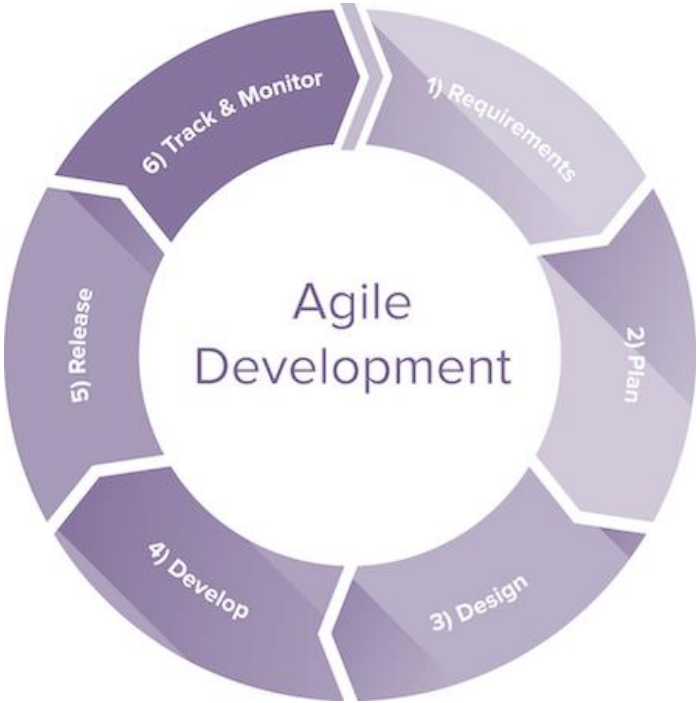


- **10%** Undefined
- **45%** Informally defined
- **14%** Formal strategy
- **5%** Formal strategy and implementation roadmap
- **24%** Formal strategy, roadmap and some capabilities have been deployed
- **2%** Other

What is your approach to delivering digital government services?

- **17%** Ad hoc / Not defined
- **23%** Responsibility of agencies /departments
- **20%** Plan to create digital services organization
- **40%** Already have a digital services organization

Source: NASCIO 2017 State CIO Survey



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

2% No use

17% Limited use, uncoordinated

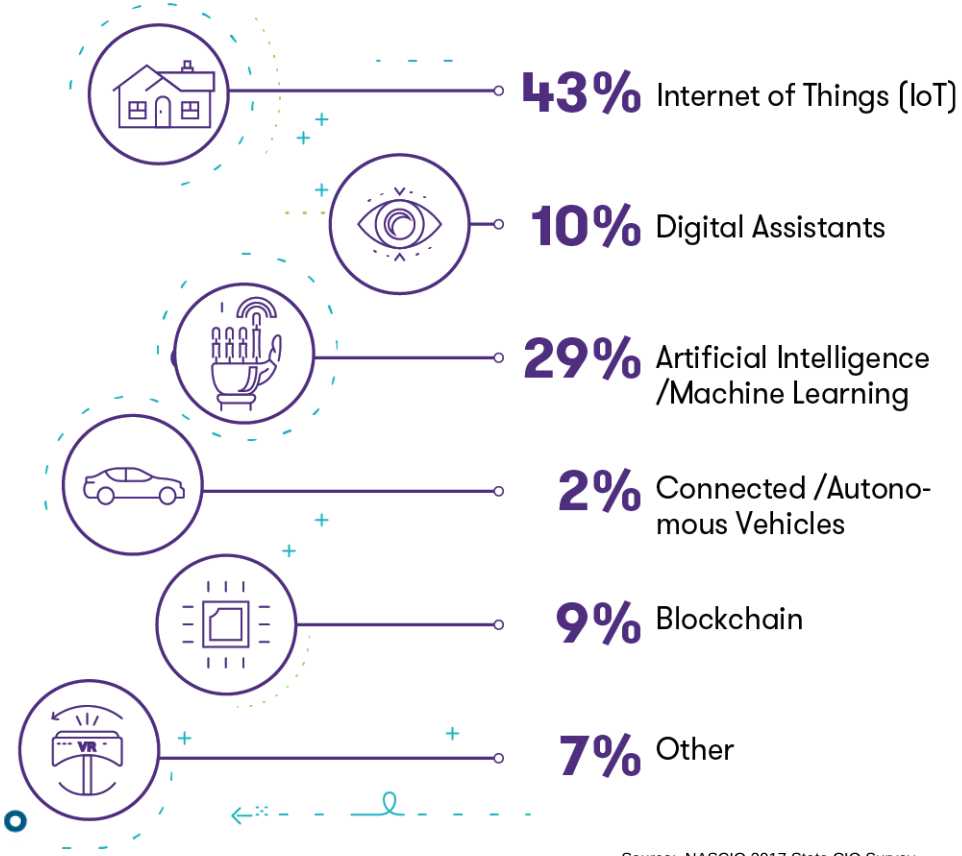
34% Pilot/trial adoption on certain projects

37% Widespread use, but not subject to centralized oversight or guidelines

10% Widespread use, subject to centralized oversight or guidelines

Source: NASCIO 2017 State CIO Survey

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



43% Internet of Things (IoT)

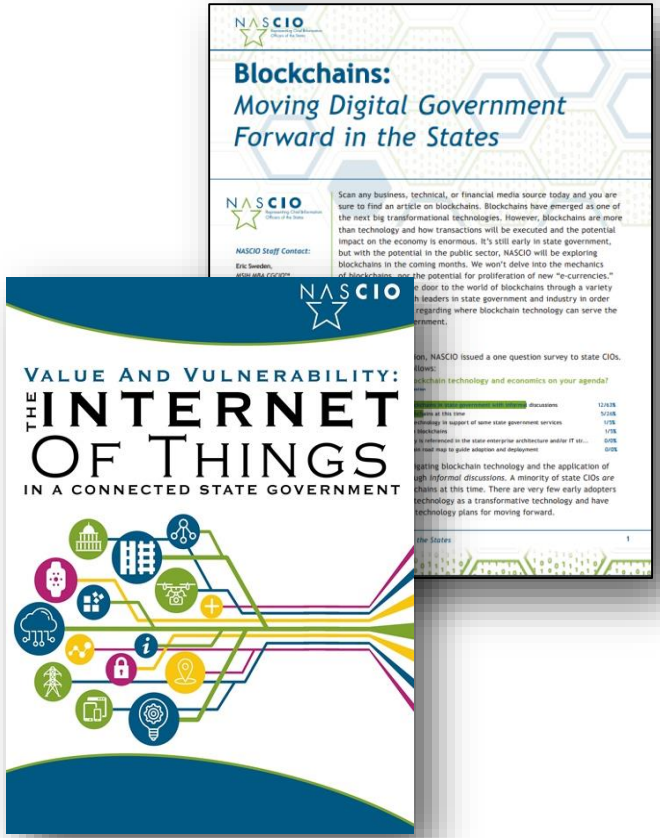
10% Digital Assistants

29% Artificial Intelligence /Machine Learning

2% Connected /Autonomous Vehicles

9% Blockchain

7% Other

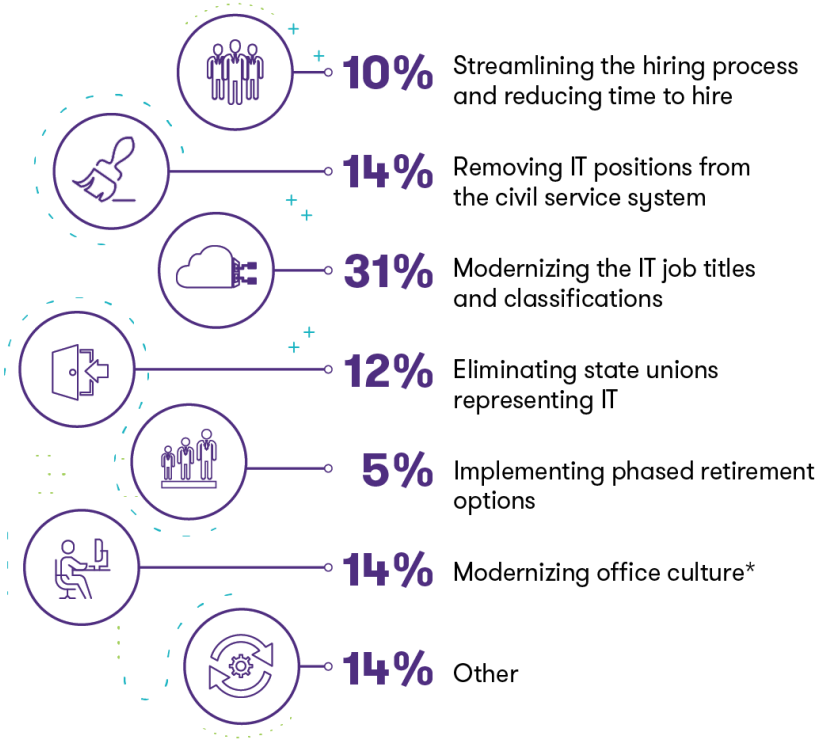


Source: NASCIO 2017 State CIO Survey

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?



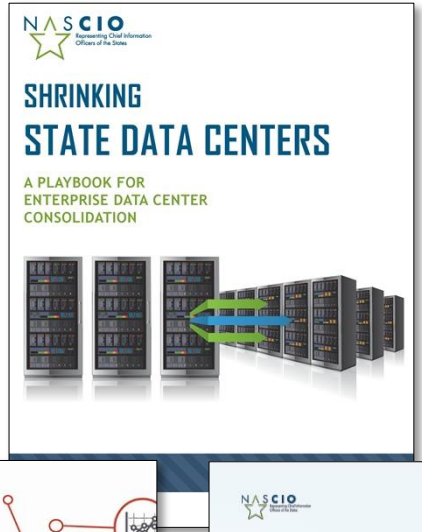
(i.e. flexible work schedules, telecommuting, etc.)

Source: NASCIO 2017 State CIO Survey

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
NASCIO
Introduction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Representing Chief Information Officers of the States
SHRINKING
STATE DATA CENTERS
A PLAYBOOK FOR
ENTERPRISE DATA CENTER
CONSOLIDATION

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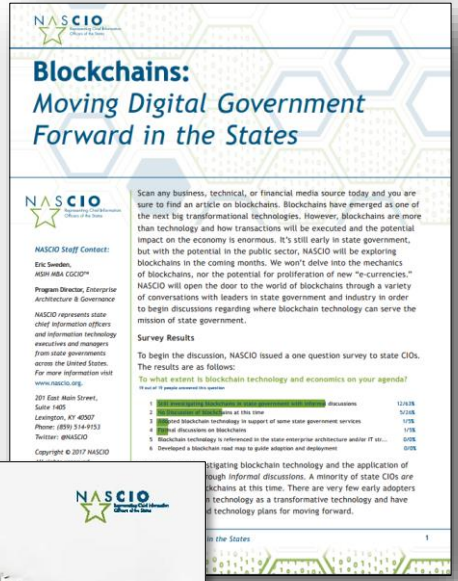
Data Classification Series Part 1
Better Data Security Through
Classification: A Game Plan for Smart
Cybersecurity Investments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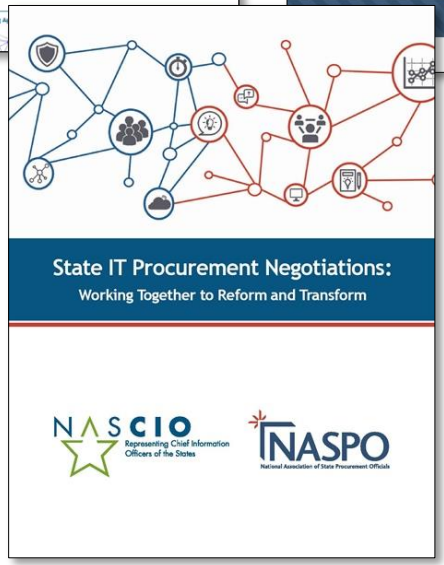
Blockchains:
Moving Digital Government
Forward in the States
Survey Results


State IT Procurement Negotiations:
Working Together to Reform and Transform
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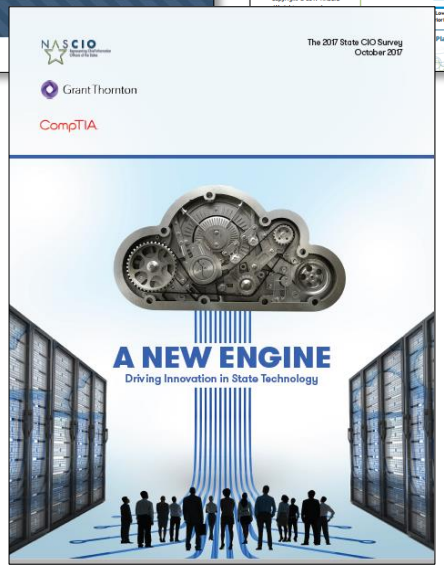
National Association of State Procurement Officials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AGILE IT
DELIVERY:
IMPERATIVES FOR
GOVERNMENT SUCCESS

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

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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)

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

Prof Moshe \ e of a
lack of direct

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FAST COMPANY

TECHNOLOGY | LEADERSHIP | ENTERTAINMENT | IDEAS | VIDE

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.

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

pti Public Technology Institute

WILL ROBOTS TAKE MY JOB?

ABOUT

Enter your job

or show random example

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WILL ROBOTS TAKE MY JOB?

ABOUT

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

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WILL ROBOTS TAKE MY JOB?

ABOUT

66%

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

ADS VIA CARBON

Janitors and Cleaners, Except Maids and Housekeeping Cleaners

SOC CODE: 37-2011.00

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

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2018 Top Policy Issues

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

Source: Dr. Alan Shark, January 2018

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QUESTIONS?