

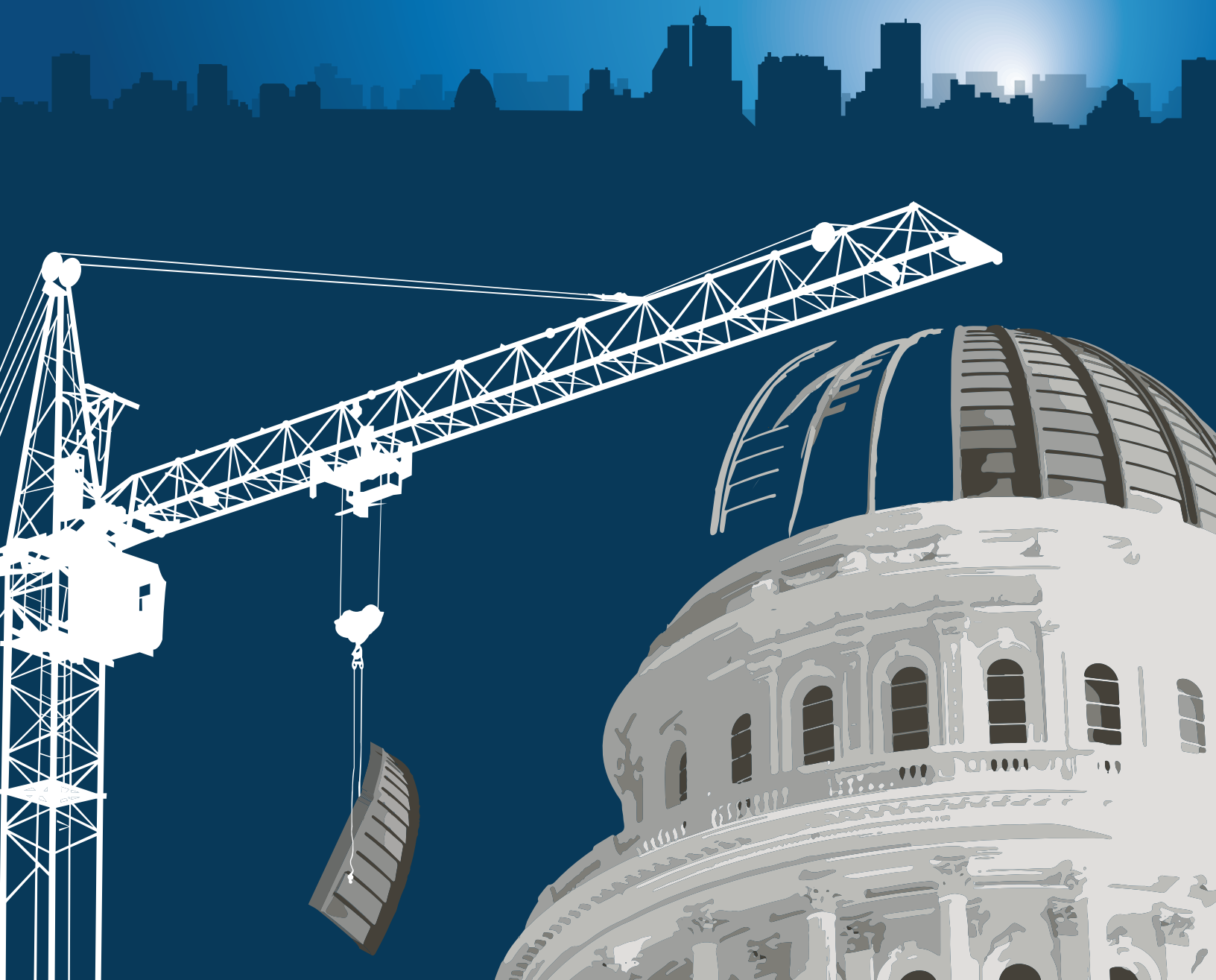
The 2013 State CIO Survey

OCTOBER 2013



# The Enterprise Imperative:

## Leading Through Governance, Portfolio Management, and Collaboration





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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. For more information, visit [www.NASCIO.org](http://www.NASCIO.org).



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# Executive Summary

Our 2013 survey of state Chief Information Officers (CIOs) finds these state leaders continuing to advance their enterprise vision for information technology (IT). The pressures for operational cost savings and optimization remain; however, state CIOs are also emphasizing effective enterprise governance models, adopting business disciplines, and forging the right relationships for collaboration. The 2012 survey – *Advancing the C4 Agenda* – focused on the balancing act that CIOs must maintain both in providing high-quality services and in delivering new, innovative solutions. These demands have not decreased over the past year. CIOs are responding by focusing on the **enterprise**, and by **coordinating across boundaries**. The enterprise focus may involve integrating governance and portfolio management across the state, improving the effectiveness of IT procurement, or deploying statewide identity and access management solutions. CIOs are also reaching out across traditional boundaries to collaborate with other branches of state government and with local governments.

## IT project and portfolio management

Our survey found that, although formal IT project oversight practices are nearly ubiquitous, they are generally considered not to be very effective. CIOs believe oversight practices are more effective when statewide governance and oversight bodies enforce a consistent approach across the state. Formal IT enterprise portfolio management processes have also become more the norm over the past few years. While CIOs view these processes as increasingly effective in monitoring the portfolio of ongoing projects, they also view them as relatively ineffective in driving IT investment decisions.

## IT procurement

The IT procurement process remains a concern for the majority of CIOs. The major issues identified are the length of time procurements take to complete and the risk-averse nature of a procurement process that inhibits innovation. CIOs also recognize that reasonable IT terms and conditions are important for the vendor community. However, CIOs are divided on whether their states are equitably sharing risk with vendors during the contracting process. The most desired procurement reforms are better training, more opportunity for negotiation during the procurement process, and development of standard terms and conditions for cloud and/or Software as a Service (SaaS) offerings.

## Sourcing

The outsourcing of IT applications and the use of managed/shared services models has increased significantly over the past few years. This is consistent with a continued consolidation of statewide IT operations and with the ongoing movement toward cloud-based IT solutions. Many CIOs no longer believe there are significant barriers to adopting different types of sourcing models.

## Cybersecurity

There is vigorous activity in the area of cybersecurity, with three-quarters of states now adopting a cybersecurity framework and implementing continuous vulnerability monitoring capabilities. However, states continue to face challenges documenting the effectiveness of their cybersecurity programs and developing cybersecurity disruption response plans.

## Identity and access management (IAM)

Almost half of the states have an IAM model implemented or under way. There is also a concerted effort among many states to extend these models beyond state employees to include citizens within the state.

## Cross-jurisdictional collaboration

Cross-jurisdictional collaboration is a topic of continuing focus. Three-quarters of CIOs include cross-jurisdictional collaboration on their strategic agenda, and another 20% are considering it. However, CIOs report that issues of governance and turf continue to be among the greatest barriers to additional cross-jurisdictional collaboration.

## Business Intelligence (BI)/Business Analytics (BA)

As we have found in past surveys, the capabilities of BI/BA solutions are generally ahead of states' ability to deploy the technology

at a statewide level. Although almost one-third of CIOs consider BI/BA essential today, the majority believe that states are not yet ready to derive full value from BI/BA technology. It is encouraging that, when asked how they would rate the value of BI/BA to state governments in the future, over three-quarters of CIOs say it would be essential.

## Social media

State use of social media continues to mature and has become business-as-usual. For many states, the more significant activity over the past year has been establishment of a statewide policy on social media use. In other states, however, governance of social media use remains quite decentralized and not well documented.

## Cloud services

We asked CIOs about the laws, regulations, and policies in their states, and whether these might be barriers to cloud services adoption. About half of CIOs believe their current legal and regulatory environment is not consistent with the delivery of cloud solutions. A majority of these CIOs are actively working on reforms to improve that environment. CIOs also recognize that issues affecting cloud adoption often do not become apparent until CIOs undertake a particular project and then must resolve some problems on a case-by-case basis.



# About the Survey

## Survey purpose

The National Association of State Chief Information Officers (NASCIO), TechAmerica, and Grant Thornton LLP have collaborated for a fourth consecutive year to survey state government IT leaders on current issues, trends, and perspectives. The dire (or fiscally troubled) economy creates problems for states when citizen demands for services continue or grow. The survey sponsors seek to provide these state government IT leaders with an opportunity to voice their thoughts and opinions on matters of high importance. State officials, from governors to legislators to executive branch officials, as well as business leaders, can all benefit from these knowledgeable insights about essential state IT services.

## Methodology

In spring 2013, the sponsors jointly developed a series of questions reflecting both the new issues of the day as well as follow up on some questions included in the 2012 survey. We made these questions available to state CIOs in an online tool, and between June and August 2013, CIOs individually logged in and responded to the 42 multiple-choice and open-ended questions.

The response rate was extraordinary, with fifty-four (54) NASCIO member states and territories completing the survey. Primary respondents were the state CIOs, although deputy CIOs and other senior state IT leaders also contributed. Throughout this survey report, we refer to them all as state CIOs. Thirty-seven (37) of this year's respondents also participated in the 2012 survey; however, new perspectives were introduced by 30% of the respondents who were different because of the normal turnover that occurs in state CIO positions.

This survey occurred while states were experiencing the slow fiscal recovery from



a deep recession. For fiscal year 2014, the outlook is better. The revenue situation in most states is positive, and budgets are more stable. However, targeted spending cuts remain, and slow revenue growth will constrain state budgets for the near future. In addition, the impact of federal sequestration and reduced aid to states has just begun to affect delivery of some state services. As with many state officials, state CIOs are faced with demands to reduce operational costs and stay in the forefront of innovation, but at the same time to continue providing the technology leadership and support that allows their states to provide essential services to their citizens.

## Anonymity

This report reflects the responses and opinions of the survey respondents to the maximum extent possible. However, to preserve anonymity we do not attribute responses to specific individuals.

To obtain a copy of the survey report or questionnaire, please see the inside back cover of this report for directions to the sponsor organizations' websites.

# IT Project and Portfolio Management

Because of their size, complexity, and visibility, state IT projects often receive a considerable amount of attention by state policy officials, legislators, and the media. During 2013, we saw the cancellation of several major state IT projects as a result of concerns related to inadequate progress, cost overruns, poor oversight, or failure to perform. To begin this year's survey, we asked several questions relating to the maturity and effectiveness of IT project and portfolio management practices.

As shown in **Figure 1**, almost all states have some formal IT project oversight practices. These span the continuum from a structured governance model with enterprise authority to frameworks/disciplines/processes to decentralized models with "light" governance and little enterprise oversight. Overall, less than half of CIOs believe those practices are effective or very effective. CIOs consider the following to be key drivers of effective oversight:

- Statewide governance and oversight bodies enforcing a consistent approach across the state
- Statewide Project Management Offices (PMOs) with responsibility and authority for management of large IT projects

Where oversight is decentralized, CIOs believe success often relies on the maturity of the project management practices of the individual departments and of the vendors hired to perform the work.

The following key reforms are frequently suggested by CIOs as ways to improve IT

project and portfolio management:

- Centralized authority within the Office of the CIO for IT oversight
- A statewide Project Management Office
- A centralized Project Portfolio Management (PPM) tool and portfolio management processes
- Independent oversight/Independent Validation and Verification (IV&V) of projects, with IV&V not reporting to the agency responsible for implementing the project
- Formal project management practices and training for staff in those practices
- Stronger executive-level engagement and commitment from the user agencies
- Incremental approval of projects through predefined stage gates and an improved ability to curtail or cancel runaway projects



**Figure 1**

How effective are your state's practices for oversight of large IT projects?



**Figure 2**

Do you use a formal IT enterprise portfolio management process to support decisions regarding planned initiatives, projects, or ongoing IT services such as application support?



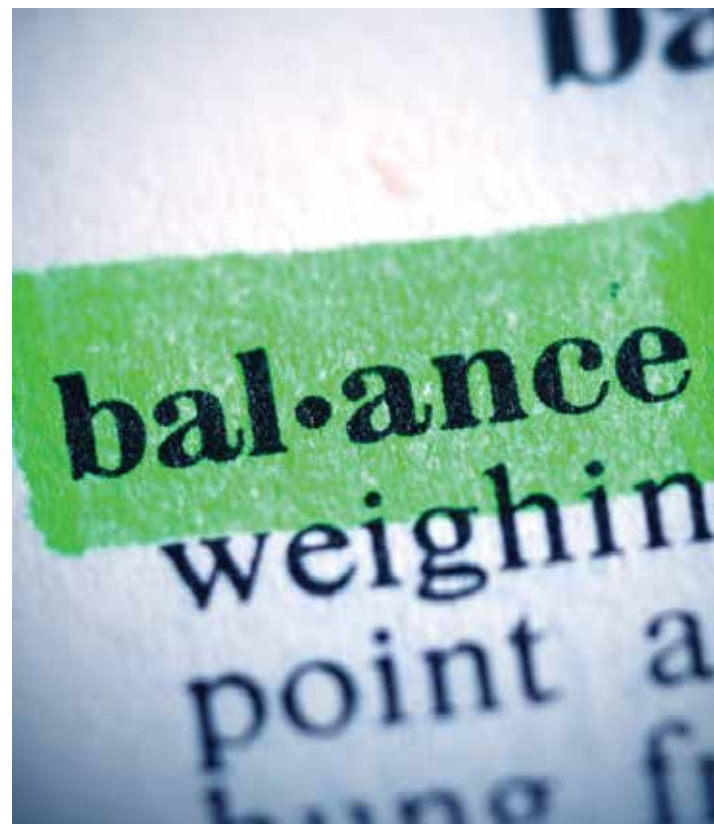
As shown in **Figure 2**, almost two-thirds of states use a formal IT enterprise portfolio management process, which is an increase of approximately 20% since we first asked this question in 2010. As one sign of the increased effectiveness of these bodies, in addition to acting as an approval stage-gate for new projects, almost half of CIOs have used this process to halt a troubled project. In some cases, this involved cancelling the project entirely, while in other situations it involved an assessment and implementation of a corrective action plan.

IT enterprise portfolio management practices are now relatively common within states, as shown in **Figure 3**. However, only 37% of those who use portfolio management practices believe they are effective or very effective, which is very similar to what we found when we first asked this question in our 2010 survey. Clearly, this is an enterprise governance area that CIOs must address to reduce the risks associated with IT investment decisions. As with oversight of the IT project portfolio, CIOs believe that statewide standards for business cases and approvals documents, stronger executive-level engagement, and a strong enterprise-wide oversight role by the CIO are keys to effective IT investment management.

**Figure 3**

How effectively do your IT portfolio management practices help drive IT investment decisions? Please rate this effectiveness on the scale below.

	Percent	Percent
Do not use portfolio management	23%	
Use portfolio management	77%	
Not at all effective		7%
Somewhat ineffective		56%
Effective		32%
Very effective		5%





# IT Procurement

IT procurement remains a significant area of focus and concern for many CIOs. The widespread adoption of significant reforms and process improvements has been slow, although a few states have succeeded in implementing meaningful changes. In this year's survey, we asked CIOs for their thoughts on two specific topics related to IT procurement: 1) contract terms and conditions and 2) the procurement process.

## Contract terms and conditions

Negotiating a complex IT contract can be difficult because of multiple parties involved and the desire to address all perceived risks. The equitable sharing of risk through contract terms and conditions is a major concern for vendors doing business with the states, and we wanted to understand to what extent state CIOs shared these concerns. As shown in **Figure 4**, CIOs are about equally divided in whether they think IT terms and conditions are effective in sharing risk between the state and vendors. A number of CIOs recognize the deterrent effect of terms and conditions that are not balanced or are skewed in favor of the state. Where CIOs believe that innovation or reforms could improve the allocation of risk more equitably between vendors and the state, the following are the most common recommendations:

- Assure a limitation of liability that sets a reasonable cap on a vendor's financial exposure (e.g., one time or two times the aggregate purchase price).
- Adopt a "license" rather than "acquisition" approach to a vendor's intellectual property (IP) and work product.



- Limit indemnification obligations to tangible losses (e.g., injury or death to an individual or the loss or damage to real property) resulting from willful misconduct or negligent acts of the vendor.

Several CIOs point out that their flexibility to adopt any reforms of this nature is severely limited by state statutes. A number of CIOs also believe that, while terms and conditions are clearly of concern to the vendor community, CIOs place a higher priority on the speed and effectiveness of the procurement process. This was our second topic of inquiry in the survey.

**Figure 4**

To what extent do you believe that the contract terms and conditions used by your state to procure IT goods and services are effective in sharing risk between the state and vendors?



**Figure 5**

To what extent do you believe that the procurement process used by your state is effective in acquiring best value IT goods and services in a timely manner?



### IT procurement process

It is clear that current processes are not consistently working to acquire best value in a timely manner. As shown in **Figure 5**, almost two-thirds of CIOs believe their IT procurement process is either somewhat or very ineffective. The two most frequently cited concerns are the length of time required to complete a procurement and the risk-averse nature of the procurement process that often stymies innovation.

We also asked CIOs about reforms they might recommend. As shown in **Figure 6**, the most commonly suggested reforms for the IT procurement process were:

- Provide better training to state staff involved in IT procurements
- Provide more opportunity for negotiation between the states and vendors
- Develop standard terms and conditions for cloud and/or Software as a Service offerings

**Figure 6**

What three (3) reforms in the procurement process would do the most to improve your state's ability to procure IT goods and services?

	Percent
Provide training to state staff involved with IT procurement so that they are better equipped to develop RFPs that balance risks between vendors and states.	72%
Implement rules for using competitive negotiations, which in turn serve to facilitate "give-and-take" between buyer and sellers so that obstacles, where presented by terms and conditions, can be addressed and resolved without derailing the procurement.	58%
Develop standard forms for procuring cloud and/or Software as a Service offerings.	54%
Institute a process to periodically review and scrub the current IT terms and conditions used by the state to see if they align with terms and conditions used by other states. Likewise, if no "model" set of terms and conditions exist, set about to establish a set of "standard" or recommended terms.	48%
For state contracts involving IT services and/or system implementation, include a dispute resolution process in the signed contract that involves successive escalation steps so that opportunities are available for resolution rather than litigation.	38%
Other	12%

**Figure 7**

How satisfied are you with the current system of IT procurement in your state?



Finally, we asked about satisfaction with IT procurements. As shown in **Figure 7**, CIOs continue to be fairly evenly divided on their satisfaction with the current state of IT procurement in their state. These results are relatively unchanged from last year's survey.



## Sourcing

The economic recession increased pressure on state leaders to examine alternative approaches to many services traditionally owned and delivered by state government. This included a focus on IT infrastructure, applications, and services. We asked CIOs about the business models and sourcing strategies they currently use within the state CIO organization. We asked this same question in 2010. **Figure 8** shows the 2010 and 2013 responses.

The percentages for the ownership and operation of different models of data centers have not changed significantly between 2010 and 2013. However, there has been a considerable increase in the percentage of states that are outsourcing some IT applications or using a managed or shared services model for IT operations. This evolution is consistent with a continued consolidation of statewide IT operations and with the ongoing movement toward cloud-based IT solutions and services.



When we asked CIOs about their strategies to deliver IT services over the next three years, a similar picture emerged. The four most common responses were:

- Expand an existing managed services model (59%)
- Expand an existing IT shared services model (49%)
- Expand outsourcing (49%)
- Outsource business applications through a SaaS model (49%)

**Figure 8**

Question	2010 Response	2013 Response
<b>Owns and operates all state IT assets and operations</b>	<b>32%</b>	<b>29%</b>
<b>Owns and operates multiple data centers</b>	<b>58%</b>	<b>65%</b>
<b>Owns and operates a consolidated data center</b>	<b>55%</b>	<b>57%</b>
<b>Outsources some of its IT infrastructure operations</b>	<b>58%</b>	<b>51%</b>
<b>Outsources some of its IT application and services</b>	<b>42%</b>	<b>69%</b>
<b>Uses a managed services model for some or all IT operations</b>	<b>50%</b>	<b>65%</b>
<b>Uses an IT shared services model for some or all IT operations</b>	<b>66%</b>	<b>73%</b>

# Cybersecurity

State governments are at risk from a host of new and aggressive security threats that require a formal strategy, adequate resources, and constant vigilance. Cybersecurity continues as one of the major “hot button” issues for state CIOs and one that receives increasing attention from governors and other elected officials. We asked CIOs about their cybersecurity program and the major initiatives within it.

As **Figure 9** shows, most states are engaged very actively in cybersecurity, with over three-quarters of CIOs stating they have adopted a cybersecurity framework, implemented continuous vulnerability monitoring capabilities, and developed security awareness training for employees and third-party contractors. The two areas that are notably behind are documenting the effectiveness of the cybersecurity program and developing a cybersecurity disruption response plan.



## Figure 9

Please characterize the current status of the cybersecurity program and environment in state government.

	Percent
Adopted a cybersecurity framework based on national standards and guidelines	78%
Acquired and implemented continuous vulnerability monitoring capabilities	78%
Developed security awareness training for workers and contractors	78%
Established trusted partnerships for information sharing and response	75%
Created a culture of information security in your state government	73%
Adopted a cybersecurity strategic plan	61%
Documented the effectiveness of your cybersecurity program with metrics and testing	47%
Developed a cybersecurity disruption response plan	45%
Other	6%



We also asked CIOs about the major barriers they faced in addressing cybersecurity. As **Figure 10** shows, by far the most common concerns are inadequate funding and the increased sophistication of threats. This finding is consistent with the most recent NASCIO cybersecurity surveys of the states.

**Figure 10**  
What major barriers does your state face in addressing cybersecurity?

	Percent
<b>Increasing sophistication of threats</b>	<b>83%</b>
<b>Lack of adequate funding</b>	<b>77%</b>
<b>Inadequate availability of security professionals</b>	<b>55%</b>
<b>Emerging technologies</b>	<b>42%</b>
<b>Lack of visibility and influence within the enterprise</b>	<b>25%</b>
<b>Lack of support from business stakeholders</b>	<b>21%</b>
<b>Inadequate competence of security professionals</b>	<b>19%</b>
<b>Lack of clarity on mandate, roles and responsibilities</b>	<b>13%</b>
<b>Lack of legislative support</b>	<b>12%</b>
<b>Other</b>	<b>10%</b>
<b>Lack of executive support</b>	<b>6%</b>

# Identity and Access Management (IAM)

States have an essential obligation to ensure the integrity of the data entrusted to them and securely exchange information with others when necessary. A fundamental aspect of this important function is identifying and authorizing access to information and services with trusted credentials for citizens, partners, and employees. With increased emphasis on data protection and risk reduction, IAM solutions prevent unauthorized users from gaining access to systems and help enforce compliance with security policies. For several years now, IAM has been a “top 10” technology priority for state CIOs; however, it appears that developing an enterprise approach has not been easy. The diversity and complexity of state government organizations, the disparate business needs of agencies, and varied federal program rules all create challenges for implementing enterprise solutions. We asked CIOs about their state’s current approach to IAM.

As **Figure 11** shows, half of CIOs have an enterprise IAM model either fully implemented or underway. Only about a quarter of the states are still investigating or do not have plans for an enterprise IAM model.

Generally, these IAM deployments focus on state employees and internal services. So, we asked whether the state had attempted to extend the IAM model to constituents seeking access to state services. As **Figure 12** shows, 42% of CIOs indicate that their states are pursuing an IAM model that would extend to constituents. Five states have already adopted The National Strategy for Trusted Identities in Cyberspace (NSTIC) federated model, and other states are considering it.

CIOs say that the most significant barriers to adoption of an enterprise IAM strategy are:

- The decentralized environment of the state
- The cost of doing so
- The complexity of legacy systems
- The lack of governance

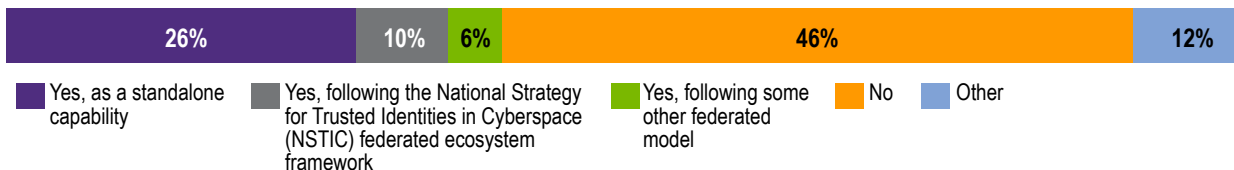
**Figure 11**

Which best describes the status of your state’s current approach to identity and access management?

	Percent
Enterprise model fully implemented in the executive branch	8%
Enterprise model under way - partial implementation	42%
Still investigating an enterprise model	21%
No plans for enterprise IAM implementation	2%
Decentralized IAM at agency level	17%
No IAM initiatives at all	6%
Other	4%

**Figure 12**

Has your state attempted to extend its IAM solution to identify and authenticate constituents seeking to access state services?



# Disaster Recovery/Business Continuity

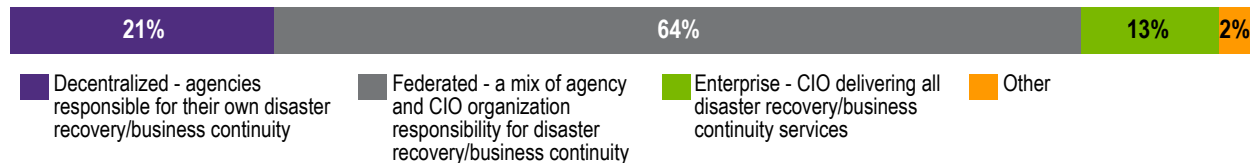
Not surprisingly, disaster recovery and business continuity are issues that continue to receive increased attention in the state CIO community. So far in 2013, states have experienced a wide range of natural disasters of near historic proportions. These events often result in destruction of infrastructure and disruption in government services. The pressure on state government leaders is clear because citizens expect government to be “at its best” when disaster strikes.

We asked CIOs how they approached these initiatives within their state. As **Figure 13** shows, almost two-thirds of states pursue a federated strategy, with responsibilities split between the CIO and state departments and agencies.

We also asked CIOs what was their role in helping their state respond to and recover from a natural or manmade disaster. **Figure 14** shows that almost all CIOs see their role as one of coordinating with other state officials and restoring and maintaining infrastructure and communications services. Two-thirds of CIOs also see their organization as responsible for providing a state website to provide communications and status updates. Only half of CIOs consider their role to include provisioning portable communication devices.

**Figure 13**

Please characterize the general approach to IT disaster recovery and business continuity in state government.



**Figure 14**

What is the CIO's role in helping the state respond and recover from a natural or manmade disaster?

	Percent
Coordinate with other state officials	93%
Maintain a robust, reliable, and secure infrastructure	85%
Restore communication services	85%
Assist in developing delivery work around processes while disaster recovery/business continuity implementations occur	70%
Update state website with status reports, alerts, and notifications	68%
Provide portable communication services	51%
Coordinate business process analysis in support of services restoration	45%
Role of CIO is unclear or not well defined	19%
Other	4%





We asked CIOs how often they update their state's disaster recovery/business continuity plan. **Figure 15** shows that over one-third of states update their plans annually. Surprisingly, 19% of CIOs indicate their states review and update their plans continually. This diligence may reflect the reaction to recent natural disasters (e.g., floods, storms) that have had a devastating impact on some states. An additional influence may be migration to cloud-based continuity of operations solutions, which are more supportive for continuous updating.

**Figure 15**  
How often is the state's IT disaster recovery/  
business continuity plan reviewed and  
updated?

	Percent
<b>Continually</b>	<b>19%</b>
<b>Quarterly</b>	<b>0%</b>
<b>Semiannually</b>	<b>14%</b>
<b>Annually</b>	<b>39%</b>
<b>Biannually</b>	<b>6%</b>
<b>Other</b>	<b>22%</b>

## Cross-Jurisdictional Collaboration

Cross-jurisdictional collaboration is a topic of continuing focus, and three-quarters of CIOs have this as an item on their strategic agenda, with another 20% considering it. As noted in previous surveys, the primary motivation for collaboration often is cost savings.

**Figure 16**

What types of public sector organizations in your state are participating in an IT shared services model?

	Percent
Other state executive agencies	88%
Local government entities other than education	55%
State colleges and universities	53%
State judicial agencies	45%
K-12 schools and school districts	43%
State legislative agencies	39%
Community colleges	39%
Entities outside my state	16%
Entities in my state other than those listed above	10%
Special districts	8%
Other	4%

We asked CIOs what types of public sector entities within their states are participating in an IT shared services model. As **Figure 16** shows, in almost all states, executive branch agencies participate in some IT shared services, and about half of all states see collaboration with and among state colleges and universities, various types of local government entities, and judicial agencies. More than one-third of CIOs mention collaboration with legislative agencies, community colleges, and K-12 entities.



We asked CIOs what types of services they were providing, especially for local governments. **Figure 17** shows that data center hosting and networking services are by far the most frequently mentioned, followed by security, email, GIS, telephony, and cloud solutions. Only about one-quarter of states provide applications development or support, and only 12% of them provide ERP or mobile application support. While infrastructure services are quite commonly shared, the provision of shared services in the application arena still has a long way to go.

**Figure 17**

Service	Percent
Network services	63%
Data center hosting	61%
Security	51%
Email/office productivity	47%
GIS	47%
Telephony	45%
Cloud solutions/hosting	41%
Co-location	41%
IT training	35%
Portal/website hosting	29%
Storage and backup	28%
Video conferencing	26%
Applications development/support	24%
Business intelligence/business analytics	14%
Enterprise resource planning	12%
Mobile apps	12%
Digital archiving and preservation	10%
Imaging	10%
None	10%
Records management	6%

**Figure 18** reveals that, when CIOs are considering a cross-jurisdictional collaboration, governance and turf issues continue to be significant barriers. These results are consistent with previous survey results and NASCIO issue briefs. They illustrate that effective governance is an essential ingredient for successful sharing of government services and technology across jurisdictions.

**Figure 18**

What are the major barriers when considering or initiating a cross-jurisdictional collaboration?

	Percent
Governance	69%
Turf issues	58%
Cost sharing	52%
Federal funding/cost allocation restrictions	33%
Legal/statutory restrictions	23%
Other	17%
Procurement rules	13%



# Business Intelligence (BI)/ Business Analytics (BA)

BI/BA and Big Data are currently hot topics within the corporate sector. In 2011, we asked CIOs the extent to which they were using these technologies at the state level. We asked the same question again this year, and **Figure 19** shows the results. Although there has been a decrease in the number of states with no investment in BI/BA, the majority of states still fall into the category where only pockets of investment and capability exist – and mostly within only certain agencies.

Today, CIOs want to promote these investments as enterprise solutions and potentially shared services. **Figure 20** shows those areas in state government that have positive outcomes with the use of BI/BA. In particular, health and human services and education departments often have active BI/BA programs, but according to many CIOs, little capacity exists at the state level.

For many CIOs the interest in and “buzz” around BI/BA technologies is still ahead of states’ capacity, skills, and disciplines to employ it. While almost one-third of CIOs consider it essential today, the majority believe that states are not yet ready to derive full value from the technology. It is encouraging that, when asked how they would rate the value of BI/BA to state governments in the future, more than three-quarters of CIOs say that it would be essential. Specific keys to the successful use of BI/BA in the future include improved cross-functional collaboration and improved training and capacity in data analysis.

**Figure 20**  
Where within state government is BI/BA being used effectively with positive outcomes?

	Percent
Human services	61%
Healthcare services	59%
Finance and administration/ procurement	52%
Revenue	52%
Transportation	41%
K- 12 education	39%
Labor/unemployment	36%
Justice-law enforcement, courts, corrections	34%
Economic development	30%
Higher education	25%
Office of the Governor	21%
Environmental protection/natu- ral resources	18%
Agriculture	11%
Emergency management/home- land security	11%
Occupation, professions, licensing	11%
Recreation and tourism	9%
Other	7%
Regulator-insurance, utilities	5%
Military affairs	2%

**Figure 19**

What is the current utilization and deployment of BI/BA within your state government?



# Mobility

Mobile devices and applications (apps) continue to be an area of investment and focus, including a specific emphasis over the past year on statewide governance and policy. The demands of agencies, accelerated adoption, and speed of change in both mobile devices and services present great opportunities and serious risks. CIOs are faced with internal pressure from agencies and external pressure from citizens to deploy mobile services. Consistent with our questions in both 2011 and 2012, almost one-third of CIOs consider mobile devices and apps to be an essential part of their strategic IT agenda. The other two-thirds of CIOs consider them a high priority.

However, since we asked the question in 2012, there has been relatively little change in the government-wide coordination and management of mobile device and apps projects. **Figure 21** shows a comparison of the 2012 and 2013 responses. It seems obvious that state CIOs continue to struggle when it comes to advocating for an enterprise approach to managing mobility.

**Figure 21**  
How is your state managing mobility?

	2012	2013
<b>Totally fragmented and uncoordinated</b>	12%	10%
<b>A few coordinated government-wide projects and initiatives, but mostly fragmented efforts</b>	46%	49%
<b>Mostly coordinated government-wide projects and initiatives, a few fragmented efforts</b>	32%	37%
<b>All mobility projects well-coordinated government-wide</b>	6%	0%
<b>Don't know/does not apply</b>	4%	4%



## Social Media

The use of social media by state governments has continued to develop and mature over the past year. As states become more sophisticated, social media channels have become an integral part of their citizen engagement strategy. States are developing social media metrics by using monitoring tools, data analytics, sentiment analysis, and digital archiving. We asked CIOs what changes had occurred in their state's use of social media over the past 12 months.

**Figure 22** shows the most widespread developments in the use of social media are:

- Planned for the use of social media during emergencies and disasters
- Established statewide policy on the use of social media by state government entities
- Engaged citizens with a dialogue of the state's social media channels



Although almost half of CIOs say they have established statewide policies for social media use, social media for many states still remains a very decentralized activity that is managed on an ad hoc, agency-by-agency basis.

### Figure 22

How has your state's use of social media changed over the past 12 months?

	Percent
Planned for the use of social media during emergencies and disasters	45%
Established state-wide policy on the use of social media by state government entities	41%
Engaged citizens with a dialogue on our social media channels	41%
Began to perform analytics on use of social media	33%
Used social media channels to get feedback and help solve state problems	33%
Established a portal to aggregate the state's social media presence in an easy to find format	31%
Actively marketed our social media presence in all communications	31%
Dedicated resources for social media strategy execution (people and funding)	24%
Other	10%
Don't know/does not apply	10%

# Cloud Services

States continue to investigate and to leverage cloud solutions, with services such as email and storage remaining the most popular. We asked respondents about the status of cloud services in their state; the results are in **Figure 23**.

State laws, regulations, and policies are widely seen as barriers to cloud service adoption. In particular, there are concerns that laws, regulations, and policies relating to data privacy and access restrict the CIOs' ability to deploy solutions. One example is the storage of sensitive data outside the state's boundaries.

We asked CIOs whether this perception was, in fact, a problem, and whether the laws, regulations, and policies in their state constitute a barrier to cloud services.

**Figure 24** shows that, although a significant percentage of CIOs are unsure whether state laws, regulations, and policies could be a barrier, about half of CIOs believe their current legal and regulatory environment are not consistent with the delivery of cloud solutions. A majority of these CIOs are actively working on reforms to improve the rules governing cloud services adoption. CIOs also recognize that issues often do not become apparent until CIOs undertake a particular project and then must resolve some problems on a case-by-case basis.

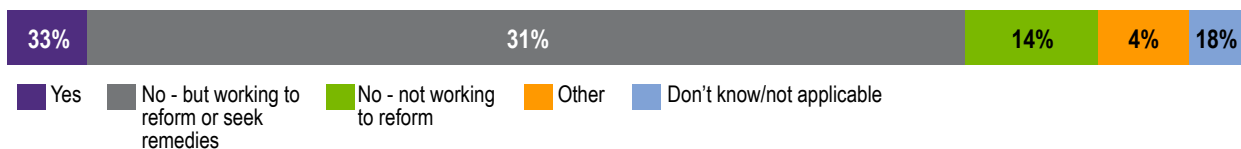


**Figure 23**  
What is your state's status regarding cloud services?

	Percent
The state is already highly invested in cloud services	6%
The state has some applications in the cloud and is considering others	68%
The state is still investigating cloud services	22%
The state has considered cloud services but has rejected it	2%
Other	2%
Don't know/does not apply	0%

**Figure 24**

Are your state laws, regulations, orders, or policies regarding data privacy and access consistent with the growing interest in and demand for cloud solutions? (Example: state laws that restrict sensitive data from being stored outside the state's boundaries)



We also asked some specific questions about how states procure cloud services. **Figure 25** shows that, compared to last year, the results are similar for states' use of procurement vehicles specifically designed for cloud services. However, more states have begun to use multi-jurisdictional and federal cloud procurement vehicles.

**Figure 25**

How has your state procured third-party cloud services?

	2012	2013
Used an existing procurement vehicle not specifically designed for cloud services	65%	65%
Created a specific procurement vehicle for cloud services	44%	47%
Leveraged cloud services procurement vehicles created by multijurisdictional consortia	15%	31%
Leveraged cloud services procurement vehicles created by the federal government	6%	16%

**Figure 26** shows that states are also becoming more active in developing procurement and contract templates tailored for cloud services.

**Figure 26**

Does your state currently have procurement and contract templates for common cloud services?

	Percent
Yes, specific cloud procurement and contract templates exist and are in use	17%
Yes, specific cloud procurement and contract templates exist but are not yet in use	8%
No, but state is in the process of developing templates	32%
No, but state is interested in developing template	39%
No, not interested	0%
Other	4%





# Consolidation

For several years, consolidation has remained a high-priority strategy for state CIOs. As we have done in previous surveys, we asked CIOs for a status report on their efforts to consolidate state technology infrastructure and applications. **Figure 27** shows this year's results compared to the data from 2012.

Because respondents can change from year to year and because the infrastructure potentially subject to consolidation could also change, it is difficult to make direct comparisons across years. However, it does appear that, although the consolidation picture in the states is similar to that of the past few years, progress is most clear in the areas of business applications and staffing.



**Figure 27**  
What is the status of IT consolidations?

Item being consolidated	2013				2012			
	Done	Ongoing	Planned	DK/DNA	Done	Ongoing	Planned	DK/DNA
Backup/disaster recovery	28%	59%	14%	4%	22%	53%	24%	2%
Business applications	19%	48%	19%	21%	8%	47%	24%	22%
Content management	15%	45%	26%	17%	16%	43%	29%	12%
Data centers	31%	60%	17%	2%	31%	46%	17%	6%
Desktop support	29%	31%	25%	20%	24%	41%	18%	18%
Email	53%	37%	10%	6%	52%	29%	15%	4%
Imaging	6%	40%	21%	35%	11%	35%	27%	27%
Security	32%	50%	20%	6%	43%	37%	12%	8%
Servers	30%	63%	16%	4%	33%	48%	10%	10%
Staff	38%	30%	23%	15%	28%	36%	12%	24%
Storage	30%	54%	18%	4%	27%	57%	8%	8%
Telecom	56%	39%	12%	4%	62%	28%	8%	2%

## Conclusion

State CIOs are in a unique position to lead their states in embracing an enterprise viewpoint and in delivering an integrated suite of IT services to their government customers and citizenry. Many of the traditional challenges – governance, cost, and the decentralized nature of state government – remain, but topics as diverse as IT project oversight, cybersecurity, shared services, and social media policy have demonstrated the enormous benefits of an enterprise approach.

While CIOs continue to face a wide variety of challenges in the effective delivery of technology services, the reforms they are driving consistently embrace a common philosophy: adopt an enterprise vision, drive enterprise thinking, and implement enterprise solutions. This philosophy emphasizes integration across boundaries and collaboration among diverse stakeholders groups. Whether it is IT shared services, security vulnerability monitoring, or SaaS, many of the most critical initiatives under way today require an enterprise-wide approach in order to be effective.

In addition, integration and collaboration are increasingly occurring beyond the boundaries of the state executive branch, with shared services across jurisdictional boundaries rapidly becoming the norm rather than the exception. Through use of social media and mobile technology, citizens are also becoming partners in this integration, and they are leveraging identity and access management frameworks designed for everyone in the state – not just for state employees.

State CIOs play a critical role at the center of this activity – the ‘I’ in CIO could just as easily stand for ‘Integration’ as ‘Information’. The ability of the state CIOs to foster and deliver enterprise-wide collaboration and integration will increasingly be a factor in their success, and in the success of their states in meeting constituent needs.



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## State of Alaska

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## State of Arizona

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## State of Arkansas

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## Acknowledgements

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To obtain copies of this report and the survey questionnaires, go to any of the websites listed below.

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