

The 2011 State CIO Survey

OCTOBER 2011



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A New C⁴ Agenda

Perspectives and Trends from State Government IT Leaders



CONSOLIDATION



COLLABORATION



CLOUT



CHANGE





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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.



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Executive summary

During the summer of 2011, 51 state and territorial chief information officers (CIOs) took part in a wide-ranging survey on state information technology (IT) topics. At a high level, the survey reveals this to be a time of evolving roles, changing organizational capabilities and demanding workloads for the CIOs. The themes that emerge from the 2011 survey results center on consolidation, collaboration, clout and change — a new state CIO agenda. Here are the highlights of what the CIOs have to say.

Budgets continue to drive action

While state revenues slowly rise from the precipitous declines of 2009 and 2010, there remain budget shortfalls sizeable enough to motivate states to change, to consolidate and to reduce. Because of rising healthcare costs and other liabilities, the structural imbalances in state finances may continue for years. As state leaders pursue all avenues to maintain program budgets and service levels, CIOs, consolidations and IT-enabled efficiencies come to the fore as a means to improve performance and control costs. Until the national and state economies recover, tight budgets will continue to spur action in the states.

Roles are changing

The 2010 survey found many state CIOs concerned about shouldering broad responsibilities without the requisite authority to execute on their vision and implement changes. Now we find the clout of state CIOs is increasing, and they need to use their newly found influence. State CIOs regularly find themselves at the nexus of numerous state decisions on costs, services, contracting and

workforce. Governors and legislatures increasingly look to state CIOs to provide leadership and expertise in IT services as well as ideas for transforming service delivery, bolstering program results and delivering cost savings.

Consolidation has broad appeal

CIOs are consolidating state IT services at an accelerating rate. The search for cost savings drives some consolidation activity, and some is driven by efforts to improve the effectiveness of enterprise IT services. Consolidation can lead to larger IT budgets even while total state budgets are decreasing or staying steady, creating pressure to ensure that IT services are delivering value for those increased dollars.

Health care cannot be ignored

In the U.S. today, national healthcare policy and federal funding drive state responsibilities for and investments in health program administration. Information — on insurance, finances, patients, doctors, hospitals, you name it — drives health-care delivery systems and services, and it is quickly overwhelming all other state IT.

Mobility is on the move

The popularity and adoption of mobile devices and applications (apps) are growing exponentially. Because state governments have frequent interactions with the public, many states are leaders in developing and disseminating apps for their citizens, especially apps that are relevant to their states. While this technology evolution provides opportunities to improve service, it creates costs in development, security and ongoing maintenance. Although they bring many benefits, mobile devices and apps do represent a source of new and growing costs.

Table of contents

Executive summary	1
About the survey	3
Roles and governance	4
Legislative affairs and advocacy	9
Financial management, funding and budget	11
Collaboration	13
Consolidations and shared services	15
Cloud computing	19
Sourcing strategies and IT workforce	20
Health care	22
Business intelligence and business analytics (BI/BA)	25
Mobility	26
Vision and excellence	28
Conclusions — <i>A New C⁴ Agenda</i>	30
List of states and territories participating in the survey	31

About the survey

Survey purpose

Public sector information technology (IT) plays a critical role in government at all levels. With the national economic crisis continuing into 2011, state budget shortfalls persist while service demands continue unabated. This survey of state chief information officers (CIOs) seeks to understand how state IT is faring in this environment. Sponsored by the National Association of State Chief Information Officers (NASCIO), TechAmerica and Grant Thornton LLP, the survey is an opportunity for state government IT leaders to voice their thoughts and opinions. Governors, legislatures and business leaders can benefit from these knowledgeable insights about essential state IT services.

Methodology

In August 2010, the sponsors published the report of the 2010 State CIO Survey.¹ Key topics and findings discussed in that research were:

- IT governance
- IT investments and budgets
- Statewide IT business models and sourcing strategies
- Procurement and procurement reform
- Project management practices
- Emerging technologies.

For 2011, the sponsors developed this survey to follow up on some of last year's questions and to explore new and emerging topics. This year's topics, covered in 39 questions, include:

- Roles and governance
- Legislative affairs and advocacy
- Financial management, funding and budget
- Collaboration
- Consolidations and shared services

¹ To obtain a copy of this report, visit www.GrantThornton.com/publicsector.

- Cloud computing
- Sourcing strategies and IT workforce
- Health care
- Business intelligence and business analysis
- Mobility.

We added a final question allowing CIOs to identify programs, projects or initiatives that represented their innovative vision for state IT and to identify where their state IT excelled.

We conducted the online survey in the summer of 2011, and 51 out of 54 invited units of government responded, including 48 states, the District of Columbia and two territories. Respondents to this survey were state CIOs, deputy CIOs or the equivalent. Throughout this survey, we refer to all of them as CIOs.

This survey occurred in a changing landscape of CIO appointments and the resulting demographics of the survey respondents. In 2011, there were 29 new governors elected in the states and territories. This unprecedented gubernatorial churn resulted in significant transitions in the state CIO position. During the period this survey was available to respondents, there were 23 new CIOs and six acting CIOs in place. This means that nearly half the 2011 respondents were new CIOs who did not participate in the 2010 survey. As newly minted CIOs, their strategic vision, priorities, perspectives and experiences are certainly different.

Anonymity

This report reflects the responses and opinions of interviewees 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 and questionnaire, please see the inside back cover of this document for directions to the sponsor organizations' websites.

Roles and governance

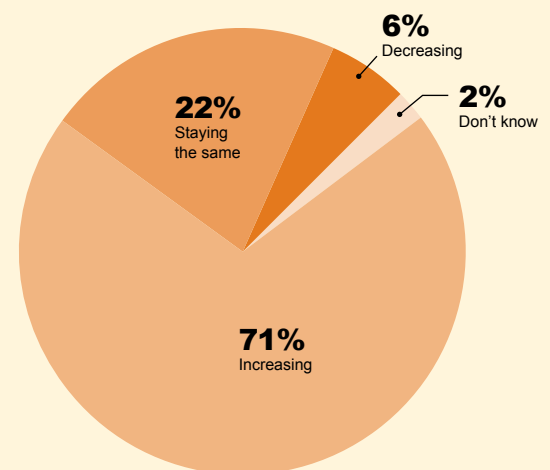
The multifaceted role of the state chief information officer (CIO) has evolved to address the needs and demands created by the changing state government business environment. State CIOs face unique challenges created by the state's policy goals, governance structure and political environment. The contemporary CIO must have the ability to understand information technology, the investment required and what it can accomplish. All the while, the CIO must be prepared to address potential project or policy issues and be able to translate these into terms that use non-technology state officials, including governors and legislators, can understand. The role of the state CIO is broad and varied, and the position requires skills at diplomacy, collaboration, cooperation and persuasion.

We began this year's survey by asking CIOs about their working environment, including their roles and influence, their goals, the barriers they encounter and the states' IT governance bodies.

Role/clout

Clout is primarily associated with influence and authority, and state CIOs say their clout is increasing. In 2011, most CIOs see their enterprise role and the level of their organizational influence changing, overwhelmingly for the better.

Figure 1:
State CIOs' opinions of change
in their role/clout



As you can see in Figure 1, 71% of CIOs say their role/clout is increasing; only 6% believe it is decreasing. We think the reason for the increase is that states are going through major upheavals and CIOs are stepping forward to help bring order. One CIO says, "The [CIO] position was changed to bring both policy and operational responsibility under one umbrella. I attend cabinet meetings, meet regularly with my peers and have seen an increase in the amount of interaction with our legislative body."

There is considerable consistency in CIOs' opinions about why their role is changing and their clout increasing. A common refrain is consolidation, primarily of IT services. Some



note that enterprise IT service consolidations generate benefits because states see technology as the enabler for cost cutting. One CIO offers, “There is more of an emphasis on efficiency, and technology is perceived as a way to achieve [it].”

In addition to technology opening the door to cost savings (efficiency), many respondents tell us that state executive branch and legislative branch leaders recognize that enterprise IT solutions are also the key to effective state government services that achieve planned results. Some respondents note the importance of technology both in transforming government business processes and in meeting statewide strategic goals, certifying the critical role that state CIOs play today. A CIO says, “The state is looking to more consolidation of IT services across the state. [It is] also looking to transform government business processes, and the CIO will be a key player with the administration in setting strategic goals.”

Whether focused on efficiency or effectiveness, states find themselves increasingly looking to the state CIO for guidance and direction.

Goals

We asked state CIOs to identify their top three goals for 2012. Table 1 shows that two-thirds of respondents identify rationalizing/centralizing state IT services as a top goal. This has consistently been one of the top goals over the past few years, but it is certainly receiving greater attention in this tough economic climate. Using enterprise architecture, asset baselines and strategic procurements, CIOs are seeking to reduce the complexity and diversity of the state IT environment and to promote the “enterprise” view. This goal also dovetails with consolidations, which are a key basis for CIOs’ increasing clout.

Table 1:
State CIO goals ranked in order of mention by respondents

Item	Percent
Rationalizing/centralizing state IT services	67%
Controlling IT costs	55%
Improving IT governance and portfolio management	53%
Addressing healthcare information needs	33%
Protecting customer/taxpayer data and privacy	29%
Articulating IT value	25%
Introducing new technology	16%

Rounding out the top three goals for 2011, as they have for the past few years, are controlling IT costs and improving IT governance and portfolio management. Each of these was identified by more than half of the respondents. Continuing budget shortfalls are ensuring that cost control remains a major goal, with CIOs helping the state get the most value from every dollar it spends. With the growth of enterprise systems as a consolidation tool, portfolio management assumes a more critical role in the CIOs’ arsenal.

The next two goals reflect growing trends in society, to which CIOs must respond. Healthcare costs are the fastest-growing state costs; they now consume the largest share of state budgets and are still growing. Governors are focused on healthcare policy issues and the delivery and expansion of quality services to a growing population of citizens in need. One-third of respondents identify addressing healthcare information needs as one of their goals. Health information technology is a key enabler to address the healthcare information needs and service delivery demands. Dealing

with health information for state programs like Medicaid requires increasing attention from CIOs, especially for compliance with federal mandates. Later in this report, we will highlight more CIO perspectives on health care.

Protecting citizen data and privacy is a top goal for 29% of respondents. Every new revelation of a data breach, hacking or identity theft worries executives in any organization, public or private. The responsibility to protect information about the citizens of their state weighs heavily on every state CIO.

It is a little surprising that a quarter of CIOs identify articulating IT value as a goal. Although states are heavily dependent on IT, the need to evangelize its contributions remains. With so many IT consolidations complete or ongoing, one might think that state program managers already see the value of IT both for cost savings and for improving program effectiveness. However, as IT expenses take up a larger share of

state budgets, they are coming under increasing scrutiny and are still vulnerable to cuts. Consequently, CIOs still need to highlight the value of IT to other state leaders, legislators and agency program managers.

Barriers to effectiveness

State CIOs face challenging problems every day. We asked them about barriers they encounter and show the results in Table 2. With the impact of the 2008 financial crisis still resonating in the national economy and an economic recovery that has yet to gain traction, it is not surprising that 71% identify inadequate budgets as one of the significant barriers to their increased effectiveness. Even as states' general funds begin to recover from years of cutbacks, the costs of IT services, even when consolidated, are considerable. In addition, without some funding dedicated to innovation, it is difficult for CIOs to deal with the next big problem or opportunity.

Table 2:
Barriers to effectiveness ranked in order of mention by respondents

Item	Percent
Inadequate budgets	71%
Agency resistance to change	67%
Conflicting priorities among state program agencies	55%
Lack of time for strategic thinking and planning	20%
Aligning IT goals with state strategic goals	16%
Lack of support	12%
New federal or other externally directed initiatives	12%
Disconnects with executive peers	10%
Overwhelming pace of technology change	10%



Table 2 shows that two-thirds of CIOs identify agency resistance to change as a barrier. Over the past few years, this has been a continuing issue. As consolidations move more state governments toward enterprise environments, state agencies lose some of their autonomy and the power to do things the way they always have. In any bureaucracy, this creates problems.

More than half of the respondents identify conflicting priorities among state program agencies as a barrier. Each state agency has its own mission and goals, and any enterprise consolidation requires compromises among the affected entities. This can be especially difficult when some of those program agencies, like transportation and law enforcement, are accustomed to having their own funding sources. Even with their increasing clout, CIOs sometimes lack the authority necessary to sort out the priorities of different agencies.

Beyond the top three impediments, there are other varied challenges to the CIOs' increased

As consolidations move more state governments toward enterprise environments, state agencies lose some of their autonomy and the power to do things the way they always have.

effectiveness. State CIOs identify lack of time, the alignment of IT and state strategic goals, lack of support and the pace of technological change, but all of these are identified by 20% or fewer of respondents.

IT governance bodies

Much has been written about the importance of governance and the need to have a decision-making body and a structured process that aligns goals, articulates the enterprise policy framework and shares investment decisions. Strong IT governance is even more important in tough budget times. Future success demands that governance ensure appropriate IT investment, prioritization and oversight.

Most states have an IT governance body whose responsibility is to represent the entire executive branch of state government in any IT decision-making. We asked CIOs to identify the functions of their states' IT governance bodies, and we show the results in Table 3.

Table 3:
IT governance body functions ranked in order of mention by respondents

Item	Percent
Align IT with strategic business goals and objectives	55%
Make decisions regarding enterprise IT policy	53%
Set enterprise architecture and standards review process	53%
Evaluate and approve IT investments based on alignment to strategy, capability to deliver promised benefits and risk	51%
Determine IT investment and funding approaches	39%
Monitor and evaluate implementation of approved IT projects	39%
Engage with political leaders to support policies that use IT to support economic growth and the quality of life for the state as a whole	29%
Measure and evaluate the performance of enterprise IT services	29%

About half of the CIOs focus in on four functions that relate to alignment with statewide strategic goals, policy decisions, processes for setting architecture and reviewing standards and investment evaluations. These are the type of high-level purposes one expects a governance body to undertake.

The next group of functions, which about 30–40% of respondents identify, focuses more on specific projects, including how to fund them, monitoring and evaluating them and dealing with political leaders on how the projects support economic growth and quality of life for citizens in the state.

This indicates that there is some similarity and commonality among the states in how their IT governance bodies operate. This benefits CIOs because they can share with other CIOs the lessons learned and best practices in working with these bodies to improve both their own effectiveness and the effectiveness of the enterprise IT services they provide.

IT roles and governance are changing, and CIOs need to use their increasing **clout** to deal with the changes.

Legislative affairs and advocacy

Legislatures play a pivotal role in state government. To be an effective executive in state government, you must interact with legislators and legislative staff and be engaged in the process. State CIOs are no exception.

Figure 2:
State CIO contacts with the legislature

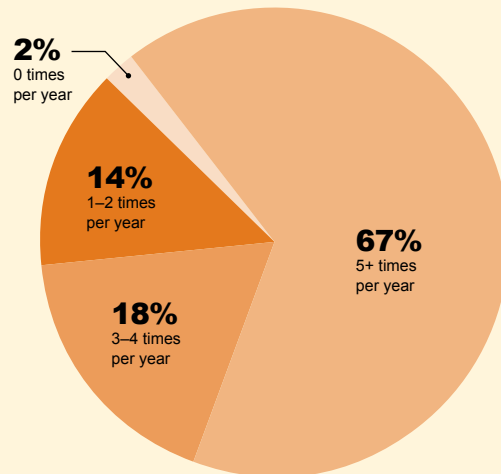


Figure 2 shows that two-thirds of CIOs have direct contact with state legislators or legislative staff five or more times per year. Another 18% have contact three to four times per year. This is a good indicator of expanding legislative oversight and the growing recognition and influence of the CIO's role. In light of the fiscal conditions in the states, these numbers reflect the increasing amount of legislative deliberations involving IT contributions to reducing the price of government as well as the legislature's increased scrutiny of IT spending. All of this points to the legislative branch's recognition of the critical role that IT plays in state government today.

Similarly telling are the reasons that the CIOs give for these contacts. As shown in Table 4, 90% identify answering specific questions regarding IT issues as the purpose for their legislative contact. If CIOs are the senior state officials responsible for IT, it is expected that the legislative branch wants information directly from them.

Table 4:
Purpose for legislative contact ranked in order of mention by respondents

Item	Percent
Answer specific questions regarding IT issues	90%
Formal testimony on IT topics	76%
Attend legislative hearings	75%
Provide reports and updates on IT projects	73%
Advocate for specific issues or legislation	69%
Formal testimony on the IT budget	67%
Suggest legislative language or amendments to bills	63%
Informal advice	61%

CIOs are expanding from infrastructure-centric roles dealing with networks, desktop computers and servers to policy-related promotion of cost savings and improved program services that result from enterprise IT systems.

Many of the CIOs' contacts are in formal settings. Two-thirds to three-quarters of CIOs identify formal testimony on IT topics, attending legislative hearings and formal testimony on the IT budget. However, CIOs also have less formal contacts, to include providing reports and updates on IT projects, advocating for specific issues and legislation, suggesting legislative language or amendments to bills and providing informal advice. Therefore, in addition to formally representing the state executive branch on IT issues, the CIOs are also becoming **advisors** to the legislature, another indication of their growing influence. In some cases, the legislature is providing some of the impetus for increased clout. One CIO reports, "We have two large IT

projects that are in trouble and are in agencies outside of the authority of the CIO. Both the legislature and the governor believe the CIO should play a greater role in large IT projects."

In addition to what the CIOs are currently doing with the legislative branch, we asked them what they thought their role should be going forward and show the results in Table 5. As might be expected, 80% think they should be advocates for the governor's agenda, and 67% think they should provide information to the legislature on IT project reviews. But, in a welcome change, 92% identify technical and policy advisor and 88% identify education and awareness as appropriate roles for CIOs – the two highest-ranked roles. For some time now, there has been an evolving view of the CIO as the advocate and evangelist for the benefits of IT, and these responses reflect that CIOs have a good recognition of this role and responsibility. CIOs are expanding from infrastructure-centric roles dealing with networks, desktop computers and servers to policy-related promotion of cost savings and improved program services that result from enterprise IT systems.

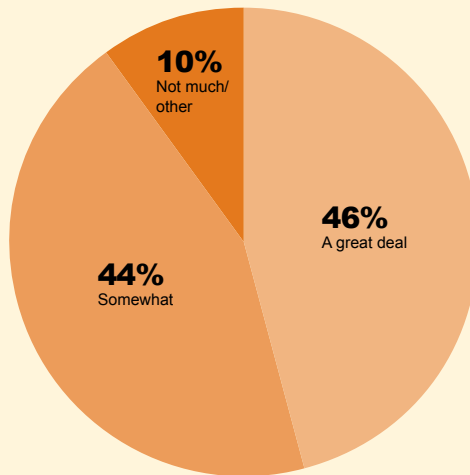
Table 5:
State CIOs' legislative roles ranked in order of mentions by respondents

Item	Percent
Technical and policy advisor	92%
Education and awareness	88%
Advocate for the governor's agenda	80%
Provide information to the legislature regarding project reviews	67%

Financial management, funding and budget

For states as for business, money drives much of the decision-making. In this section of the survey, we surveyed the sources of revenue for the CIOs' organization and the impact that tight budgets have on IT service delivery.

Figure 3:
Change in service delivery



Even though the fiscal crisis is now in its fourth year, states are still dealing with adjustments. Figure 3 shows that 46% are making significant changes to the way they are delivering IT services and 44% are making some changes in delivery. In total, almost all CIOs are changing the way they deliver IT services as a result of budget shortfalls. From other information presented in this survey, it seems likely that consolidations are one of the primary ways that CIOs are responding to budget cuts.

We asked about the sources of revenue for the CIOs' organizations and show the responses in Table 6. Based on the 45 CIOs who responded to this question, the average CIO organization has three revenue sources. The most common

Table 6:
Source and distribution of revenue for CIOs' organizations

Revenue sources	Number of states using	Average percent of revenue
Fees for services or revolving fund (chargeback)	36	71%
State general fund/general purpose funds	25	24%
Direct federal funds and grants (all sources)	17	10%
Assessments against agency IT budgets	12	25%
Assessments against agency personnel outlays (headcount)	10	34%
Online portal transaction fees	8	6%
State capital funds	8	11%
Bond issues	7	9%
Grants (nonfederal)	4	2%
Reversion of funds from agencies	4	8%
Interest on loans or investments	3	2%

revenue sources are fees for service/chargeback, general funds, direct federal funds and grants and assessments against agency IT budgets and against agency personnel outlays/headcount.

We also asked respondents to indicate the percentage of revenue that comes from each source they identify, and we calculated the average for each source, as shown in Table 6. The highest percentage revenues are fees for service/chargeback, assessments against agency personnel outlays, assessments against agency IT budgets and general funds. The storyline here is that some CIOs are weaning themselves away from fees for services as their only or primary revenue source and instead going after other, more flexible sources like general revenues. CIOs need more diversity in their revenue sources to

accommodate non-revenue-generating activities such as architecture, policy and administrative overhead expenses. However, some CIOs deal with this issue by creating a service catalog that customers can easily understand and by using transparent pricing practices that allow the customer to see exactly where their money is going.

There are also other forces at work when it comes to finances. One CIO notes that there are changes "...because budgetary and economic realities are moving IT from a departmental IT specific-mission-driven process to a market-based IT where economics and not just budget availability are drivers in services the state provides." When CIOs are service providers who bill for their services, a whole new relationship pattern arises with their state agency customers.



Collaboration

The need for consolidation is driving increased collaboration. As the role and clout of state CIOs change, they are collaborating with many different groups, both inside and outside of government.

Table 7:
Collaboration by state CIOs ranked in order of mentions by respondents

Collaborate with:	Percent
Other state program agencies (e.g., health, human services, GIS)	84%
Other state CIOs	82%
Other jurisdictions within the state (countries and cities)	75%
Other state business processes (e.g., procurement, identity management)	59%
NASCIO	33%

Table 7 shows that 84% of CIOs are partnering with state program agencies like health, education and transportation, and 59% are cooperating with state support processes like procurement. With all of the consolidations of IT services previously discussed, it is clear that there are significant requirements for collaboration with these groups.

As you can also see in Table 7, three-quarters of CIOs are joining forces with sub-state jurisdictions like cities and counties. With enterprise IT systems and services, these jurisdictions often play important roles, such as in first responder notification. One CIO says collaboration with other jurisdictions within the state is “critical and important in multiple areas, including health care, transportation, cyber-security, and food and environmental safety.”

On another level, 82% of respondents say they are collaborating with other CIOs. They do this through national associations like NASCIO as well as with regional, multistate arrangements. In a later section of this report, we note that some CIOs are engaged in multistate healthcare initiatives. Collaborations with other CIOs are often useful for sharing lessons learned and best practices in activities that affect every CIO. In this survey, CIOs also identify numerous other organizations with which they are collaborating, including federal program areas, private sector CIO organizations and technology councils and associations. As it says in the title of this report, **collaboration** is a key part of the CIO’s new agenda.

Table 8:
Motivation for collaboration ranked in order of mention by respondents

Motivation	Percent
Cost savings	94%
Access to new technology	56%
Streamlined procurement process	56%
Expanded revenue base through shared services offerings	44%
Directed by governor or legislature	16%

Table 8 shows that, by a wide margin, respondents identify cost savings as one of their motivations. As we noted in the barriers to effectiveness section above, tight budgets are responsible for many changes going on in states. In the past, access to new technology was the primary driver of collaboration, and more than half of CIOs still specifically mention it as one of their motivations.

Rounding out the top motivations are streamlined procurement process and expanded revenue base through shared services offerings. Both can be viewed as budget-related. Finally, we see that CIOs initiate most collaborations; only about one in every six CIOs collaborated because of direction from the governor or legislature.

We can see in this information that, while cost savings is now the primary motivator for collaboration, other previously predominant motivators still remain relevant today.

Consolidations and shared services

Consolidation and shared service strategies and implementation continue as “top-of-mind” considerations for CIOs. We provided survey respondents with a list of 12 services and asked which ones CIOs had either already consolidated, were currently consolidating or were planning to consolidate and show the results in Table 9.

As shown in Table 9, at least 90% of CIOs identify seven of the 12 services as ones that they are considering for consolidation. It is not surprising that these seven are typical infrastructure services. The fact that almost all CIOs are considering them for consolidation basically means that the state standard for providing these seven services is through a consolidated enterprise mode. The remaining services are identified by at least 69% of respondents, meaning that many of them

are approaching the status of a state standard as well. Many of these services began in separate state agencies or silos, but the standard has now become enterprise services.

For those seven services identified by at least 90% of CIOs in Table 9, a solid majority of states has completed the consolidation or the consolidation is ongoing; **as shown in Table 9, only about 20% of those states are still in the planning stage for these services.** It may have been that the “first tier” of services was easy to identify for consolidation, and the states moved out quickly to consolidate them. **On the other hand, as also shown in Table 9, for the five remaining services only about 20% of states have completed the consolidation;** most of those states are still in planning or the consolidation is ongoing. These services constitute a “second wave” for consolidation initiatives.

Table 9:
State CIOs’ report on status of consolidation initiatives

Service	Percent			
	Considering	Completed	Ongoing	Planned
1. Telecom	98%	65%	27%	8%
2. Email	98%	38%	42%	20%
3. Data centers	98%	32%	48%	20%
4. Security	94%	43%	35%	22%
5. Backup/disaster recovery	92%	29%	54%	17%
6. Servers	91%	21%	58%	21%
7. Storage	90%	26%	46%	28%
8. Content management	78%	25%	43%	33%
9. Desktop support	73%	26%	37%	37%
10. Business applications	71%	8%	57%	35%
11. Staff	69%	23%	34%	43%
12. Imaging	69%	17%	26%	57%

Consolidation of services naturally creates governance issues because decision rights will have to be shared or allocated among the participants.

Consolidations are often far-reaching. One CIO notes, “When the state has a statewide initiative, it is truly statewide. For example, our statewide email system included all elected officials, the court system and all state agencies, boards and commissions, with the legislature being the only entity not electing to participate.”

While there are many consolidations, they are not without their problems. We asked CIOs what are their most significant challenges for any IT consolidations and show the results in Table 10.

Not surprisingly, Table 10 shows that 51% mention governance issues. Consolidation of services naturally creates governance issues because decision rights will have to be shared or allocated among the participants. Shared decisions provide an additional degree of difficulty and the allocation of decision rights often involves new decision processes and new roles for the executives and entities involved.

Another governance issue is that consolidations typically create a new relationship between the CIO and the state agency customer. Before, CIOs were part of state governments in performing their functions. Now CIOs are often service providers, not unlike private sector vendors who bill for services that state agency customers must pay for with “their” funds. In addition, CIOs are typically monopoly service providers, and while the CIO may be dedicated

Table 10:
CIOs’ opinions on challenges to IT consolidations ranked in order of mention by respondents

Item	Percent
Governance issues	51%
Obtaining up-front capital to fund consolidation	45%
Establishing baseline measurements for comparison to understand how effective the consolidation was	43%
Making a business case for consolidation and measuring subsequent results and savings	41%
Redesigning/re-engineering business processes	25%
Insufficient in-house IT experience to manage the process	24%
Reaching agreement on fee structures	22%

to providing the highest-quality service at the lowest possible price, the customers know they do not really have any options for service. So, political skills are especially useful for CIOs as they deal with the governance issues of consolidations.

According to Table 10, another problem, say almost half of CIOs, is obtaining up-front capital to fund the consolidations. Even when consolidation business plans identify good cost-benefit ratios, the state must still find funds to initiate the plans — a daunting task considering current budget shortfalls. Sometimes the breadth of the goal is formidable in itself. One CIO reports that his state plans to “...expand broadband penetration to provide affordable broadband connectivity to a minimum of 95% of citizens.” The old adage is still true: you have to spend money to save money.

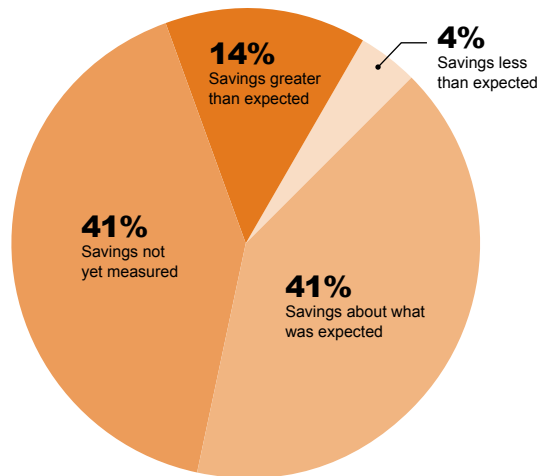
The next two challenges in Table 10 are related: establishing baseline measures for comparison to understand how effective the consolidation effort was and making a business case for consolidation and measuring subsequent results and savings. This includes determining those baselines against which subsequent results and savings will be measured. (Below we look at measured savings.) It will usually be challenging to develop a consolidation business plan when the parties being consolidated are not enthusiastic about their loss of autonomy.

Table 10’s remaining challenges relate to implementing consolidations: re-engineering business processes, lack of in-house IT resources to manage the process and agreement on fee structures. It is surprising that only a quarter of CIOs say a lack of in-house IT resources to manage the process is a challenge, whether they



mean the consolidating process itself or to the subsequent processes in consolidated operations. In the financial management, funding and budget section of this report, we note that most CIOs say they are changing the way they deliver IT services. The business model for a consolidated service delivery function is different from a single-user model. The competencies needed to oversee a third-party service provider are different from those needed for direct service delivery. Therefore, it is a welcome surprise if CIOs are able to adapt their current staffs to this paradigm shift.

Figure 4:
Are consolidations delivering cost savings?



Since one of the key motivations for consolidations is achievement of cost savings, we asked whether IT consolidations were delivering expected cost savings. Figure 4 shows that 41% of respondents indicate that savings are about what was expected, and another 14% relate that savings are greater than expected. Only 4% say savings are less than expected, but 41% indicate that they are not yet measuring the savings. Another way to look at this is that, of the 29 states that measured their post consolidation costs, only 7% had savings less than expected. However, considering the problems with measuring savings and the large number of consolidations still ongoing or in the planning stage, it remains to be seen whether a majority of these consolidations will ultimately yield the promised cost savings.

Consolidations can be about implementing enterprise solutions, providing more effective services or cost savings. Whatever the reason, clearly **consolidation** is now a fundamental component of the CIO's agenda.

Cloud computing

Cloud computing is a business strategy and technology that lately has a highly visible presence in the media. Federal CIOs are highly engaged with it, and the *TechAmerica Twenty-First Annual Survey of Federal Chief Information Officers (May 2011)*² underscored this with an emphasis on cloud solutions. For many government organizations, fiscal stress drives applications to the cloud, especially commodity services like e-mail and storage. With states facing continuing fiscal turmoil, one might expect to see a mass migration of state IT services to the cloud in an effort to produce cost savings.

In the 2010 State CIO Survey, we asked about cloud computing in the emerging technologies section. We compared state and federal CIOs (federal CIO information came from the *TechAmerica Twentieth Annual Survey of Federal Chief Information Officers*²) in their adoption of this technology and found federal CIOs with a pronounced lead in implementation. In this year's state CIO survey, we asked a similar question so that we could see what changes state CIOs were making in this area and show the results in Table 11.

Table 11:
Change in cloud status 2011–2010

State Status	2011	2010
Highly invested	14%	5%
Some applications	35%	34%
Still investing	47%	54%
None/Other	4%	8%

² To obtain a copy of this report, visit www.GrantThornton.com/publicsector.

Table 11 shows slightly more investment in the cloud, but not yet the large-scale change that might have been expected. While there is much publicity about the cloud, moving services to the cloud is not a decision to be taken lightly. Organizations must do detailed planning and decide many aspects of cloud support. In addition, public procurements and contract negotiations with solution providers can be protracted. One CIO notes, "Some of the major challenges to adoption relate to funding streams, that is, how to pay for cloud services and infrastructure, and to policies on use."

Figure 5:
Is cloud computing changing the CIO's role?

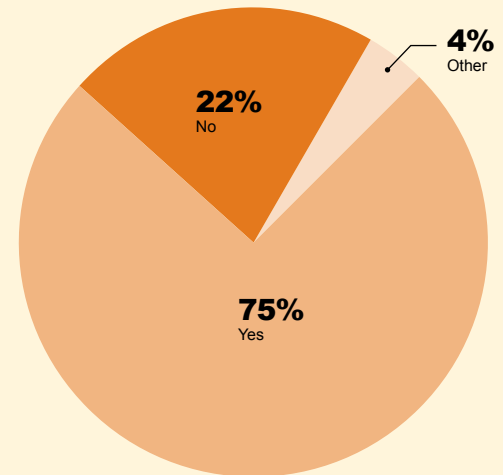


Figure 5 shows that three-quarters of CIOs say cloud computing changes their roles, either by creating opportunities for change or by changing the perceptions that they are mostly just about providing support. Twenty-two percent think the state CIO role is unchanged by cloud computing. One CIO says that although cloud computing offers some new opportunities for change and collaboration, "...security issues will temper people from doing anything too crazy."

Sourcing strategies and IT workforce

Despite the widespread use of outsourced or managed services, states and their vendor partners still struggle to get such projects off the ground. We asked CIOs what are the primary inhibitors to the use of outsourced or managed IT services and solutions. Table 11 shows that more than half of respondents point to the high cost of solutions or their generally unfavorable return on investment (ROI). This is the only inhibitor mentioned by at least half of all respondents.

Table 12:
Inhibitors to the use of outsourced or managed IT services ranked in order of mention by respondents

Item	Percent mentioning
High cost of solutions or generally unfavorable ROI	54%
Political opposition to contracting or outsourcing	44%
The budget process – the “one bite at the apple” model	42%
Lack of flexibility in state workforce composition and work rules	38%
Information security – state CIO must retain full control of state data	36%
Lack of right skill set to procure or manage such solutions	28%
Media coverage of problems in some large IT services implementations	12%

Table 12 also shows that 44% indicate that political opposition to outsourcing is an inhibitor and 42% note that the budget process encourages one-time systems acquisition over annual service subscription. In addition, 38% note that state workforce composition and work rules can present problems.

More than one-third of CIOs identify information security, the need for CIOs to retain full control of data, as an inhibitor. This issue continues to be prominent whether we are

talking about cloud computing, outsourcing or mobile devices.

The survey included questions about workforce composition that are shown in Table 13. Not surprisingly, three-quarters of respondents say that CIOs should have the authority to determine and obtain the workforce composition needed to deliver effective services. The only remaining question here is why the other CIOs do not agree with this.

Table 13:
Workforce composition impact on service delivery ranked in order of mention by respondents

Item	Percent
State CIO should have the authority to determine and obtain the workforce composition necessary to deliver effective IT services — measure results not methods	76%
Pace of technology change often means that contractors can provide more effective delivery of IT services	39%
State personnel are competent to deliver IT services, but public sector unions create adverse impacts on service delivery	24%
Public sector unions are effective partners with the state in delivering effective IT services	10%
Workforce composition does not affect delivery of state IT services	10%

Thirty-nine percent of CIOs note that the pace of technology change often means that contractors can provide more effective delivery of services than state personnel can. However, 24% say that in-house resources could deliver effective IT services, 10% say that public sector unions are effective partners and 10% believe that workforce composition does not affect the delivery of IT services. This would seem to indicate that state CIOs as a group do not have a service delivery preference for either insourcing or outsourcing. Instead, they simply want the authority to determine how best to deliver effective IT services.

We asked questions about the growing need for qualified IT professionals in government and the private sector. As shown in Table 14, well over half of CIOs say that they are working with business and education leaders to produce and retain more technical graduates within their states. Also, half say they are working within

state government to promote the growth of technical skills in the state's workforce. We are surprised that 30% of respondents say they are not engaged in promoting technical skills, which might reflect the nature of the central personnel agency role and function in those states.

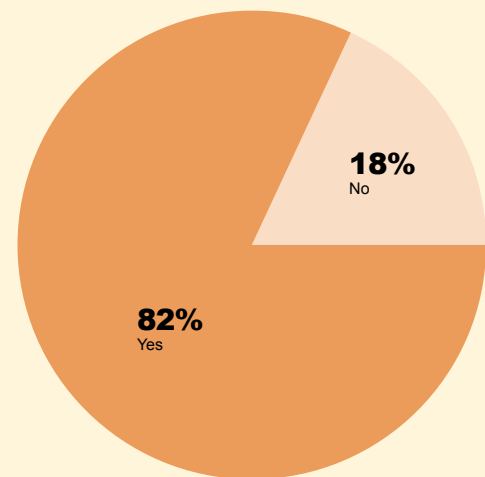
Table 14:
CIO engagement with promoting technical skills

Item	Percent
Yes, working with business and education leaders	60%
Yes, working with executive branch and legislative leaders	52%
No, not working on this	30%

Health care

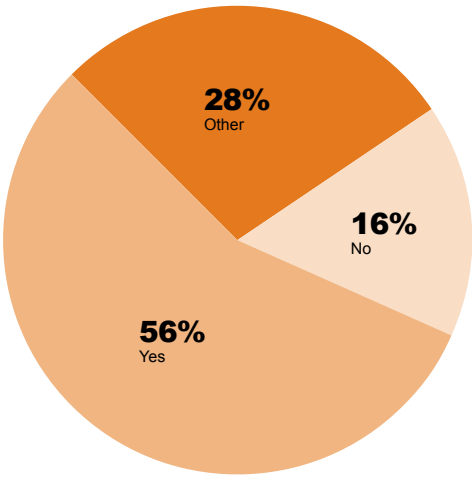
It comes as no surprise that health care is rapidly becoming a critical component of state CIOs' workload. Reasons for this include health care's broad national policy focus, federal funding and significant state responsibility to administer health programs. Health care is also a difficult area for CIOs because its issues reside in the most complex policy environment in the state. Many CIOs have been quick to engage with healthcare information issues, recognizing the major role they can and must play. One observer notes about CIOs and health care, "If they are not there already, they should be."

Figure 6:
Will CIOs have a role in Health Benefit Exchanges?



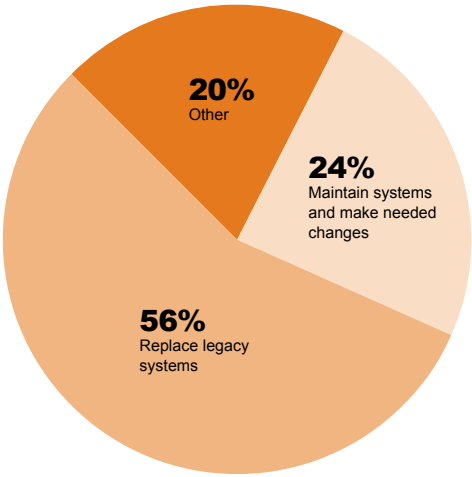
Information and benefit exchanges are core elements of both the state and federal healthcare agenda. We asked whether CIOs would have a role in Health Benefit Exchanges (HBEs), and 82% say they are involved or will soon be. However, the nature and scope of a CIO's role and involvement are not yet clear in many states. One CIO comments, "I could be a coach or advisor on process, or I could be a hosting service provider. I'm not sure what my role will be yet."

Figure 7:
Are CIOs collaborating with other states on Health Benefit Exchanges?



We asked whether CIOs would consider collaborating with other states on system models or existing technology for HBEs. Figure 7 shows that more than half of CIOs plan to consider collaboration with other states in this area. Another 16% of CIOs do not plan to collaborate with other states, and 28% do not yet know or have other responses.

Figure 8:
What states are doing to comply with Medicaid Management Information System requirements



Medicaid eligibility and enrollment systems will require updating because of the federal Patient Protection and Affordable Care Act, so we asked what the states were doing to comply with Medicaid Management Information System (MMIS) requirements. Figure 8 shows that more than half of the CIOs plan to replace existing legacy systems. Because the federal government finances 90% of MMIS design, development and installation, this is going to require major federal funding, and getting those funds from a federal government with its own budget problems could be problematic. Another 24% would simply update their existing MMIS, and the remaining 20% have a variety of other answers.

Health care is one of many state benefit programs, and states often seek ways to reduce administrative costs through consolidation. We asked whether CIOs were considering combining other state benefit programs into the HBEs, and Figure 9 shows that about half say they will be. Another 35% have no plans for integration.

Figure 9:
Are states combining other benefit programs into Health Benefit Exchanges?

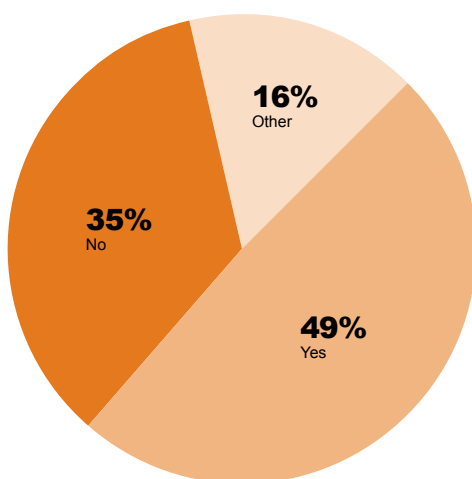
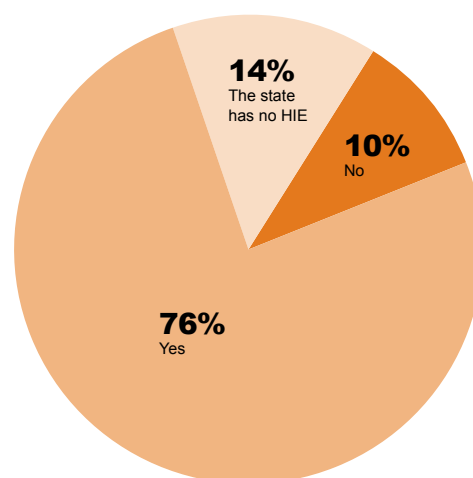


Figure 10:
Do states have the technical architecture in place for Health Information Exchanges?



State CIOs also face increased demands on resources as Health Information Exchanges (HIEs) progress beyond project planning and initiation into the procurement phase. Fortunately, about three-fourths of CIOs say they already have the technical architecture in place to facilitate HIEs, according to Figure 10.



Business intelligence and business analytics (BI/BA)

State governments are in the information business. Effective delivery of citizen services requires collecting, storing and processing highly valuable and diverse information assets. As such, this resource must be properly managed through appropriate governance methods and analyzed with the right decision tools. One of the major challenges in governance of this resource is dealing with the continued growth in the volume of data, and how to sort out what data are most valuable in delivering efficient, high-quality government services. Because of fiscal pressures, there is increasing emphasis on using BI/BA tools to identify improper payments, fraud, waste and abuse in public programs. With the need to derive more value from these data and the growing enterprise focus of CIOs, we asked about the current deployment and use of BI/BA within state government.

Figure 11:
Status of BI/BA deployment in states

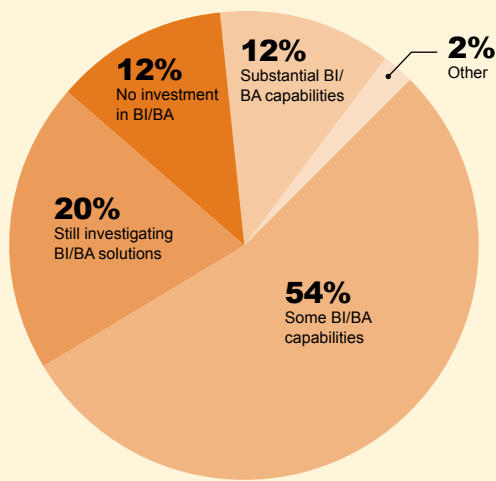
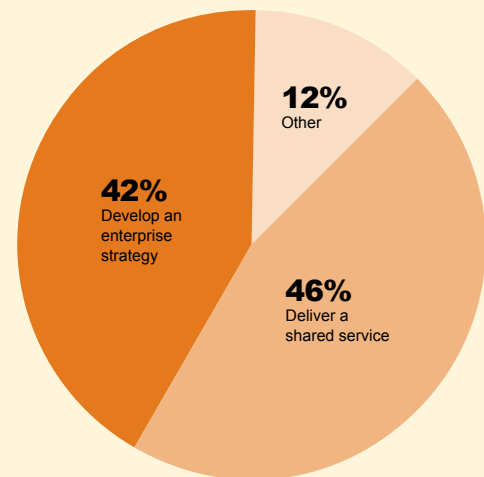


Figure 11 shows that more than half of CIOs say their state already has some BI/BA capabilities, and 12% say they have substantial capabilities.

Another 20% are still investigating BI/BA solutions. So, most states already have the necessary capabilities or may soon have them. One CIO, discussing the success of the state's infrastructure consolidation, says, "This has evolved to a successful model that is being expanded beyond infrastructure with services such as BI, document management and project management."

Figure 12:
State CIOs' role in BI/BA

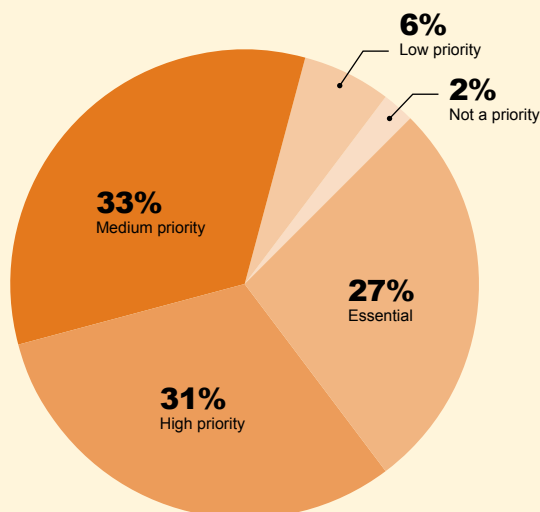


We asked about the role of state CIOs with BI/BA and show the results in Figure 12. Forty-six percent say CIOs should deliver BI/BA as a shared service to state internal customers, while 42% think CIOs should instead develop an enterprise strategy for BI/BA and then drive adoption. The remaining 12% saw other roles for CIOs in BI/BA. Considering the need to help government derive value from, rather than just collect, data, it is no surprise that the vast majority of respondents see a BI/BA enterprise role for CIOs. However, there seem to be two major schools of thought about how to implement that role. Speaking about BI/BA, a CIO comments, "I view my role as both an educator and as a driver of standardization."

Mobility

Mobile devices and applications (apps) continue to grow in popularity. At all levels of government, states have taken the lead in developing apps for state employees and citizens interacting with state government. The State of Indiana has an app that allows school bus inspectors to complete and transmit inspection forms on a smartphone, along with a scanned bar code to identify the bus and photos of any problems. The State of Arkansas has an app that allows hunters to register their deer and turkey kills. The State of Minnesota has an app that mashes a smartphone's geo-location capabilities with agency data to point boaters in the state's 11,482 lakes toward the nearest accessible boat landing.

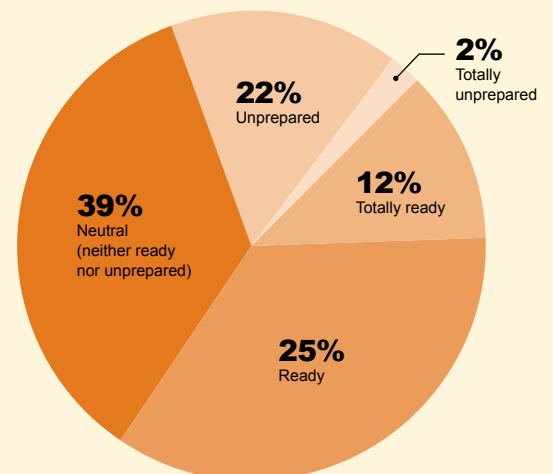
Figure 13:
State CIOs' opinions on the priority of mobile devices and apps in their plans



We asked state CIOs to characterize the priority of mobile devices and apps within their strategic and operational plans. Figure 13 shows that 58% of respondents characterize mobile devices and apps as essential or high priority. Another 33% indicate they are medium priority, and only 8% say they are low or no priority. Even when mobile devices and apps are a priority, states struggle to keep up with state employee pressures to allow them to use personal mobile devices

for state business. One CIO notes, “Consumer technology entering the workforce is outpacing IT ability to support, to implement policy and to maintain security.”

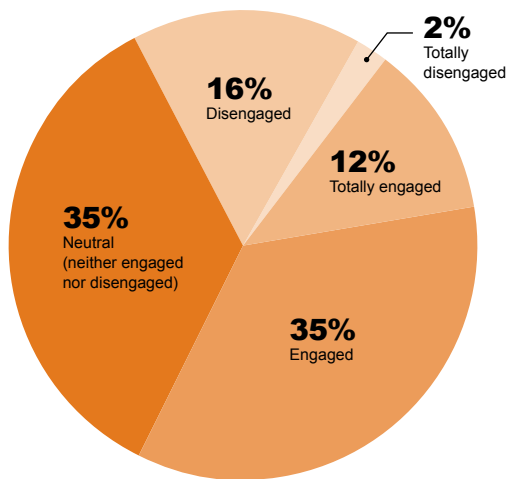
Figure 14:
State CIOs' readiness to deploy and support mobile devices and apps



Following up on priorities, we asked CIOs to rate their readiness to deploy and support mobile devices and apps for the state workforce. Figure 14 shows that 37% of CIOs are ready or totally ready to deploy and support devices

and apps but 24% are unprepared or totally unprepared. The other 39% are neutral (neither ready nor unprepared). Sometimes other considerations influence deployment and support, including the culture of a state government's organization. One CIO says, "So long as the perception of state employees is that if you're not at your desk, you're not working, we're going to see a lag in adoption/provisioning of the remote workforce."

Figure 15:
State CIOs' opinion of their states' level of engagement with citizen-facing apps



We asked how engaged states were with citizen-facing apps. Figure 15 shows that 47% are engaged or totally engaged, while 18% are disengaged or totally disengaged. The other 35% are neutral (neither engaged nor disengaged). One of the primary challenges with citizen-facing apps is the need to keep them simple and to update them regularly. Using feedback from citizen app users is one way that CIOs can be successful in this area.

"We need to provide greater access to state data, and mobile device usage represents a more common access point than traditional computing technologies for the general public."



Whether engaged or disengaged, CIOs see the need for citizen-facing apps. One CIO explains, "We need to provide greater access to state data, and mobile device usage represents a more common access point than traditional computing technologies for the general public." This is an area ripe for collaboration and sharing. States can focus first on those apps of unique interest and importance to their state, and then collaborate and share the development of other apps with other states that have similar needs.

Vision and excellence

Our final survey question asked state CIOs to identify three programs, projects or initiatives that represent their innovative vision for IT in their states or to identify where their state IT excels. In response, the CIOs are not shy. They are clearly and understandably proud of their accomplishments and the accomplishments of their staffs that contribute significantly to the success of state government. They identify a number of capabilities and disciplines where they excel.

Supporting the title of this report, *A New C⁴ Agenda*, CIOs point out projects that almost always include verbs like **consolidate**, **cooperate**, **collaborate**, **integrate**, **standardize**,

centralize, **connect** and **share**. They also include adjectives like **enterprise**, **statewide**, **unified** and **common**. Indeed, state CIOs have become consolidators-in-chief, bringing together many diverse activities and delivering them in a way that cuts costs and improves effectiveness. One CIO put it this way, “[The] state CIO is tasked with the mission of achieving enterprise consolidation and collaboration to reap the benefits of cost savings and operational efficiencies, and enhance service delivery. Also, [he is tasked with] the value, impact and risks associated with major agency IT projects.”

A second recurring topic is advancing the communications infrastructure. There are 20 references to communications or related subjects



in reference to upgrading networks, expanding wireless, promoting interoperability and supporting service delivery. If CIOs are all about information, they have to do more than simply collect data; they have to be about disseminating information people can use. Many CIOs are proud of their communications successes. Whether empowering all of state government to communicate among its various parts or enabling access for the public, CIOs told us many success stories with phrases like “state-wide wireless radio,” “800 MHz Emergency Communications System,” “combining state voice, data and video networks into one network” and “statewide IP-based emergency warning communications network.”

A third common theme relates to a customer- or citizen-centric focus. CIOs are not consolidating services and collaborating with others just to consolidate and collaborate; they focus instead on their customers — the state government workforce and the citizens of their states. There are 13 separate references to customer, citizen and similar terms in their visions. One CIO lists his as “Leverage IT to expand and enhance the delivery of services to citizens.” Another CIO recognizes the shift already underway, “We have changed the way we view the consumerization of technology. We are enabling advancements throughout state government and in conjunction with our citizens.”

“We have changed the way we view the consumerization of technology. We are enabling advancements throughout state government and in conjunction with our citizens.”

A final standard refrain in this litany of vision and excellence is “transparency.” CIOs use the word in nine separate instances, often in reference to financial information. With growing demands by the public, directives by governors and legislative mandates, the transparency word is used regularly in government today. The CIOs’ focus on transparency indicates that they recognize a key responsibility of all public servants is to be accountable for government spending, program performance and their actions. CIOs enable transparency with technology platforms, interfaces and tools that support this public policy agenda. As one CIO notes, “The state excels at sharing of data, transparency and use of cross-boundary collaboration tools.”

Conclusions — A New C⁴ Agenda

In the dynamic world of state government today, state CIOs are *changing*, using their newfound *clout* to *collaborate* with many groups and to *consolidate* IT services for increased effectiveness and efficiency.

State CIOs are changing

- How they provide services
- The source and diversity of their revenue streams
- Their relationship with the legislature
- How mobile devices and apps connect citizens to their government.

Collaboration is the new standard for relationships, and consolidated IT services are the new normal, moving away from the old silo model. Many services have already been consolidated or are undergoing it. More services will

The future is not always clear and firm predictions are sure to err, but there can be no doubt that state CIOs have a new agenda to add to their considerable role in achieving success for state government.

be consolidated soon as states continue their search for increased efficiency and effectiveness. However, even with their increased clout, CIOs must be cautious about the search for the holy grail of cost reduction, remembering that consolidation is not the only solution; innovation can also provide many of these benefits. After service rationalization, CIOs need to focus on service optimization.

Old problems remain even as new dimensions arise. Budget shortfalls continue to drive many changes, requiring the CIO to be a financial manager. With consolidations come new governance issues, so the CIO must exercise considerable political and negotiating skills. Workforce issues persist, exacerbated by the inability to hire new staff or train existing staff because of budget shortfalls, making the CIO a human resources manager. And as the many dimensions of health care spread throughout state government, the CIO has to become a health policy analyst.

The future is not always clear and firm predictions are sure to err, but there can be no doubt that state CIOs have a new agenda to add to their considerable role in achieving success for state government.



List of states and territories participating in the survey

Note: The titles and positions of government officials listed here were current when the survey closed.

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Pat Shier

Director
State of Alaska

Aaron Sandeen

Deputy Director & State Chief Information Officer
State of Arizona

Claire Bailey

Director & Chief Technology Officer
State of Arkansas

Carlos Ramos

Secretary
State of California

Kristin Russell

Secretary of Technology & Chief Information Officer
State of Colorado

Mark Raymond

Chief Information Officer
State of Connecticut

James Sills III

Secretary & Chief Information Officer
State of Delaware

David Taylor

State Chief Information Officer & Executive Director
State of Florida

Calvin Rhodes

Executive Director & State Chief Information Officer
State of Georgia

Sonny Bhagowalia

Chief Information Officer
State of Hawai'i

Teresa Luna

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Sean Vinck

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State of Illinois

Brian Arrowood

Chief Information Officer
State of Indiana

Lorrie Tritch

Chief Operating Officer
State of Iowa

Morey Sullivan

Acting Chief Information Officer
State of Kansas

Lori Flanery

Secretary & Interim Chief Information Officer
Commonwealth of Kentucky

Edward J Driesse

Chief Information Officer
State of Louisiana

Greg McNeal

Acting Chief Information Officer
State of Maine

Elliot Schlanger

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John Letchford

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Carolyn Parnell

Chief Information Officer
State of Minnesota

Craig Orgeron

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Doug Young

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Brenda Decker

Chief Information Officer
State of Nebraska

continued on next page...

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Adel Ebeid

Chief Technology Officer
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*Acting Chief Information
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Jerry Fralick

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Lisa Feldner

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Alex Pettit

Chief Information Officer
State of Oklahoma

Dugan Petty

Chief Information Officer
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Jimmy Earley

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Karen Robinson

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Stephen Fletcher

Chief Information Officer
State of Utah

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Kyle Schafer

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Rob Mancini

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Easter Bruce

*Chief Information Officer
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Acknowledgments

We thank state CIOs for participating in this year's survey — the response rate was extraordinary. We also acknowledge the support and contributions of the sponsoring organizations and the time and expertise of the individuals listed below.

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

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