

State of the States 2011: *Information Technology Priorities, Issues and Trends*

North Carolina
Electronic Records Conference 2011

Doug Robinson, Executive Director
National Association of State Chief Information Officers

About NASCIO

- National association representing state chief information officers and information technology executives from the states, territories and D.C.
- NASCIO's mission is to foster government excellence through quality business practices, information management, and technology policy.
- Founded in 1969 - we're a legacy system





A Call to Action: Information Exchange Strategies for Effective State Government

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 NASCIO

NASCIO supports state chief information officers and information technology senior management from state governments across the United States for research, analysis and best practices.

NASCIO Recommendations: State Government Adopt the National Information Exchange Model (NIEM) to Enable Government Information Sharing
 April 26, 2011

The National Information Exchange Model (NIEM) provides a broad range of products and capabilities for planning and engineering enterprise wide information exchange. Government effectiveness and efficiency requires government services to be effective in the areas of education and communication. Use of national standards will avoid redundant investment and unnecessary costs. What is needed is common discipline in information sharing that is employed by all government entities of business. The National Information Exchange Model (NIEM) sets a standard for federal, state and local government.

NASCIO recommends that state government adopt NIEM capabilities as a component of state government enterprise architecture and data management strategy. This brief will provide some of the history and rationale for NIEM, the history of NIEM, various state and guidance on how to get started. The agenda presents a number of relevant references.

In general, NASCIO recommends that state governments:

- Learn how to plan an information exchange and how to implement it through executive and technical staff members.
- Take full advantage of NIEM training - online and on site.
- Engage the NIEM - leverage NIEM technical support.
- Grow staff knowledge, experience and skills through ongoing training.
- Stay connected to the NIEM site for new developments, and contribute to the community.
- Promote NIEM for government interoperability by adopting Government Enterprise Architecture, Data Management and Information Exchange Project Management and Processes.
- Explore and Evaluate initial line of business relationships in agency service delivery.

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State IT Workforce: Under Pressure



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CIO Leadership for State Governments: Emerging Trends and Practices



Change TRANSITION HANDBOOK

NATIONAL ASSOCIATION OF STATE CHIEF INFORMATION OFFICERS



Sustainable Success: State CIOs and Health Information Exchange

January 2011

A National Survey of the State CIOs

NASCIO Healthcare Series

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Capitals in the Clouds

January 2011

The Case for Cloud Computing in State Government Part II: Challenges and Opportunities to Get Your Data Right

NASCIO Computing Series



On the Fence: IT Implications of the Health Benefit Exchanges



AN NASCIO Health Care Working Group Publication
 June 2011

When NASCIO released *Profiles of Progress: A State Health IT Initiatives in July of 2010* there were approximately 17 public health information exchanges (HIEs) and 52 private exchanges that had gone live. Surprisingly, the number of HIEs has nearly doubled to 37, and the number of private HIEs has nearly tripled to 147.

As a result of Progress 4's component focused on the state CIOs role in HIE and the governance structure, this issue brief and the importance of a sustainable public HIE and the possible means states can create long-term. State CIOs and state policy officials need to understand the business drivers that will ensure successful implementation and operation an interoperable HIE. State CIOs recognize it is no better opportunity than now for carrying out these goals. The opportunity will be impossible to ensure a state has HIE. It is important to ensure that public grants may no longer be available.

Measure Value, Cut Cost
 While the goal of the health care stakeholder community has been to ensure the interoperability of individual identifiable state to a wide range of health care services, the reality is that states will need additional federal funding to meet these goals. The Health Information Technology Economic and Clinical Research Act (HITECH) section of the American Recovery and Reinvestment Act of 2009 (ARRA) helped provide the initial impetus to make this goal a reality and also included direct subsidies to help state designated entities (SDEs) to establish health information exchange (HIE) in areas where there are limited agencies for engaging in HIE. In 2010, the Office of the National Coordinator (ONC) completed the most of the State HIE Cooperative Agreement Program awarded states, eligible territories, and qualified state designated entities grants. In order to receive the grant money, states were required to have state policies and operational plans and are required to submit state sustainability plans to ONC by 2011. ONC has committed to visit

The 2011 State CIO Survey
 OCTOBER 2011





A New C⁴ Agenda

Perspectives and Trends from State Government IT Leaders



CONSOLIDATION **COLLABORATION**
CLOUT **CHANGE**

NASCIO's first issue in this series, cloud computing as arrived states as an enabler of efficiency and innovation. If there is a real theme for describing cloud computing as an enabler of innovation management strategy in state government, it should be thinking "emigration." However, an unmanaged cloud environment is just the opposite situation. If departments, agencies, or to acquire cloud services, typically public cloud services, to enterprise governance structure, particularly data governance will be creating the next generation legacy system fragments or incompatible. This might be termed cloud cloud system silos.

NASCIO, TechAmerica, and Grant Thornton LLP published the 1st of state chief information officers - 2010 State CIO Survey (*Profiles of Progress*) by state government IT leaders. Fifty percent of it stated that they are negotiating cloud computing. One-third they are running as test or pilot cloud projects. The word is important one. This can be interpreted to mean state government, and justifiably, cautious as they evaluate alternative IT services. Cloud computing is one of many approaches to it. And, cloud computing itself offers multiple alternative application and service delivery.

Part II in this series on cloud computing, the predominant state and local governments toward service oriented cloud computing are the continued budget woes and dramatic changes. These pressures must be managed intelligently to prevent them in future situations that could constitute greater



State Cyber Security Resource Guide

AWARENESS, EDUCATION AND TRAINING INITIATIVES

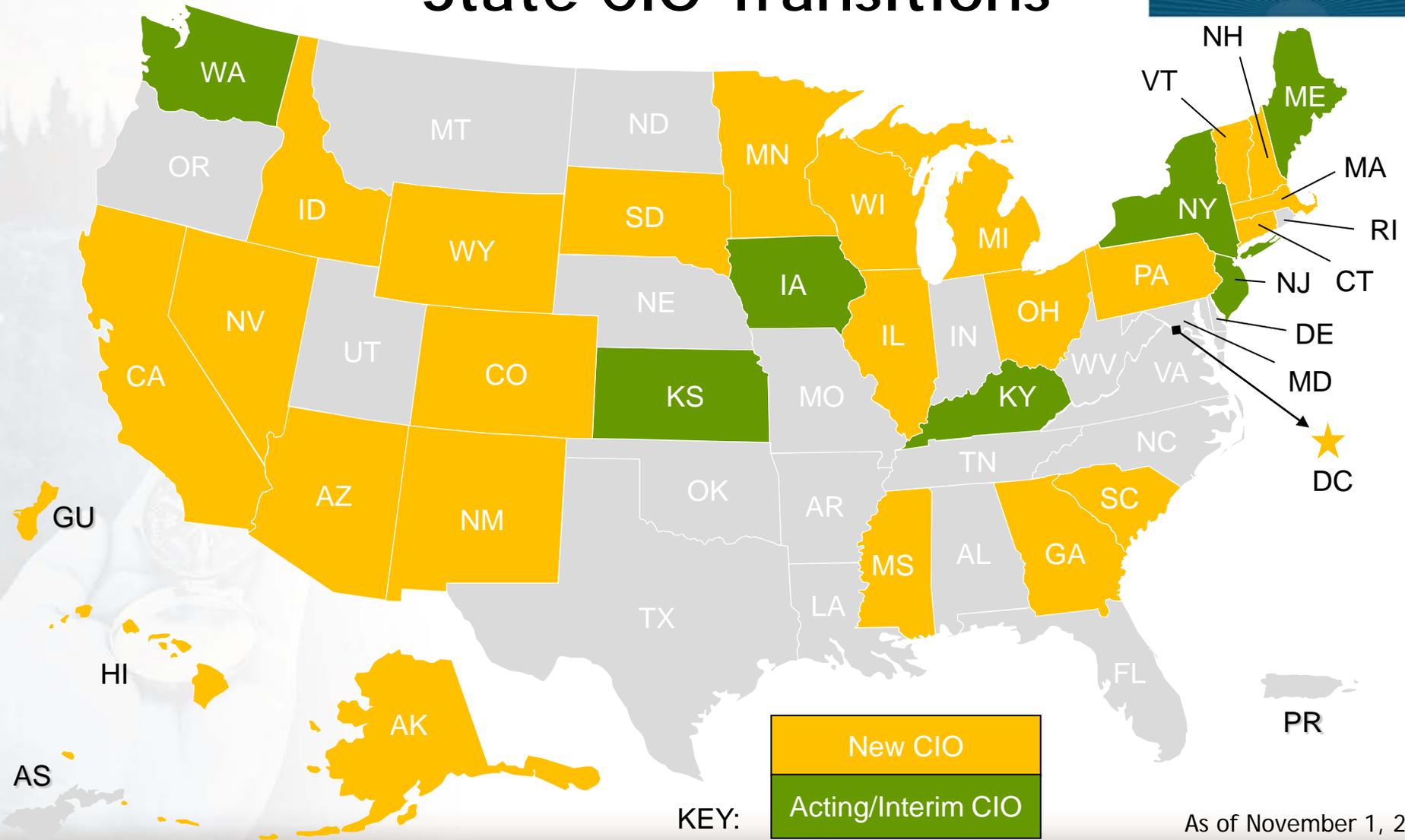
October 2011

REBUILDING GOVERNMENT IN A DIGITAL WORLD

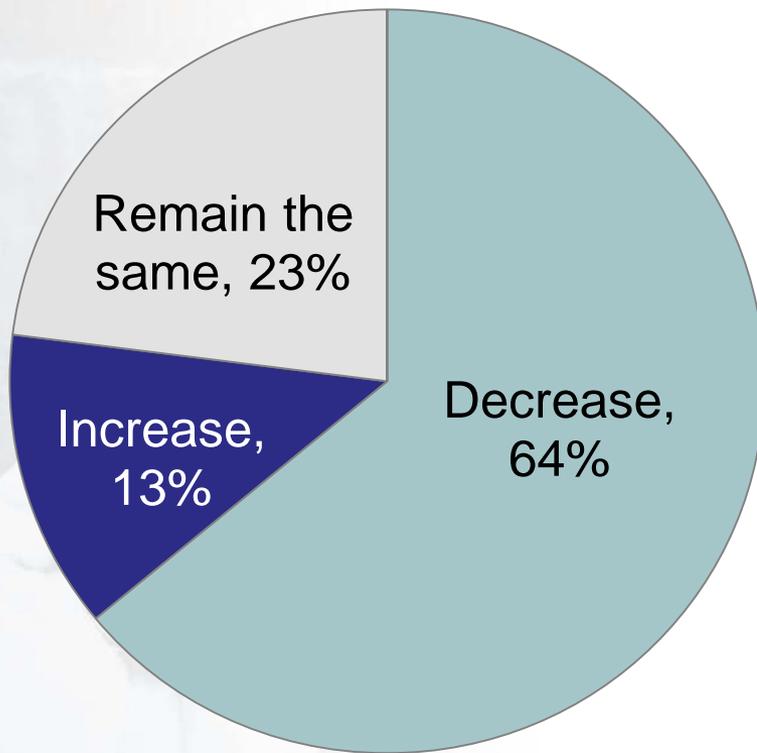
State IT Landscape Today

- ✓ **Tough Times:** dealing with slow fiscal recovery, forced budget reductions, personnel actions
- ✓ CIOs seeking IT operational cost savings and alternative IT sourcing strategies
- ✓ Opportunities for change and innovation
- ✓ Living with the past - modernizing the legacy
- ✓ IT security and risk! Game has changed
- ✓ IT workforce: retirement wave, skills, recruiting
- ✓ State CIO transitions

State CIO Transitions



CIOs' view on IT budgets for 2011-13

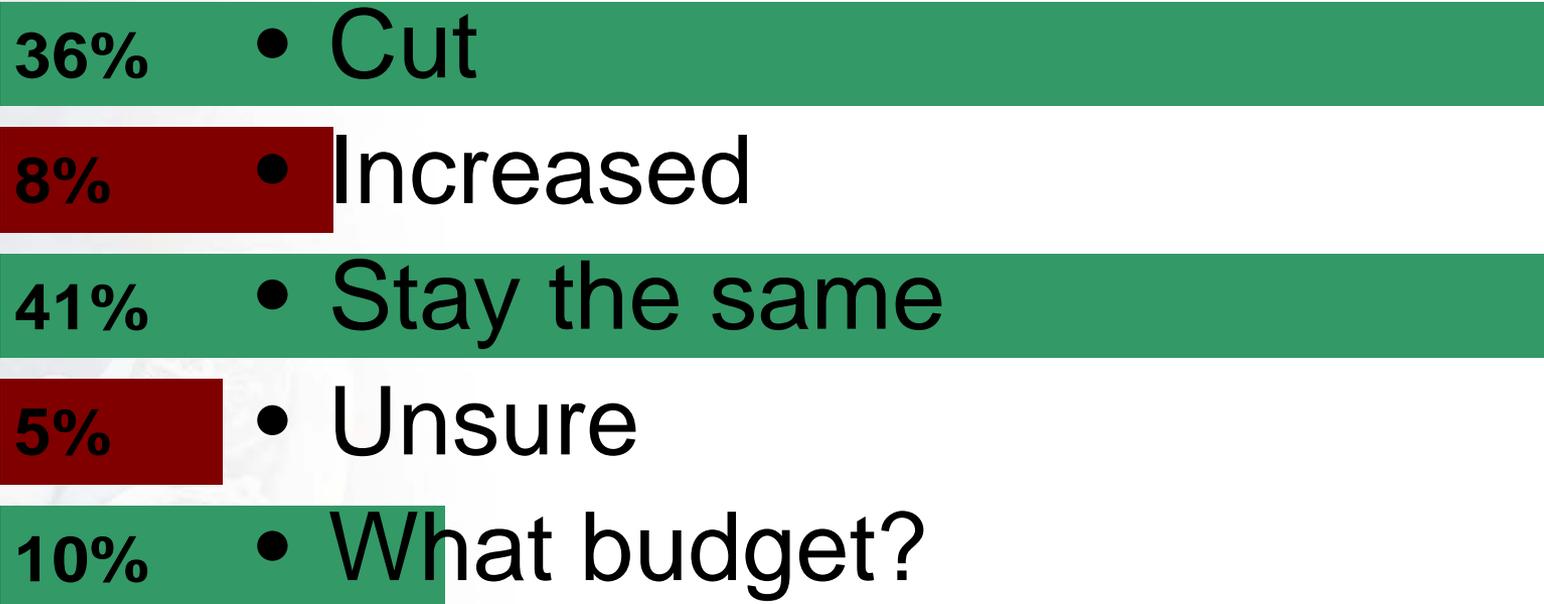


- As state budgets go down, so does funding for IT
- Few exceptions: ARRA, PPACA and mandates
- Many CIOs see budget decreases as an **opportunity** to improve: breaking down barriers, strengthening IT governance, developing creative solutions

Source: NASCIO-TechAmerica –Grant Thornton 2010 State CIO Survey, August 2010



Do you expect your next state IT budget to be...?





View from the States: Priorities and Trends

State CIO Priorities for 2012

1. **Consolidation / Optimization:** centralizing, consolidating services, communications and marketing "enterprise" thinking, identifying and dealing with barriers
2. **Budget and Cost Control:** managing budget reduction, strategies for savings, reducing or avoiding costs, dealing with inadequate funding and budget constraints
3. **Governance:** improving IT governance, data governance, partnering, inter-jurisdictional collaboration, industry advisory boards, legislative oversight - achieving proper balance, agencies participating as members of a "state enterprise"
4. **Health Care:** the Affordable Care Act, health information and insurance exchanges, health enterprise architecture, assessment, partnering, implementation, technology solutions, Medicaid Systems (planning, retiring, implementing, purchasing)
5. **Cloud Computing:** governance, service management, service catalogs, platform, infrastructure, security, privacy, data ownership, vendor management, indemnification, service portfolio management
6. **Security:** risk assessment, governance, budget and resource requirements; security frameworks, data protection, training and awareness, insider threats, third party security practices as outsourcing increases
7. **Broadband and Connectivity:** strengthening statewide connectivity, public safety wireless network/interoperability, implementing Broadband Technology Opportunities Program (BTOP) grant
8. **Shared Services:** business models, sharing resources, services, infrastructure, independent of organizational structure, service portfolio management, marketing and communications related to organizational transformation
9. **Portal:** maturing state portal, e-government, single view of the customer/citizen, emphasis on citizen interactive self-service, accessibility
10. **Mobile Services/Mobility:** devices, applications, workforce, security, policy issues, support, ownership, communications, wireless infrastructure

Italics: New to list for 2012

Source: NASCIO State CIO Survey, October 2011

IT Applications and Tools Priorities

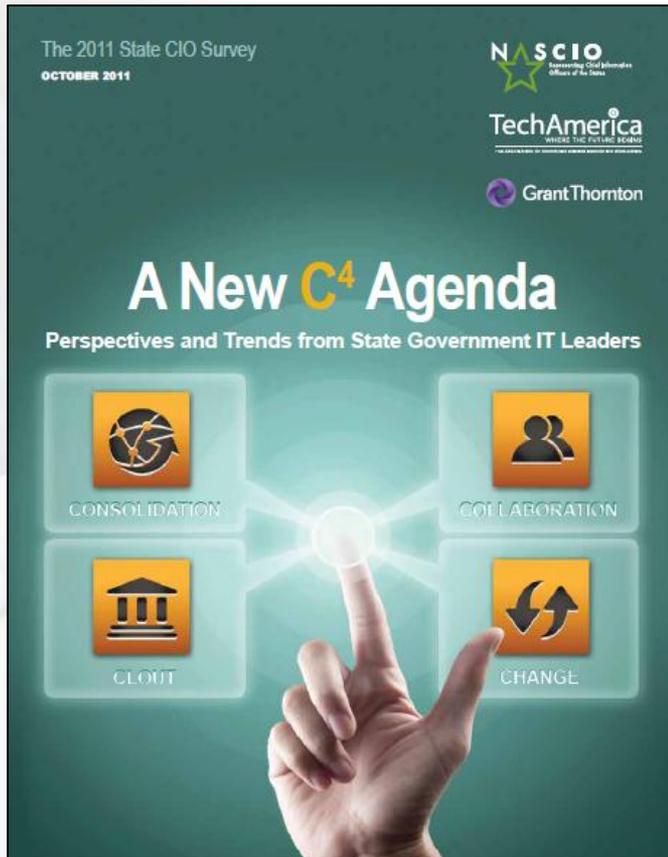
1. Virtualization: servers, desktop, storage, applications, data center
2. Legacy application modernization / renovation
3. Cloud computing: software as a service, infrastructure, platform, storage
4. Mobile workforce technologies
5. Networking: voice and data communications, unified
6. Enterprise Resource Planning (ERP)
7. Identity and access management
8. Business Intelligence (BI) and Business Analytics (BA) applications
9. Document/Content/Records/E-mail management: active, repository, archiving, digital preservation
10. Public Safety Radio Network

Source: NASCIO State CIO Survey, October 2011

Priorities: Governance, Frameworks, Business Disciplines

- Enterprise IT Governance: specifying the decision rights and accountability framework
- Enterprise Architecture: *“a blueprint for better government”*
- Organizational Transformation & Change Management
- Project and Portfolio Management, PMO
- Service Level Management - ITIL practices, CoBIT
- Performance: metrics, measure, communicate

2011 State CIO Survey Highlights



- Budgets continue to drive action
- Roles are changing
- Consolidation has broad appeal
- Health care cannot be ignored
- Mobility is on the move

Roles and Governance: Goals

State CIO goals ranked in order of mention by respondents

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

Source: NASCIO-TechAmerica –Grant Thornton LLP 2011 State CIO Survey, October 2011

Collaboration: Top Agenda Item

CIO's motivation for collaboration

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%

Source: NASCIO-TechAmerica –Grant Thornton LLP 2011 State CIO Survey, October 2011

IT consolidation: a key CIO strategy to address budget issues and control operational costs

Facilities: reducing data centers, equipment, operational costs

Enterprise services: networks, email, storage, telecom, imaging, wireless

Server consolidation: reducing footprint, operations, security impact, backup/recovery

Applications: similar business functions

IT personnel and staffing

Consolidation & Shared Services

For 7 of 12 top services, only about 20% of states still in planning

Targets	Considering	Completed
1. Telecom	98%	65%
2. Email	98%	38%
3. Data centers	98%	32%
4. Security	94%	43%
5. Backup/disaster recovery	92%	29%
6. Servers	91%	21%
7. Storage	90%	26%
8. Content management	78%	25%
9. Desktop support	73%	26%
10. Business applications	71%	8%
11. Staff	69%	23%
12. Imaging	69%	17%

Source: NASCIO-TechAmerica –Grant Thornton LLP 2011 State CIO Survey, October 2011

Moving to the cloud continues...slowly

Change in cloud status 2010-2011		
State Status	2010	2011
Highly invested	5%	14%
Some applications	34%	35%
Still investing	54%	47%
None/other	8%	4%

Source: NASCIO-TechAmerica –Grant Thornton LLP 2011 State CIO Survey, October 2011



What cloud deployment model are you leading with first? (State Government Only)

- 55% • Private cloud
- 2% • Community cloud
- 8% • Public cloud
- 22% • Hybrid cloud
- 13% • Cumulus cloud

Business objectives

Governance

Jurisdictional issues

Acquisition strategy

Exit strategy

Security and privacy concerns

Policy and legal issues

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NASCIO
Cloud Computing Series

Capitals in the Clouds

The Case for Cloud Computing in State Government Part I: Definitions and Principles

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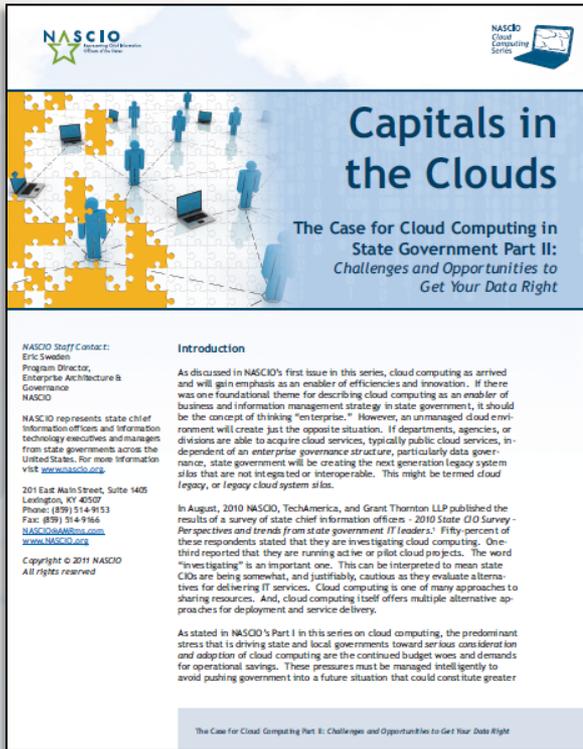
State government is actively pursuing cloud computing as an innovation it can exploit in balancing two distinct and growing pressures. What is pushing government more and more toward seriously evaluating cloud computing is the present economy. Per the May 2011 National Association of State Budget Officers (NASBO) fiscal survey of the states, state general fund spending is still below pre-recession levels (see appendix). Faced with these continued budget challenges state governments will need to find ways to deliver its services to citizens as economically as possible without compromising the achievement of desired outcomes. This new fiscal pressure is actually working to help break down historical barriers to inter-agency collaboration and partnering, sharing services, and pooling of resources.

The other pressure is the drive for innovation as the citizens are facing more uncertainty and complexity in the national and global economy. Innovation demands the ability to continually explore, experiment, and create capabilities quickly. Traditional processes for planning, developing, and testing IT capabilities contrasts with the new need to act quickly when experimenting with new ideas. Cloud computing is an approach that can provide capabilities quickly.

Cloud computing has arrived as a serious alternative for state government. There are outstanding issues that must be faced and dealt with in order to maintain the reliability, responsibility, security, privacy, and citizen confidence in government services. Government is desperately looking for technology and business process innovations that will make the way for government to deliver existing services more economically. There is also the potential for new kinds of services that may be temporary in nature. Cloud computing provides a number capabilities that have the potential for such innovation.¹

State government will need to be convinced that future cloud computing offerings can meet its requirements for governance, security, privacy, availability.

1 The Case for Cloud Computing Part I: Definitions and Principles



New emphasis on Enterprise Architecture - "more kinds"

Managing data

E-Discovery
 Computer forensics

SLA, terms and conditions

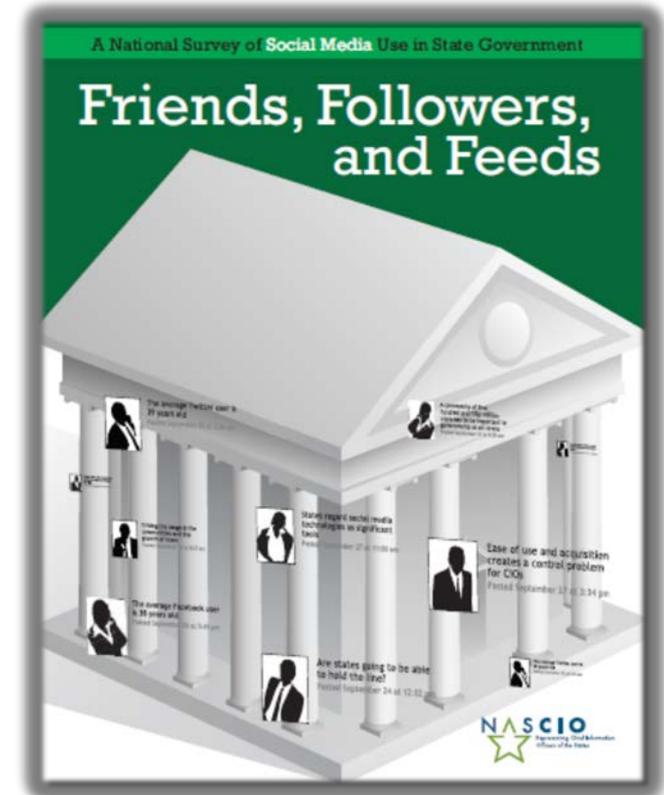
Data and business rule
 "ownership"

Records management, digital preservation

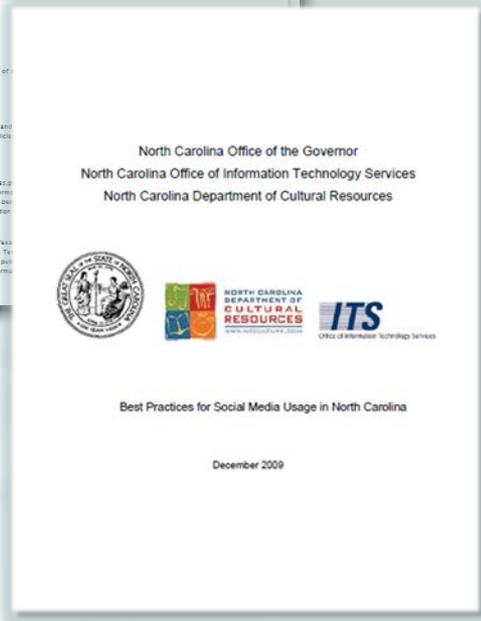
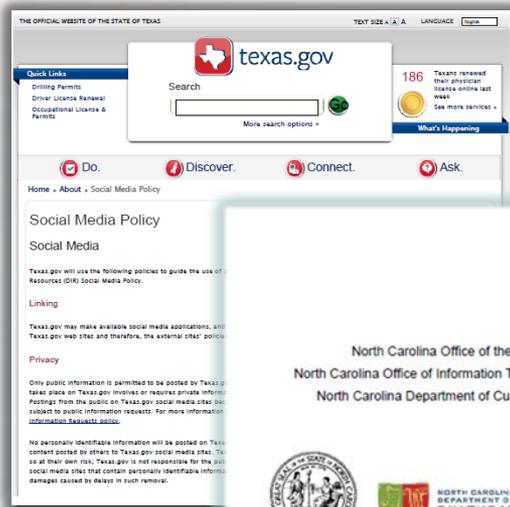
Social Media: Connecting Citizens

Social media adoption rates are broad across state governments, whether controlled by CIO offices or not:

- 98% of use - free social media tools on hosted, third party platforms
- two-thirds of survey respondents lack enterprise policies addressing social media



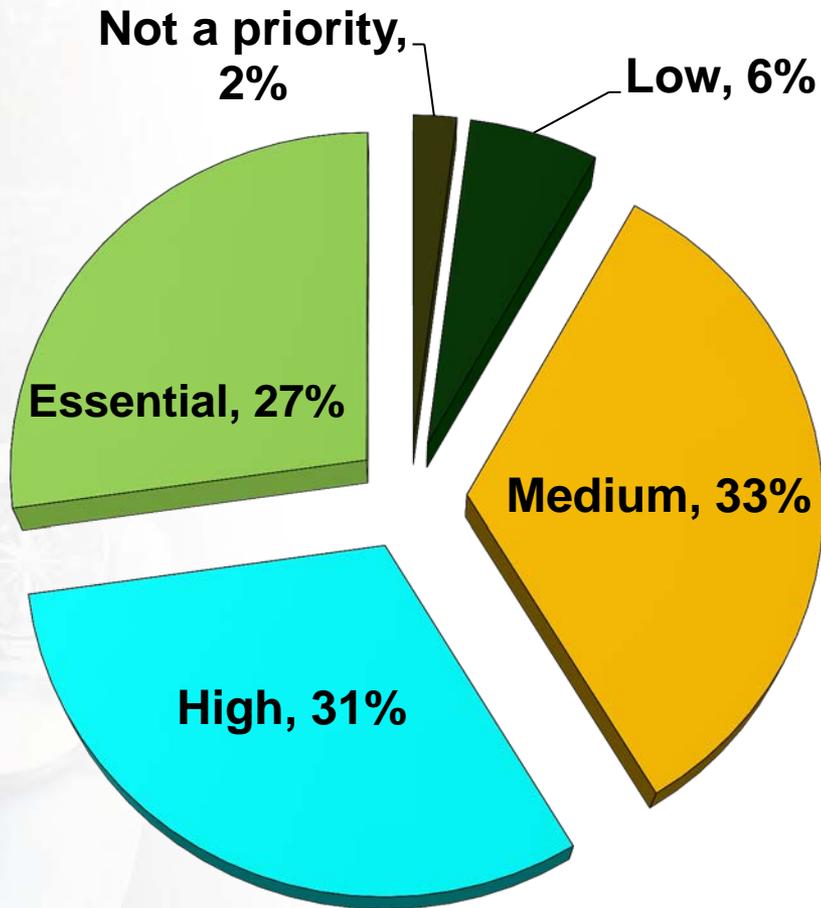
Social Media: New Challenges



States must address...

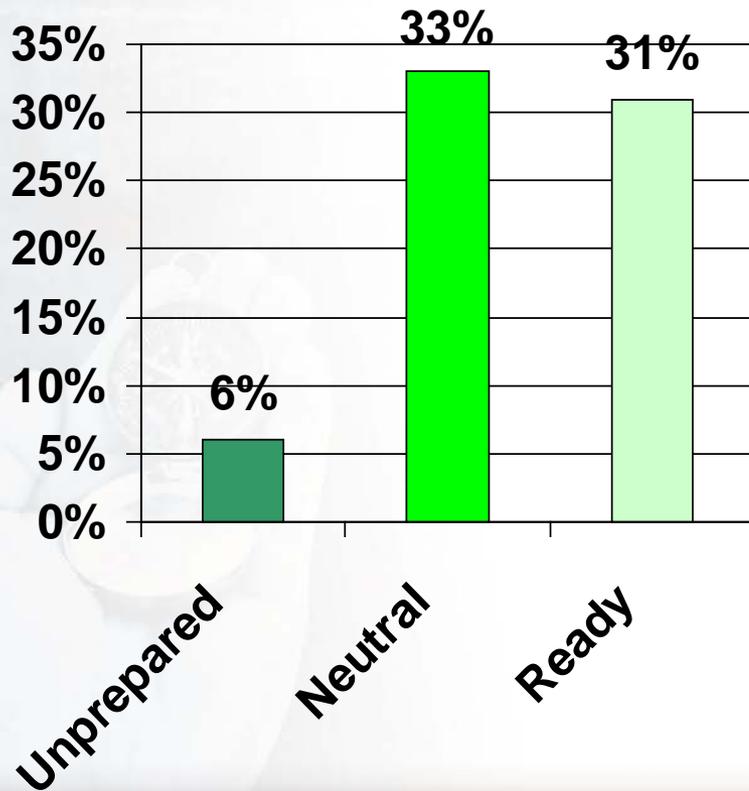
- content management
- acceptable use
- security
- privacy
- legal issues with ToS
- records management

Mobility=CIO Priority

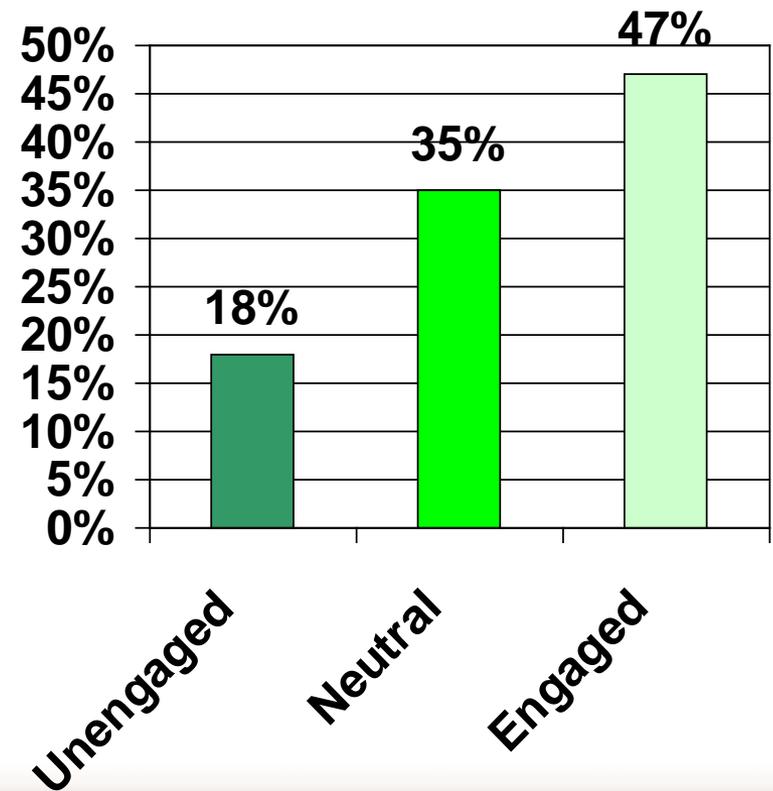


Source: NASCIO-TechAmerica –Grant Thornton LLP 2011 State CIO Survey, October 2011

CIOs readiness to deploy & support mobile devices & apps



CIOs opinion of their states' level of engagement with citizen-facing apps



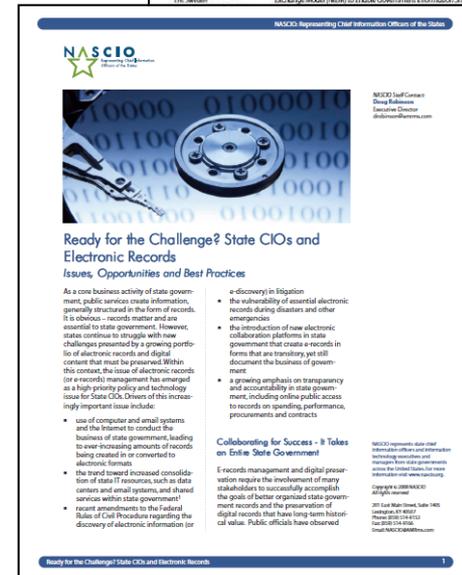
Tracking State Trends

- Alternative sourcing/hosting: moving to the cloud
- Multi-state collaboration: sharing infrastructure, solutions, applications
- Health care implementation
- Legacy modernization
- Broadband expansion



Continuing Challenges

- IT Governance: what works?
- Data exchange
- IT procurement
- State IT workforce
- Identity interoperability
- Growth of born digital content: e-records, digital preservation, e-discovery



range of products and capabilities. Government effectiveness of business collaboration (procurement and emergency relief) that is employed by all state NEMM sectors as that disc-
 As a component of state... The goal will provide some of and guidance on how to get
 ploy NEMM.
 EC.
 ing training and NEMM
 national domains, and
 g NEMM as part of State
 policy and standards,
 self requirements,
 but can enhance or transform

What to Watch: Points of Intersection

- Enterprise Architecture, policy
- More IT consolidation, cloud adoption
- Shared services models
- Demands for transparency
- Multi-jurisdictional collaboration
- Mobile devices and apps
- Social media

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