NASCIO

Representing Chief Information
Officers of the States

THE STATE CIO TOP TEN:

WHY IT'S MORE THAN A LIST

Each year the National Association of State Information Officers (NASCIO) queries state and territorial chief information officers (CIOs) to identify their top *strategies, management processes and solutions,* and top *technologies, applications and tools.* Our survey produces the annual State CIO "Top Ten Policy and Technology Priorities" and the "Top Ten Technologies, Applications and Tools."[1] These Top Ten lists serve as a national barometer for markets and state governments for issues, challenges, mandates and opportunities facing the state and territorial CIOs. Our research helps us identify trends and helps state CIOs collaborate to find solutions to common challenges. We often observe that, as different as the states are, the challenges they face are similar.

This year, NASCIO is taking a fresh approach to this list. What if we view it as more than a list? What if we apply it to a new framework that considers all the "forces" a state CIO must manage? What if this list can be used to change the conversation governors and legislatures are having about the role of the CIO and technology in the government enterprise? In our recent paper *State CIO as Broker: A New Operating Model* [2] we discuss the *four forces of government change* that a state CIO must manage to be an effective enterprise leader. This paper is the next installment in that conversation.‡

THE FOUR FORCES: A REVISIT
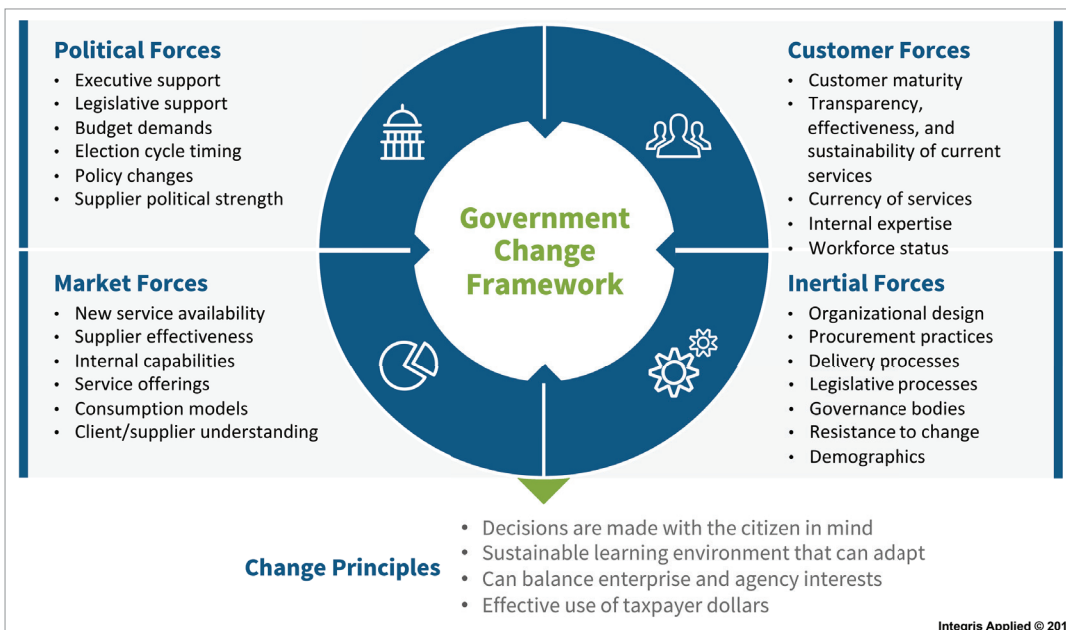
"Each state and each state CIO encounter and manage their own Political, Market, Customer and Inertial Forces. Yet the concept of these forces is common across all government."

"All four forces are impacting, pressuring, influencing and demanding how the state CIO operates and sets priorities. Understanding the forces, engaging them in an organized way, and building the credibility to influence them are all hallmarks of the most successful CIOs."

Political Forces
- Executive support
- Legislative support
- Budget demands
- Election cycle timing
- Policy changes
- Supplier political strength

Customer Forces
- Customer maturity
- Transparency, effectiveness, and sustainability of current services
- Currency of services
- Internal expertise
- Workforce status

Market Forces
- New service availability
- Supplier effectiveness
- Internal capabilities
- Service offerings
- Consumption models
- Client/supplier understanding

Inertial Forces
- Organizational design
- Procurement practices
- Delivery processes
- Legislative processes
- Governance bodies
- Resistance to change
- Demographics

Government Change Framework

Change Principles
- Decisions are made with the citizen in mind
- Sustainable learning environment that can adapt
- Can balance enterprise and agency interests
- Effective use of taxpayer dollars

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‡ Note: as we continue through this initiative and even into future years we will be using a number of terms including: "CIO as Broker"; "new CIO Operating Model"; "new CIO Operating System"; "multisourcing." We will include a glossary in the final publication for this year which is the playbook for state CIOs in pursuit of this concept, "CIO as Broker."

In our first paper for this project we introduced the "Four Forces of Government Change." We are using this framework in this project to explore the role of the state CIO, identify how states are adapting to a new brokerage style operating model and define how a state CIO can use his or her platform to influence outcomes that improve government service for citizens.

We see the ability of the state CIO's organization to operate as a brokerage of services as a condition precedent to maximizing the CIO's influence and leadership in a government environment. The organization's evolution to a services-based model can be measured, monitored and tracked, giving CIOs a path to operational maturity. This operational maturity – the ability to deliver services and respond to new requirements – frees and enables the CIO to work with governors and legislatures to establish new ways to deliver government services to citizens.

When we use the term "CIO as Broker" for purposes of this project this is what we mean:

1) A business manager or broker of services v. owner / operator of assets;

2) In a multi-user market place for IT services, the state CIO Broker functions as an intermediary who arranges, organizes and orchestrates service fulfillment;

3) A market maker for the exchange of IT Services. Oversees the operation of the marketplace and warrants performance and compliance.

It is just as important to understand *what is not included* in this concept of "CIO as Broker."

1) *It is not creating a profit center for the office of the state CIO;*
2) *It is not a collection of siloed independent third-party managed services;*
3) *It is not playing the role of marketer for third party vendors;*

This framework represents the pressures any elected official, government executive or change agent faces when attempting to bring change to government. While these forces will take different forms in each state and territory, like the Top Ten lists there is enough commonality in experiences across states that we see resonance with this framework no matter where we are.

Why is such a framework important? For over a decade now state CIOs have noted, and NASCIO has observed, the changing role of the CIO. Modern technology organizations must be viewed as business partners playing a strategic role in a state's agenda. Collaboration, communication skills and business acumen are the state CIO attributes sought by governors, high level policy makers, and legislators. Engaging with customers and understanding the needs of business units delivering products and services defines a state CIO's ability to deliver outcomes.
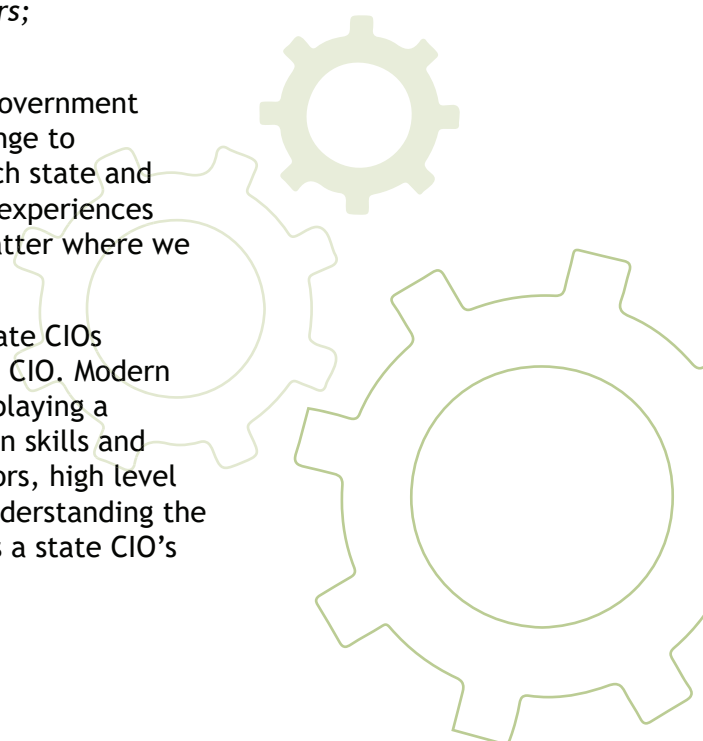
NASCIO's research indicates that 85 percent of state CIOs see themselves becoming a "broker" of some services, while the other 15 percent see themselves evolving toward or are already primarily employing a broker model. Most state CIOs see themselves delivering solutions that must integrate multiple offerings, platforms, suppliers, and the CIO's internal organization.[3] The evolving demands on the state CIO role require a framework to help a CIO lead and manage change within a political environment, and to help stakeholders understand the CIO leadership role. With this framework NASCIO believes we can help the state CIO's stakeholders understand the strategic nature of the role.

THE TOP TEN LIST

The annual surveys of state CIOs provide an important view of the state of the states. But there is another equally important resource for such an assessment. Each year NASCIO asks the state and territorial CIOs to vote on their top priority *strategies* and top priority *technologies*. These votes are used to take the pulse of the states and territories *as a group* and *at a point in time*. That "pulse" is used to create NASCIO's publications, *the Annual State CIO Top Ten Strategies* and the *Annual State CIO Top Ten Technologies*.

State CIO BALLOTS → Top **10** Strategies

→ Top **10** Technologies
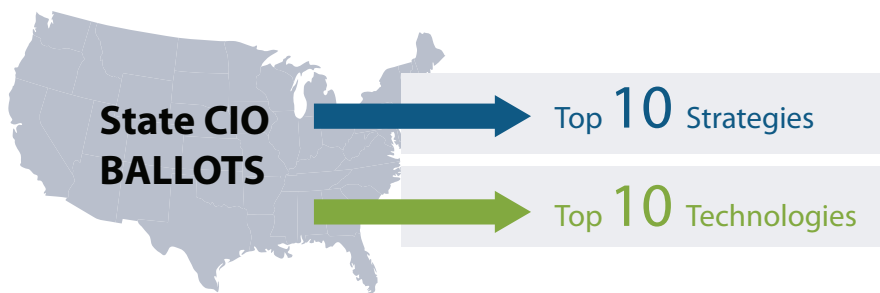
These top ten results are like leading economic indicators and are evidence of the changing role of the state CIO. "Digital Government" and "Security" cannot be led or influenced by a CIO who has neither the ability or the support to engage an enterprise, or a vision to look towards the end user (constituent) whom elected officials and agencies serve. The top ten lists show us an amalgamation of priorities, from those that are under the direct purview of the CIO (such as Consolidation & Optimization) to those that require political capital to engage an enterprise (such as Digital Government). A CIO must "keep the lights on" while finding a more efficient lightbulb, finding new sources of energy for that lightbulb and figuring out how to shine the light from that lightbulb across an entire state. This model in which the state CIO serves as a "broker" for the myriad services required by government and its end users has become a necessity for the CIO serving as a leader within the enterprise.

"The state CIO is looking at the full list of actual and potential strategies and technologies, but they are selecting their top priorities based on their perception of the Four Forces at the time they complete the ballot"

"CIO as Broker" refers to: 1) A business manager or broker of services v. owner / operator of assets; 2) In a multi-user market place for IT services, the "CIO Broker" functions as an intermediary who arranges, organizes and orchestrates service fulfillment; 3) The CIO is a market maker for the exchange of IT Services, oversees the operation of the marketplace and warrants performance and compliance.

It is through the lens of a Forces for Government Change model[4] that we reframe our Top Ten list. What can we learn from the top ten if they are viewed as a portfolio of priorities, each with its own set of leaders, owners, stakeholders, end users and outcomes? If we apply the *categories* above to our top ten list, we begin to shape a different view than the traditional linear ranking of priorities. We can begin to see how the priorities can all fit in a "platform" of government services that must ultimately serve the individual citizen .

Digital Government

Customer Forces

Top 10 # 4

Cloud Services
Broadband

Market Forces

Top 10 # 2, 7

Enterprise Demands

Security & Risk

Political Forces

Top 10 # 1, 8, 9

Data Management & Analytics
Enterprise IT Governance

The CIO Leadership Platform

Consolidation & Optimization

Inertial Forces

Top 10 # 3, 5, 6, 10

Budget
Shared Services
Agile Software Delivery

CUSTOMER FORCES

In the list for 2018 you will find an overarching theme affecting all the other strategies – **Digital Government. This priority is completely focused on citizens** and their expectations; connecting with the citizen, real-time, all-theand their expectations; connecting with the citizen, real-time, all-the-time; responsive; engaging. All these characteristics describe the challenges governments face when providing service to their customers. We are all connected to technology and we expect government to be as accessible and responsive as any other online business. As stated in the previous paper[5] in this series, the state CIO is looking at all available means for achieving the necessary delivery capability to meet these citizen expectations. If citizens did
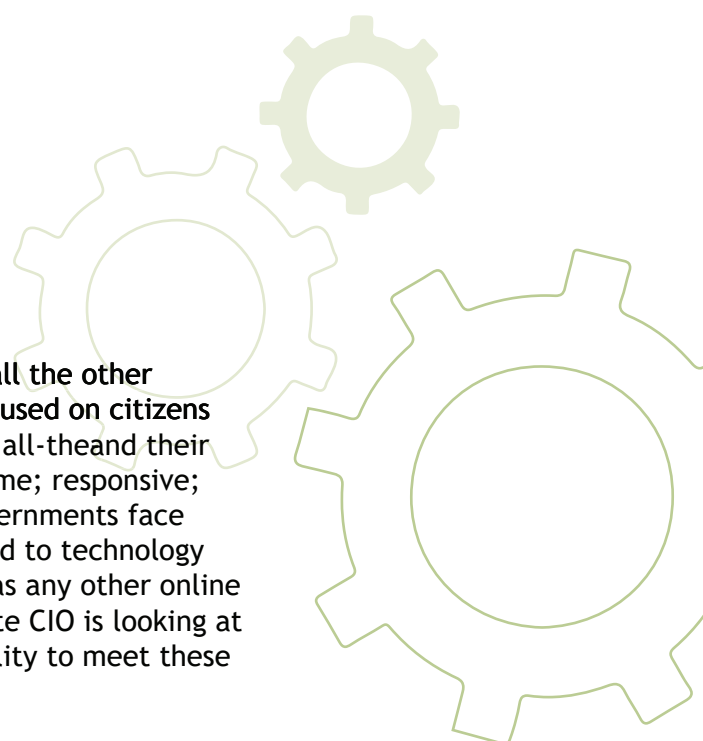
not expect very much, or if they had no expectations for state government, there would be no need to make changes, or to put in place the necessary transformational processes for ensuring government is responsive, current, and continually anticipating citizen demands. But that is not the case. Citizens are tightly coupled to their state government. They own it and they want it to perform at ever-increasing levels of performance to meet their ever-increasing demands. Mobility is a standard now that is expected for all services by citizens. As applications are developed there must be mobile access, or at least consideration of such, to satisfy the demands of the users whether they are government employees or citizens. Social media is another common tool and is often deployed and employed for communication between government and citizens. Citizens are expecting a digital assistant to lead them and advise them regarding government services.

MARKET FORCES

Governments must rely on technology to reach technology enabled citizens. Governments must also rely on technology to reach those who do not have access to the newest smart phone, and in some cases must enable citizen access to modern services. Broadband programs, often implemented in partnership with federal and local governments, help bridge a technology divide that can make services difficult to access. Connectivity is often times a priority for governors who are trying to reach all citizens across their states. State CIOs play a leading role in implementing these programs.

State CIOs also look for more efficient means to build and provide solutions government agencies can use to serve citizens. Cloud based delivery models can help meet the demands of citizens by making available a variety of services state government may not be able to ramp up fast enough. The technology market is moving quickly, and many services are becoming "platforms" that organizations buy "as a service." Taking advantage of these new offerings helps governments keep pace with citizens (who are already using some of these platforms) but require a strategy that considers the risks presented by the shift to an "as a service" model (security is a leading example). Will we someday reach the point when the technology market will only offer *XaaS solutions*? It's hard to tell, but state CIOs are working hard to adapt new technology models to enable citizen services offered by their agency customers.

Broadband and cloud services are inseparable and can be thought of as the necessary capabilities for accessing an expanded portfolio of services. The challenge we see is that a modern portfolio of services cannot be provided solely through internal resources. State CIOs require multiple suppliers, a platform that allows them to add new services quickly and a management structure that delivers outcomes while preventing "sprawl." State CIOs must partner with the technology market, engage suppliers at all levels,

Customer Forces
(Top Ten # 4)

4. Digital Government: framework for digital services; portal; improving citizen experience; accessibility; identity management; artificial intelligence; digital assistants; chatbots; crowd sourcing; privacy; security; cross-agency collaboration; cost/benefit analysis

Market Forces
(Top Ten # 2,7)

2. Cloud Services: cloud strategy; proper selection of service and deployment models; scalable and elastic IT-enabled capabilities provided "as a service" using internet technologies; governance; service management; service catalogs; platform; infrastructure; security; privacy; data ownership

7. Broadband/Wireless Connectivity: strengthening statewide connectivity; implementing broadband technology opportunities

and develop a market based strategy that allows government to use the broadest range of services possible. State CIOs will manage "multi-supplier" environments that combine the best of the market along with legacy services and retained functions. Ultimately, all services must necessarily be chosen, deployed, managed, and maintained as a portfolio of portfolios[6] that can be understood and accessed by government agency customers. Further, broadband technologies are an essential component for reaching and employing these capabilities. This presents a necessity, a strength and a weakness. As state government moves more and more to online services, the integrity, availability and security of state government networks become critical success factors. Critical systems for continuity of government rely more and more on these networks.

POLITICAL FORCES

This leads to the necessary governance and discipline to direct the selection, deployment, performance and ongoing governance of the service portfolio across the state government enterprise encompassing all agencies within the executive branch. Not every solution or service will be an enterprise-wide capability. But, all solutions and services must be managed within the context of the greater state government enterprise. Common enterprise-wide capabilities include disciplines such as data management, security, network, and enterprise architecture complete with necessary standards to ensure services work together; redundant investment is minimized; data is properly classified and protected accordingly; the state government enterprise-wide imposed security is not compromised; services, particularly critical services, are available when needed. Even solutions unique to a given agency or department must meet a minimum set of standards for data management and security. Thus, the need for *enterprise-wide governance*. These top ten priorities can be termed *Enterprise-Wide Demands*. With the advent of many strategic partners including industry partners, cross-jurisdictional partners, institutional partners, we must also take into consideration inter-enterprise architectures to manage and govern interoperability and full integration of capabilities taking into account the concept of an *extended enterprise*.

These enterprise demands create a healthy tension between agency needs, enterprise wide needs, and market capabilities: *what* should be done and *why*; *how* should it be done and *when*; *who* should do it and *where*. A state CIO must be adroit in managing the development of an enterprise delivery model and resulting architecture. These are the proverbial six interrogatives making up the framework for the architecture of the enterprise, or the enterprise architecture.[7] These six questions form the basis for establishing the bounding on any project, program or management initiative.

Political Forces
(Top Ten # 1,8,9)

Enterprise Demands

1. Security & Risk

8. Data Management & Analytics

9. Enterprise IT Governance

INERTIAL FORCES

A state CIO gains credibility first by delivering services that meet customer needs. As the CIO's credibility builds, he or she becomes more involved in the "*what*" and the "*why*" - what should be done and why it should be done make up the necessary business cases to justify new projects and services. The portfolio of business cases is bounded by budget and defined in enterprise and agency terms. State governments must determine what its priorities are (e.g., saving money, reducing risk, improving service, improving customer relations and collaboration; building economic opportunity; making education available and affordable; public safety; public health), where services can be shared and where they cannot be shared. This process of optimization can result in a myriad of strategies – consolidation, sourcing, applications rationalization, agile software delivery, and digital government delivery projects.

As capabilities are identified and justified, state governments must decide if a service should be retained internally or purchased from the market. In all cases, the management competencies of the state CIO's organization must align with and support a chosen strategy. The state CIO's ability to lead these discussions, and to influence the areas most within his or her control build the credibility and currency to influence enterprise decisions, to partner with the market, and ultimately to help drive a government wide agenda to improve service to citizens.

CONCLUSION

Perspective matters and different perspectives help us see and explain things in new and different ways. Stepping out of our "linear" Top Ten comfort zone and applying a new framework to one of NASCIO's highest profile bodies of work produces an interesting perspective. At the same time, a new operating model is emerging and will continue to mature but at its core is the concept that a state CIO's operational competence and resulting political capital requires a *broker of services* approach to service delivery. Such a model best positions the state CIO to collaborate with agencies, engage the market, lead enterprise-wide initiatives, lead inter-enterprise collaboratives, and influence a digital government agenda. The model must be flexible and allow for changes as it grows and matures. The top ten state CIO priorities act as leading indicators, helping to diagnose the current circumstances facing state government. They help to identify the necessary proactive course of action for meeting a parallel emerging demand. Thus, we have an emerging demand model running in parallel with an emerging operating model.

Inertial Forces
(Top Ten # 3,5,6,10)

The CIO Leadership Platform

3. Consolidation & Optimization

5. Budget

6. Shared Services

10. Agile Software Delivery

APPENDIX

Definitions

CIO as Broker: 1) A business manager or broker of services v. owner / operator of assets; 2) In a multi-user market place for IT services, the CIO Broker functions as an intermediary who arranges, organizes and orchestrates service fulfillment; 3) A market maker for the exchange of IT Services. Oversees the operation of the marketplace and warrants performance and compliance

Integrated Services Platform: The aggregation of delivery, management and relational activities that allow for effective service delivery, timely decisions, and continuous improvement. This includes the buyer's service management organization, the contracts, service providers, operational governance and relational governance.

Governance: "… leadership, organizational structures and processes to ensure that the organization's IT sustains and extends the organization's strategies and objectives." – IT Governance Institute[8]

CIO Operating System: The people, governance and solutions that enable a CIO to implement and drive the changes necessary to improve government services for citizens.

Managed Service: The practice of sourcing on a proactive basis management responsibilities and functions and a strategic method intended to improve operations and cut expenses. Under this subscription model, the client or customer is the entity that owns or has direct oversight of the organization or system being managed whereas the managed services provider (MSP) is the service provider delivering the managed services. The client and the MSP are bound by a contractual, service-level agreement that states the performance and quality metrics of their relationship.[9]

END NOTES

1. *State CIO Top Ten Policy and Technology Priorities for 2018, NASCIO, November 2017.* Available at https://www.nascio.org/Publications/ArtMID/485/ArticleID/582/State-CIO-Top-Ten-Policy-and-Technology-Priorities-for-2018

2. *State CIO as Broker: A New Operating Model, NASCIO, April, 2018.* Available at https://www.nascio.org/Publications/ArtMID/485/ArticleID/638/State-CIO-as-Broker-A-New-Model.

3. *State CIO as Broker: A New Operating Model, NASCIO, April, 2018.* Available at https://www.nascio.org/Publications/ArtMID/485/ArticleID/638/State-CIO-as-Broker-A-New-Model.

4. *State CIO as Broker: A New Operating Model, NASCIO, April, 2018.* Available at https://www.nascio.org/Publications/ArtMID/485/ArticleID/638/State-CIO-as-Broker-A-New-Model

5. *State CIO as Broker: A New Operating Model, NASCIO, April, 2018.* Available at https://www.nascio.org/Publications/ArtMID/485/ArticleID/638/State-CIO-as-Broker-A-New-Model

6. *Destination: Advancing Enterprise Portfolio Management – First Stop: Issues Management, NASCIO, December, 2013.*

7. The Six Interrogatives are Who, What, How, Where, When and Why. These interrogatives have been presented in multiple contexts in NASCIO publications and webinars. Examples include the *NASCIO Enterprise Architecture Toolkit V 3.0*; *Is State IT Working on the Right Things?* Available at https://www.nascio.org/Publications/ArtMID/485/ArticleID/120/Is-State-IT-Working-on-the-Right-Things; *Successful Metadata Management Strategy and Implementation for State Government* (webinar) available at https://www.nascio. org/Publications/ArtMID/485/ArticleID/586/Successful-Metadata-Management-Strategy-and-Implementation-for-State-Government-webinar. These interrogatives also provide the organizational scheme in the Zachman Framework. See https://www.zachman.com/about-the-zachman-framework.

8. https://www.isaca.org/Pages/Glossary.aspx?tid=1530&char=I

9. Adapted from Wikipedia https://en.wikipedia.org/wiki/Managed_services

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