Center for
Technology in Government

Creating Enhanced Enterprise Information Technology Governance for New York State:

A Set of Recommendations for Value-Generating Change

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Executive Summary

New levels of capability for coordinated action across organizational boundaries are required for government to realize the transformative potential of technology and cope with new economic imperatives. This report outlines five recommendations for change developed through a collaborative, consensus-driven process conducted by CTG on behalf of the New York State CIO community. These recommendations are targeted at building new capability for enterprise information technology investment decision making for New York State. The recommendations extend existing enterprise information technology (IT) governance capability by introducing a new level of transparency in decision making, increasing the opportunity for alignment of IT investments with New York State's strategic priorities, and fostering the development of policies and standards to guide those investments.

The recommendations are a result of a year long project organized to ensure active partnership from key actors in New York State government. They are grounded in the results of numerous workshops, meetings, and discussions focused on IT investment decision making held over the past year with stakeholders at all levels in the state. Multiple draft versions of the recommendations were reviewed with the New York State CIO, CIO/OFT senior staff, the CIO Council Action Team Co-chairs, the CTG Standing Committee, and key stakeholders in the New York State Legislature. The feedback from these various facilitated discussions was incorporated into the final report and recommendations.

These stakeholders identified five areas where enhanced enterprise IT governance capability would deliver new value for the state at all levels:

1. Reduce redundancy and establish prioritization mechanisms.
2. Reduce political directions and swings.
3. Establish standards.
4. Foster sharing of services and information through agency collaboration.
5. Align IT with the business of the state.

Throughout this process most participants agreed that while there are many strengths in the current IT governance structure, New York is not realizing the full potential of technology due to limitations in the state's current enterprise IT governance capability. The strengths of the current environment relate to existing coordination and knowledge sharing mechanisms:

1. The CIO Council is a valuable forum for coordinating efforts in areas of like interest and need, such as standards development and training.
2. The CIO Council is a venue for creating an organized voice among agency CIOs and CIO/OFT.
3. The emergence of grassroots informal coordination efforts has enabled new levels of cooperation across agency boundaries.
4. The CIO Council is an effective mechanism for information sharing and professional networking among CIOs.

While the strengths in the current environment are notable, the lack of support for the status quo was considered a consequence of a number of relatively specific issues related to the current IT governance structure:

Lack of clear roles and responsibilities. Many in the community stated this lack of clarity created difficulties in communication, consultation, and engagement efforts among the stakeholders.

Lack of clear and consistent engagement in policy making. Participants noted frustration both in terms of the level of openness of the policy making process on one hand, and the seeming lack of interest from the community in participating actively in policy making processes on the other.

Lack of an established process to openly and consistently examine agency versus enterprise as an implementation option. Throughout the project stakeholders expressed frustration about the lack of clarity surrounding the use of the term *enterprise*. They noted little consistent use of any process or guidance for making determinations in a clear and consistent way about what might be an *enterprise* effort and implications of such a designation.

No one involved in the project argued for the status quo, indicating that time is ripe for change, with the caveat that the changes embrace and build on the acknowledged strengths. The challenge New York State faces, together with many other governments and private sector organizations, is how IT governance is done best in a large, complex, and multi-unit, multi-level organization like state government.

The recommendations will collectively create the governance capability the state needs to realize these value propositions by outlining new structures related to three primary areas of decision making: IT investments, alignment of IT investments with the overall strategic plan of the state, and IT policies and standards. The recommendations assign responsibility for these three categories of decision-making among four entities: the Executive Enterprise Governance Board (EEGB), the Information Technology Investment Board (ITIB), the Office of the State Chief Information Officer (CIO/OFT), and the New York State Chief Information Officer Council (CIO Council).

The decision making processes for these three areas are linked on several levels through overlapping membership in the governance bodies. Information exchange among those involved in these decisions ensures transparency and checks and balances in the system.

The four recommended entities have specific roles and responsibilities with respect to the three decision making areas and their individual oversight responsibilities. The primary responsibility for each is described below, followed by the recommendations designed to create new value for the state through more coordinated, open, and transparent IT investment decision making at the enterprise level and throughout state government.

Executive Enterprise Governance Board (EEGB). This Board has responsibility for ensuring alignment of IT investments with overall state plans and priorities. The EEGB

carries out this responsibility through semi-annual reviews of the IT investment portfolio for its alignment with the overall state strategic plan.

Information Technology Investment Board (ITIB). This Board has responsibility for review of final decisions about state agency IT investment requests and related analyses submitted by CIO/OFT. In this role, the ITIB receives and responds to the investment analysis from CIO/OFT and assumes oversight responsibility for enterprise initiatives.

Office of the Chief Information Officer and the Office for Technology (CIO/OFT). Among its other duties, CIO/OFT is responsible for the development of information technology related policy and standards. CIO/OFT would carry out this responsibility through collaboration with the CIO Council as outlined in the recommendations.

The Chief Information Officer Council (CIO Council). The main responsibility of the CIO Council is to provide a mechanism for the New York State agency CIO community to advise and inform CIO/OFT on matters of information technology policy, management, and operations.

Recommendations

#1: Establish the *Executive Enterprise Governance Board* (EEGB) to ensure alignment of enterprise IT decision making with current state policies and strategic priorities.

#2: Establish an *Information Technology Investment Board* (ITIB).

#3: Adopt the CIO Council Charter as drafted by the CIO Council Action Team Co-Chairs.

#4: Establish a *Technology Services Advisory Council* (TSAC) to oversee the centralized IT services state agencies purchase from CIO/OFT.

#5: Establish a temporary *Enterprise IT Governance Implementation Committee* with responsibility to implement the new IT governance structures and design a process for periodic review and assessment of how the new structure enhances the transparency, efficiency, and coordination of the state's enterprise IT investment decisions.

Implementation Success Factors

1. Acknowledge and build upon the formal and informal collaboration efforts occurring throughout the state government IT community.
2. Recognize the critical role of the Executive Chamber in implementing and sustaining statewide IT governance.
3. Employ an incremental implementation strategy with respect to changes in enterprise IT governance.
4. Develop and distribute clear descriptions of the value an enterprise IT governance perspective would have for New York State as a whole.
5. Establish a regular review of the performance of the enhanced enterprise IT governance structure.

Chapter 1 - Laying the Foundation for Value-Generating Change in New York State

Most strategies for achieving the goals of cost reduction, increased transparency, and improved service quality require coordinated action across the boundaries of organizations. Making information technology decisions through coordinated action often requires new governance capability. In pursuit of these goals, officials in New York State began looking toward enhanced enterprise Information Technology (IT) governance. The result was the launch of a collaborative and consensus-driven project led by the Center for Technology in Government and organized to ensure active participation of key actors in New York State government. The participants included officials from the New York State Office of the Chief Information Officer and the New York State Office for Technology (CIO/OFT), control agencies such as the Division of the Budget and the Office of the State Comptroller, members of the New York State CIO Council, and other agency and local government CIOs. In addition, input was gathered from existing IT-related governance bodies already operating in the state.

This project produced a set of recommendations for creating value for the state through enhanced enterprise IT governance.[1] The recommendations were designed to incorporate the authority arrangements and decision making processes necessary to achieve strategic enterprise IT objectives, such as those laid out in *Plan 2010 – Going from Good to Great*,[2] in addition to further enabling agency and domain-level decision making. Through the Plan 2010, New York State agency CIOs are being empowered and expected to drive IT innovations, technology standardization, and interoperability in a collaborative environment to achieve integrated and cost-effective IT solutions. The Plan calls specifically for the creation of an "inclusive and collaborative decision-making process for future IT investments."[3] The recommendations and implementation success factors presented here support the realization of this goal.

This report is organized into four chapters with a set of appendices. Chapter one provides an introduction to the project and to enterprise IT governance, including the foundational concepts of governance. In addition, chapter one includes the public value framework, which was used in the project to ensure a focus on designing value-generating change. Chapter two presents key findings from the current practices review. Chapter three provides an overview of the evolution of enterprise IT governance in New York State, closing with a description of the current environment and some observations about the value and challenges in that environment. Chapter four includes the recommendations generated from the participants for enhancements to the current governance structure, along with some implementation guidance.

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[1] See Appendix A of this report for a list of the companion documents produced as a part of this project, which are available on the CTG web site at www.ctg.albany.edu.

[2] NYS CIO/OFT. *Plan 2010 - Going From Good To Great: CIO/OFT Strategic Roadmap*. (2008). Retrieved from http://www.oft.state.ny.us/News/FinalNYS2008GoalsandStrategies.pdf.

[3] NYS CIO/OFT, *Plan 2010*, 4.

Understanding IT Governance

The phrase *enterprise information technology governance* is frequently used to describe any effort by an organization to move away from unconnected, department-based IT management toward coordinated, enterprise-wide governance of IT resources. Many definitions of IT governance can be found in both the practitioner and academic literature. Most characterize IT governance as the formal description of how organizations make decisions about IT and the scope of that decision-making. For example, Sambamurthy and Zmud define IT Governance as the arrangement of authority patterns over IT activities across an organization.[4] One of the most widely cited definition is from Weill and Ross, who define IT governance as "specifying the decision rights and accountability framework to encourage desirable behavior in the use of IT."[5] Governance, in their view, answers these questions: What decisions must be made? Who should make these decisions? How will decisions be made? What is the process for monitoring results?"[6]

There are notable differences between the private and public sector concepts of enterprise and of IT governance. For example, the IT Governance Institute, which focuses mainly on the private sector, defines IT governance as follows:

> "Enterprise governance is a set of responsibilities and practices exercised by the board and executive management with the goal of providing strategic direction, ensuring that objectives are achieved, ascertaining that risks are managed appropriately and verifying that the enterprise's resources are used responsibly."[7]

Whereas the National Association of State Chief Information Officers (NASCIO), focusing on the public sector, defines the purpose of IT governance differently:

> "In state government, IT Governance is about ensuring that state government is effectively using information technology in all lines of business and leveraging capabilities across state government appropriately, to not only avoid unnecessary or redundant investments, but to enhance appropriate cross-boundary interoperability. The term 'appropriate' is used because in many cases state government has existing statutory constraints and bounding that can often limits as well as empowers proper governance."[8]

Managing goal attainment, assessing and minimizing risk, and providing oversight of IT investments are the responsibilities of those involved in IT governance. The challenge New York State faces, together with many other governments and private sector organizations, is how

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[4] Sambamurthy, V. & Zmud, R. W. "Arrangements for information technology governance: A theory of multiple contingencies." *MIS Quarterly*, 23 (1999): 261-290.
[5] Weill, P. & Ross, J. W. *IT governance: How top performers manage it decision rights for superior results* (Boston: Harvard Business School Press, 2004), 8.
[6] Weill & Ross, 10.
[7] IT Governance Institute. *Board Briefing on IT Governance, 2nd Edition* (2003), 6. Retrieved from http://www.itgi.org/.
[8] National Association of State Chief Information Officers (NASCIO). *IT Governance and Business Outcomes – A Shared Responsibility between IT and Business Leadership* (2008), 1. Retrieved from http://www.nascio.org/.

IT governance is done best in a large, complex, and multi-unit, multi-level organization like a state government. What is the enterprise? What are the implications and benefits of operating in an enterprise fashion? How can governance best be organized to operate in a newly coordinated way?

The Identification of Public Value

The potential of information technology for transforming state government is widely recognized. There are many available strategies for achieving these transformative effects, such as increased transparency and improved service quality. However, in most cases the strategies themselves require significant changes in the way governments and government leaders operate. Exploiting the potential of information technology for government transformation requires new forms of coordinated action across the boundaries of government agencies and with other partners outside the formal institutions of government. Making information technology decisions in this way, through coordinated action across the boundaries of multiple organizations, requires new resource allocation models and new capability for consensus building and collaboration.

In response to this increased attention toward goals that require coordinated action, New York State officials began to ask questions about current enterprise IT governance capabilities and to consider what additional value could be created for the state through enhancements to that capability. Identifying how to enhance public value through new governance arrangements was central to preparing this report. The project used a collaborative and consensus-driven process to seek descriptions of the desired results. Project participants were asked to identify value propositions for an enhanced enterprise IT governance structure and the characteristics of a governance design that would most likely achieve the objective of an "inclusive and collaborative decision-making process for future IT investments."[9] Three questions were posed to participants and stakeholders throughout this project; their responses provide the foundation for the recommendations.

1. What value must be created to make the enhancement of enterprise IT governance in New York State worthwhile?
2. What changes have to occur for that value to be created?
3. Does New York State have the capability to make and sustain the necessary changes?

We returned to these questions repeatedly throughout the project to ensure that our attention would remain on value creation. The value focus also helped maintain awareness of the technical and political context of IT governance and avoid simplistic generic strategies that did not take the New York State context into account.

The way we focus on value creation distinguished our approach from many of the existing efforts of IT governance development. The foundation of this approach rests in the public value framework developed by the Center for Technology in Government.[10] In this framework, public return on investment (ROI) is defined as a measure of the delivery of specific value to key

[9] NYS CIO/OFT, *Plan 2010*, 8.
[10] Center for Technology in Government. *Advancing Return on Investment Analysis for Government IT: A Public Value Framework* (Albany: CTG, 2007). Available at http://www.ctg.albany.edu/publications/reports/advancing_roi.

stakeholders and the improvement of the value of government as a public asset. The framework identifies five types of public value: financial, political, social, strategic, ideological, and stewardship. For each type of value, there are three possible value-generating mechanisms: increases in efficiency and/or effectiveness, enabling of otherwise infeasible but desirable activities, and intrinsic enhancements to the stakeholders, such as improved transparency.

The task of assessing value is challenging because not every aspect of public value is relevant for a particular governance structure or investment. Drawing on this framework, the project activities were organized to identify what value must be realized through enhanced enterprise IT governance to justify the investments necessary to create that enhanced capability. This project was designed to incorporate multiple stakeholder perspectives on the value proposition for enhanced enterprise IT governance for New York State government. For more detailed information about the project methodology, see Appendix B.

Table 1.
Mapping the Value of Enhanced Enterprise IT Governance

		Scope of Governance		
Recipient of Value		**Agency**	**Domain Level**	**Enterprise* Level**
	Agency	Better alignment with agency business, improved sharing of services within agency, simpler standardization.	Ability to benefit from the collaboration by allowing smaller agencies to have a voice in a larger forum.	Benefit from aggregate buys such as with e-licensing and PC contracts.
	Domain	Ability to coordinate resources.	Leverage skills and technology. Ability to create a "domain vision" that represents the whole versus individual silos.	Economies of scale.
	New York State Government	Statewide cost savings.	Better alignment within the policy domains of the State.	Multi-year planning and ability to weather the changes in political swings.
	Public	Customer centric focus of agency mission and vision.	Provides a streamlined perspective of a policy domain. Better customer service.	Overall cost savings and improved customer service.

**In this case the enterprise is New York State Government*

We asked participants on several occasions how new governance structures and capabilities could generate value for the state. The stakeholders identified four possible recipients of value: agencies, program domains (e.g., criminal justice), New York State government as an enterprise, and the public (see Table 1). They considered the mechanisms for creating that value as well. Recognizing that IT governance does not exist at just one level in the state, participants noted that many entities have created enterprise decision making capability and are delivering value to their stakeholders as a consequence. This capability for coordinated action within and across the

levels of state government was considered to be a great strength of the state. Participants noted that the greatest value from enhanced enterprise IT governance would accrue to individual agencies, program domains, and the state not by replacing multi-level IT governance, but by building on it and leveraging it toward a new level of coordinated action.

Drawing on the principles of the public value framework and the value map in Table 1, a set of value propositions for enhanced enterprise IT governance emerged. Participants in this process included CIOs and technology staff from state agencies, authorities, and local governments; results were also reviewed with other key stakeholders. Together the value propositions provide the rationale for pursuing enhanced enterprise IT governance in New York State and the basis for evaluating any enterprise IT governance strategy the state pursues.

1. *Reduce redundancy and establish prioritization mechanisms.* The diversity of agencies, organization structures, and levels in New York State government can result in redundancy and conflict over priorities. There is a need, therefore, for opportunities to collaborate in order to solve common business problems through IT solutions that complement, not dominate, the missions and goals of agencies. Prioritization is a difficult, but potentially powerful process for state government. Effective prioritization—at the agency, domain, or state level—provides a foundation for coordinated enterprise-level strategies and initiatives.

2. *Reduce political directions and swings.* Political change is a constant within any government. A well-designed governance structure cannot eradicate political swings, nor should it. An effective governance framework can provide a continuity plan to span political leadership changes and create consistency of vision for IT projects, which are often multi-year endeavors that span more than one administration.

3. *Establish standards.* Improved interoperability is an important goal for IT in New York State government. Technology and information standards are a foundation for the interagency collaboration necessary for interoperability to become an achievable goal for many of the state's departments and units. The IT community in New York State government is eager for guidance in the form of goal-oriented, not product-based, standards. Enhanced enterprise IT governance for New York State should set out clear rules for developing statewide standards, while still retaining the flexibility to handle exceptions to those rules.

4. *Foster sharing of services and information through agency collaboration.* With clear standards in place, New York State government has the potential for expanded shared services offerings and innovative collaborations. Although government is diverse, there are many shared goals and constituents that make agency collaboration a worthwhile and necessary goal. Enhanced enterprise IT governance for state and local government should provide a space for greater coordination and collaboration among agencies, authorities, and localities.

5. *Align IT with the business of the state government.* Alignment of IT with business needs is a commonly accepted goal of IT governance, yet it is very difficult to achieve. Programmatic needs drive government organizations. This alignment has potential value at the agency level and at the state level. Enhanced enterprise IT governance for state and local government should provide mechanisms for alignment between IT investments and programmatic priorities.

Chapter 2 - Enterprise IT Governance in Practice: A review of the States

IT governance is a sorting process operating in an environment that generates an ongoing stream of demands and opportunities for IT development and use. The governance process responds to these demands and opportunities by identifying the issues to be resolved and distributing them for decision making at different levels of government: individual agencies, federations of agencies acting in consort, or a central state-level organizational unit. The normal conduct of IT use in government requires this constant stream of decisions and responses to changes in the environment. Each decision or response requires resolving certain issues: Who should decide and act? By what means? According to what rules and criteria? With what resources? How will results be assessed? and so forth. The resulting decisions generate operational actions in the various levels, which in turn produce results that flow back into the environment in the form of services, benefits, policies, resources, or other products of government action. Figure 1 shows three levels of distribution of the issues, roughly reflecting the current governance process in New York and elsewhere. Similar representations could include different levels, but follow the same basic principles.

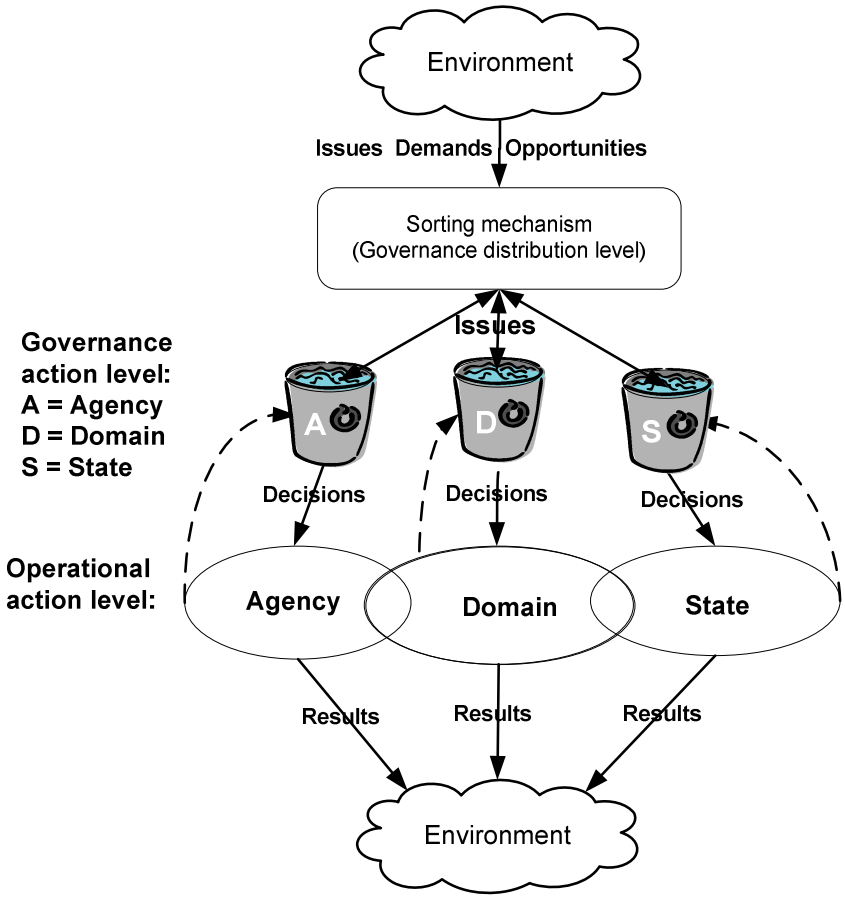

Figure 1 - Enterprise IT Governance as a Sorting Mechanism

This representation is useful in classifying and identifying the locations of the actions and decisions that make up a governance framework. How each organization implements governance, of course, varies to some degree; however, our review of the states supports Sambamurthy and Zmud's[11] claim that there are three prevalent ways of distributing authority over decision making for enterprise IT:

1. A *centralized IT governance structure* distributes authority and decision making power solely within a central body.
2. A *decentralized IT governance* structure distributes all authority and decision-making power to individual business units (or state agencies).
3. In a *federated IT governance structure,* authority over decision-making is distributed between a central body and individual organizational units (or a state-level IT office and state agency CIOs).

This chapter presents a summary of an environmental scan used to inform the recommendations regarding enhanced enterprise IT governance for New York State (See Appendix B for information regarding the approach and methodology used to conduct the environmental scan). A considerable diversity in patterns of authority, practice, and scope can be seen in the implementation of these three general IT governance structures.[12] Our summary presents trends in three components of state IT governance: patterns of authority, functions of the state-level IT office, and coordination mechanisms. Each component is listed below with illustrative examples from the states. The summary is followed by enterprise IT governance design advice offered by CIOs and IT officials from the eleven states who participated in the interviews for this project.

Patterns of Authority

All of the thirteen states in our structural profiles have created a state-level CIO and IT office; however, the scope, roles, and responsibilities granted to the state-level CIO, the IT office, and the agency CIOs differ from state to state. The position of the state-level CIO within the state hierarchy varies, but this placement is independent of their scope. For example, the state CIO may be a member of the governor's cabinet, may be in charge of his or her own cabinet-level agency, or may be in charge of a unit or division for IT as part of another executive agency (most commonly a department of administration). An exception to this is Kansas, which has multiple state-level CIOs in the executive, legislative, and judicial branches.

Of the thirteen states in our structural review, two states—Michigan and Maine—characterized themselves as having a centralized IT governance structure. In both instances, the state-level CIO was the head of the state-level IT office; however, the position of the state-level CIO and the state IT office within the larger state hierarchy was different. Michigan's state-level CIO has a cabinet-level position and the state IT office is a stand-alone agency. The Michigan approach differs from Maine, where the state CIO reports to an agency head rather than to a cabinet-level official or governor. However, both states use some form of agency liaison to coordinate between the state-level IT office and the agencies. In comparison with states that have federated IT governance, both make minimal use of external boards, councils, or committees to involve other stakeholders.

Eleven of the thirteen states use a federated governance structure (see Table 2). Within the eleven states, differences in the relationships among the state-level CIO, the state-level IT offices, and

[11] Sambamurthy & Zmud, 261-290.
[12] Sambamurthy & Zmud, 261-290.

individual agency CIOs emerged. California had a state-level CIO at the cabinet level, but the State CIO did not oversee the state-level IT services office, which was embedded in another agency.[13] As stated previously, Kansas has multiple state-level CIO type positions that span the executive, legislative, and judicial branches. Like California, the other nine states have one state-level CIO, but he or she has responsibility for both policy and service functions. All eleven states use a variety of external committees, boards, and councils to aid coordination and collaboration between stakeholders.

Functions of the State-Level IT Office

Generally, there are two main functions performed by the state-level IT office: (1) policy and planning and (2) provision of IT services. In our review, the majority of state-level IT offices, regardless of centralized or federated structure, performed both functions. From the state profiles, only two states, California and Florida, had established separate offices for those functions; when reviewing the additional states included in the interviews, Oregon was the only state that also separated these two functions. In those three states, the State CIO was in charge of policy and planning only and this function was completed in cooperation with agency-level CIOs and IT offices, which also provide their own policy, planning, and IT infrastructure. As of this publication, both California and Florida have made changes to consolidate these two functions into a single state-level IT office led by the State CIO.

The functions performed by the state-level and agency-level IT offices vary. In our review, we concentrated on the state-level IT offices. Those fulfilling the policy and planning functions ranged in scope to include preparing state IT strategic plans, focusing on process improvement and consolidation, or setting enterprise architecture and security standards or statewide IT procurement guidelines. Many of the states create strategic plans that are updated annually. In Kansas, however, the state-level IT office works on a state-level strategic plan that provides a long-term directive (five-year span) for the state as a whole. This long-term directive in turn informs agencies' three-year IT plans, which are updated annually. From these plans, agencies create individual project plans that are submitted for budget consideration, which feed back into the state strategic IT plan. Similarly, Virginia creates its strategic plan to cover a four-year timeframe.

In contrast, the two states with centralized IT governance have a very different strategic planning and budgeting process in which all IT planning, IT operations and IT policy creation is subsumed under the state-level IT office. The state-level IT offices solicit agency feedback about their IT needs as they pertain to agency-specific business goals. Essentially, the state IT strategic plan encompasses IT goals for the entire state.

Similarly, the services provided by state-level IT offices vary in scope. Most state-level IT offices are generally responsible for areas such as service management, technical services, infrastructure and operations, shared services, program management, applications development, or systems development. Georgia and Virginia are two states that use public-private partnerships to deliver IT infrastructure services to state agencies.

Finally, many state-level IT offices have created units or departments for enterprise-wide functions. The most common entities are enterprise project management units or enterprise infrastructure units

[13] As of May 2009, California initiated the Governor's IT Reorganization Plan (GRP), which consolidates the Office of the CIO (OCIO), Office of Information Security and Privacy Protection (Office of Information Security), Department of Technology Services, and Department of General Services' Telecommunications Division into the OCIO. Any references to California in this report rely upon the IT governance framework in place prior to May 2009.

whose goal is to promote state-wide uniform project management practices or provide a common state-wide infrastructure to all state agencies.

Table 2. Federated Approaches*

State	State level CIO	IT Offices	Coordination Mechanisms
CA	▪ One State CIO in charge of stand-alone office in charge of the policy function ▪ State CIO Cabinet level	▪ State-level policy and planning are provided by the Office of the CIO ▪ State-level IT services are provided by the State and Customer Service Agency, which is governed by the Technology Services Board ▪ Agencies maintain IT offices with agency CIOs	▪ Enterprise Leadership Council ▪ Information Technology Council ▪ Board of High Profile Projects ▪ Technology Service Board
FL	▪ One State CIO in charge of state-level IT office	▪ State-level IT office is part of the Executive Office of the Governor ▪ Agencies maintain IT offices with agency CIOs	▪ CIO Council ▪ Technology Review Workgroup
GA	▪ One State CIO in charge of state-level IT office ▪ State CIO is appointed and removed by the GTA Board of Directors	▪ State-level IT office is a stand alone office, but is governed by the GTA Board of Directors ▪ Agencies maintain IT offices with agency CIOs	▪ GTA Board of Directors ▪ Technology Empowerment Fund Steering Committee ▪ Critical Projects Review Panel ▪ PeopleSoft Program Governance Council ▪ CIO Council
KS	Multiple state-level CIO Positions ▪ Executive Chief IT Officer ▪ Legislative Chief IT Officer ▪ Judicial Chief IT Officer ▪ Chief IT Architect	▪ State-level IT office is part of Department of Administration and supports the executive, legislative, and judicial Chief IT Officers and the Chief IT Architect ▪ Agencies maintain IT offices with agency CIOs	▪ Information Technology Advisory Board ▪ IT Architecture Review Board ▪ IT Executive Council ▪ GIS Board ▪ Information Network of Kansas Board ▪ Joint Legislative Committee on Technology
KY	▪ One State CIO in charge of state-level IT office	▪ State-level IT office is part of Department of Finance and Administration ▪ Agencies maintain IT offices with agency CIOs	▪ Commonwealth Technology Council ▪ Enterprise Architecture and Standards Committee ▪ Information Technology Advisory Council ▪ Geospatial Board ▪ Wireless Interoperability Executive Committee

Table 2. Federated Approaches*			
State	**State level CIO**	**IT Offices**	**Coordination Mechanisms**
MN	▪ One State CIO in charge of state-level IT office ▪ State CIO Cabinet level	▪ State-level IT office is a stand alone office ▪ Agencies maintain IT offices with agency CIOs	▪ Technology Business Advisory Council ▪ Commissioner's Technology Advisory Board ▪ Agency CIO Advisory Council ▪ Information Security Council
NC	▪ One State CIO in charge of state-level IT office	▪ State-level IT office is a stand alone office ▪ Agencies maintain IT offices with agency CIOs	▪ IT Advisory Board ▪ Technical and Systems Support Groups
NY	▪ One State CIO in charge of state-level IT office	▪ State-level IT office is stand alone ▪ Agencies maintain IT offices with agency CIOs	▪ Agency CIO Council ▪ Economic Security and Human Services Advisory Board (CoP) ▪ Integrated Justice Advisory Board ▪ Financial Management System
PA	▪ One State CIO in charge of state-level IT office	▪ State-level IT office is part of Office of Administration ▪ Agencies maintain IT offices with agency CIOs	▪ Enterprise IT Governance Board ▪ Public Safety; Health & Human Services Environmental (CoPs) ▪ Enterprise IT Governance Committee
TX	▪ One State CTO in charge of state-level IT office	▪ State-level IT office is a stand alone office and is governed by the DIR Board of Directors ▪ Agencies maintain IT offices with agency CIOs	▪ DIR Board of Directors ▪ Texas Building and Procurement Commission Contract Advisory Team ▪ Telecommunications Planning and Oversight Council ▪ Quality Assurance Team
VA	▪ One State CIO in charge of state-level IT office	▪ State-level IT office is stand alone office ▪ Agencies maintain IT offices with agency CIOs	▪ Center for Innovative Technology ▪ Information Technology Investment Board ▪ Council on Technology Services
*State data is based on the governance frameworks in operation as of January 2009.			

Coordination mechanisms

A coordination mechanism is defined as "any administrative tool for achieving integration among different units within an organization."[14] Within the states reviewed, there are a range of mechanisms that integrate and coordinate diverse stakeholder views. These coordination mechanisms all exhibit structural, functional, and social integration capability.[15] Some states use only one or two types of mechanisms, while others use a variety of interrelated coordination mechanisms. The participants involved in these coordination mechanisms were drawn from four main sources: (1) control agencies such as administration, budget, or general services; (2) the private sector; (3) agency CIOs, and (4) the general public. The variation can be seen in (1) where they were positioned within the state hierarchy (level), (2) authority granted and by what means (i.e., legislative, executive order, etc.), (3) scope, roles, responsibilities, and (4) membership. Four coordination mechanisms were consistently found across the states:

- *External committees, councils, and boards* outside the control of the state-level IT office. The state-level CIO or agency CIOs may have roles in these bodies either as a chair or participant. These coordinating mechanisms are generally created for a host of different purposes with different levels, authority, scope, and responsibilities.

- *Communities of Practice (CoP)* in which people with like needs come together to solve problems relevant to the community. Some CoPs have formalized their own IT governance activities and some have been recognized as part of the larger state IT governance picture. However, the majority appear to be informally created and thus not necessarily identified in official documents.

- *Enterprise oriented offices, divisions, or units within the state-level IT office* have a sole responsibility to look across the state for opportunities where individual agencies or the state as a whole can benefit from an enterprise approach to IT.

- *Agency liaison staff* are used to elicit the needs from the state agencies and gather feedback from them. The state-level IT offices create agency service units with liaison relationships to each state agency or a cluster of agencies perceived as being part of the same domain.

States with federated IT governance structures tend to have more coordination mechanisms than states with centralized structures. That observation aside, the nature of these coordination mechanisms and their role overall IT governance of the state varies greatly. California's Technology Services Board (CTSB) is an advisory board made up of agency level CIOs and is assigned the responsibility of providing feedback to the Department of Technology Services (DTS), which is responsible for the provision of enterprise IT services across the state. In contrast, Minnesota created a Technology Business Council that brings together CIOs, CEOs, and COOs from various private enterprises in order to advise the state-level CIO on new technology trends. A third variation is Virginia's Information Technology Investment Board (ITIB), made up of eight citizens and two ex officio members, the Auditor of Public Accounts from the legislative branch and the Secretary of Technology. The Board's responsibility is to review, prioritize, and recommend enterprise-wide investments to the governor.

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[14] Martinez, J. I. & Jarillo, J. C. "The evolution of research on coordination mechanisms in multinational research." *Journal of International Business Studies* 20(3), p. 489-514, p.490.

[15] Peterson, R., R. Callaghan, & P. Ribbers. (2000). Information Technology Governance by Design: Investigating Hybrid Configurations and Integration Mechanisms. In proceedings of the twenty first international conference on Information systems (Brisbane, Queensland, Australia). Association for Information Systems. p. 435-452.

Pennsylvania provides an example where multiple coordination mechanisms work together. The Pennsylvania Enterprise Governance Board is made up of the state-level CIO, secretaries of Administration, Budget, and General Services, and the Governor's Chief of Staff. The Board has the power to approve IT plans and direct IT investments of individual agencies; it also formally recognizes the Communities of Practice (CoPs). In 2002, Pennsylvania adopted CoPs as an integral part of the Pennsylvania's IT/business integration strategy. The activities of Pennsylvania's CoPs are important to its larger picture of IT governance at the state-level. The CoPs bring together a cluster of agencies with similar missions and needs to promote integrated technology solutions. Although most states do have community of practice groups, usually centered around GIS or public safety, the commonwealth of Pennsylvania is the only one to formalize this concept and make it visible in its description of state-level IT governance strategy.

Specific statewide or enterprise offices can be found in both centralized and federated structures. However, in centralized structures the enterprise offices or agency liaisons are likely to have a larger role. For example, Michigan created a Bureau of Agency Services to ensure that agency perspective and needs are adequately represented within a centralized structure. The office is responsible for assigning liaison staff (officially called Agency Information Officers) who are responsible for individual agencies that are large in scope, such as the Department of Health or Transportation, or a cluster of agencies considered to be part of one domain.

Enterprise IT Governance Design Advice

The following five statements summarize advice repeated throughout the interviews with the state CIOs.[16] While the states we talked with were at different stages of implementation for their own enterprise IT governance strategies, there was general agreement on a set of key ideas about IT governance efforts.

Focus on Return on Investment (ROI). The movement toward enterprise IT governance is also being driven by the desire to maximize the organization's return on IT investment. Along with budgetary pressures, public organizations are also dealing with increased need for interagency information sharing, an ever increasing volume of data that needs to be successfully managed, and the need for cross boundary collaboration for complex, multi-organizational problems.

Don't look for a silver bullet. In their efforts to build enterprise IT governance, public managers are drawing on the experiences of other public and private sector organizations undergoing similar transformations. Throughout this process, most are finding that no one framework or strategy can simply be adopted for their state. More and more states are focused on tailoring IT governance to their own needs.

Recognize how IT is embedded in the institutions of government. The governance of IT at the state level is deeply embedded in the policies, problems, and structures of government. IT governance operates alongside, and in concert with, other forms of governance (e.g., financial governance). The trend toward formalizing IT governance at the state level is a relatively new expression of organizing public bureaucratic work and overlaps with the widespread adoption of

[16] For further details about the results from the interviews, see *Enterprise IT Governance in State Government: Lessons Learned from the States*, available at http://www.ctg.albany.edu/publications/reports .

other practices aimed at improving government, such as privatization, performance measurement, decentralization, or outsourcing.[17]

The CIO is central to enterprise IT governance. State-level CIOs are held accountable for IT at a state level and are typically charged with improving service delivery, achieving efficiencies, and effectively using IT and information to achieve the mission of state government.[18] Thus, improving IT governance was listed as a top priority for 2009 by the National Association of State Chief Information Officers in their annual survey.[19]

Incrementalism is key to successful implementation. Most states spoke very clearly about the need for an incremental implementation strategy. The states that faced the most challenges or pitfalls were the ones that attempted a total and immediate revamping of their current structure. The strategy should also recognize that the needs for and demands on an IT governance structure will remain in flux. Therefore adjustments and review of IT governance should be a permanent part of the framework.

[17] Considine, M, and J. M. Lewis "Bureaucracy, Network, or Enterprise? Comparing Models of Governance in Australia, Britain, the Netherlands, and New Zealand." *Public Administration Review* 63, 2: (2003), 131-140.
[18] General Services Administration (GSA). The Role of the Government Chief Information Officer. Intergovernmental Solutions Newsletter. Vol. 21: (2008). Retrieved from www.gsa.gov/intergovnewsletter
[19] National Association of State Chief Information Officers (NASCIO). *State CIO Priorities 2009*: (2008). Retrieved from http://www.nascio.org/publications/documents/NASCIO-CIOPriorities2008-2009.pdf.

Chapter 3 - The Evolution of Enterprise IT Governance in New York State

While enterprise IT governance in New York State is not new, it is evolving. Over the past ten years New York, like many other states, initiated its governance structure from a policy perspective to guide information technology decisions. This chapter provides an overview of the evolution of New York's enterprise IT governance to its current state, where it is continuing to evolve (See Table 3 for a list of the current IT governance components).

In 1996, Governor Pataki created the state's first body with responsibility to develop policy to guide information technology decisions across state government: the Governor's Task Force on Information Resource Management (IRM). [20] The Task Force was established to facilitate a more streamlined process for doing business with and within New York State. The policies generated during the early years of this task force focused on the development of an IT strategic plan, setting standards, and identifying critical initiatives that would move the state forward in terms of information use. Another responsibility of the Governor's Task Force on IRM was to coordinate acquisitions among agencies to ensure compatibility and the best value. Members of the Task Force were also asked to recommend initiatives that would take full advantage of the technological opportunities available at the time and result in streamlining services and reducing costs.

In 1997, the Governor's Task Force on IRM became the Office for Technology (OFT) through Technology Law §101 – §107.[21] In section §104 of that statute, the New York State Legislature called for an Advisory Council for Technology to guide the director of OFT. The purpose of this body, as defined in the law, was to review and comment on all rules and regulations created by OFT; provide guidance and support to the director of OFT in the development of any statewide plan for further development and improvement of the state's technology acquisitions; and recommend surveys and reports to be completed by the director to carry out all of the objectives and purposes of the article. To date, this Advisory Council has never been convened.

[20] NYS Technology Policy 96-1 https://www.oft.state.ny.us/arcPolicy/policy/tp_961.htm
[21] NYS Technology Law 101 – 107 http://www.oft.state.ny.us/Policy/OFTEnablingLeg.htm

Table 3 Components of IT Governance in New York State		
Law	**Body**	**Text from Law or Document**
Technology Policy 96-1	Governor's Task Force on Information Resource Management.	The Governor's Task Force on Information Resource Management (IRM) has been convened. Membership includes executives from the Departments of Social Services, Motor Vehicles, Environmental Conservation, Correctional Services, Health, Labor, Taxation and Finance, the Office of Mental Retardation and Developmental Disabilities and the Division of Criminal Justice Services. Ex-officio members from the Department of Law, Office of the State Comptroller, Division of Budget and Office of General Services are also represented. James G. Natoli chairs the Task Force. Goals • The goal of the Task Force is to design and implement a statewide policy for the management of information which makes doing business with and within the State easier, faster and less costly. Specifically, the Task Force will: Develop a strategic plan which outlines where the State's IRM capabilities should be in several years, and set the standards and identify the critical initiatives for getting there; • Establish statewide policies and practices for all new enabling technologies and to secure major cross-agency linkages; • Coordinate IRM acquisitions among agencies to ensure government-wide compatibility and to leverage the best value in the market; • Recommend savings initiatives that take full advantage of technological opportunities to streamline services and make them more user-friendly. Improve the Request for Proposal process to guarantee projects come in on time and on budget, make full use of performance contracts, and reflect creative cost-sharing and funding vehicles; Review/Discuss potential government applications with leading public and private experts, and test new systems development projects on a prototype basis; and, Address a host of related issues such as developing a statewide inventory of surplus equipment, identifying best practices among agencies for possible statewide application, and designing new ways to secure and protect information.
Technology Law 102	Office of Technology	The Office for Technology is hereby created within the executive department to have and exercise the functions, powers and duties provided by the provisions of this article and any other provision of law. The head of the office shall be the director of the office, who shall serve as the chief technology officer for the state of New York and shall be designated as management confidential in the noncompetitive class in accordance with the civil service law. The director shall be the chief executive officer of and in sole charge of the administration of the office. The director shall be entitled to receive reimbursement for expenses actually and necessarily incurred by him or her in the performance of his or her duties.

Table 3 Components of IT Governance in New York State		
Law	**Body**	**Text from Law or Document**
Technology Law 104	Advisory Council for Technology	There shall be within the office, an advisory council for technology. The director of the office shall serve as chair of the council. The council shall be composed of a minimum of nine information resource management directors or their equivalent appointed by the governor. The governor's appointments shall be selected from state agencies. In addition, one shall be appointed upon recommendation of the temporary president of the senate and one shall be appointed upon the recommendation of the speaker of the assembly. The members of the council shall receive no compensation for their services, but shall be allowed their actual and necessary expenses incurred in the performance of their duties
Executive Order 117	Office of the CIO	Establishment of the Office of the Chief Information Officer of the state of NY, whose responsibilities include: 1. Overseeing and supervising the management and operations of Office for Technology 2. Overseeing, directing, and coordinating the establishment of information technology policies, protocols, and standards for State Government, including hardware, software, security and business re-engineering; 3. Overseeing and coordinating the development, acquisition, deployment and management of information technology resources for State government; 4. Developing strategies to improve the State workforce's ability to employ needed information technologies, and overseeing and coordinating the implementation of such strategies; 5. Coordinating and facilitating information sharing between and among state government, local government, other states, the federal government and institutions of higher learning to promote the use and deployment of information technology that will improve the delivery of government services; and 6. Working with State government, local governments, the federal government, institutions of higher learning and private enterprises to further the State Technology Strategic.
CIO/OFT Roadmap 2010		Establish an Executive IT Strategic Council to provide strategic oversight for effective plan execution

In 2002, Governor Pataki appointed the first chief information officer for New York State and created the Office of the CIO (OCIO) through Executive Order #117.[22] The executive order establishes the office and established the authority of the CIO drawing on Technology Law §101 – §107. In November of 2002, the state's first CIO convened the first New York State CIO Council. The CIO Council was created to provide a framework for IT governance for NYS as described in Gartner's first person case study, *Enterprise IT Governance: The New York State Approach*.[23] The charge of the CIO

[22] Executive Order 117 http://www.oft.state.ny.us/oft/execord117.htm

[23] Dillon, J.T. & Mittleman, M.R. *Enterprise IT Governance: The New York State Approach* (Garner: 2004). Retrieved from https://www.oft.state.ny.us/arcPolicy/policy/P05-004/caseStudy.htm (Link was inactive on August 24 2009).

Council was to "establish and maintain a new information culture of enterprise collaboration."[24] The CIO Council was comprised of representatives from 85 executive branch agencies and authorities and seven local governments. Each executive branch agency was invited to identify a representative to the CIO Council. The Council included seven standing committees: Leadership, Technology, Security, Human Resources, Fiscal/Procurement, Strategic Planning, and Intergovernmental Communications. All committee membership was voluntary, with the exception of the Leadership Committee, and each standing committee had two chairs, chosen by the OCIO. The Gartner case study articulated eight Critical Success Factors to guide the Council in meeting their charge. These eight success factors outline an approach that seems to reflect an understanding of the importance of engaging executives and control agencies in the strategic planning process, engaging members of the CIO Council in the policy making process, and providing oversight of complex enterprise initiatives as needed.

Eight Success Factors to Guide the First CIO Council

1. Gain unstinting support from senior administration officials.
2. Work with control agencies and member organizations to create a statewide strategic technology plan.
3. Charge CIO Council Committee co-chairs with implementing the strategic plan.
4. Derive committee membership entirely from CIO Council volunteers.
5. Take policies and approaches, as they are developed, to the general CIO Council for discussion and endorsement.
6. Accept the simple majority for approval, as an unanimous agreement is not required.
7. Convene an ad hoc meeting of the CIO Council Leadership Committee when reality checks are required for particularly complex enterprise issues.
8. Accomplish day-to-day governance through the efforts of the CIO Council peer reviews operating under the authority of the OCIO.

These success factors framed the state's initial thinking about enterprise IT Governance and the various entities who would be involved. The State CIO's 2004 *New York State Information Technology Strategic Plan* outlined the creation of an Information Technology Investment Board that would have as members the State CIO, representatives from the Division of Budget, the Office for Technology, the Office of General Services, the Department of Civil Service, and the Office of Cyber Security and Critical Infrastructure Coordination. This Board was charged with reviewing strategic IT procurements and related resource allocations from an enterprise perspective to ensure consistency with the state's strategic plan. The Board was to identify collaborative opportunities and assist agencies in using their resources in the most efficient manner. The Board, as it is described in the 2004 CIO/OFT Strategic Plan, "would have the authority to halt IT procurements or practices that [were] not consistent with the New York State Information Technology Strategic Plan."[25] However, despite the 2004 announcement of the Board, our research produced no evidence that this body ever formally convened or became operational.

In 2007, the State CIO combined the Office of the CIO and the Office for Technology into a single organization with the State CIO also acting as the director of OFT. This merger was accomplished through Policy Bulletin #NYS-P08-002.[26] The combined office, now referred to as the New York State Office of the Chief Information Officer and the New York State Office for Technology (CIO/OFT), continues to pursue the original missions of OFT and OCIO.

[24] Dillon & Mittleman, 1.
[25] NYS Office of the CIO. *New York State Information Strategic Plan*
[26] NYS CIO/OFT Policy Number NYS-P08-002 http://www.oft.state.ny.us/Policy/NYS-P08-002.pdf

In addition, the new State CIO made changes to the organization of the CIO Council: the title, scope, and membership of the standing committees all changed. The standing committees are now referred to as Action Teams. The original seven standing committee names have been changed to Enterprise Architecture and Technical Standards; Enterprise Strategic Planning and Implementation; Process Improvements and Performance Management; Procurement, Sourcing and Vendor Relationship; Security and Risk Management; Strategic Alliances; and Workforce Development. The current management structure of the CIO Council changed from a separate subcommittee to a group made up of the Deputy CIO for Enterprise Strategy and Governance Services for CIO/OFT and the Action Team Co-Chairs. The content areas of the Action Teams are very similar to the past standing committees, but the purpose and autonomy of the teams differ from that of the previous committees. While the standing committees had acted as advisory groups for the OCIO, the Action Teams have become more task-oriented bodies. Each Action Team still has two co-chairs assigned by the State CIO, but an OFT staff member is also assigned to each Action Team to act as a liaison with CIO/OFT.

In 2008, *Plan 2010 - Going From Good To Great: CIO/OFT Strategic Roadmap* outlined the creation of an Executive IT Strategic Council as way to provide strategic oversight for effective plan execution.[27] This Council was to be made up of agency executives in order to gather input about the agencies' business needs in terms of IT. To date this Council has not been convened.

As of July 2009, membership of the CIO Council is very similar to the Council created in 2002. The current CIO Council convenes quarterly and has 88 CIOs as members, with 77 CIOs from state agencies and authorities and 11 local government CIOs. According to its members, the overall scope of the Council has shifted slightly to serve more as an information sharing platform for CIO/OFT, rather than as a forum for state and local CIOs to act as advisory partners to the State CIO.

The emergence of cross-boundary coordinating mechanisms

New York State's enterprise IT governance arrangements have evolved from the initial Governor's Task Force for IRM to the current structure. Communication of basic information and sharing of resources has progressed from an agency-centric focus to a more enterprise, service-oriented focus. For example, CIO/OFT provides several enterprise-wide services through the CIO/OFT Data Center and through the CIO/OFT Training Academy. Outside CIO/OFT and the current CIO Council, there are no enterprise IT entities that provide the kind of oversight, advisory, or information sharing capabilities seen in other states.

While this limited scope of formal oversight bodies for IT governance results in challenges for New York State government in developing the kind of collaborative advisory relationships participants in the project perceived as ideal, many participants in the project noted examples of agency and domain-level enterprise governance structures currently providing high value to the state. For example, several agencies interested in building effective collaborations with other agencies have published their IT governance policies and procedures. The Workers' Compensation Board and the Department of Environmental Conservation are two such agencies. Each is using their IT governance structure internally to ensure IT investments are aligned with desired business outcomes and to support coordinated action with other agencies.

[27] NYS CIO/OFT, *Plan 2010*, 4.

In addition to agency-level governance initiatives, there are two functioning domain-specific enterprise governance structures functioning in New York State. The first, the Integrated Justice Advisory Board, was created in 2004 by the state's Director of Criminal Justice. The objective was to bring together CIOs from the five executive branch agencies related public safety so that they could look at criminal justice from an enterprise approach. The second domain specific governance structure was instituted in 2005-2006 to oversee the development of a new Financial Management System (FMS) for the State of New York. The overall FMS project plan called for an Executive Board to be created along with a Joint Governance Board and a Joint Coordinating Committee. This governance structure is unique in that it brings together three organizations that have two separately elected constitutional officers overseeing them. The Department of Budget and the Office for Technology report directly to the Governor, while the Office of the State Comptroller reports to the Comptroller, a separately elected constitutional officer.

NYS Workers' Compensation Board

The purpose of the Workers' Compensation Board (WCB) Governance Process is to provide a framework to ensure that investments have economic value and that the WCB's technology environment is rational, sound, and continuously aligned with achieving desired business outcomes. Through the adoption of a formal selection and prioritization process, the WCB will be able to effectively apply its resources to initiatives that are most closely aligned with its strategic vision. This will streamline the annual planning process and provide direct input into the budget cycle.

Informal additions to IT governance are emerging as well. In 2007 an ad hoc governance structure, the Economic Securities and Human Services Advisory Board (ESHSAB), was created by a group of agency CIOs who were interested in fostering a collaborative environment for the creation of computer applications that supported like business processes. This ad hoc governance structure outlined its scope, roles, and responsibilities and delineated how decisions would be made within the group. This group currently consists of CIOs from seven state agencies.

NYS Financial Management System

The 2005-06 Executive Budget announced "a long-term project to transform the State's financial management practices and implement a statewide FMS. This new system, to be integrated across all agencies concurrently with business process and organizational reforms, will enhance program and financial accountability and improve the State's analytical, performance evaluation and reporting capabilities."

Source: http://www.nyfms.state.ny.us/KeyInformation/key_information.htm

Observations about the NYS Experience: Challenges and Value Creation

Throughout the project, participants were asked to identify the challenges to producing value for the state through the current enterprise IT governance structure and to describe the value that the current structure creates. Participants described a wide range of challenges to value creation related to clarity of governance roles and responsibilities, collaboration, and coordination, among others. We first present the challenges noted by the project participants and then the value they saw in the current IT governance structure. These observations helped inform the recommendations.

Key Challenges

Lack of clarity of roles and responsibilities. Participants identified a range of concerns related to, and in some cases created by, a lack of role clarity. These concerns ranged from the lack of a formal statement of authority to a lack of confidence that advice and recommendations sought by CIO/OFT are actually considered in the decision making process. Participants also expressed frustration about the lack of clarity about who is responsible for determining the appropriate venue for resolving issues: the enterprise level, domain level, or agency level. This general lack of clarity makes it difficult to resolve issues of enterprise boundaries and responsibility for sorting issues and strategy questions to the appropriate venue.

CIO Council coordination challenges. Participants voiced concerns about the coordination of the CIO Council itself, noting the lack of clear communication channels between members and CIO/OFT. As a result, the Council has limited ability to set goals for its own activities and effectively advocate on behalf of the CIOs. The relationship between the Council and CIO/OFT, idealized as a partnership, is less so in practice due to what the participants describe as one-way communication from CIO/OFT to Council members. Current characteristics of the CIO Council contribute to these communication problems, such as the group size of 88 CIOs, which makes the Council meetings unsuitable as effective forums for deliberation and decision making. One participant noted that the meetings do not provide a forum for collaborative decision making, but are rather a "mailing list."

Action Team Structure. Participants observed that the CIO Council Action Teams (ATs) were initially formed to be discussion forums for a specific topic. They were intended to provide a venue for the kind of engagement with issues not possible during full CIO Council meetings. However, the ATs have become less of a discussion body for making recommendations to CIO/OFT regarding IT policy and operations and more of a "staff model" for CIO/OFT. The original intent of the CIO Council was to provide in-depth comment and advice on strategic direction and policy proposals. It was also intended to develop collaborations and coordination of investment decisions, not as a research arm of the CIO/OFT. A review of the current charters of the ATs lays out agendas that are generally task oriented, rather than discussion oriented. The task responsibilities for the ATs have caused a strain on members who are attempting to design and develop programs without access to staff to carry out the related tasks. A further consequence of this structure is that AT members have limited time to devote to engaging in discussions on enterprise strategic direction and policy development due to their focus on task completion.

Lack of an opportunity for real and consistent local government participation. Local governments, participants noted, are not always involved early enough in policy and investment discussions that affect them directly. They feel that their voice is not always heard and therefore they have to address unintended consequences that result from decisions being made from a purely state-level perspective.

Missed opportunity for information sharing as a trigger for coordinated action. Participants expressed concerns about missed opportunities for coordinated action across agency-level initiatives due to a lack of information regarding those proposed initiatives. In particular they expressed frustration about the lack of access to the Annual Technology Planning (ATP) data sent to the CIO/OFT from the agencies. Ideally, ATP data should support the enterprise planning priorities of both CIO/OFT and the agencies.

Lack of clear and consistent engagement in policy setting and IT investment decision making. Participants throughout the project noted frustration in terms of the level of openness and engagement related to state-level policy setting and IT investment decision making.

Lack of opportunity to openly and consistently address issues concerning the meaning and use of the term enterprise. There is a lack of clarity and agreement about the differences between various meanings of this term. Enterprise has been used inconsistently as a noun referring to the state government as a whole, an individual department, or a collection of related agencies. Enterprise is also used as an adjective to characterize various policies or investments relevant to or affecting the state as a whole. It is often used as an adjective without clear understanding of what characteristics make a policy or investment an enterprise decision. Throughout the project, stakeholders expressed frustration about this lack of clarity. They noted little consistent use of any process or guidance from any policy documents about the conditions under which something might be considered an enterprise effort and what the consequence of such a designation might be.

Key Value Created

Networking. The one value that resonated throughout discussions with the project participants was the value of social networking opportunities that the CIO Council provided agency CIOs. New York Participants noted that the current CIO Council provides a forum for networking and information sharing opportunities. Several CIOs told stories about how the meeting had allowed them to meet colleagues, explore common interests, and explore opportunities for collaboration. Participants noted that the meetings provide an environment for ad-hoc groups to form around areas of common interest, such as the Economic Securities and Human Services Advisory Board. Although the CIO Council is not the catalyst for initiatives such as this, it does provide a venue for agency CIOs to build the social capital necessary for sharing of such ideas. CIO Council meetings are also a forum for general announcements and briefings from CIO/OFT. Participants described two particular benefits of Council meetings: networking opportunities and resulting coordinated efforts.

Creating an organized voice. Participants recognized the value of using the CIO Council to collectively respond to challenges in the environment. The organized effort to address workforce issues and the negotiation of aggregate personal computer (PC) purchases are two examples. A professional organization that can act as an acknowledged voice for CIOs was recognized as unique in the state government.

Enhancing training opportunities. Participants noted the particular value of the CIO Council as a vehicle for creating economies of scale through training opportunities for multiple stakeholders. The CIO Council Workforce Action Team was able to recommend specific training to the CIO/OFT Training Academy, which then enhanced the value of that training.

Chapter 4 - Recommendations for an Enhanced Enterprise Information Technology Governance Structure

Enterprise IT governance in a state government context is best seen as an evolving process, responding to new technological capabilities, organizational practices, and dynamic political environments. Designing an effective structure for state enterprise IT governance is not a matter of taking an established framework and applying it out of the box, but rather requires careful examination of the specific issues and characteristics of a given context. As discussed in the previous chapter, the states interviewed as part of the environmental scan all stated that "*there was no silver bullet*" and "*no one established framework worked in their individual context*." Many used pre-existing frameworks as a starting point to start the change process, but few found an exact fit.

Currently New York has a federated authority arrangement to support decisions about IT investments and the development of IT policies and standards. In our current practices review of 18 states, we found a federated authority arrangement to be the most commonly used. Specifically, 15 of the states chose a federated arrangement where authority and power over IT decision-making and IT management was shared across a number of entities, including the central IT office and state agencies. In many states reviewed, however, a number of additional bodies were in place and had additional authorities not currently active in New York State.

In New York's current federated authority arrangement CIO/OFT has some control over agency IT plans through the Annual Technology Plan (ATP) and Plan to Procure (PTP) processes, while agencies retain control of their overall IT budgets and operations. While our structure involves additional new responsibilities for oversight and alignment, we do not recommend eliminating the current ATP and PTP processes.

The recommendations contained in this report lay out a structure (see Figure 3) that builds on the foundations established in Technology Law §101-107 (see Table 3). Previous legislation, the subsequent Executive Order #117, and the CIO/OFT *Plan 2010: Strategic Roadmap* together created structures that appear to be moving New York toward new enterprise IT governance capability. The recommendations extend this earlier work by creating new clarity about the relationships among these entities. The recommendations also introduce a new level of transparency and checks and balances in the system. This transparency and oversight is realized to a great degree through overlapping membership in the governance framework. The degree to which the potential benefits of this structure will be realized depends not only on the quality of the recommendations themselves, but also on how they are carried out and sustained over time.

While the make-up of the governance structure was informed by experiences of other states and research on IT governance, the primary drivers behind the design were the value propositions and information gathered through interviews and workshops with New York State stakeholders. The recommendations will collectively create the governance capability the state needs to realize these value propositions by outlining new structures related to three primary areas of decision making: 1) IT investments, 2) ensuring alignment of IT investments with the overall strategic plan of the state, and 3) setting policies and standards.

Four entities form the foundation of the recommendations for enhanced IT governance for New York State: the Executive Enterprise Governance Board (EEGB), the Information Technology Investment

Board (ITIB), the Office of the Chief Information Officer and the Office for Technology (CIO/OFT), and the Chief Information Officer Council (CIO Council) (see Figure 3). These entities are intertwined on several levels and therefore a certain degree of overlap of membership and information exchange is required to ensure transparency and to provide for checks and balances within the system. These four entities have specific roles and responsibilities with respect to the three decision making areas and their oversight responsibilities (see Figure 2.) A detailed description of each entity is provided below, along with a statement of their primary responsibility. Following a summary of the relationship between the governance framework and the original five value propositions, we present recommendations that, if implemented, will collectively create new value for the state through more coordinated and transparent IT investment decision making at the enterprise level and throughout state government.

Enhanced Enterprise IT Governance for New York State

- Executive Enterprise Governance Board
- Information Technology Investment Board
- Office of the State Chief Information Officer
- Chief Information Officer Council

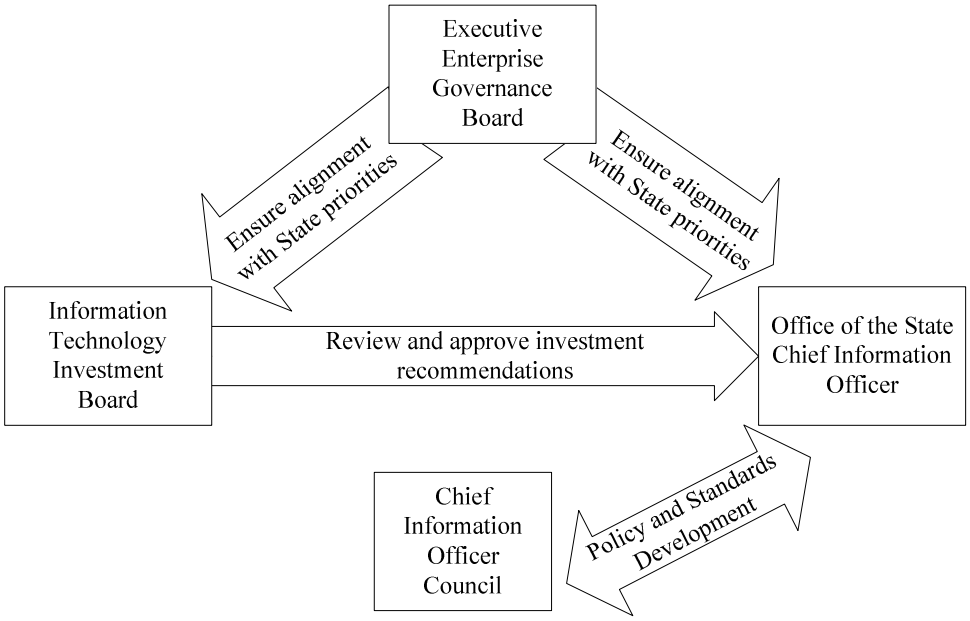


Figure 2 – Enterprise Governance Relationships

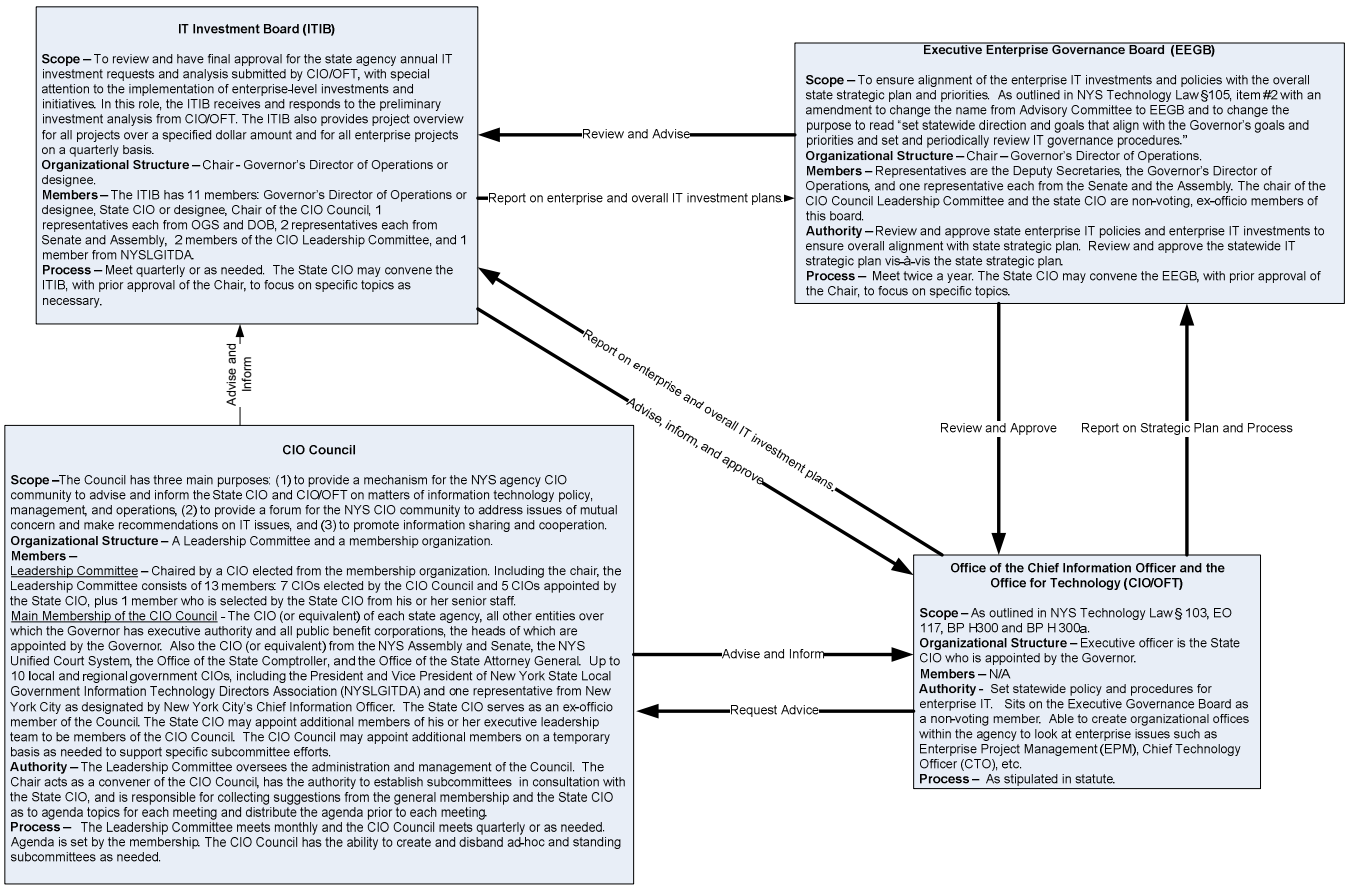


Figure 3 - An Enhanced Enterprise IT Governance Structure

The Information Technology Investment Board (ITIB) – The primary role of this body is decision making about IT investments. Its main job is to review and approve the state agency annual IT investment requests and supporting analysis submitted by CIO/OFT, with special attention to the implementation of enterprise-level investment and initiatives. In this role, the ITIB receives and responds to the investment analysis from CIO/OFT. Twice each year, CIO/OFT develops this analysis using the ATPs and PTPs from the agencies and any CIO/OFT initiatives, all based on state priorities and in consultation with the CIO Council. CIO/OFT prepares a summary analysis of the agency-level plans and procurement requests and a more detailed analysis of enterprise-level investment initiatives. The analysis should identify the rationale and expected benefits of the enterprise-level initiatives along with opportunities for combining initiatives, employing standards, or other enterprise-level coordinating actions. CIO/OFT submits the overall IT investment portfolio, analysis, and recommendations to the ITIB for review and approval.

The primary responsibility of the ITIB is to review and make final decisions about state agency IT investment requests and analysis submitted to the ITIB by CIO/OFT, with special attention to the identification and deployment of enterprise-level investment and initiatives. In this role, the ITIB receives and responds to the investment analysis from the CIO/OFT and assumes oversight responsibility for enterprise initiatives.

Executive Enterprise Governance Board (EEGB) – The primary role of this body is to provide oversight for alignment of IT investments with state plans and priorities. Following the CIO/OFT and

ITIB reviews described above, the resulting portfolio is presented biannually to the EEGB for review in relation to overall state strategic plans. This biannual review is also an opportunity for mid-course correction of current IT investment projects in response to possible changes in state goals and strategies. Once these review steps are completed, the investment requests and initiatives can move into the normal planning and procurement processes.

The primary responsibility of the EEGB is to conduct semi-annual reviews of the IT investment portfolio in terms of alignment with the overall state strategic plan.

Office of the Chief Information Officer and the Office for Technology (CIO/OFT) – Leading the development of statewide policies and standards is the responsibility of the CIO/OFT. IT policy and standards are the more technical aspects of IT governance. As such, they involve more direct participation of the CIO community with CIO/OFT and other decision bodies. Policy and standards deliberations are envisioned as the responsibility of CIO/OFT, working with the advice and participation of the CIO Council and other possible stakeholders. The results of these policy and standards deliberations can then be reflected in the decisions on investment and alignment.

As envisioned, the structure purposely employs several levels of checks and balances of the investment decision making authority of CIO/OFT and the ITIB. This model ensures input from the CIO community and information sharing regarding proposed projects by combining CIO/OFT's primary responsibility for the review and subsequent analysis of the ATP and PTP processes with a consultative relationship with the CIO Council Leadership Committee. Similarly, by requiring a biannual presentation of the IT investment portfolio to the EEGB, the model ensures that IT investment decisions made by the ITIB continue to conform to the overall state strategic plan.

The CIO Council and the CIO Council Leadership Committee – The Council and Leadership Committee share responsibility for ensuring agency CIO input is incorporated into the governance process. More than a professional organization, the Council is envisioned as a research arm of the CIO/OFT. This function provides the open communication and context required for ensuring the agencies have the opportunity to address issues of mutual concern. The authority of this body is not in conflict with the current statutory authority of the State CIO or the agencies. It is an advisory body acting as a resource for the CIO/OFT regarding enterprise IT policies and standards.

The main responsibility of the CIO Council is to provide a mechanism for the New York State agency CIO community to advise and inform CIO/OFT on matters of information technology policy, management, and operations.

The proposed enhanced enterprise IT governance structure was recognized by stakeholders as delivering value to the state in the following ways:

> **Reduce redundancy and establish prioritization mechanism.** In a federated IT governance structure, authority over decision-making is distributed between CIO/OFT and individual agencies. This structure allows for the coordination of priorities with the overall state's interest being addressed. The recommended governance framework provides the oversight and coordination for enterprise initiatives, allowing agencies to maintain autonomy within their own business functions.
>
> **Reduce political directions and swings.** While there is no way to completely isolate IT decision making from the impact of changes in the political sphere, a federated approach does

allow for some continuity of government in the event a change to the central IT office does occur.

Establish standards. Within this structure, standards can be set at the agency, domain, and enterprise levels since all interests are represented.

Foster sharing of services and information through agency collaboration. The CIO Council traditionally provided the forum for agency networking, collaboration and knowledge sharing. In the new model, the CIO Council continues to provide this forum; however, the ITIB allows for an even greater opportunity of agency collaboration and enterprise initiatives through the review of the investment plans and the cross organizational composition of the board.

Align IT with business of the state. The shared authority approach will create new capability to ensure alignment with the business of the state by enabling a review of the IT investment strategies and the strategic plan on a regular basis to ensure alignment.

The realization of these value propositions is explored more fully in the recommendations that follow.

Recommendation #1

Establish the Executive Enterprise Governance Board as described to ensure alignment of enterprise IT decision making with current state policies and strategic priorities.

Rationale and description. The Executive Enterprise Governance Body (EEGB) fills one of the gaps in the current governance structure by providing a robust mechanism for ensuring alignment of IT investments with state plans and priorities. This body provides the forum for examining alignment of the proposed IT investment portfolio managed by the CIO/OFT with the state's plans and priorities.

Scope. Responsibility for ensuring alignment of IT investment plans with state plans and priorities rests with the EEGB. The IT investment portfolio, as approved by the Information Technology Investment Board, is presented twice annually to the EEGB for review in relation to overall state strategic plans. This biannual review is also an opportunity for mid-course correction for IT investment projects should the overall state goals and strategies change mid-year. Once these review steps are completed, the investment requests and initiatives can move into the normal planning and procurement processes.

The EEGB is also tasked with periodically reviewing the existing governance procedures and proposing changes if conditions deem it necessary. Similarly, their review and approval of the state IT strategic plan should be directly linked to the overall state strategic plan and the Governor's goals and priorities.

Authority. The EEGB has approval authority over the plans and policies presented by CIO/OFT and investment decisions presented by ITIB.

Membership. The EEGB is comprised of Deputy Secretaries or their equivalent, the Governor's Director of Operations and one representative each from the state Senate and Assembly. The State CIO and the chair of the CIO Council Leadership Committee are ex officio, non-voting members of this body. (See Appendix C for more detail on the membership of this body.)

Related responsibilities. The Governor's Director of Operations serves as chair of the EEGB to encourage engagement from the Executive Chamber. The State CIO may request additional meetings of the EEGB, subject to approval of the Chair.

Current practice. Several other states have established an oversight body of high level cabinet members. For example, California has an *Enterprise Leadership Council* with members from the governor's cabinet, which also includes representatives from the State Treasury and Controller. As in the proposed EEGB, this body is charged with providing guidance and support for enterprise-wide projects. Likewise, the state of Minnesota established the *Commissioners' Technology Advisory Board* comprised of cabinet level commissioners and chaired by the State CIO to provide review, consultation, and feedback to the State CIO on enterprise IT strategies and policies.

The Value Proposition for Recommendation # 1

Establish the Executive Enterprise Governance Board as described to ensure alignment of enterprise IT decision making with current state policies and strategic priorities.

Value Proposition	***Description***
Reduce redundancy and establish prioritization mechanisms	An executive governance board whose main focus is to ensure alignment of enterprise IT decision making will bring value to the state by providing an enterprise perspective. This board will assist the overall state government by providing oversight to minimize duplication of systems across agencies and duplication of effort in developing, maintaining, and sustaining new systems.
Establish standards	By recommending an approval authority for the EEGB to set a given standard, the model enhances a connection between general statewide priorities and IT strategy of the state. The approval by the deputy secretaries and the Director of State Operations lends the proposed policy or standard a greater degree of overt executive support, which in turn enhances cooperation by agency CIOs.
Align IT with business of the state	The primary purpose of the EEGB is ensuring close alignment between state strategic plans and goals and statewide IT policy. By drawing on members from the governor's cabinet and the Director of State Operations, the EEGB is designed to promote open communication and collaboration between the IT side and the business side of the state.

Recommendation # 2

Establish an Information Technology Investment Board as described in the model.

Rationale and description. The Board will assist agencies and CIO/OFT in maximizing the value of IT investments and initiatives. The Board will also provide transparency and openness to a process that has previously been more closed. This board will allow the data generated through the ATP/PTP processes to inform decision-making about enterprise-wide opportunities, which will ultimately lead to better informed enterprise IT policies.

This structure will also provide continuity of governance beyond executive administrations, a concern that was raised by many key stakeholders throughout the project.

Scope. To review with approval authority the *proposed annual IT investment plan* prepared and submitted by CIO/OFT, with special attention to the implementation of enterprise-level investment and initiatives. In this role the ITIB receives and responds to the preliminary investment analysis from CIO/OFT. In addition, all projects over a specified dollar amount and all enterprise projects are to be presented to the ITIB and reviewed on a quarterly basis.

Authority. This body will have approval authority for the overall IT investment plans and procurement. It will have the authority to designate what projects are to be considered from an enterprise or domain perspective and potentially consolidated. This board will also have the authority to prioritize proposed projects based on the state's strategic goals and priorities and will review on a quarterly basis all enterprise projects currently underway and over a specified dollar amount. It will also serve as an advisory body to the State CIO on proposed enterprise related initiatives related to existing state priorities and strategic directions.

The Director of Operations or designee would serve as the chair of this body and convene meetings on a quarterly basis or as necessary to focus on a specific topic. The State CIO would have the responsibility to report to this body on proposed enterprise wide initiatives, policies, and standards.

Members. The ITIB is comprised of the State CIO or their designee, the chair of the CIO Council Leadership Committee, one each representative from OGS and DOB, two representatives each from the Senate and Assembly, two members of the CIO Leadership Committee, one representative from the New York State Local Government Information Technology Directors Association (NYSLGITDA), and two members of the CIO/OFT staff selected by the State CIO. (See Appendix B for more detail on the membership of this body.)

Related responsibilities. Review criteria will be developed by the ITIB and will include criterion such as capability to deliver the expected benefit and availability of resources necessary to implement and manage an enterprise initiative.

The Value Proposition for Recommendation # 2 Establish an Information Technology Investment Board as described in the model.	
Value Proposition	***Description***
Reduce redundancy and establish prioritization mechanisms	The ITIB promotes reduction of redundancy in two ways. First, it increases information sharing and enhances transparency by involving additional actors in review of agency ATPs. The ITIB thus enhances the state's ability to identify potential duplication of efforts and identify opportunities for increased interagency cooperation. Second, by involving the leadership of the CIO Council and giving the CIO community a greater level of representation, the ITIB enhances the buy-in from agency stakeholders by involving them in the early planning and implementation process. By being more engaged in the planning stages of collaborative efforts, state agency CIOs will be more likely to either support such efforts or at least not feel as if their concerns have been ignored.
Reduce political directions and swings	The ITIB structure has the capacity to mitigate the effects of political swings by providing consistency and continuity in terms of operational issues for an incoming State CIO. Because of its composition, the ITIB membership is unlikely to be strongly affected by changes in administration.
Establish standards	By involving the ITIB in the standard setting process, the state can avoid unforeseen complications or unintended consequences in the implementation of those standards. In addition, the ITIB can collect intelligence on issues of an operational and management nature.
Foster sharing of services and information through agency collaboration	Similar to the reduction of redundancy, the ITIB promotes sharing of services and information through agency collaboration by bringing a representative from the CIO Council together with representatives from the control agencies and by involving them in the review of agency ATPs.

Recommendation # 3

Adopt the CIO Council Charter as drafted by the CIO Council Action Team Co-Chairs.

Rationale and description. The potential of the current CIO Council as part of an enterprise governance structure is hampered by a lack of clarity regarding its relative role and responsibilities vis-à-vis CIO/OFT in policy setting and IT decision making. This lack of clarity is particularly troublesome in relation to decisions on identification, selection, management, evaluation, and sustainability of enterprise initiatives. The reestablishment of the CIO Council as outlined in the recently developed charter clarifies these roles and responsibilities in a more specific way.

Scope. According to the draft charter, the CIO Council has three main purposes:

1) provide a mechanism for the New York State agency CIO community to advise and inform the NY State CIO and CIO/OFT on matters of information technology policy, management, and operations,
2) provide a forum for the NYS CIO community to address issues of mutual concern and make recommendations on IT issues, and
3) promote information sharing and cooperation.

Authority. The CIO Council is an advisory body to the State CIO on matters of information technology policy, management, and operations. It provides a forum for the CIOs to address issues of mutual concern, make recommendations on IT issues, share information, and promote cooperation among the CIO Community. It has the authority to set the CIO Council agenda, form advisory committees, and conduct elections for the positions on the leadership committee, including chair of the Council.

The authority of this body does not conflict with the current statutory authority of the State CIO or the agencies. It is an advisory group to provide advice and act as a resource for the State CIO concerning issues related to enterprise IT policies and standards.

Membership. The CIO (or equivalent) of each state agency, all other entities over which the Governor has executive authority, and all public benefit corporations, the heads of which are appointed by the Governor. Also invited to participate are the CIOs (or equivalent) from the following: the NYS Assembly and Senate; the Unified Court System; the Office of the State Comptroller, the Office of the State Attorney General. Representation from local and regional government CIOs (up to 10 members) will include the President and Vice President of New York State Local Government Information Technology Directors Association (NYSLGITDA) and one representative from New York City as designated by New York City's CIO. The State CIO serves as an ex-officio member of the Council. The State CIO may appoint additional members of his or her executive leadership team to be members of the CIO Council. The CIO Council may appoint additional members on a temporary basis as needed to support specific subcommittee efforts.

The chair of the CIO Council Leadership Committee is a member of the ITIB and the EEGB to ensure communication with the agency CIO community. This cross-membership provides an environment for openness, transparency, and cross-organizational information sharing.

Process. The leadership committee has been designed to address a number of the inherent challenges associated with the size of the CIO Council as a discussion forum and to facilitate more effective communication and cooperation with CIO/OFT. The Leadership Committee consists of thirteen

members, seven elected by the CIO Council and five appointed by the State CIO, and a chair who is elected from the general membership.

In adherence to the commitment to shared authority, the Council is established under the authority of the State CIO and the State CIO has the responsibility to call the quarterly meetings. The Leadership Committee has the responsibility to set the council agenda, to review requests to set up workgroups from the council membership and to submit official recommendations from the Council to the State CIO.

The subcommittees will report on their work at the quarterly meetings of the CIO Council and the Leadership Committee meetings when so requested. Once an official recommendation has been submitted to the Leadership Committee, and where appropriate reviewed by the full membership, a report is forwarded to the CIO/OFT for a response.

Related Responsibilities. Subcommittees of the CIO Council can be set up based on a request from a member of the Council and with a review by the Leadership Committee. The State CIO can also request the formation of subcommittees to address specific issues.

Current Practice. The state of California has a similar body, the *IT Council Executive Committee*, which provides oversight and leadership to their IT Council. The Council provides general guidance to the state CIO on proposed IT policies. The smaller body was established to facilitate more effective communication and collaboration between the State CIO and the agency CIOs.

The Value Proposition for Recommendation # 3 Adopt the CIO Council Charter as drafted by the CIO Council Action Team Co-Chairs.	
Value Proposition	***Description***
Reduce redundancy and establish prioritization mechanisms	The redesigned CIO Council has an increased focus on fostering agency collaboration and information sharing. By increasing information sharing and enhancing transparency, the CIO Council enhances the state's ability to identify potential duplication of efforts and identify opportunities for increased interagency cooperation. Second, by enhancing the level of involvement of the CIO community in the planning efforts and by giving them a stronger voice via the CIO Council Leadership Committee, the new Council will contribute to increasing the level of cooperativeness among agency CIOs and with the CIO/OFT.
Reduce political directions and swings	The CIO Council does not directly prevent political swings but can serve as a source of institutional knowledge for an incoming State CIO. The CIO Council Leadership Committee is designed to span terms of elected officials and thus should be able to inform an incoming State CIO of ongoing activities and provide insight on any potential changes in strategic direction.
Establish standards	The State CIO retains full authority over standards and statewide IT policies, but the state standards should be investigated in collaboration with a special subcommittee of the CIO Council. Further, by proposing an official recommendation and answer process between the CIO Council and the Office of the State CIO, the model enhances and formalizes exchange of information among these two entities.
Foster sharing of services and information through agency collaboration	The redesigned CIO Council has as part of its core mission providing a forum for the New York State CIO community to address issues of mutual concern and promote information sharing and cooperation. The redesigned CIO Council should set its own agenda and have a leadership group responsible for enhancing information sharing opportunities. These changes will allow the redesigned CIO Council to provide a more effective venue for agency collaboration. To promote collaboration, there should be a mechanism within the CIO Council that allows for crafting a shared vision. This mechanism will provide the means to create a more cohesive, statewide IT community with common goals. If these processes were developed within this framework, opportunities for shared or consolidated services could be identified.

Recommendation #4

Establish a Technology Services Advisory Council to oversee the centralized IT services state agencies purchase from CIO/OFT.

Rationale and description. The Technology Services Advisory Council (TSAC) fills one of the gaps in the current environment, as identified by New York State technology stakeholders, by providing a customer feedback mechanism regarding technology services provided by CIO/OFT.

Scope. The primary role of the TSAC is to provide a forum for CIO/OFT customers to engage in planning and decision making on the quality and cost of centralized technology services. TSAC is charged with reviewing current practices and collaborating with CIO/OFT to identify strategies for maximizing the value of the services provided to agencies.

Authority. The TSAC has the authority to make recommendations regarding the centralized technology services provided to agencies by CIO/OFT.

Membership. The TSAC is comprised of eleven members: ten executive agency CIOs who are customers of the New York State Data Center, who are selected by the Governor's Director of Operations, and the Deputy Secretary for IT Delivery Services, who acts as chair.

Process. TSAC will meet on quarterly basis and is responsible for devising an appropriate strategy for collecting feedback from CIO/OFT customers.

Current practice. Several other states have established an oversight body for monitoring the quality and cost of IT services provided by central IT office. For example, until recently the state of California had a Technology Services Board that governed the Department of Technology Services. Their primary role was to provide governance and guidance to the Department of Technology Services (DTS) to ensure appropriate oversight and customer orientation.

Recommendation #5

Establish a temporary *Enterprise IT Governance Implementation Committee* with the responsibility to implement the new IT governance structures.

Rationale and description. The Committee is tasked with the implementation of the proposed governance structure. The Committee provides the forum to ensure these recommendations are enacted as outlined and provides accountability to the key stakeholders by making the governance development process transparent.

Scope. The Committee is responsible for implementing the proposed governance capabilities and advises the EEGB and the New York State IT community on progress toward implementation, issues limiting implementation, and recommendations for moving forward. The Committee is a temporary body and would be disbanded one year after the New York State IT community formally establishes the chosen governance structure.

Authority. This Committee has the authority to invite and convene the necessary individuals to create the governance structure. This body reports its progress directly to the Governor's Director of Operations on a monthly basis.

Members. The membership of this committee is comprised of the Director of Operations, who serves as chair, the State CIO, the Action Team co-chairs of the existing CIO Council, and one member each from the Senate and the Assembly.

Implementation Success Factors

Five implementation success factors emerged from the environmental scan and from conversations with the New York State stakeholders and key experts within the field. These are presented below to complement the recommendations and to support the goal of generating value for the state from successful implementation of an enhanced enterprise IT governance structure.

Implementation Success Factor # 1

Acknowledge and build upon the formal and informal collaboration efforts occurring throughout the state government IT community.

Within New York State, there are many formal and informal collaborative efforts currently in place. As with the other states reviewed, these bodies perform a very important function outside the obvious components of an IT governance structure. These coordinating mechanisms, as described earlier, contribute to deliberation on policy, overseeing planning, creating standards, or coordinating stakeholders. These coordination mechanisms are both internal and external to the state IT office and exhibit structural, functional, and social integration capability.

While we believe that all four types of coordination mechanisms as described above are crucial to effective management and operations of IT in the state, our recommendations extend only to external committees and councils.

Implementation Success Factor # 2

Recognize the critical role of the Executive Chamber in implementing and sustaining

Practitioner and academic research about IT governance consistently emphasizes the importance of executive sponsorship and champions in both the public and private sectors. Our interviews with the states support the idea that executive support is crucial for effective IT governance implementation. Within New York State, the need for executive support is particularly salient given the nature of the federated bureaucratic structures within the state.

Implementation Success Factor # 3

Formally adopt an incremental approach to the implementation strategy with respect to changes in enterprise IT governance. Adopt a continuous learning view.

Current research has shown that one of the reasons IT initiatives fail is because organizations try to do too much, too soon. It is better to have a vision and then an incremental approach to implementation. Many states have started with core components of their governance structure and then slowly started adding additional components as they made progress.

Implementation Success Factor # 4

Articulate the value an enterprise IT governance perspective would have for New York State as a whole.

It is important that the value derived from an enterprise IT governance framework is understood not only within the IT sector, but also from the programmatic sectors. Within the workshops, participants spoke about how the individual government IT managers have pre-established management paradigms that guides their actions. However, an enterprise perspective requires a different way of managing an agency's IT resources. The participants felt that executive leadership and influence, coupled with a clear expression of the value in enterprise IT governance, would mitigate resistance to changing management styles and ultimately support the state's overall objective of providing greater services to the citizens of New York.

Implementation Success Factor # 5

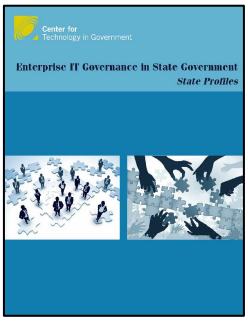
Establish a regular review of the performance of the enhanced enterprise IT governance structure.

Because of the dynamic nature of the political and economic environment in state government, as well as changing needs of the state, IT governance structures in all states reviewed have undergone relatively frequent changes. As one of the State CIOs said, "It seems that every six years, you have to overhaul your current system." Establishing an evaluation mechanism for the new IT governance structure and regular periodic review will ensure that New York State's IT governance structures will remain effective for the state's needs in the years to come.

Appendices

A. Companion Documents
B. Project Approach and Methodology
C. Project Participants
D. NYS IT Governance Framework
E. NYS Enterprise IT Governance: Membership
F. NYS CIO Council Draft Charter

Appendix A. Companion Documents



Enterprise IT Governance in State Government: State Profiles

Jana Hrdinová, Natalie Helbig, and Anna Raup-Kounovsky
August 2009

Over the last fifteen years, the role of IT in state government has grown in prominence, which has drawn attention to how IT is governed at the state level. This report reviews enterprise IT governance arrangements in thirteen states (California, Florida, Georgia, Kansas, Kentucky, Maine, Michigan, Minnesota, New York, North Carolina, Pennsylvania, Texas, and Virginia). This resource provides one of the most comprehensive reviews of public sector IT governance currently available.

http://www.ctg.albany.edu/publications/reports/itgov_profiles

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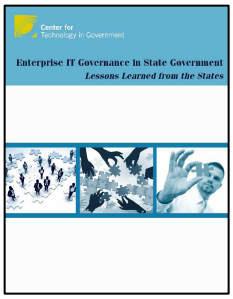


Enterprise IT Governance in State Government: Lessons Learned from the States.
Donna S. Canestraro, Jana Hrdinová, and Anna Raup-Kounovsky

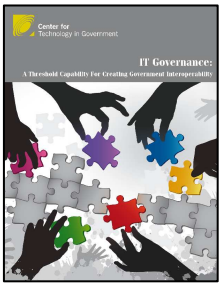
Governments, at all levels, continue to face pressure to contain costs and demonstrate performance. Traditionally, IT operations evolved based on agency missions and existing ways of making decisions about IT. However, as programmatic boundaries become less fixed and technologies change, new ways of organizing across organizations and program areas are needed to realize the value from information resources and IT investments. This briefing paper presents lessons learned drawn from information collected from a total of 18 states as well as from the work with New York State on the Creating an Enterprise IT Governance Framework for New York State Government project.

http://www.ctg.albany.edu/publications/reports

Couture Governance - Like high fashion design, IT governance gets its value from a custom fit.
Theresa A. Pardo and Jana Hrdinová,
Public CIO; June 2009

Reduce costs, increase transparency and improve service quality -- these goals are on the minds of CIOs across the country. Consolidation, centralization and integration are recognized strategies for achieving these goals, but as CIOs are learning, these strategies require coordinated action across organizations' boundaries. Making IT decisions in this way, through coordinated action, often requires new IT governance capability.

http://www.govtech.com/pcio/638032



IT Governance: A Threshold Capability for Creating Government Interoperability.
Theresa A. Pardo and G. Brian Burke
A CTG White Paper;

Interoperability in the governmental context enables partner organizations to share information and other resources as necessary to serve the needs of citizens and society. Creating this interoperability requires government leaders to take responsibility for improving the capabilities of government agencies to effectively partner with other agencies and governments as well as the private sector, non-profit groups, and research institutions. This paper will outline the key elements, as well as the context characteristics of greatest interest in governance design and implementation decision making. The paper will present a set of strategies for identifying and assessing current governance capabilities and using that assessment data to guide new government investments in capability development.

http://www.ctg.albany.edu/publications/reports

Academic Papers, Presentations, and Journal Articles

Senem Güney and Anthony M. Cresswell. (Forthcoming). *IT Governance as Organizing: Playing the Game*. Paper to be presented at the Hawaii International Conference on System Sciences (HICSS-43), Kauai, Hawaii.

Anna Raup-Kounovsky, Jana Hrdinová, Donna S. Canestraro, and Theresa A. Pardo. (Forthcoming). *Public Sector IT Governance: From Frameworks to Action*. Poster to be presented at the 3rd International Conference on Theory and Practice of Electronic Governance (ICEGOV2009), Bogota, Colombia.

Natalie Helbig, Jana Hrdinová, and Donna S. Canestraro. (2009). *Enterprise IT governance at the state level: An emerging picture*. Proceedings of the 10th Annual International Conference on Digital Government Research (dg.o 2009).

Appendix B. Project Approach and Methodology

Project Approach

In partnership with the NYS CIO Council and the NYS Office of the Chief Information Officer and Office for Technology (CIO/OFT), the Center for Technology in Government initiated a project to generate a set of recommendations for enterprise IT governance for NYS government. The recommendations in this report relate to the components of the enhanced enterprise IT governance structure and the implementation of those components, which were collaboratively developed with key stakeholders within NYS, including state and local government CIOs, state control agencies, and CIO/OFT. The project drew on insights gained within NYS, as well as IT governance experiences nationwide, lessons from the private sector, and frameworks developed in the academic literature. The project was divided into 4 phases:

1. **Project kickoff and agreement on the project goals and plan.** CTG launched the project at the joint session of the New York State CIO Council quarterly meeting and the 2008 spring conference of the New York State Local Government IT Director's Association.
2. **Current practice research.** In this phase, CTG conducted an environmental scan of enterprise IT governance practices in the public and private sector in NYS and nationwide. The scan of current practices describes the processes used to create enterprise IT governance structures and the capabilities necessary to make such endeavor successful.
3. **Needs Assessment and Framework Drafting.** NYS government currently employs some elements of enterprise-level IT governance. This phase elicited information as to the best methods to enhance these existing practices in order to achieve the desired value connected with state-wide enterprise IT governance. The assessment also explored the extent of changes needed to realize the desired value.
4. **Draft Model.** The last phase tested the feasibility and effectiveness of the necessary changes related to state planning and procurement processes if the new structure is to be effective.

Methodology

The data to inform the prototype model was gathered through multiple methods: a review of the literature and current best practices, interviews, and facilitated workshops. Each phase of the project relied on different data gathering methods to engage different stakeholders in the model development process. The primary data collection events were a series of four workshops held with chief information officers and IT directors from state agencies and local governments between October 2008 and April 2009. The facilitated workshops ranged in attendance from approximately 20 to 30 participants. The first workshop was designed to provide a baseline understanding of the value proposition for enhancing enterprise IT governance in New York State and each successive workshop built upon the results of the previous one. Throughout the workshop timeline, additional information was gathered from the NYS stakeholder community via semi-structured interviews with participants in current IT governance, such as CIO/OFT, NYS budgetary and procurement agencies, and existing governance bodies (both formal and informal) already in operation within the state.

The final workshop provided the participants with an opportunity to review and comment on an early draft of the governance model. Following that final workshop, multiple draft versions of the recommendations were reviewed with the New York State CIO, CIO/OFT senior staff, the CIO Council Action Team Co-chairs, the CTG Standing Committee, and key stakeholders in the New York State Legislature to gather their insights regarding the recommendations and model with each new iteration of the model. Consistent with CTG's approach the input received from these facilitated discussions were then incorporated into the final version of the recommendations and the report.

Following the completion of the workshop series, CTG was asked to facilitate the development of a new charter for the NYS CIO Council. Through weekly face-to-face meetings between March and May 2009, CTG staff worked with the CIO Council Action Team Co-Chairs to create a draft charter. These meetings also allowed the CTG team to take a deep dive into one of the critical governance bodies; the knowledge gained during that process directly influenced the model development. The draft charter as completed on May 20, 2009 is included in Appendix E of this document.

The current practice research for the project was conducted in two phases. The CTG team began with a review of literature in the academic and practitioner fields about enterprise IT governance in both the private and public sector. Web searches identified organizations, in the United States and internationally, (e.g., research centers, government agencies, consulting firms, etc.) with IT governance expertise. This phase relied heavily on the use of Internet search engines and keywords commonly used to describe IT governance. Sources during this phase included items such as journal articles, conference papers, books, case studies, white papers, and popular press articles.

The second phase consisted of an environmental scan of IT governance in the public sector. This phase began with Web site reviews of publicly available documents from thirteen U.S. states that were selected based on the following three criteria: (1) states with publicly available information about IT governance efforts posted on their Web Site; (2) states ranging in the total size of government (i.e., size of IT budget and IT workforce); and (3) states at various stages of IT governance implementation. The selected states were California, Florida, Georgia, Kansas, Kentucky, Maine, Michigan, Minnesota, New York, North Carolina, Pennsylvania, Texas, and Virginia. Following the document analysis, the next segment of work was to conduct a series of semi-structured interviews with IT executives in eleven states: California, Indiana, Kansas, Kentucky, Michigan, Minnesota, Mississippi, New York, Oregon, South Dakota, and Tennessee. The results of this research are available in two documents: *Enterprise IT Governance in State Government: State Profiles* and *Lessons Learned from the States*.

Table B1. Environmental Scan: Overview of States		
State	**Phase 1: Structural Profiles**	**Phase 2: Interviews**
California	X	X
Florida	X	
Georgia	X	
Indiana		X
Kansas	X	X
Kentucky	X	X
Maine	X	
Michigan	X	X
Minnesota	X	X
Mississippi		X
New York	X	X
North Carolina	X	
Oregon		X
Pennsylvania	X	
South Dakota		X
Tennessee		X
Texas	X	
Virginia	X	

Appendix C. Participant List

New York State Agencies

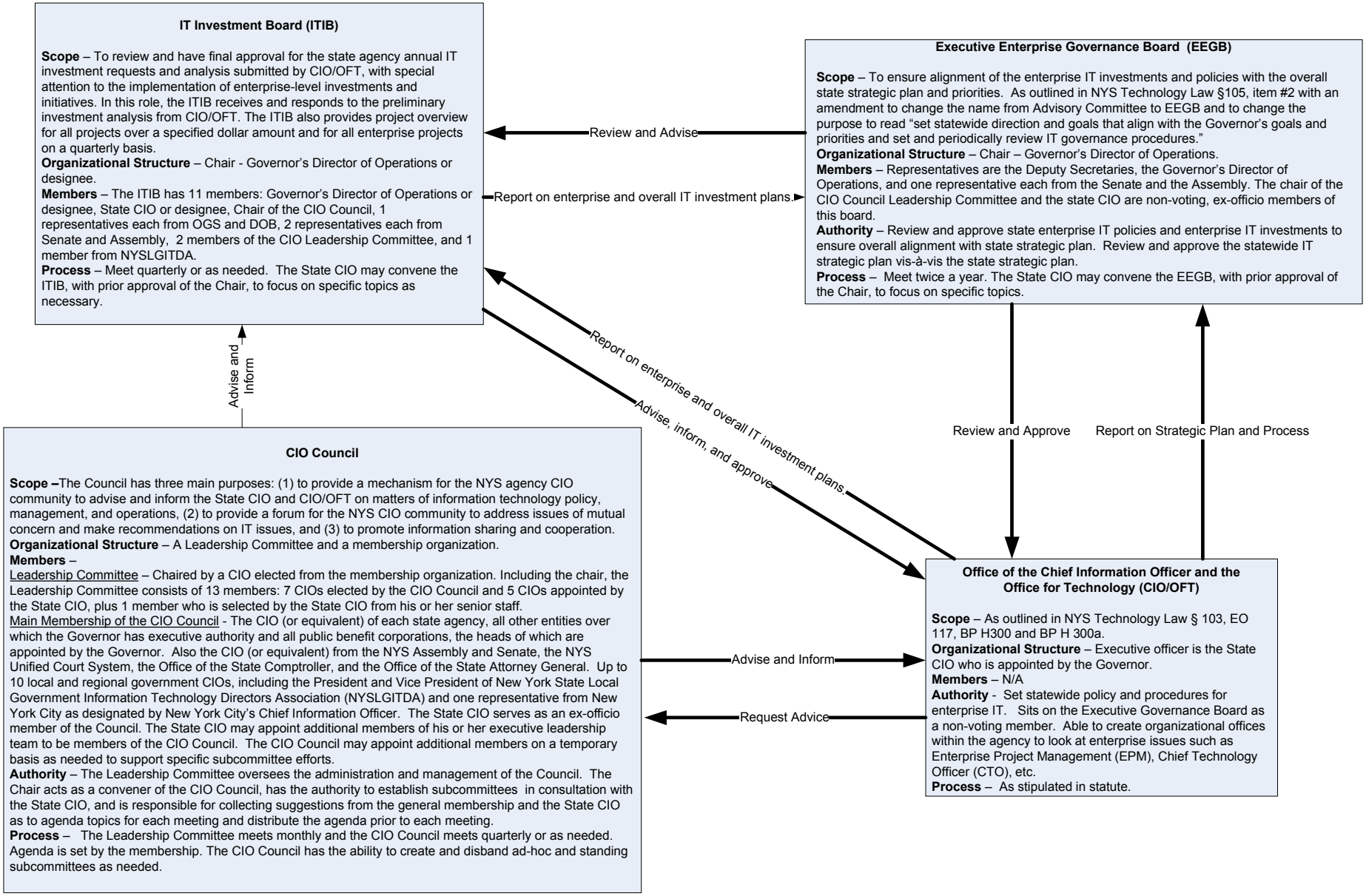
Broome County Government
Hugh L. Carey Battery Park City Authority
New York City Department of Information Technology and Telecommunications
New York City Department of Information Technology and Telecommunications
New York State Assembly
New York State Board of Elections
New York State Cyber Security & Critical Infrastructure
New York State Department of Agriculture and Markets
New York State Department of Civil Service
New York State Department of Correctional Services
New York State Department of Education
New York State Department of Environmental Conservation
New York State Department of Health
New York State Department of Labor
New York State Department of State
New York State Department of Transportation
New York State Division of the Budget
New York State Division of Criminal Justice Services
New York State Division of Military and Naval Affairs
New York State Division of Motor Vehicles
New York State Division of Parole
New York State Division of Probation & Correctional Alternatives
New York State Division of State Police
New York State Division of the Budget
New York State Dormitory Authority
New York State Energy Research and Development Authority
New York State Forum
New York State Governor's Office of Employee Relations
New York State Governor's Office of Regulatory Reform
New York State Insurance Department
New York State Metropolitan Transit Authority
New York State Office for the Aging
New York State Office of Alcohol & Substance Abuse Services
New York State Office of Children and Family Services
New York State Office of General Services
New York State Office of Homeland Security
New York State Office of Homeland Security
New York State Office of Mental Health
New York State Office of Parks, Recreation and Historic Preservation
New York State Office of Temporary and Disability Assistance
New York State Office of the Aging
New York State Office of the Medicaid Inspector General
New York State Office of the State Chief Information Officer and the Office for Technology
New York State Office of the State Comptroller
New York State Thruway Authority
New York State Workers' Compensation Board

Onondaga County Government
Ontario County Government
Schoharie County Government
Washington County Government
Westchester County Government

State Interview Participants

California Office of the State Chief Information Officer
Indiana Office of Technology
Kansas Department of Administration, Enterprise Technology Initiatives
Kentucky Commonwealth Office of Technology
Michigan Department of Information Technology
Minnesota Office of Enterprise Technology
Mississippi Department of Information Technology Services
Oregon Enterprise Information Strategy and Policy Division
South Dakota Bureau of Information and Telecommunications
Tennessee Department of Finance & Administration, Office for Information Resources

Appendix D. NYS IT Governance Framework



Appendix E. NYS Enterprise IT Governance: Membership

Entity	#	Members	Role	Appointment
EEGB	**5 + Deputy Secretaries**	Deputy Secretaries		Ex-officio
		Director of State Operations	Chair	Ex-officio
		One representative from the Assembly		By the Speaker of the Assembly
		One representative from the Senate		By the President of the Senate
		State CIO	Non-voting	Ex-officio
		Chair of CIO Council	Non-voting	Ex-officio
ITIB	**11**	Director of State Operations or their designee	Chair	Ex-officio
		Chair of the CIO Council		Ex-officio
		1 representative from OGS		Selected by the Commissioner of the Office of General Services
		1 representative from DOB		Selected by Budget Director
		2 representatives from Senate		Selected by the President of the Senate
		2 representatives from Assembly		Selected by the Speaker of the Assembly
		2 members of the CIO Leadership Committee		Selected by the CIO Leadership Committee
		1 member from NYSLGITDA		Selected by the President of NYSLGITDA
CIO Council Leadership Committee	**13**	1 representative from CIO/OFT		Selected by the State CIO
		5 members from the CIO Council		Selected by the State CIO
		7 members from the CIO Council	Chair - selected from the 7 elected members by a simple majority of the	Selected by CIO Council membership

Appendix F. NYS CIO Council Draft Charter

New York State CIO Council Charter

Section I – Background

The State Chief Information Officer position was established by Governor Pataki in January, 2002 under Executive Order No. 117, and James Dillon was appointed as New York State's first CIO. The current New York State Chief Information Officer Council (the CIO Council) was first convened by CIO Dillon early in his tenure and has continued under succeeding State CIOs. Over this time span, the CIO Council has become a valuable resource for communication and collaboration with the Office of the State CIO (OCIO), and among the agency CIO community. In its current form, however, the CIO Council has neither formal status as a New York State government entity nor an official description of its mission and relationship with the State CIO. This charter provides that description with an outline of the mission, objectives, organization, procedures, and functions of the New York State Chief Information Officer Council.

Section II – Establishing Authority

The CIO Council is established under the authority of the New York State Chief Information Officer.

Section III: Purpose & Scope

The CIO Council has three primary purposes: (1) to provide a mechanism for the New York State agency CIO community to advise and inform the New York State CIO and the Office of the CIO on matters of information technology policy, management, and operations, (2) to provide a forum for the NYS CIO community to address issues of mutual concern and make recommendations on IT issues, and (3) to promote information sharing and cooperation.

The role of the CIO Council with respect to advising and informing the State CIO includes matters related to the responsibilities of the State CIO as established by Executive Order 117, items 2-6. Namely:

2. "Overseeing, directing and coordinating the establishment of information technology policies, protocols and standards for State government, including hardware, software, security and business re-engineering;"
3. "Overseeing and coordinating the development, acquisition, deployment and management of information technology resources for State government;"
4. "Developing strategies to improve the State workforce's ability to employ needed information technologies, and overseeing and coordinating the implementation of such strategies;"
5. "Coordinating and facilitating information sharing among State government, local governments, other states, the federal government and institutions of higher learning to promote the use and deployment of information technology that will improve the delivery of government services; and"
6. "Working with State government, local governments, the federal government, institutions of higher learning and private enterprises to further the State Technology Strategic Plan."

Section IV– Responsibility of the State CIO

The State CIO's responsibilities as they relate to the CIO Council are:

1. To establish a regular schedule for the CIO Council meetings.
2. To designate a senior staff member of OCIO to be a member of the CIO Council Leadership Committee.
3. To develop and maintain procedures for responding to recommendations from the CIO Council Leadership.
4. To review and respond to formal recommendations when so identified by the CIO Council.
5. To appoint OCIO staff to provide administrative support to assist the Leadership Committee Chair in carrying out its responsibilities.
6. To establish agenda items in conjunction with the CIO Council Leadership.
7. To establish, in conjunction with the CIO Council Leadership, an annual strategic roadmap for the CIO Council.

Section V – Authority of the CIO Council

The authority of the CIO Council is to:

1. In the absence of the CIO calling the quarterly meeting, the Leadership Committee may formally request to do so.
2. Create and disband subcommittees as needed to respond to requests for advice and information from the OCIO and to address issues of concern to the CIO Council.
3. Establish agenda items, in conjunction with the CIO Leadership Committee, for the CIO Council meetings.
4. Formally convey recommendations to the State CIO regarding issues raised by the OCIO or members of the CIO Council.
5. Provide recommendations for input to the State CIO's strategic roadmap for the CIO Council.

Section VI – Responsibility of the CIO Council

The CIO Council is hereby charged with the following responsibilities:

1. To provide advice and recommendations to the State CIO on issues related to the State CIO's responsibilities as outlined in E.O. 117 items 2-6.
2. To provide advice and recommendations to the State CIO regarding the IT-related business needs of the CIOs respective agencies.
3. To meet on a regular basis, no less than four times per year.
4. To provide a forum for CIO Council members that supports discussion of topics of mutual concern and fosters cross-agency collaboration.
5. To develop and maintain procedures for fulfilling the CIO Council's responsibility to advise and inform the State CIO.
6. To provide feedback to the Leadership Committee on pending draft recommendations.
7. To formulate such bylaws and rules for CIO Council activities that will support the fulfillment of these responsibilities.
8. To be actively engaged in the meetings and activities of the CIO Council.

Section VII – Membership

A. *General Membership*

1) Membership of the CIO Council shall consist of:
   i) The CIO (or equivalent) of each state agency, all other entities over which the Governor has executive authority, the State University of New York, City University of New York, and all public benefit corporations, the heads of which are appointed by the Governor;
   ii) The CIO (or equivalent) from the New York State Assembly and New York State Senate;
   iii) The CIO (or equivalent) from the New York State Unified Court System;
   iv) The CIO (or equivalent) from the Office of the New York State Comptroller;
   v) The CIO (or equivalent) from the Office of the Attorney General;
   vi) Local and Regional Government CIOs (up to 10 members) including:
      (1) The President and Vice President of New York State Local Government Information Technology Directors Association (NYSLGITDA).
      (2) One representative from New York City as designated by New York City's Chief Information Officer.
2) The State CIO serves as ex-officio member of the CIO Council.

B. *Additional members*

1) The State CIO may appoint additional members of his or her executive leadership team to be members of the CIO Council. These members will be ex officio members.
2) The CIO Council may appoint additional members on a temporary basis as needed to support specific subcommittee efforts.

C. *Alternate Members*

1) Members may designate alternate members to act on the behalf of the state or local entity. Alternate members shall have the same rights as regular members to participate in CIO Council matters and decide on CIO Council policy decisions on behalf of the agency, authority, or local entity they represent.

Section VIII - CIO Council Leadership

The CIO Council shall have a leadership committee, hereafter known as the Leadership Committee.

A. *Membership*

1) The Leadership Committee will consist of 13 members; 7 elected by the general membership, 5 CIOs appointed by the State CIO, and one senior member of the OCIO staff appointed by the State CIO.
2) Those appointed to the Leadership Committee by the State CIO, serve at the pleasure of the State CIO.
3) Those elected to the Leadership Committee are elected to serve a two- year term except as noted in Section VIII.A.4 below.
4) To establish a staggered election schedule for those members elected to the Leadership Committee, for the 2009 election, 4 committee seats are designated for a two-year term and 3 committee seats are designated for a one-year term. Committee members selected for a two-year term are those who received the highest number of votes from the membership.
5) The officers of the Leadership Committee will be the Chair and Vice Chair and shall be elected for a one-year term by a simple majority of the Leadership Committee membership present at the first monthly meeting of the Leadership Committee each year.
6) The term of office for leadership committee members and officers shall start the first day of January and end the thirty-first day of December.

B. *Responsibilities of the CIO Council Leadership Committee Chair and Vice Chair*

1) Duties and responsibilities of the Chair shall include:
   i) Act as convener and organizer of the Leadership Committee and preside over the quarterly membership meetings.
   ii) Appoint a nominating subcommittee to present a slate of candidates for the annual leadership committee elections.
   iii) Communicate regularly with the State CIO regarding progress on findings, recommendations, and advisement as it relates to the work of the CIO Council.
   iv) Communicate regularly with the CIO Council membership and provide advance notification prior to any submission of recommendations to the State CIO.
   v) Design and implement a process for sending and receiving communications from the general membership.
   vi) Collect feedback from the general membership and the State CIO as to agenda topics for each meeting and set and distribute agenda prior to each meeting.
   vii) Provide transparency to its members regarding all CIO Council activities
2) Duties of the Vice Chair shall include
   i) Serve as Chair in the absence of the Chair.
   ii) Fulfill duties as assigned by the Chair to assist him or her in the fulfillment of his or her duties.

C. *Filling Vacancies*

1) Vacancies created by elected members of the Leadership Committee will be filled by nomination of CIO Council members based on a majority vote of the members present at the next meeting of the Leadership Committee to complete the term of the vacating member.
2) Vacancies created by those members of the Leadership Committee who are appointed by the State CIO will be filled by State CIO, whether on a permanent or temporary basis.

Section IX – CIO Council Meetings

A. *General*

1) General Membership Meetings will be held on a quarterly basis (January, April, July, and October) on a consistent schedule as decided upon by the State CIO in consultation with the CIO Council Leadership.
2) An annual review and planning session will be conducted for each coming year, which includes a review and affirmation of the charter and subcommittee assignments
3) The Leadership Committee shall meet as often as it deems necessary, but at least once monthly. All Leadership Committee meetings will be open to the general membership. The Chair or the State CIO may call special meetings of the Leadership Committee or of the CIO Council as he or she deems necessary.
4) A written record of proceedings shall be maintained and made available to the membership by the OCIO staff member assigned to provide administrative support to the CIO Council.

B. *Subcommittees*

1) Subcommittees may be established by the Leadership Committee in consultation with the State CIO as determined necessary to perform the duties of the CIO Council.
2) Subcommittees shall be disbanded following the completion of the work for which they were formed as directed by the Leadership Committee in consultation with the State CIO.

3) Subcommittee Co-chairs shall be elected by a simple majority of the membership present at a previously announced meeting of the subcommittee or may be appointed by the Leadership Committee Chair in consultation with the State CIO.
4) Members of the subcommittees will be designated by the subcommittee Co-Chair, the Leadership Committee in consultation with the State CIO, or through solicitation of volunteers from the general membership of the CIO Council.
5) CIO Council members may nominate other agency staff to subcommittees based on the nominee's areas of expertise.
6) Subcommittee Co-chairs shall report subcommittee findings to the general membership at the quarterly meetings and to the monthly Leadership Committee meeting as requested by the Leadership Committee Chair.

Section X – CIO Council Recommendations

1) CIO Council recommendations to the State CIO shall be submitted for approval to the membership at regular meetings and shall require a majority vote of the members present at that meeting for approval. When approved, they are designated as formal recommendations and submitted by the Leadership Committee to the State CIO for response.

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