



Research Brief

Oct. 2005

NASCIO Staff Contact: Mary Gay Whitmer, Issues Coordinator, mwhitmer@amrms.com or (859) 514-9209.

IT Procurement & Enterprise Architecture: Recognizing the Mutual Benefits

I. An Overview of IT Procurement and Enterprise Architecture

For fiscal year 2005, states and local governments are expected to invest an estimated **\$48 billion dollars** in information technology (IT). That spending is anticipated to increase by 48.5% to **\$70 billion by fiscal year 2010**. With such substantial expenditures of taxpayer dollars being dedicated to IT, states as well as locals must take great care to ensure their IT investments are wise and create value for taxpayers. State IT procurement and enterprise architecture (EA) both have important and at times similar roles to play in ensuring that the billions of dollars spent on state IT are invested wisely.

This brief presents an overview of the function of IT procurement and then highlights how the relatively new discipline of EA can be used to improve state IT procurement. *Through a closer alignment of these two disciplines, IT procurement and EA can accomplish their common goals of:*

- *Enhancing the role of government as a steward and wise-investor of taxpayer dollars*
- *Increasing the efficiency and effectiveness of IT service delivery, and*
- *Simplifying and streamlining the IT investment and contracting process.*

This brief discusses the points at which IT procurement and EA intersect and provides recommendations for improved alignment between these two vital functions of government.

In Brief—What is Enterprise Architecture?

NASCIO defines EA as a management engineering discipline that presents a comprehensive view of the enterprise including strategic planning, organization development, relationship management, business process improvement, information and knowledge management, and operations. EA has evolved over the last few years from being IT centric to a broader view enabling the strategic intent of government. Although often perceived as a “project”, it is rather an on-going iterative process of analysis, collaboration and leadership to make better decisions.

- While EA is often viewed as complex and abstract, lacking a clear value proposition, that view is not an accurate reflection of what EA realistically means for the business of government. *In its most basic form, EA is the method through which the various parts of state government can take a more holistic view of the business that the state carries out every day.* Important features of EA are:

- **EA’s View of Government in its Entirety:** EA views state government as one entity with many lines of business and agencies that all must work together to achieve government’s ultimate stated goals.
- **EA’s Ability to Move Agencies Forward from the Current State to the Desired Future (Point A to Point B):** At a more granular level, EA includes the analysis of the business processes agency employees use to do their jobs, the identification of resource needs in terms of more efficient business processes, the analysis of whether those resource needs comport with the state’s overall goals, and the creation of a strategy for how to improve that agency’s business processes. EA also provides a way for agencies to ensure that any business process improvement strategies support the state’s high-level goals and strategic intent.
- **EA’s Ability to Open Lines of Communication:** Because EA encompasses a wide variety of lines of business and disciplines and takes a holistic approach to viewing government, it provides opportunities for more open communications among agencies, disciplines and lines of business.
- **EA’s Ability to Improve Alignment with the State’s Overall Strategic Goals:** EA can help many different types of agencies and lines of business to better incorporate the state’s overall vision and goals within the way that they do business, thereby lending support in moving the state in its intended direction.

Since EA takes a holistic view of the state, it can be used to identify successful business processes that can improve the efficiency and effectiveness of the state as a whole when implemented consistently from agency-to-agency.

States and EA Today: Today, states have varying EA adoption and maturity levels. With a primary focus on examining EA’s benefits for IT procurement, now is a good time for states to develop their EA programs towards the future ideal for EA that NASCIO has defined—an ideal in which the various moving parts of government operate in an integrated fashion towards the goals of the state.

II. The Benefits of EA

State IT Procurement—A Historical View

Before setting out the benefits of EA to IT procurement, a look at how IT procurement has evolved into its current form will help to explain how EA can be of assistance going forward.

To ensure value to citizens and fairness to competing vendors, states have developed procurement laws and regulations. As these laws and regulations have evolved over the years, they have become finely tuned into a process that is intended to even the playing field for vendors so that the state ultimately receives the best value for its dollar. Prior to 1979, staggering diversity existed among state procurement laws. However, in 1979, the American Bar Association (ABA) issued the Model Procurement Code (MPC). The intent was to create a model code that would engender increased commonality among state procurement laws and foster principles of fair competition, ethics and predictability, among others, within each state’s procurement framework. In this way, the MPC has played an important role in driving states’ oftentimes strict legal requirements for public procurements. In 2000, with the government’s

increased procurement of IT products, services and systems, the ABA updated the MPC to ensure better competition, price and predictability in light of these and other changes.

The Benefits of Taking a Closer Look at Enterprise Architecture

While most states have finely-tuned procurement laws that have evolved over many years, the discipline of EA is relatively new and generally under the purview of the State CIO. In spite of its youth, EA has many benefits to offer IT procurement. These benefits are detailed below and serve the common goal of both IT procurement and EA—to ensure value in the expenditure of taxpayer dollars.

- **A Common Goal--Establishing Standards for IT:** EA provides the framework and governance for establishing standards for IT. Standards are important in providing the rules via which IT solutions and products perform and interact with each other. They are vital in ensuring integration today and migration for the future, which is essential in achieving an enterprise vision. In today's complex government environment, standards provide a basis for addressing business requirements, such as interoperability, information sharing, security, reuse and portability. The challenge is that IT standards are often formulated by a large number of formal and informal organizations and the level of specificity varies greatly from standard to standard. Common standards-setting organizations include the Internet Engineering Taskforce (IETF), the Institute of Electrical and Electronics Engineers (IEEE), the National Institute of Standards and Technology (NIST), the International Organization for Standardization (ISO), and the International Telecommunications Union (ITU). State-adopted standards may reference or require compliance with these and other standards set by third parties. EA standards are particularly helpful for addressing critical business issues, such as security, since a broad array of non-integrated, diverse products and services could leave the state vulnerable to a wide-range of security and Internet threats. In some areas, though, where standards-setting organizations have not been active or effective, other entities, such as the federal government, the vendor community or even a consortium of interested organizations, may fill the gaps with their own standards.
- **Increasing Efficiency and Decreasing Costs and Complexity Through Standardization:** The EA standards-setting process helps to promote integration and reduce the assortment of standards, solutions, products and components that state agencies may purchase. Promoting IT standardization reduces the number of choices and the diversity of solutions deployed, and lowers the cost of operations and maintenance, while accelerating implementation, increasing shared services across agencies, simplifying user training and consolidating purchasing power. The combined effect is to increase the efficiency of IT while decreasing its cost and complexity.
- **Simplifying IT Investments:** Through the greater standardization of IT, agencies can more easily purchase these resources, and the state can be assured that those products fit within its overall vision for IT. Moreover, with better descriptions of business processes coupled with EA standardization, only the vendors who truly have capabilities to meet those standards are likely to submit a proposal, which saves state IT, procurement and EA staff time and resources in evaluating the vendor responses.
- **Streamlining Negotiations and Contract Management:** The process of adopting and promoting standards can help states reduce the overall number of contracts as well as the number of contracts it has with each vendor. Fewer contracts results in less time and money expended on contract negotiations and management and their associated business processes.

- **Providing a Blueprint for Vendors:** A comprehensive EA provides a vehicle to communicate, inform and educate the vendor community on the direction of state IT activities. If a state incorporates an EA overview within Requests for Proposals (RFPs) and Requests for Information (RFIs) as well as IT contracts, then the state has provided vendors with a blueprint for the state's future direction for IT. With vendors "on the same page" as the state, the state is likely to receive greater value for its IT investments.
- **Serving the State's Vision:** With EA's explicit descriptions of business processes and characteristics, vendors will be able to provide the IT solutions and services that will fulfill the state's vision for how IT can enable government programs and benefit the state and citizens. This can be helpful for state IT projects that support the Governor's agenda.

Commonalities exist between IT procurement and EA that can create the benefits discussed above for both disciplines. Those commonalities are addressed in Section IV of this Brief.

III. What is EA?

Governance, Consistency and Process—The Keys to Effective EA

Guiding Principles: Regardless of where the EA function is housed within a state, the EA governance process starts with a set of guiding principles. These principles provide the fundamental doctrines and assumptions that support the reasons why the EA process was established in the first place. Common reasons for establishing an EA program are for greater degrees of interoperability, security, information privacy, efficiency, and cost savings.

The Need for Consistency: To achieve the desired outcomes contained in a state's EA guiding principles, a higher level of consistency across state agencies is needed. While recognizing the need for a degree of flexibility, increased levels of consistency generally help to simplify and streamline government processes.

Types of Standards: The EA governance process relies on the establishment of rules and standards to achieve greater levels of consistency across state government. For IT, adherence to standards greatly improves the interoperability and compatibility of IT systems and data across the state. These standards vary substantially in their degree of specificity depending upon a state's needs. In some cases, a state standard may simply adopt a currently existing standard, such as one issued by NIST. In other instances, a state may formalize an existing business practice. State standards also may provide for more consistent system or device configurations with the purpose of providing greater security or for specific types of interfaces to allow disparate state systems to communicate with each other.

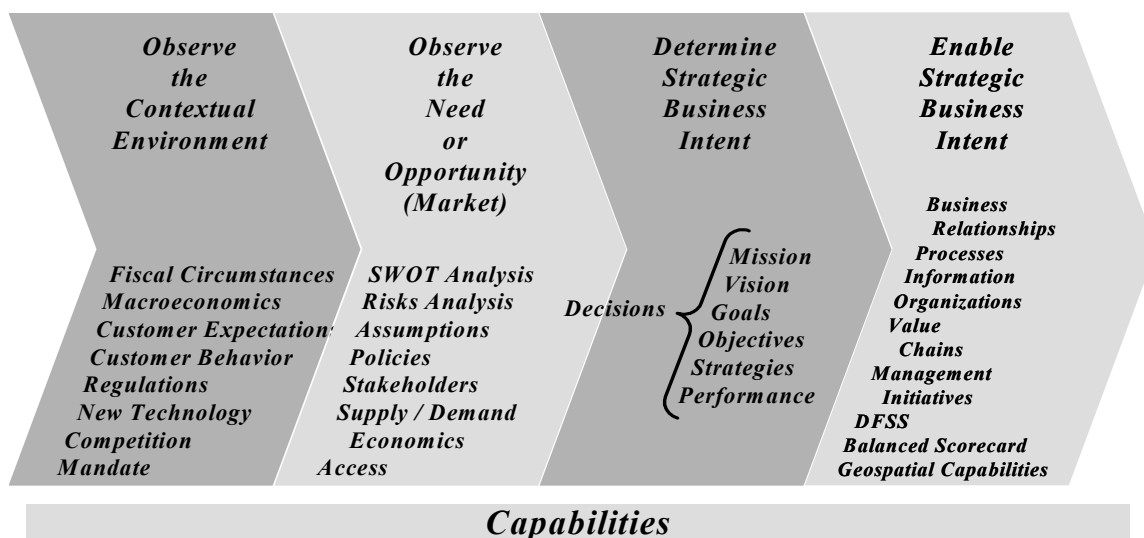
It is worth noting that some states adopt standards that are brand or product specific, especially for vital state needs, such as security, while other states' standards are product or vendor agnostic or both. A state's decision on this point will be a reflection of a principle addressed by the EA governance process. For IT procurement, it is important to note that the extent of competition may vary depending upon the origin of a state's standards. For states that employ product standards, competition may often be achieved through the use of product resellers, while product/vendor-agnostic states may issue an RFP but with detailed specifications to make sure the procured product fulfills the state's desired outcome. Building such measures into a state's

EA can also be a way to ensure that vendors are competitive on pricing as well as quality, efficiency and innovation.

How Does EA Work?

EA provides states with a blueprint for IT investments--a framework to address strategic and tactical decisions. Its distinct process of examining the state environment, determining the state’s needs, and developing a vision for state IT produces a methodical, well-conceived IT investment strategy for the state. This process is presented in the NASCIO EA Value Chain described in more detail below.

Enterprise Architecture Value Chain



IT procurement involves the acquisition of capabilities that enable a state’s strategic business intent.

Source: NASCIO

Understanding the Environment: State government is “fluid” in nature, because it is constantly changing over time based on the environment and management’s response to that environment.

Broadly, this initial step in the EA Value Chain process involves the examination of the state’s present environment and trends related to economics, politics, technology, culture, and citizen expectations. The identification and understanding of the trends, changes, market forces, fiscal and monetary policies and their immediate and latent effects on the economy, availability of capital, and labor are key considerations during this phase.

Regarding the procurement of IT capabilities, this understanding of the environment should translate into IT standards that include built-in flexibility to accommodate changes that will inevitably occur. This is especially important for IT procurement, because technology is

evolving at an increasingly rapid pace. For example, a variance process from IT standards can act as a fail-safe where environmental factors alter the anticipated impact of an IT standard.

A Note on EA’s “Long Term” View: As state government leaders look closely at all of the factors that impact the state enterprise, they should remember that EA emphasizes a long term view as well as the short and medium terms. However, the long term view deserves careful consideration, because today’s decisions may have implications five, ten or even twenty years into the future. Conversely, government today is being impacted by trends and decisions that may have been initiated by changes going just as far back in the past.

Investigating Market Opportunities, Citizen Needs and Determining Strategic Business

Intent: This second step involves investigating market opportunities and citizen needs, which helps in determining if a particular need is best served by government or by the private sector. If a need is best served by government, then executive and/or legislative branch leaders will develop the state’s intentions, or its strategic business intent, as it relates to the need that has been identified and develop a way to serve the need, such as a program or business process. Carefully articulated missions, vision statements, goals, objectives, and strategies are evidence of strategic business intent. At this point, performance measures can be established to ensure that the state’s performance is closely aligned with its intent.

When applied to IT procurement, this involves a scan of the marketplace for the technologies and solutions that are available or will be available in the coming years. Transparency is a key ingredient in helping a state take advantage of vendor expertise on what the marketplace has to offer while ensuring fairness to vendors. By building an expertise on the marketplace, the state can formulate its strategic intent in a rational way and make informed decisions that will have long term benefits.

Enabling Strategic Business Intent: A state’s intent is then enabled through capabilities that are delivered via management initiatives, programs and projects. IT is one of those capabilities. As with other capabilities, IT can be stratified or broken down into manageable pieces that can be delivered or further leveraged through well-scoped projects. Those projects are best managed within portfolios as part of a program management discipline to facilitate proper project-to-project communication and avoid redundant efforts, although this program management approach may be new to some states.

The Role of IT Procurement in Acquiring Capabilities: Capabilities in the form of products or services can be developed, purchased, rented or leased, or gained through partnering arrangements. If a state decides to purchase products or services, then the state procurement function most often will initiate the acquisition process, which often involves the issuance of an RFP. *This makes procurement an allied function to EA, since procurement will conduct the “acquiring” of capabilities in most cases.* However, it is important to understand that procurement has its own principles and operating discipline--and it is the intersection between that discipline and EA that must be carefully leveraged whether the capability required involves consulting services, hardware, software or service contracts.

Two Types of Procurement Contracts: From an EA perspective, there are two primary types of procurement contracts. Contracts for asset continuity attempt to maximize efficiency for existing IT assets. They consolidate licenses, reduce the vendor mix and increase the consistency of quality IT services. A second type of IT procurement contract is a contract that acquires capabilities that will allow the state’s EA to evolve towards the future “to be” ideal. These contracts provide opportunities for interagency collaboration on usage, architectural evolution plans, implementation issues and standardization of approaches. Consulting, training and service components may be included in these contracts. The type of contract will impact the way that EA and IT procurement should align with each other to produce mutually desired benefits.

IV. Why is EA Important to IT Procurement Services?

An affinity exists between EA and IT procurement due to the many commonalities that they share. Both disciplines arose out of the need for better rationalization of government decision-making and strive to instill discipline through rules and processes placed upon the state’s decision-making processes. They have among their common enemies government waste, inefficiency, and irrational investment decisions. Moreover, by placing constraints upon state agencies’ perceived independence, both disciplines must deal effectively with the conflict that such constraints can so often create.

EA’s principles and standards can serve IT procurement well by streamlining and reducing the complexity of IT investment decisions. In addition, because EA focuses on obtaining value for government and citizens, it can help increase the value received from state IT purchases by ensuring the right choices are made and that there is traceability from investments back to the driving strategic intent. This provides government with a way of being accountable, both internally and externally.

Over the long term, the EA discipline can be used to reduce complexity through standardization to the point that states will move from stand-alone, stove-piped systems and business processes to integrated, interoperable systems and processes. The overall effect will be the leveraging of resources across state agencies and better managed, more consolidated and cost-effective IT contracts.

Conversely, it is also important to acknowledge that IT procurement can provide assistance to EA in terms of adding structured transparency to the EA standard-setting process, which is important given the large sums of state funds that are invested in IT and the fact that EA standards will likely remain in place for a substantial period of time. This transparency may take the form of a better understanding of the vendor community perspective that will then yield improved competition and foster higher degrees of value for the state in terms of cost and innovation.

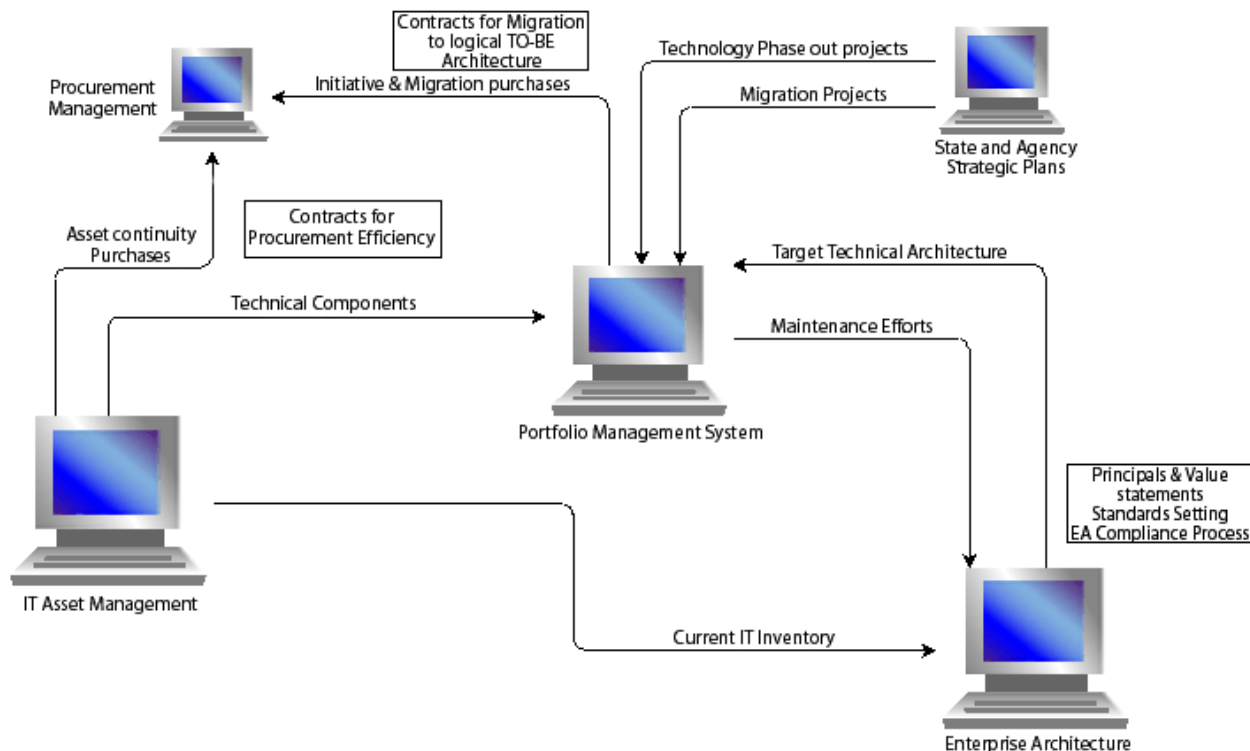
V. Where Do State IT Procurement and EA Intersect?

The first step in a closer, mutually beneficial relationship between IT procurement and EA is to identify the points at which the two disciplines intersect or their “touch points”. It is at those touch points that IT procurement and EA can ensure that their business processes align with each other. Through this type of reciprocal relationship, IT procurement and EA can work together to improve the value of state IT investments.

The main touch points are within:

- The EA guiding principles and value statement development process
- The EA governance process, and
- The EA compliance process.

The better the alignment of IT procurement and EA at these touch points, the greater the benefits that can ultimately be achieved.



Source: State of Kansas, Department of Transportation, Bureau of Computer Services

The graphic above demonstrates the interrelationship between IT procurement and EA. As noted earlier, IT procurement assists with the acquisition of two types of capabilities. Contracts for asset continuity provide for more streamlined and efficient contracts across the state, while EA evolution contracts help the state move towards its desired future architecture. A state's IT asset management, portfolio management system, and state and agency plans also play important roles and interact with EA and IT procurement on both types of contracts. Depending upon the contract involved the interactions among these and other state stakeholders will vary. However, for purposes of this brief, we focus on a generalized characterization of how EA and IT procurement relate at the following three touch points. These interactions may vary somewhat, however, depending on the type of capability acquired.

The Development of EA Guiding Principles & Value Statements: EA guiding principles and value statements may refer to embracing the procurement process. These statements give credence to the benefits of EA's alignment with IT procurement. For example, the Virginia Information Technologies Agency's (VITA) EA Value and Benefits Statement

clearly states that EA can help “enable the Commonwealth to leverage its buying power through (i) consolidating multiple agency IT product/service requirements into enterprise-wide procurements and (ii) consolidating existing multiple agency contracts with a single vendor into fewer (perhaps one) contracts with that vendor for the enterprise as a whole thereby streamlining IT acquisitions, lowering upgrade expenses, and reducing IT support and long-term maintenance costs.”

EA Governance: Similar to how EA guiding principles can help IT procurement in its goal to maximize the value of IT purchases, IT procurement can provide assistance to the EA governance process, particularly in IT standards adoption. Many states already have a formal EA governance process for the drafting, review and approval of IT standards. That process must balance the need for a competitive, transparent process with the importance of recognizing existing national and industry standards and setting IT product, performance or other types of standards to create IT consistency and efficiency within the enterprise.

When IT procurement officials participate early in the EA governance process, they can identify and address fair and open competition concerns from the outset. This is important, because IT standards send a clear message to the vendor community regarding the state’s intended strategic direction and tactical implementation. IT procurement’s active participation can minimize the extent to which vendors may feel excluded by the development of EA standards. Procurement officials also can provide an analysis of the standards’ impact on a state’s relationships with current vendors, employee training needs, and existing service agreements. This analysis can minimize unintended consequences that may arise when implementing an IT standard. At this stage, IT procurement officials can simultaneously facilitate the creation of benefits from this process without compromising the compliance with fair competition requirements. Ideally, a procurement participant in the EA process should have a background not only in procurement but also in the specialty of IT procurement.

The benefits that IT procurement can reap from the implementation of IT standards through the EA governance process are clear and include:

- Streamlined and more effective proposal evaluation and contract negotiation and management through consolidated contracts and better descriptions of the state’s needs to vendors
- Reduced cost of deployment, operation and maintenance for IT products and services through consolidated purchasing power and less variation in the types of technologies within state agencies
- Accelerated implementation of IT and more successful user training due to less diversity of IT products.

While the very nature of IT standards compliance may preclude the participation of some vendors, management-level IT procurement officials can assist them in understanding why and how the state set the standards in the first place. The EA governance process should recognize the importance of obtaining the best value for the state. IT procurement officials can then point out to concerned vendors that the state has determined that the adherence to standards that were formed in a transparent process is integral to obtaining the best value for the state.

The Private Sector Perspective—Enhancing Competition through Vendor Involvement in the EA Governance Process:

Vendors may also have a perspective on proposed EA standards. For states, however, there is a natural degree of tension in involving stakeholders, including the vendor community, in the EA standards-setting process. This arises out of a state's desire to have control over the state's EA direction. It may also be necessary to ensure that some details of the state's EA are not publicly disclosed in the interest of security. Even though this tension exists, states should, where appropriate, work with stakeholders, including the vendor community, so that the stakeholders may have an opportunity to provide their perspective.

EA Standards Compliance: A third touch point of IT procurement with EA is when state agencies embark upon making IT purchases. At this point, IT procurement can foster alignment with EA by identifying agencies whose proposed purchases do not comply with EA standards. For states in which EA standards compliance is mandatory, the state will more than likely have a formal variance process for allowing agencies with special requirements or needs to receive permission to make an IT purchase that does not comply with EA standards. By playing a facilitation role within this process, IT procurement can help ensure compliance with the EA standards. It is only through agency compliance with EA standards that benefits can be realized from those standards.

Of note, some states have dollar thresholds in place that require state agencies' IT purchases that exceed a certain price to be reviewed and approved by the State CIO. However, some agencies may attempt to break larger projects into smaller parts in order to avoid triggering the CIO's review. To counteract this tendency, some states have a threshold of a specified dollar amount, such as \$100,000, that is relatively easy for agencies to exceed so that most agency IT projects proceed through a formal review process by the State CIO.

A Note on Awareness: Awareness also plays an important role in successful EA standards compliance. If IT procurement officials are involved in the compliance process, then they can also help raise EA standards awareness with a wide-range of agencies, including the state Attorney General's and Auditor's offices. Including EA standards in a state's RFPs and procurement contracts and specifying whether compliance is mandatory are both helpful in alerting the vendor community to the state's dedication to its EA standards. A state may also provide other details about the standards in their competitive procurements including whether they are mandatory and if vendors will be permitted to migrate to compliance over the course of the contract.

VI. NASCIO Recommendations for Enhanced Alignment

- **Better Collaboration Between IT Procurement and EA:** NASCIO's EA Maturity Model, a publication that assists states in gauging progress towards a mature EA program, recognizes the importance of collaboration between EA and IT procurement. This can be a mutually beneficial and symbiotic relationship, since both disciplines use methods, procedures, and rules in order to bring greater standardization and value to state agencies while improving the quality of IT investments. By working together where their processes intersect, IT procurement and EA can simultaneously support the state's overall goal of providing the best possible value for citizens through transparent and rational processes.
- **Recognition of IT Procurement's Importance in EA Guiding Principles:** In developing its guiding principles, EA should reference the importance of IT procurement in streamlining state contracts and IT products and services. Through achieving a higher degree of standardization and contract consolidation, IT investments can conserve state resources and provide better state services.
- **Early IT Procurement Participation in the EA Governance Process:** IT procurement officials can identify any unintended consequences early in the standards-setting process and ensure transparency and fairness to vendors although some vendors ultimately may not be able to fulfill the IT standards that result from the EA governance process. They also can provide guidance on the consolidation of state contracts and identify opportunities to increase the standardization of IT products and services. In a similar vein, IT procurement officials can offer another channel that connects the EA governance process with vendor expertise and the pulse of the marketplace. States may consider providing vendors with a forum in which to comment on draft IT standards to foster industry innovation, establish vendor support for the standards and ensure robust competition.
- **Providing a Blueprint for State Vendors:** IT procurement's consistent reference to EA standards in RFPs and IT contracts makes a clear statement to vendors on the state's direction for IT purchases. Vendors can then make better decisions in evaluating whether they can provide the types of products and/or services that the state seeks. Vendors may also consider establishing on-going, education-oriented relationships with states to better understand the state's IT direction and to share industry best practices.
- **State IT Procurement Involvement in Standards Compliance:** IT procurement officials should act as facilitators of agency compliance with IT standards set through the EA governance process. Benefits can only be realized if agencies actually comply with the standards. However, IT procurement officials can help to foster an understanding of why a degree of flexibility must accompany IT standards (such as through a variance process for agencies or the periodic re-evaluation of currently existing standards).
- **Communicate Early and Often:** IT procurement officials can play a key role in ensuring that the existence of the IT standards does not come as a surprise to agencies and potential vendors. Articulating the business case and rationale for the IT standards can assure agencies, potential vendors and other stakeholders that the standards-setting process was fair and methodical. In addition, it will provide guidance for the state's future direction and vision for IT.

VII. Conclusion

A closer alignment of IT procurement and EA will leverage the natural affinity that exists between the two disciplines for the mutual benefit of both. As advocates of wise government investment decisions, IT procurement and EA together can improve and streamline IT investment decisions, so that the state receives higher levels of value and can make investment decisions in a way that supports the state's overall strategic business intent. With greater levels of IT procurement involvement within the development of EA guiding principles and the EA governance and compliance processes, stronger ties between IT procurement and EA can be established. These strengthened ties will allow for both disciplines to maximize the value derived from the state's investment in IT resources. Increased value from IT investments translates into more efficient government processes and services, which ultimately improve the ability of government to serve its citizens.

Appendix A: Additional Resources

NASCIO IT Procurement Resources:

NASCIO IT Procurement Committee Webpage:

<https://www.nascio.org/nascioCommittees/procurement/>.

“Getting What You Need on the Way to the Win-Win! Leveraging the RFP in State IT Procurements” (May 2005):

<https://www.nascio.org/nascioCommittees/procurement/leveragingRFP.pdf>.

“Negotiating IP on the Way to the Win-Win: NASCIO’s Intellectual Property Recommendations” (March 2005):

<https://www.nascio.org/nascioCommittees/procurement/negotiatingIP.pdf>.

“Walking the Road to the Win-Win: NASCIO Procurement Subcommittee’s Recommendations on Liability Limitations for State IT Contracting” (September 2004):

https://www.nascio.org/nascioCommittees/procurement/road_to_win-win.pdf.

NASCIO EA Resources:

NASCIO EA Program Webpage:

<https://www.nascio.org/hotIssues/EA/>.

“Perspectives: Government Information Sharing: Calls to Action” (March 2005):

<https://www.nascio.org/publications/index.cfm#perspectives>.

“In Hot Pursuit: Achieving Interoperability Through XML” (October 2004) (*video*):

<https://www.nascio.org/publications/index.cfm#perspectives>.

“NASCIO Enterprise Architecture Development Tool-Kit, v. 3.0” (October 2004):

<https://www.nascio.org/publications/index.cfm>. [*Scroll down to view summary & download the Tool-Kit.*]

“NASCIO Enterprise Architecture Maturity Model” (December 2003):

<https://www.nascio.org/publications/index.cfm>. [*Scroll down to view summary & download this publication.*]

Other Resources:

National Association of State Procurement Officials:

www.naspo.org.

Supply Chain Council (SCOR):

<http://www.supply-chain.org/index.wv>.

U.S. Department of Housing and Urban Development (HUD), EA Practice Procurement Language:

<http://www.hud.gov/offices/cio/ea/newea/resources/procure.cfm>.

HUD, Benefits of EA Practice:

<http://www.hud.gov/offices/cio/ea/newea/benefits.cfm#simple>.

HUD, EA Practice Blueprints:

<http://www.hud.gov/offices/cio/ea/newea/blueprints/index.cfm>.

Commonwealth of Pennsylvania, Enterprise Architecture Governance Model:

<http://www.oit.state.pa.us/oaait/lib/oaait/EAGovModelWorkflow.ppt>.

New York State Office for Technology, Principles Governing the New York State Information Technology Enterprise Architecture:

<http://www.oft.state.ny.us/policy/P04-001/principles.htm#toc>.

North Dakota, Enterprise Architecture Standard on Information Technology Procurement, STD-ITD-001:

<http://www.state.nd.us/ea/standards/standards/approved/std-itd-001.rtf>.