

## **Enterprise Architecture – The Texas Model for the Enterprise**

### **Concise description of the business problem and solution, including length of time in operation**

The State of Texas' goals and strategies for information resources management are presented in the 2005 State Strategic Plan for Information Resources Management, *Shared Success: Building a Better Texas through Shared Responsibilities (Shared Success)*. *Shared Success* articulates the vision and mandate from Texas leadership to restructure technology management in the state, in order to accomplish the following:

- Advance services to all Texans
- Support the core missions of individual state agencies
- Simplify information and communications technology management, and
- Maximize the value of the state's investment in hardware, software, services, data and personnel.

*Shared Success* builds on the Texas Model for the Enterprise (Texas Model), developed by the Texas Department of Information Resources (DIR) in 2004 as part of a comprehensive effort to define a conceptual framework for statewide enterprise architecture and enterprise infrastructure which directly and measurably support individual, mission-critical agency business processes. The Texas Model presented a paradigm for sharing and managing the state's investment in information and communications technology, while facilitating improved strategic alignment with agency business goals.

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Subsequently, the Texas State Legislature directed by statute several landmark initiatives that advance the vision of a shared technology architecture and infrastructure. With statute serving as the beacon, DIR collaborated with stakeholders from agencies, local governments and institutions of higher education (collectively, "agencies"), as well as with private sector partners and stakeholders, to develop *Shared Success*, which further refined the Texas Model, promoting specific, actionable objectives and strategies to reduce government costs, drive effective technology contracting, leverage shared technology operations, promote innovative use of existing and new technologies, and protect business, technology and information assets.

The Texas Model expresses the vision for Enterprise Architecture and Enterprise Infrastructure; *Shared Success* delineates specific objectives and strategies for executing that vision.

The Texas Model is composed of three distinct but strongly integrated Layers: Infrastructure, Collaboration, and Agency. The Infrastructure Layer expresses statewide initiatives and operational programs which provide the common basis for collaboration, interoperability and reuse, as well as opportunities for cost savings through streamlined maintenance, shared infrastructure and shared management.

Building on the Infrastructure Layer is the Collaboration Layer. This layer supports the shared development and adoption of rules, guidelines and best practices which



**The Texas Model for the Enterprise**

contribute to effective enterprise management of information technology. Key initiatives are underway within the collaboration layer, which is the source of Enterprise Architecture strategic direction, drawing on the needs of the Agency Layer, and the capabilities of the Infrastructure Layer. Collaboration Layer programs guide the statewide development of business, data, and technology architecture standards, as well as project delivery and quality standards.

The Agency Layer encompasses critical, customer-facing service delivery, and is supported by the Collaboration and Infrastructure Layers. The Agency Layer is the key focal point of business architecture initiatives, which strive to help agencies define their unique business services in a consistent fashion, facilitating business asset reuse within and among agencies. Together, the Agency, Collaboration and Infrastructure layers comprise the statewide vision for effective technology planning and service delivery.

The foundation for Enterprise Architecture planning and management resides in the Collaboration Layer of the Texas Model, which specifically delineates DIR strategies for working with agencies to develop useful, consistent business, data and technology architecture standards. These standards are expressed through rules, guidelines, and best practices.

By unifying Texas government through coordinated commitments and shared responsibilities, represented in the Texas Model, the state can strategically align its significant investment in information and communications technology with individual agencies' business needs.

### **Enterprise Architecture Objectives and Strategies**

One of the primary objectives described in *Shared Success* includes Enterprise Architecture strategy for encouraging and supporting agencies in the development of business and technology architectures that drive improved planning and coordination through reuse, collaboration and inter-operability. The EA program focuses on the following initiatives:

- Development of a core conceptual model and methodologies to support agencies in the development of their enterprise architectures. The model will promote agency-specific tailoring while maintaining a common conceptual structure.
- Development of useful, consistent statewide business and technology architecture standards (rules, guidelines, and best practices).
- Development of reuse guidelines which address business asset reuse, technology asset reuse, and Service Oriented Architecture (SOA) guidelines for reuse.
- Prioritizing, reviewing, and establishing statewide and/or shared applications that address common business problems.
- Development of a statewide cooperative contract for Enterprise Architecture and Business-IT Governance tools, which will support agency implementation of the core conceptual model and standards. The tools accepted under this contract share a set of common technical requirements, ensuring that the output of agency-specific content is usable at the statewide level.

The Texas Model for the Enterprise and the statewide goals, objectives and strategies expressed in the State Strategic Plan provide the foundation for all statewide information and

communications technology initiatives. Therefore, instructions for state agency Information Resources Strategic Plans (IRSPs) for the coming biennium required agencies to structure their strategic plans around the Texas Model for the Enterprise and the goals, objectives and strategies in *Shared Success*. Additionally, specific questions were posed to the agencies, to be answered in the IRSP responses, regarding the state of Enterprise Architecture efforts, and specifically Technical, Business and Information Architecture within the agencies. This information will aid DIR in further tailoring and facilitating Enterprise Architecture and Enterprise Infrastructure initiatives, including training and education and marketing.

Another key objective in *Shared Success* is to “Encourage Business and Technology Architectures that Drive Improved Planning and Coordination.” Standards for business and technology architectures begin with a structured understanding of the key business functions each state agency must fulfill in order to achieve its core mission as well as to support the strategic goals of the state.

DIR has developed three strategies to fulfill its commitment to supporting business and technology architectures that drive improved planning and coordination. The first strategy is to *support the development of each state agency’s internal architecture*. Rather than developing a single statewide enterprise architecture which would require coordination of every state business function, DIR is coordinating a statewide effort to support the development of state agency architectures and will seek to align these architectures in areas of common interest, such as information sharing and exchange.

This first strategy will provide predictability for state agencies in developing their own business and technology architectures, and improve both the inter-operability and maintainability of state applications. Benefits of this approach include a predictable process for setting and enforcing state technology standards; reduction of the number of supported technologies and improvement of inter-operability and maintainability; and establishment of timelines for migration to emerging technologies or for transitioning away from obsolete technologies.

The second strategy is to *incorporate technology reuse into agency architectures*. DIR is promoting inter-operability as a first step toward reuse, and has highlighted inter-operability as a critical issue in Requests For Offers (RFOs), ensuring that tools which are procured through DIR meet minimum statewide inter-operability requirements, as well as a core component in methodology and policy initiatives, so that key assets or processes can be leveraged in future initiatives by multiple agencies, local governments and institutions of higher education. Once basic inter-operability standards are met, collaboration and reuse become possible and measurable. Service Oriented Architecture initiatives, together with Data Center Consolidation and rapid changes in security and network / telecom provide further opportunities to promote and ensure inter-operability, collaboration and reuse.

The state will be increasingly able to reduce costs (and measure those savings) and delivery time through this approach. Also, incorporating a “culture of reuse” into agency architectures will set the stage for reduced costs and more rapid deployment of new technology projects. Cultural changes require targeted education, training and marketing campaigns, and are happening in both small- and large-group forums. This strategy will benefit state agencies by improving their

ability to achieve cost savings, higher quality products and services; reduced implementation cycle time, and improved long-term productivity.

The third strategy is to *align common aspects of agency architectures*. The state is working to proactively identify areas where business processes can be improved through inter-agency initiatives. DIR is also working with state agencies to explore opportunities for shared service offerings and to identify and articulate the common business processes and services that will yield positive results and add value statewide.

As common business processes and services are identified, a business case that documents alternatives will be developed for consideration by key state decision makers. The benefits of this approach include an improved alignment of state agency activities, an extension of the use of existing data for single agency applications to support the needs of the statewide enterprise, and provision of a meaningful analysis of viable options in order to improve the value of the state's substantial technology investment.

### **Significance to the improvement of the operation of government**

The alignment of statewide and agency information resource planning will improve service delivery to all Texans and allow agencies to perform government administrative functions more efficiently. Agency IRSPs patterned after the Texas Model for the Enterprise and *Shared Success* will help agencies articulate their practices for aligning business and technology, and in some cases will highlight needs for improvement in those areas. These plans, when submitted to DIR, will enable DIR to target specific audiences based on EA maturity and priorities. A tailored EA conceptual model, tool set, and training / education / marketing campaign will facilitate secure and effective government technology operations.

### **Benefits realized by service recipients, taxpayers, agency or state**

The investment in Enterprise Architecture is a long-term one, with many cultural and political challenges. However, the Texas Model and *Shared Success* provide the basis for increases in services provided by state agencies with current or reduced budgets, the increase in quality of services received and ease-of-use from the citizens perspective, the increase in sharing more accurate and consistent data across agency lines, the short-term benefits of tackling taxonomy and terminology and process redundancies and/or inconsistencies within agencies and the long-term benefits of doing the same across agency lines.

Through implementation of the Texas Model for the Enterprise and its accompanying statewide goals, objectives and strategies, Texas will realize its vision for shared responsibilities and shared success in information and communications technology management. DIR and other state agencies will continue to align their business and technology architectures and planning activities with common and strategic statewide goals, objectives and strategies.

### **Realized return on investment, short-term/long-term payback (include summary calculations)**

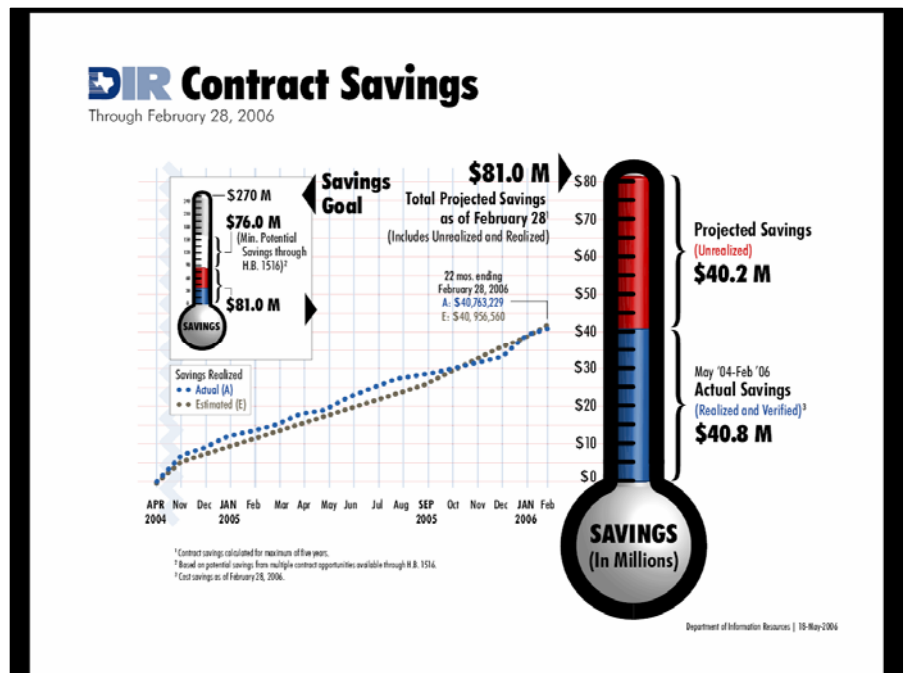
The implementation of a statewide enterprise architecture is a primary objective of *Shared Success*. The state's primary enterprise architecture goal is to encourage and support agencies in the development of their business and technology architectures, in order to drive improved planning and coordination through reuse, collaboration and inter-operability. Data on cost

savings from these statewide initiatives will be collected as state agencies report on their technology initiatives through their information resources strategic plans.

The plan to leverage a statewide technology infrastructure was introduced in May 2004. At that time, DIR established a five-year goal of saving the state of Texas \$270 million in IT infrastructure costs, beginning May 2004 and ending May 2009. DIR implemented a process to identify, monitor, and report those savings. The process was validated by the agency's internal auditor in fiscal 2005. The accuracy of the estimated and actual savings was subsequently verified by the internal auditor in fiscal years 2005 and 2006.

The chart on the right reports progress against the \$270 million goal. As of February 28, 2006, DIR had identified \$81 million in savings through contract renegotiations. Of the \$81 million identified, \$41 million in actual savings had been realized.

DIR's approach will serve to ensure that the state is well positioned to coordinate individual state agencies' efforts as part of the larger state government technology enterprise. DIR will coordinate areas of common interest, such as technology reuse, business process standardization and inter-operability in order to structure and optimize the relationship between the statewide infrastructure and the agency layer of the Texas Model for the Enterprise.



Ultimately, the return on investment for Enterprise Architecture includes time-saved finding citizens who need services, time saved through faster services-to-citizens delivery, and time and dollars saved through shared data, infrastructure and services.