
2003 NASCIO Recognition Awards Nomination Form

Please complete entire form.

All nominations must be postmarked no later than Sunday, May 18, 2003.

Title of Nomination: Missouri Adaptive Enterprise Architecture

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Job Title: Technology Specialist

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**Category for judging
(please list only one):** Enterprise Information Architecture

Person Nominating
(if different than
above): _____

Job Title: _____

Address: _____

City: _____

State: _____ Zip: _____

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Please return nominations to:

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Missouri Adaptive Enterprise Architecture

Executive Summary

In July of 1995, as a result of Governor Carnahan's Commission on Management and Productivity, the Office of Information Technology (OIT) was created. A significant responsibility identified as part of OIT's mission was to develop and implement an Information Systems Strategic Plan. One of the primary focus areas identified within that plan was architecture. Also within that plan was a specific primary objective to develop a State of Missouri Adaptive Enterprise Architecture that facilitates business system sharing across departmental lines of responsibility.

This is the core business and strategic plan for all technology in Missouri State Government. For the purposes of security, service, and efficiency, Missouri must function as one seamless technology enterprise. An adaptive architecture will allow Missouri State Government to act as a single entity, an enterprise, with respect to information technology (IT).

By implementing a blueprint for standards and methods that are agreed upon by all agencies, the state positions itself to save money, increase service, and gain a competitive, long-term advantage. This is an ongoing process that can swiftly adapt to changes in business and citizen needs. The goal is to always provide the citizens of the State of Missouri with the most efficient and effective service possible.

Over time it has become clear that sharing information and IT solutions across organizational boundaries and defining enterprise level products and standards increases efficiencies, lowers costs, improves service to customers, and allows the State to appropriately protect State resources, State systems, and the privacy of the citizens of the State. This is where our need for enterprise architecture (EA) began.

Eight separate domains, along with the subsets of disciplines and technology areas represent the core components of EA in the State of Missouri. Since its launch in November of 2002, three of the initial eight domains have begun their work at three different levels. The Security Domain began in November 2002, and has already delivered measurable results and architecture recommendations that will ensure the security of the state's IT systems and will protect the information and business processes of the state well into the future. The domain has issued product standards, compliance components, and will continue to work through all technology areas.

The uniqueness of Missouri's Adaptive Enterprise Architecture (MAEA) program is represented by one word, "adaptive". The two projects that were launched subsequent to Security involved geographic information systems (GIS) and integrated enterprise messaging and collaboration systems. The flexibility of the program allows for new technology issues and challenges to be posed at any level, yet can be resolved and validated through the architecture process.

The validation that the project is having an impact throughout Missouri's IT community is reflected in the flow of conversation concerning technology and business issues that resonates through each CIO of Missouri's State Government agencies. More information about the program can be found at http://oit.mo.gov/architecture/enterprise_architecture.html.

Missouri Adaptive Enterprise Architecture

A. Description of Project

As with many organizations, the undertaking of Enterprise Architecture, or EA, is a daunting task. In organizations such as state governments, which rival the size and complexity of Fortune 100 companies, that task can seem insurmountable. A solid governance structure, common compliance procedures, process templates, and constant communications among the key stakeholders are only a few of the guiding principles to achieving architecture success.

Missouri began its process after a lengthy review of efforts by other states, federal initiatives, and the efforts of NASCIO. A technology architecture committee was appointed to begin identifying architectural principles, business drivers, processes and components relevant to the State of Missouri. Areas of technology pertinent to the implementation of e-government were identified and categorized into natural divisions called “domains”.

The committee was tasked with developing the template that is used to produce an architecture document for each domain. This group also developed the organizational roles, management responsibilities, and various architectural processes. The organizational roles and responsibilities define how the enterprise architecture is maintained and managed. The processes define how the architecture’s vitality is maintained and how governance determines what part of the architecture becomes accepted, revised or rejected.

Missouri’s Enterprise Architecture begins with eight domains (categories) relating to all areas of the enterprise. Within these initial domains are disciplines, technology areas, compliance components, and product components. Once each domain is defined, an architecture domain committee is established to detail the architecture for that domain using a standard architecture template. These committees are comprised of subject matter experts and key stakeholders in the application of these domains.

The initial set of eight domains consist of:

<i>Security</i>	<i>Information</i>	<i>Infrastructure</i>	<i>Integration</i>
<i>Application</i>	<i>Privacy</i>	<i>Interface</i>	<i>Systems Management</i>

Each domain works with a wide array of technology and business areas to produce the underlying recommendations/components that are reviewed by the Architecture Review Committee (ARC). Each domain consists of 8-12 agency members that attend two training sessions to prepare them for the work of producing architecture products and components. Each of the domain committees, represented by a cross section of state agencies, are appointed by the Information Technology Advisory Board (ITAB). Subsequent domains will consist of other agency members so that each area will have input from all agencies throughout Missouri State Government.

The Security Domain began their work in December 2002, and has already produced several components and products that have been approved by the Architecture Review Committee. This body of work will be submitted to and receive final approval through the Information Technology Advisory Board. Once approved, it becomes a living document that will guide the direction and procurement of security initiatives and products.

In May 2003, the GIS discipline of the Information Domain and the Email subject area of the Application Domain began work in their respective areas. The Email subject area is a prime example of the flexibility of the adaptive process allowing for the concentration on a specific need area within a domain. These two domains will be closely followed by the introduction of the Infrastructure and Integration Domains.

The State of Missouri also established a close alliance between the IT community and the Division of Purchasing and Materials Management. This alliance is intended to facilitate the exchange of contract information relating to IT initiatives by identifying IT contracts and specific categories relevant to architecture. It is also used as a method of monitoring architecture compliance by monitoring procurement requests.

Missouri has also published a complete manual to be used by all stakeholders in the EA process. The manual covers all the templates, guiding principles, technology trends and the complete review process for EA. The manual is published online at <http://oit.mo.gov/architecture/architecture.html>.

Last, but certainly not least, is the promotion of architecture to key business and executive leaders in Missouri. To this end we have developed a primer for the Executive level cabinet member and an agency primer for the CIO in each department. Additionally, primers are under development for the citizens and legislative leaders of Missouri.

B. Significance to the Improvement of the Operation of Government

Without architecture, including standards and compliance, all government at the state, federal, and local level will continue to operate in functional and technical silos without regard to the windfall benefit of collaboration. Continued investments in technology solutions to address business issues without leveraging through enterprise architecture inhibits the growth of delivering services to our constituencies in the most efficient manner possible.

The nature of data processing has changed greatly in recent years. Today's system users have more computing power at their desktops than mainframes had just a decade ago. Each year new and better applications, software, hardware and peripherals are being developed. Each advance offers new opportunities to increase processing capability and improve service to constituents of the State of Missouri.

Every change state agencies or departments make to a system, whether to take advantage of new technologies or to respond to business changes, potentially affects many other parts of the statewide IT portfolio. Furthermore, the systems built today must be

capable of integrating with those that are built tomorrow. Missouri is creating an enterprise architecture environment that is adaptable and includes a detailed plan, process and the commitment of all stakeholders.

The architecture blueprints that are delivered through the domain committees will provide the cornerstone for investment decisions and utilizing technology in the context for which was designed. We will make sound technology decisions that reflect the needs of citizens and respond rapidly to the changing business and technology environment that exists in all levels of government.

C. Benefits Realized

With enterprise architecture a common theme among all Missouri's government leaders, CIO's, business executives, and legislators can concentrate on the mission of the agency business directives while having a repository of vital technical information to assist them with decision-making and implementation. In fact, today's technology discussions center around architecture and its impact on the future of Missouri State Government.

In the few short months since implementation, CIOs and business executives are considering the implications and benefits of enterprise architecture and the blueprints for their success. By having an adaptive enterprise architecture in place with vitality along the way, development life cycles can be reduced, procurement processes can be validated, and the decisions concerning business and technology deliverables can be leveraged.

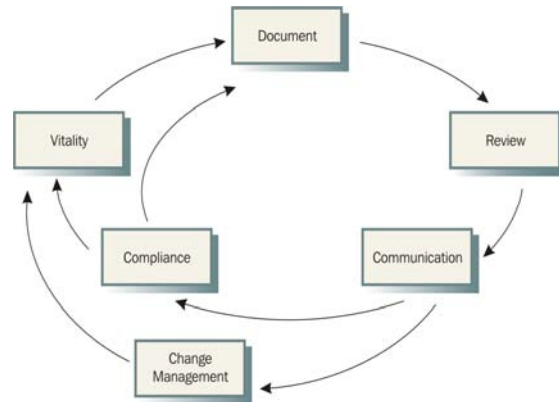
D. Return on Investment

The State of Missouri was utilizing six different help desk products and multiple agencies were contemplating the acquisition of additional products. OIT conducted research into the help desk issue and with the mindset of enterprise architecture, was able to recommend two products as standards. The recommended product standards then received the approval of the Information Technology Advisory Board. As a result, one agency alone was able to save over \$ 70,000 in annual product maintenance.

The Security Domain has already declared two products as current for virus protection and we expect this process will yield further purchasing efficiencies. As we progress into application development, we expect that the development and implementation will reduce our consulting and project rates accordingly.

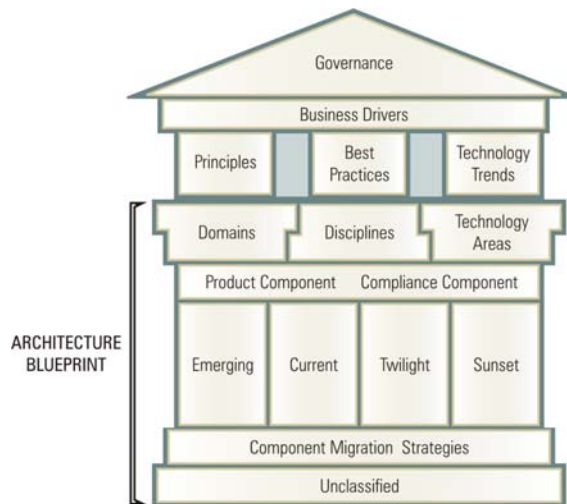
E. Architecture Governance Process

There are five key processes associated with Missouri’s architectural governance: Documentation, Review, Communication, Compliance, and Vitality. This graphic identifies these processes and their relationships.



The “roof” of the enterprise architecture framework represents the roles and responsibilities of the personnel who support and govern the enterprise architecture. Their efforts are driven and guided by the business needs of the enterprise. The enterprise architecture pillars (principles, best practices, and technology trends) are overarching; they hold true throughout the architecture.

The domains, disciplines, and technology areas are the building blocks that make up the architecture. They are its foundation and its logical divisions, such as privacy, security, and the IT infrastructure.



Enterprise Architecture Framework