NASCIO

2004 ENTERPRISE ARCHITECTURE ASSESSMENT TOUR REPORT

A Blueprint for Better Government

NASCIO EA Assessment Tour
Site Visit Report

October 2004

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TABLE OF CONTENTS

EA ASSESSMENT TOUR 1

Background 1
Purpose 1
Participating Sites 2
Approach 2
EA Tour Site Presentations 5
State of Kansas 6
State of New Mexico 9
State of Indiana 10
National Park Service 12
State of North Dakota 14
State of Nebraska 16
State of Maine 18
State of Arkansas 20
Westchester County, NY 21
State of New York 23
State of North Carolina 26
State of Georgia 28
NASCIO Visiting Team Presentations 30
NASCIO 30
State of Minnesota 31
State of North Dakota 32
Commonwealth of Pennsylvania 32
State of New Mexico 34
Westchester County, New York 34
State of North Carolina 34
State of Kansas 35
State of Georgia 35
State of Arkansas 35
State of New York 35
Los Angeles County, California 35
Palm Beach County, Florida 37

State of Kentucky 37
State of Indiana 38

EA TOUR SUMMARY 40

Assessment Summary 40
Plans for the Future 45
Conclusion 45

APPENDIX - HIGHLIGHTS 46

EA ASSESSMENT TOUR

Background

PURPOSE

The purpose of having an Enterprise Architecture (EA) Assessment Tour was to facilitate the evaluation of state enterprise architecture programs and create opportunities for collaboration among the states. NASCIO feels that these kinds of efforts must continue to ensure full adoption of the program's principles. This is particularly important given the high turnover rate of CIOs and the budget deficits facing the states and localities.

Currently, NASCIO provides four primary tools for assisting state and local governments in their Enterprise Architecture development efforts:

- NASCIO's Enterprise Architecture Development Tool-kit - a guidance document for developing Enterprise Architecture Programs
- NASCIO's EA Readiness Assessment Tool – an online questionnaire that allows state and local government to measure their readiness for an EA program, and the maturity level of their EA program
- NASCIO's EA Maturity Model (EAMM) Version 1.3 – a document that describes the levels of EA Program maturity and identifies characteristics at each level
- A set of promotional materials, including available videos, that describes EA and its value to an enterprise

The success of an Enterprise Architecture program lies in the ability to assess the current maturity of the program and apply that knowledge to provide direction for moving to the next level.

In an effort to promote the Enterprise Architecture Development Program and to help government entities develop their EA programs, NASCIO implemented a formal program for providing technical assistance, with the primary focus on conducting EA Assessments and utilizing the EAMM.

NASCIO presented the opportunity to its members and gained commitments from ten states, one county, and one federal agency. This cohort of participants represents a diversity in population base, geography, and progress in development of EA programs. Visiting teams included members from a variety of states, and counties providing benefit and feedback to both the assessors and the home state participants and contributing greatly to inter-governmental collaboration and sharing of best practices. Participants were asked what presentations, and learnings were particularly valuable. That feedback was used to generate the table of highlights in the appendix of this document.

Feedback from this initiative will be used as input to enhancing the EA Maturity Model and overall Enterprise Architecture Program in the future.

PARTICIPATING SITES

A subcommittee of the NASCIO Architecture Working Group established a set of selection criteria for identifying candidate sites for applying the assessment tool. The intention was to apply the assessment tool to a cohort of 12 sites that would represent geographical, economic, and population diversity. Additional benefit was anticipated from applying the maturity model and assessment tool to programs representing a range in terms of maturity level on the various dimensions tested. This would provide additional testing and experience in applying the tool to enterprise architecture programs at all levels of the maturity model. The subcommittee also decided that it would be beneficial to apply the tool to various jurisdictional levels including state, county and city. Ultimately, the candidate list would depend on the availability and interest of the constituent states. The tour included site visits to one federal agency, ten states, and one county, which are listed below:

Federal

- National Park Service

States (listed alphabetically)

- Arkansas
- Georgia
- Indiana
- Kansas
- Maine
- Nebraska
- New Mexico
- New York
- North Carolina
- North Dakota

County

- Westchester County, New York

Each on-site visit provided an opportunity for the two-way exchange of information. Participants from the site being visited discussed their EA experiences and provided a self-assessment of their EA program. NASCIO staff members provided information about the current direction of NASCIO's program, and about other EA initiatives that are under way. Teams included representatives from states and counties in order to facilitate state to state learning. Visitors from other states and/or counties discussed their EA experiences, including highlights and experiences providing the opportunity to compare and contrast the EA programs in the various jurisdiction represented.

APPROACH

NASCIO's intent is to provide the highest benefit to the states through the programs that it offers, through leveraging the experiences of its members, and ultimately to advance government excellence. To promote this intent during the 2004 program year, NASCIO coordinated with states and counties to select twelve state or county sites to participate in the NASCIO EA Readiness Assessment Program.

The EA Readiness Assessment Program is an interactive process between NASCIO and each participating enterprise. During the process, the EA Readiness Assessment was conducted with each participating site through the combined use of emailed instructions and preparation materials, on-site visits by a NASCIO team, a web application for submission of the assessment responses, and a series of conference calls for preparation, on-going support, and feedback.

An "at-a-glance" overview of the standardized approach utilized during the tour is provided in the following table:

Activity	*Description*
Process Initiation	Coordination, scheduling and overview of introductory materials
Preview Period	Site participants work together as a team to review assessment and come to consensus on response from an enterprise perspective
NASCIO Site Visit	Conduct Enterprise Architecture Maturity Assessment
	Facilitate state-to-state learning
	Gain insight on best practices / techniques that can be shared with other states
	Learn state priorities for enhancing NASCIO's programs
	Gain feedback on the survey instrument and the overall process for EA Assessments
Assessment Submission	Site submits responses to assessment survey online
Follow-on Activities	NASCIO provides participating state with an EA Assessment Participant Summary Report, and receives feedback regarding the EAMM, the assessment report and the overall process

To prepare the participants, a copy of the EA Maturity Model and a variety of supporting materials were sent to the site coordinator at each of the participating sites. Conference calls were conducted to review expectations, to prepare the site team, and help NASCIO understand the site's prioritized issues. This information would be used later to not only prepare for the site visit, but also assist in selecting participants from other jurisdictions that could address the prioritized issues at each site. NASCIO provided support and answered questions throughout the entire process.

An EA Readiness Assessment Preview document was included in the preparation materials. This preview document introduced the EA Readiness Assessment and provided a listing of all questions and response options that are included in the on-line assessment. NASCIO also provided instructions on how to access and complete the assessment.

During the preview period, members from each participating site were encouraged to meet collectively to discuss items on the preview document and to determine best responses from an enterprise perspective.

Arrangements were made for the NASCIO assistance team to conduct an on-site visit with each of the participating sites. The NASCIO assistance team consisted of representatives from NASCIO's Architecture Working Group (AWG) and/or representatives of member states or counties, NASCIO's Chief Enterprise Architect, and a representative from CIBER.

The objectives of the on-site meetings included:

- *Conduct Enterprise Architecture Maturity Assessment* - At each site, the assistance team and the participants would complete a review of the assessment, provide clarification of terms or intent, gain an understanding of the intended responses, and gather feedback on the process and materials that could be used to improve the program.
- *Facilitate state-to-state learning* – Visitors from other states and counties participated in the on-site visits. This provided an opportunity for individuals with similar business requirements and constraints to compare notes, review histories, and share common experiences. This created an environment of fellowship that promoted open and frank discussions during the visit. It also facilitated bonding between participants from the various locations, which will increase the potential for continued sharing in the future.
- *Gain insight on best practices / techniques that can be shared with other states* – Participants at each site were encouraged to share those practices and trends that they had found to be particularly relevant and pertinent.
- *Learn state priorities for enhancing NASCIO's programs* – NASCIO's EA program will continue to mature and grow over time. Therefore, input from the sites was sought to assist in prioritizing known improvements and to determine any additional desired enhancements.

Following the on-site visit, the on-line assessment survey application was made available to the participating sites for input. Once the sites completed the on-line assessment, NASCIO reviewed and analyzed the results and developed an EA Readiness Assessment Participant Summary Report for each of the participating sites. The report was customized for each site, based on the structure and content that was approved by the NASCIO AWG.

The feedback received from the participating sites will be used in future efforts to improve the EA Readiness Assessment program. Enhancements to the EA Readiness Assessment Program components, which include the EA Maturity Model, the EA Readiness Assessment survey, the EA Readiness Assessment Participant Summary Report, and the procedures used to implement the program, will be incorporated based on NASCIO AWG consensus.

EA Tour Site Presentations

This section focuses on the highlights from each site visit, the interactions that took place, and the benefits received and lessons learned. Comments regarding suggestions for improvements to the EAMM, the assessment survey and the assessment process have been captured by the NASCIO team, and will be used in follow-on efforts to determine and prioritize future enhancements. Summaries were compiled by Ciber, Inc.

The twelve site visits were conducted on the following dates:

- Kansas 2/24/2004
- New Mexico 3/10/2004
- Indiana 3/16/2004
- National Park Service 3/29/2004
- North Dakota 4/14/2004
- Nebraska 6/08/2004
- Maine 7/13/2004
- Arkansas 7/15/2004
- Westchester County, NY 7/27/2004
- New York 7/29/2004
- North Carolina 8/24/2004
- Georgia 8/26/2004

STATE OF KANSAS

The on-site visit for the State of Kansas occurred on February 24, 2004. Participants in the Kansas visit included the following:

- Beth Warner, University of Kansas
- Bill Roth, Kansas Department of Transportation
- Rick Miller, Kansas State Chief Architect
- Denise Moore, Kansas State CIO
- Carey Brown, State of Kansas
- Don Hieman, State of Kansas

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Mike Ryan, State of Minnesota
- Jennie Witham, State of North Dakota
- Jean Bogue, Ciber

Enterprise Architecture within the State of Kansas resulted from an initiative to reinvent Kansas government. Objectives included improving the quality of government services and increasing the E-Government initiatives.

Kansas operates 52 rate centers, each of which are run like a business and managed from operating ratios. In the internal business model, architecture is so integral to the infrastructure that it has virtually become the strategic plan. The goal is to make EA and Strategic Planning accessible, with the business reference model to be published in May and subsequent project plans due in October. Kansas wants to develop a three-tier environment: Portfolio Management, EA and Strategic IT Planning.

Kansas has had an architecture program for seven years (since 1997) and is currently on Version 10. The focus has been on developing the Technology Architecture, which supports the State's 3-year plan from an IT perspective. Additionally, Kansas wants to do enterprise data modeling and wants to develop an enterprise view of their data (information).

Kansas has a State Information Management Plan (SIM Plan, the long-range plan). It also utilizes the Balanced Scorecard, IT Enterprise Architecture, Project Management Standards, and COBIT Standards in its program management. Each Agency has a 3-year plan, as well as individual agency project plans.

There is a State certification program (borrowed from California and based loosely upon PMBOK) for Project Managers; a project cannot get funding unless it is approved. Kansas' Technology Domains and Disciplines pre-date NASCIO's Tool-Kit, but are very similar. The approach that developed was to create an inventory by committee, then sort it into breakdowns. In the beginning, there was no EA documentation to follow. Kansas began by creating a model of systems and how they relate to the citizens. Kansas is developing their business process models using visual modeling approaches. These include mapping of functions using the Michael Porter Value Chain, Rummler-Brache cross-functional flow charts, process maps, entity relationship diagrams (ERDs), and radar diagrams (developed by Kansas Department of Transportation and the Ken Orr Institute).

Kansas' EA governance structure was determined primarily by statute. The governance structure is composed of both public and private sector members. The Information Technology Executive Council (ITEC) heads the governance structure for the EA effort. The ITEC establishes policies and strategic initiatives, similar to a model being implemented in Indiana. The ITEC has 17 members representing the three branches of government and the private sector. The ITEC meets monthly and may have as many as fifty people in attendance.

The ITEC establishes subcommittees that are directed to write "white papers" on topics of special interest (for example, E-Government, Workflow, and Security). There is a goal to have a needs assessment every three to six months, with an architecture vitality process every six months.

Kansas does not follow a strict hierarchical governance model. The State CIO heads the Kansas Information Technology Office (KITO) which also includes the State Chief Architect. The three CITOs (Chief Information Technology Officers) implement EA policy using a scorecard approach and working through a CITO office, which is responsible for independent oversight.

All three CITO offices are headed by agency CIOs, who also are members of the IT Advisory Board (ITAB). Domain chairs are typically Agency CIOs, Subject Matter Experts (SMEs) from business areas, or IT persons.

The following table documents the roles of the Chief Information Technology Architect (CITA), CITO, and KITO members:

CITA Roles	*CITO Roles*	*KITO Staff Support Roles*
IT Architecture	Project approvals>$250,000	ITEC
Project Management	PM training	ITAB
SIM Plan	Bid spec approvals >$250,000	GIS Policy board
Policies	Project reporting	Security Council
	Agency 3-year IT plans (updated annually)	

The Kansas Governance model is roles-based as opposed to personality- or people-based. This eliminates any ambiguity and ensures a smooth transition when people change their jobs/positions.

INK, the Information Network of Kansas, is a quasi-private portal group that is following enterprise direction.

Having a formal Enterprise Architecture supports the "transformational" approach currently espoused by the state. A transformational event is a life event, such as the birth of a child, the loss of a loved one, or starting school with the ultimate goal of graduation (which will sustain across a lifetime and is therefore extensible). Transformational approach is driven from life events and related to context.

For example, the State generates over $20M in revenue from hunting and fishing licenses alone; if this service could be provided on a "self-serve" basis, it would be less costly for the State and result in even greater net revenue. Additionally, from a transformational perspective, the following questions are asked: Where does the hunter/fisherman go to hunt/fish? Does he need to have a permit or license? What does he take with him? Where does he stay? Where are the nearest outfitters and suppliers? Where does he eat? These things are linked, and the citizen should be able to research or accomplish purchases and/or

reservations in one transaction without having to know about those linkages. This would contribute to a more positive transformational experience where delivery of services is centered on life events.

Most of the push for EA has historically been by academia. However, there have been three important support groups paired with CITO; one of these is Geographic Information Systems (GIS). In fact, GIS is prevalent across many applications; almost 90% have a geospatial component.

Kansas intends to have all three governmental branches (Executive, Legislative and Judicial) send their information to the State Chief Architect, where it will be used to craft the enterprise strategic plan and the 3-year IT plans. These plans drive the project plans that are agreed upon between branches and based upon budget constraints. It is intended that they also be used to refresh the Business Strategic Plan. There is an Academy to certify Project Managers; Enterprise Architecture is incorporated into the Academy and the project plans.

JCIT is the Joint Legislative Committee on Information Technology. JCIT has five sessions per year, two days per session. Project status and metrics are presented; the Legislature wants to see that projects are delivered on time and within budget. CITO has signature authority and drives the agenda because CITO is accountable to the Legislature. CITO validates bid specifications against the architecture and, if something is not built in, CITO will build it. The feeling is that audits should be conducted against the architecture (there should be a fully risk-assessed, enterprise inventory that is score carded against the architecture and driven by security). Auditing is extremely important; this is not totally happening in Kansas yet.

While the Clinger-Cohen Act envisioned only Information and Technology, scope has been broadened to include Business Architecture, Project Management, Solutions Architecture, etc.

The Information Technology Security Council (ITEC Security Council) is starting to mature. The initial effort was to develop the "Current" architectural components, then to document "Emerging" components, then to reach consensus on what could be "Twilighted". As the EA has matured, the scope has continued to narrow and consensus has continued to be gained. Future efforts involve developing Kansas' interpretation of trends and best practices. Agencies are also creating their own architectures, which then "bubble up" to the Enterprise Architecture.

While Enterprise Architecture for the State focused on IT/Technology Architecture, the Kansas Department of Transportation (KDOT) has approached EA from a business perspective with very little emphasis on associated technology.

Kansas would like to get to a point where each component is reusable and sharable by all agencies, but are not there yet. However, being able to do business in this way is becoming critical and the need to deliver a competitive product is greater than ever.

STATE OF NEW MEXICO

The on-site visit for the State of New Mexico occurred on March 10, 2004. Participants in the New Mexico visit included the following members:

- Deb Taylor – Chief Enterprise Architect for the state of New Mexico
- Peter Ambs, CIO – Children, Youth and Families Dept.
- Bob Ashmore, CIO – Dept of Transportation
- Noemi DeBodiscco, CIO – Taxation and Revenue Dept
- Mark Duran, ITC Commissioner
- John Fitter, General Services Department
- Chris Jungmann, Deputy CIO – Administrative Office of the Courts
- Ed Paz, Senior IT Performance Auditor

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Mike Ryan, State of Minnesota
- Jem Pagan, Commonwealth of Pennsylvania
- Jean Bogue, Ciber

The on-site visit at the State of New Mexico kicked off with a review of their Organization Chart and a PowerPoint overview of their EA program. New Mexico's Legislature has mandated that there will be a statewide Information Architecture by May 1, 2004; it has also decreed that funding will not be released for web-based projects unless the Information Technology Enterprise Architecture (ITEA) was in place. Enterprise Architecture is viewed as a good way to support the initiatives of the IT Strategic Plan. However, obtaining funding and managing culture change were identified as challenges to New Mexico's EA implementation. (At this time, through, money has been allocated for EA development.) It has been strongly indicated that, while no one will be laid off, it is imperative that the State save money.

New Mexico is identifying its Business Drivers which will influence the design and planning of technology systems. They have also identified Best Practices, and new projects are based both on the Business Drivers and the Best Practices. Already, it is evident that clear communications and good leadership are key to the success of their Enterprise Architecture efforts.

New Mexico will be focusing upon developing or expanding their EA Plan, Business Drivers, and Vision Statement in the near future. At the time of the visit they would be determining which Framework to use, what their Principles are, and who the major Stakeholders are. Their strategy is to have the upper-level EA members take a leadership role in developing the EA Framework and the EA Governance, then to add the collaboration of the agencies at the secondary level (e.g. the Domain teams).

STATE OF INDIANA

The on-site visit for the State of Indiana occurred on March 16, 2004. Participants in the Indiana visit included the following members:

- Jake Moelk, ITOC – Systems consultant with ITOC, Content Management
- Bill Pierce, ITOC - Systems consultant with General Government, Education, and Public Safety
- Chris Pichereau, ITOC – Chief Architect
- Don Wray, ITOC - Systems consultant
- Andy Miller, Access Indiana – Tech director of Web
- Jerry Cameron, IDEM
- Laurie Beamish, FSSA – IT and Business Services Director, Chair Access Committee (EPA)
- Anne Brison, DoEducation- IT director of ED
- Laura Larimer, ITOC – CIO for state, Executive Director of ITOC, Chair of Tech leadership council
- Tad Stahl, DNR
- Joe Hunt, ISDH – Chair of Privacy team
- Donna Sexton, Department of Corrections – Supervise applications training & Chair Information committee for EA
- Roger Koelpin, ITOC – GIS coordinator for state
- Russ Clark, FSSA – Director of Business Consultants and Planning

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Deb Taylor, State of New Mexico
- Carey Brown, State of Kansas
- Jean Bogue, Ciber

Indiana has started Business Architecture by adopting many of the tools presented in the NASCIO Tool-Kit and adapting them as needed. They are creating their business model based upon "communities of interest", which were determined using the Federal BRM. Indiana is using Excel as a documentation tool. There is a spreadsheet for each community of interest, and to capture trends, each agency has been mapped to a service class. They also use an Excel spreadsheet to provide an overall summary. These spreadsheets have provided an excellent resource that has been used by the Governor to describe and communicate the organization of state government and the supporting information technologies.

Indiana created an EZ Business Template, which is a simplified form based upon the samples provided in the NASCIO's Tool-Kit. The Business Function Definition was useful in creating the communities of interest. The various business teams found it very beneficial to share the information about what each business group does. A number of collaborative efforts have been started based on these initial team sessions.

The next initiative for Indiana is to create a collection of Best Practices. This will include developing a definition and list of attributes for what constitutes a Best Practice. The NASCIO Domains were used in the development of the Technology Architecture, where current standards and policies were mapped to the Domains. The focus was to capture Current technologies and add Emerging technologies as they are identified. They found that some technologies fit into multiple Domains, and that Security is comprised primarily of Compliance Components, rather than Product Components. They also developed a Technology Domain Matrix, which is used to identify redundant products and has become the basis for consolidation.

There is strong CIO support for Enterprise Architecture in Indiana and, while there is currently no specific funding for EA efforts at this time, it is recognized that there needs to be funding in the near future.

The governance group in Indiana is the ITOC, which oversees the work of eight Technology Domains and seven Business Committees. The seven Business Committees include Education, Environment, Human Services, Justice / Public Safety, General Government and Finance, Economic Development, and Regulation.

The State of Indiana has an introductory video for IT professionals, which presents the concepts of Enterprise Architecture. This video is good marketing tool for presenting high-level concepts, but some participants feel IT personnel may need additional detail and more substantive examples.

The State should be reacting to the Business Drivers, but these may not be obvious to everyone. EA is a good tool for documenting Business Drivers and can facilitate change management. One of the biggest barriers for EA in Indiana is that grant dollars are earmarked for specific purposes. There is a need to track project efforts that have been successful (like Integration) and provide a list of examples (by Discipline) of what EA has enabled the organizations to do. However, these examples would have to be very tangible and meaningful. Examples would have to be at a service delivery point, not at a technology point. Indiana is also looking at compiling scenarios that have not been successful. The objective is to analyze what went wrong in these projects. Learnings from this exercise will be used to anticipate, mitigate, and avoid problems in future projects.

NATIONAL PARK SERVICE

The on-site visit for the National Park Service occurred on March 29, 2004. Participants in the National Park Service visit included the following members:

- Robert Stearns, OCIO
- Sue Hawkins, NISC (using Popkin) Deputy CIO for Information Systems
- Allen Sparks, OCIO
- Dom Nessi, OCIO
- Jim Wolf, NITC
- Ann Sulkovsky, OCIO
- Lincoln Fairchild, NPS Cultural Resources

By Phone:

- Kevin Killeen, Seattle/Pacific*
- Joycine Lowe, Atlanta/Eastern
- Doug Garnand, Denver/Mountain*
- Patti Dienna, Philadelphia/Eastern*
- Lance Gridley, Denver/Mountain*
- Lisa Englehardt, Reston/Eastern*

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Bill Roth, State of Kansas
- Kym Patterson, State of Arkansas
- Jean Bogue, Ciber

The National Parks Service (NPS) is a department of 22,000 individuals that is moving ahead faster than they had expected, and experiencing significant change at a dramatic rate. NPS is a bureau under the Department of the Interior (DOI). Using the GAO Maturity Model, NPS ranked 1.93/5.0 in 2001, and 2.0/5.0 in 2003 (only the IRS ranked 5.0/5.0). NPS has an Architecture Review Board (ARB) and an Investment Review Board (IRB). There are five Lines of Business: Law Enforcement, Recreation, Wild-life Land Fire Group Indian Trust and Financial. The modernization blueprints for these five LOBs will be completed by EOY 2004. The modernization blueprints are posted to the web; however, a password is required to view them.

Under the proposed NPS EA Governance Structure, the Inspector General (IG) or the Government Accounting Office (GAO) would be responsible for Quality Assurance (QA), but this area is not yet mature. The Interior Business Architecture Team would be composed of the CFO, Executives, Chiefs and Directors, with no direct leadership by IT.

Each NPS Bureau has it own segment of the EA repository (DEAR – Department EA Repository, BEAR – Bureau EA Repository). There is one repository and Popkins' System Architect is used as the

repository management tool. Information can be extracted from this tool and posted to the Web. The next phase for NPS involves validating and mapping all of the reference models to the Federal models using a structured, top-down and bottom-up approach (strategic vs. tactical).

Currently, there are holes across the Domains because they did not document the touch points with other processes and technologies.

Each Bureau used to have its own Strategic Plan, but these are now centralized at the department (operational) level. The EA Domain Team functions as a focus group, on topics such as Web Services, Technology, etc.

NPS is trying to convey the message that architecture needs to extend beyond States. Just as parks do not end at State boundaries, architecture should not end there, either. Monitoring air and water quality for a park is a good example; the "boundaries" extend beyond the park itself. NPS would like to work more closely with State government on architecture in the future.

STATE OF NORTH DAKOTA

The on-site visit for the State of North Dakota occurred on April 14, 2004. Participants in the North Dakota visit included the following members:

- Jennifer Witham, Enterprise Architect
- Cathie Forsch, Director of Operations – Revenue (ARB Chair)
- Jeff Carr, Systems Architect
- Architecture Team:
    - Treva Beard
    - Kyle Forster
    - Jeanette Hoffman
    - Kelly Klein
    - Cathie Forsch
    - Jennifer Kunz

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Carey Brown, State of Kansas
- Carol Bingaman, Commonwealth of Pennsylvania
- Jean Bogue, Ciber

The ITD was established in August of 2001. Enterprise Architecture started in North Dakota two years ago (July of 2002) due to a need to drive down operational costs. Their goal is to create an iterative game plan for developing EA and keep it simple. They defined five Architecture principles and developed Domain teams, an Architecture Team (made up of Domain team chairs) and an Architecture Review Board (ARB).

The ARB is composed of all department CIOs (12 voting, plus technology leads and an auditor). Following an approach from Meta Group, agencies were invited to be members of the (ARB). While the agencies had worked previously with ITD, it was the first time the agencies had worked together as a cohort. The agencies didn't have a feeling of "Enterprise"; they felt distinct, and tended to look for the 20% of where they were different, rather than the 80% of where they were the same.

Of the 58 statewide agencies, 32 are actively involved with the architecture effort, with the remainder on a rotating basis. The ARB now has approval authority of standards and the State IT Advisory Committee (SITAC) provides the business perspective.

There are currently 12 Domains. These are presented in the following chart:

North Dakota's Domains		
Application Integration	Desktop	Platforms / Operating Systems

North Dakota's Domains		
Application Software	Document Management	Security
Data / Information	E-Government	Video
Data Storage	Office Automation	Network

Domain teams meet every Friday to define Domain principles. Initially, North Dakota conducted a "How to manage a team" session, rather than just an architecture class. The team leads established strong working relationships during these sessions, which helped the individual teams. Today the members from the various agencies are becoming better at reaching consensus, and the Domain teams have been successful in effecting this change. Documentation for each domain is on the North Dakota State web site.

North Dakota has developed/ratified its governance structure, defined its Enterprise initiatives, documented current state and future state, and performed gap analysis. There is more of an enterprise view in some areas than in others. The agencies feel they have ownership of standards today, rather than the feeling in the past that ITD just dictates the standards.

Consensus models have been built and reviewed. Consolidation efforts are becoming more successful because Enterprise Architecture is in place. A good example is a recent server consolidation effort. Although the consolidation was mandated, EA provided the relationships that promoted dialog. While some savings were achieved, the environment is very small and therefore the overall expense was not that great.

Pacific Tech out of Washington State prepared a study for legislators that recommended that North Dakota look at treating PCs as a commodity or utility and centralize PC support. Because EA was in place, North Dakota was able to use Domain teams to study the situation and to determine what it would take to reduce to three PC configurations. Another group is studying helpdesk/support, and developing a business process model for the deployment of PCs. This has all been more palatable because EA is in place. The agencies have representation and they are part of building of solution, resulting in less finger pointing.

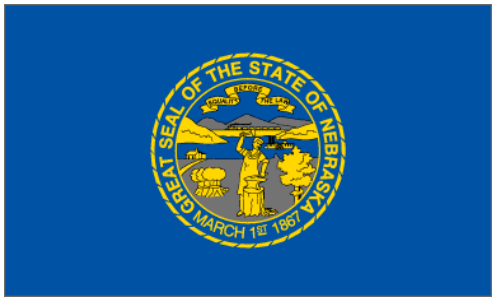
In North Dakota, every advance in policy comes from the legislature, which meets every two years. There is a mandate to create an IT plan and a Business plan but there is no mandate to tie the two together. IT expenditures were considered to be out of control; there was no correlation of IT spending to the business of the organization. Therefore, North Dakota started with the Meta Group and NASCIO models and zeroed in on IT expenditures, which lead to the idea of consolidation. Performance measurements are also a current hot issue, as the legislature would like more and better data.

There has to be a way to fund architecture initiatives. There have been a number of enterprise initiatives kicked off that were funded because of the leadership that came from the Executive branch and the resulting support of the Legislature. Homeland security has been a way to bring agencies together; North Dakota has seen more commonality than ever imagined. Pooling of funds is in the works; they are currently working on a process to borrow the money, show a return on investment, and then pay it back.

North Dakota wants to develop an enterprise Business Plan so the agencies are all working toward the same goal. Currently, each is interpreting the high-level goals in different ways, so they are still not working together effectively. Those who can really effect change are at the level of the long-term players (spanning administrations); others change too often. Though at times the rewards do not appear to be great, North Dakota is focused on just doing the right thing. It has become evident that this is where real change occurs. Culture takes a long time to change.

STATE OF NEBRASKA

The on-site visit for the State of Nebraska occurred on June 8, 2004. Participants in the Nebraska visit included the following members:



- Steve Schafer, CIO
- Steve Henderson, Information Mgt Services
- Dan Ward, Division of Communications
- Rex Gittins, DNR
- Marcy Ganow, NDOR
- Jon Ogden, ROADS
- Dorest Harvey, SCG
- John Erickson, Government – PRO
- Steve Cherey, HHSS
- Bob Beechum, Education
- Jack Falconer, Corrections
- Tom Conroy, DAS
- Rick Becker, CID
- Linda Salac, HHSS (Project Management)
- Scott Beckler, Labor
- Jim McGee, HHSS
- Bob Howard, DOC
- Don Bryner, Microsoft

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Jenny Witham, State of North Dakota
- Robert Woodruff, State of Georgia
- Don Hieman, State of Kansas
- Jean Bogue, Ciber

Nebraska is in the very early stages of EA development. There were two stated objectives:
1. To obtain a better understanding of EA, drawing upon the experiences of different states in various stages of development and maturity
2. To define the area of governance and discuss a planning process for determining what technology is needed to support business functions and what the best way is to prove support for that technology.

In Nebraska, the CIO is independent of other organizations and his focus is state –wide issues. The CIO has no operational responsibility for other programs. There are five on staff, functioning primarily as policy setters. IT, while a support function, has some statutory authority. Technology decisions are made based on business decisions. State agencies have clear responsibility from the legislature, and provide the business environment that drives what is done.

The Nebraska IT Commission has membership from the Community Council, Education Council, State Governor's Council (great interest in agencies, EA resides under this), and Technical Panel (www.nitc.state.ne.us). The commission was created in statute, and the tradition has been to use a light hand, balancing requirements against the greater good of the whole. The IT Commission meets four times a year, and the inclusion of those with little government experience (lots of private sector people) brings outside perspective to the process.

The Technical Architecture plan is developed and updated annually (standards and guidelines; www.nitc.state.ne.us/standards). Nebraska has chosen to follow the NASCIO EA model (Feb. 2004) because it appears to be a high-level approach, rather than the excruciating level of detail exhibited by some others. Nebraska currently has established standards in the following areas:

- Accessibility
- Data and Information
- E-Government
- Groupware
- Hardware Platform
- Network
- Security
- Video

Nebraska has established the following Key Principles for the implementation of its EA program:

Nebraska's Key Principles
There are opportunities for cost sharing.
This is a participatory process.
Avoid trying to address every technical issue.
Respect agency mandates.
Base recommendations on sound arguments.
Develop business cases and link to the benefits EA is supposed to deliver.
Develop a formal process to justify deviations from the EA standards.

Nebraska has engaged in an EA effort in order to gain the following benefits: Better decisions, Collaboration, Cost sharing, Data sharing (CJIS is good example), Efficiencies, and Interoperability. They see as potential land mines controversial decisions, the magnitude of tasks and technical details, availability of resources – funding and staff support (voluntary effort), and the issues of centralization versus decentralization and compliance versus enforcement.

STATE OF MAINE

The on-site visit for the State of Maine occurred on July 13, 2004. Participants in the Maine visit included the following members:

- Dick Thompson - Chief Information Officer
- Kevin Jones – Information Technology Management Analyst
- Richard Hinkley – Director, Bureau of Information Services
- Tom Hawker– Deputy Director, Bureau of Information Services
- Ellen Lee - Director of Network Services, Bureau of Information Services (BIS)
- Mark Kemmerle – Manager, Production Services Division, Bureau of Information Services (BIS)
- Val Wood - Manager, Systems & Programming, Bureau of Data Processing
- Nancy Armentrout - GIS Manager, Information Systems Division of DOT

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Carey Brown, State of Kansas
- Mike Ryan, State of Minnesota
- Jean Bogue, Ciber

Maine is early in its EA development. Physically the enterprise is wide; Maine is a large, rural state bordering two US states and Canada. There are sixteen agencies with "stovepipe" funding. The majority of the participants in EA are from IT, with only one from the Department of Transportation. Maine currently has some enterprise-wide projects within the agencies, for example, the Telco project (Telephones).

Maine sees the budget cuts of the 90's as both the worst and the best things that could happen for the organization, because the cuts forced everyone to work together and share resources. When there was a lot of funding available, there were many "wants" versus "needs".

The legislative body in Maine differs from many other states; as it is a citizen's legislature made up of representatives from the town meetings. Maine has an IS Steering Committee that approves projects. Each project must have a sponsor, who goes directly to the IS Steering Committee to get approval for the project. Once approved, the project goes to the IT shop. Each project is required to have a Project Manager from the agency. Anything over $250,000 is at the project level and bids must be put out.

One of its identified tasks for Maine is to revisit the existing governance structure. They feel that EA is a key component of the things they should be doing. Up to this time, they have not had mechanics in place to drive things to move forward such as compliance monitoring/oversight. They are looking forward to creating an implementation process and moving forward with a more formal Enterprise Architecture,

however, no timeline set has yet been set. They are excited about the information shared from the visiting sites.

STATE OF ARKANSAS

The on-site visit for the State of Arkansas occurred on July 15, 2004. Participants in the Arkansas visit included the following members:

- Doug Elkins - Executive Chief Information Officer
- Kym Patterson - Manager, Technical Architecture
- Drew Mashburn - Technical Architect
- Dan DeLaughter – CIO for Parks and Tourism
- Oren Wright – Information Technology Specialist, Department of Human Services
- Sharon Robinette, Director of Technology, Arkansas Department of Environmental Quality

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Carey Brown, State of Kansas
- Mark Griffith, State of North Carolina
- Jean Bogue, Ciber

Arkansas has implemented the Arkansas Shared Technical Architecture or STA. This program includes the definition of architecture domains, establishment of working groups for defining and enhancing the program, principles, policies, standards and best practices.

Arkansas has implemented Technology Architecture and is considering starting Business Architecture. The architecture effort was initiated as a planning arm of IT but, based on feedback from other agencies, is now the responsibility of the CIO's office. The Technology Architecture is mature in some areas, but in the early stages of development in other areas. There are currently seven Domains identified:
Information

- Security (Level of Security per data type)
- Application
- Accessibility
- Business Process (Disaster Recovery and Business Continuity are included in this domain, but all business functions are identified within this domain)
- Network
- Administrative

The focus of these Domains is on defining requirements, rather than on determining particular vendors or products. Arkansas does have a state contract, but it is not limited to single vendor.

Arkansas looks at other states, HIPPA and COBIT for best practices and standards.

Arkansas has many lakes, including the Ozarks. Revenue is based on tourists and tourism taxes, including the money spent on hotels, banquets, and transportation. Business Architecture brings a discipline to the art of doing business in Arkansas.

WESTCHESTER COUNTY, NY

The on-site visit for Westchester County, New York occurred on July 27, 2004. Participants in the Westchester County visit included the following members:

- Norm Jacknis, CIO
- Enterprise Architecture Team
  - Mike Amico
  - David Blake
  - John DiPirro
  - Dana Doggett
  - Kathi Mulvey
  - Ariane Porter
  - Mark Ruscigno
  - Judi Sparks
  - Priya Srinivasaraghavan
  - John Tarpey

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Mike Mittleman, State of New York
- Carey Brown, State of Kansas
- Jon Fullinwider, Los Angeles County, CA
- John Hipps, Palm Beach County, FL
- Jean Bogue, Ciber

Westchester County, while not as large as New York State, spends about $2 billion per year, and some of what they do could not easily be replicated. More people hit the government web site than read the two largest newspaper web sites. IT has been centralized; there is no IT outside of centralized IT. No contract with even a hint of technology receives approval without the CIO's signature. This is a tremendous advantage and has support from the Chief Commissioner.

The basic governance is the CIO sitting down with Chief Commissioner. The approach is very informal. Discussions with departments are not a problem; as everyone works together. Everyone becomes part of the management team. The CIO has a staff of approximately 200employees. All members of IT are members of the CIO's staff. The emphasis is on communication, rather than hierarchy. The organizational structure is fuzzy, but this done intentionally.

Internally, Westchester County created three teams: Justice, Human Services, and Parks & Recreation. Most team members have dual responsibilities outside of their normal purview, which helps with interaction. The CIO wanted to get the message across that the teams are not coders, but designers of solutions. An architecture committee has also been created, with representation from a variety of areas, including software architecture, data, and infrastructure. It is composed of a mix of about 10, strictly technical people.

Westchester County does not want to do architecture for architecture's sake. The CIO and his staff are there to help accomplish the county's missions, and therefore they need to know what those missions are. People on staff are immersed in what goes on in the various departments.

Westchester County develops an annual work plan dealing primarily with software or hardware problems or delivery of systems. Estimates of the number of people needed, factors in the budget, and estimates the amount of chargeback are included in the plan. During the year, the executive can change the priorities. The approach is typically to look for short-term deliverables and build on those, rather than to create large elaborate business plans. They prefer having a dozen well architected systems, rather than a dozen books about how to do this.

Admittedly, however, there are people four PCs on their desks because four different systems are needed to communicate with other states and/or counties and cities. Counties are face-to-face with the people.

Westchester County is trying to help grow the technology sector, especially locally. There are a number of high tech companies in Westchester. To help those companies grow, Westchester County has hosted several videoconferences with organizations from China, Chili, Europe, etc. and representatives from the county have made visits to organizations abroad. Some relationships have been established, but this is only a beginning. Heineken, Nokia, and Phillips are several large companies that are headquartered in the area. Westchester County is trying to build the foundation for economic development.

There are two areas that Westchester County is interested in pursuing:

- *Expert Systems* – Expert systems could be very useful. With an expert system, there is no middle layer. Westchester County has tremendous institutional knowledge that needs to be tapped and held. As 911 taught us, it is difficult to function when you lose your senior people. Building an expert system would also work well as a checklist. For example, during a drill they realized that they had forgotten a seven-story nursing home that would need to be evacuated.
- *Statistical Analysis Tools* – Westchester County hopes to start introducing statistical analysis tools to help with decisions, show trends, etc. To this end, they have asked for older data from hospitals so they can track trends.

EA is being approached as a way of doing business, not as an EA program. Except for a few who understand EA, the term "Enterprise Architecture" or "EA" is not used. They just do it. Internally, (within IT) they want to have an enterprise approach. They would like to be able to de-emphasize testing in favor of increasing architecture and design. The logic is that, if they are doing reuse, many things should already be tested.

Westchester County has a repository for components, but it is not utilized. Mostly, departments communicate and share with each other via email. Currently, there is no "home" or anyone to manage the repository.

IT is trying to set the example by being productive. People need to have success stories and know what has worked in the past; these create avenues to ensure that credibility is sustained.

An observation in Westchester County is that, in reality, you put a lot more emphasis on changing culture than on changing the process.

STATE OF NEW YORK

The on-site visit for the State of New York occurred on July 29, 2004. Participants in the New York visit included the following members:

- Jim Dillon, CIO
- Mike Mittleman, Deputy CIO
- Ron Courington, CIO, NYS Department of Corrections Services (DOCS)
- Brian Digman, CIO, NYS Department of Taxation and Finance (DTF)
- Chip Felton, Deputy Commissioner & CIO, NYS Office of Mental Health (OMH)
- Nancy Gutterman, Office of the CIO (OCIO)
- Norm Jacknis, CIO, Westchester County
- Michael Mittleman, Ph.D., Deputy CIO, NYS OCIO
- Pete Poleto, Deputy Director Computing, NYS Office for Technology (OFT)
- Brian Scott, CIO, NYS Department of Health (DOH)
- William Travis, CIO, NYS Office for Children & Family Services (OCFS)
- Don Wells, CIO, NYS Department of Transportation (DOT)

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Carey Brown, State of Kansas
- Jon Fullinwider, Los Angeles County, CA
- Norm Jacknis, Westchester County, NY
- Stan Jenkins, State of North Carolina
- Jean Bogue, Ciber

The State of New York has over 40 years in IT. It still has DOS applications working and even one application in machine code. There are 5,600 people in IT with titles, and most are eligible to retire within five years. Most statewide systems are COBOL-based. IT is a union shop; therefore, it is very inflexible.

The CIO position was established in January 2001 by Executive Order. Jim Dillon is the first CIO. Mike Mittleman is the Deputy CIO. The CIO's office consists of six people, including administrative staff. The State Office of Technology (600 employees) is funded by a chargeback process and reports to the CIO's office. The State of New York has established a state CIO council; there are 81 members, with representation from seven counties. (Westchester County is one of them.)

There are a number of standing committees, including Security, HR, Procurement, Strategic Planning, and Intergovernmental Communications. Intergovernmental Communications has 12 members (six county CIOs and six state CIOs) to do whatever it takes to improve the communications between the state and county agencies. EA is viewed as falling under the purview of these committees. While EA is not seen

as a passing fad, the word "architecture" seems to be overused and often is not well defined or understood. The standing committees represent constituent parts to maintain the fabric of the EA.

The State of New York operates as a federated or distributed system. State agencies each have their own budgets (and IT shops) and are not running mainframes. There are 1,500 servers run by the office of IT alone (at least 1 of each kind!). There are 3,500 – 5,000 additional servers not maintained by IT (i.e. within the agencies). The Department of Corrections maintains 70 facilities in the state and has a staff of 33,000. Mental retardation has a staff of 26,000. On the opposite end of the spectrum, there can also be small agencies of only 10 people. These small agencies almost never run their own IT; it is either outsourced or run by centralized IT. The CIO and Deputy CIO spend the vast majority of time working on business problems rather than technology problems.

The State of New York has documented their EA Principles and they are available online at http://www.oft.state.ny.us/policy/P04-001/NYSTechPolicyP04-001.pdf. They are now at a point where "principles are wonderful, but implementation would be better."

Each standing committee was chartered with determining how to run their group, including meeting as often as the group felt they should meet. During the site visit the NASCIO team was invited to attend a meeting on EA. The morning was devoted to a presentation by IT and the afternoon by participants breaking into groups and prioritizing the EA tasks they felt are doable. They also discussed how to establish and enforce the EA standards. The number one priority is for a single statewide solution for authentication and identification.

The State of New York does not have a centralized budget. IT is not a line item in anyone's budget. It is hidden within program accounts; therefore, it is difficult to determine the spending for IT. The Governor has allocated some funding for EA, but having a CEO as executive champion is not a luxury they have.

In the State of New York, EA works only because of cooperation, not because of mandates. The Deputy CIO is straightforward and discusses with agencies when they could potentially be embarrassing the state. New York uses the $250,000 limit for to determine the need to review projects, but it will review those projects that are lower if an agency has a reputation for trying to bypass the system. The State of New York has many large projects. The state does not dictate name brands or products, but prefers to set the functionality standards, to which products must comply.

Listed below are some of New York's documents for EA:

New York's Documentation	*Location / Description*
Enterprise IT strategic plan	http://www.oft.state.ny.us/policy/p03-04/NYSInformationTechnologyStrategicPlan.pdf
Enterprise principles	http://www.oft.state.ny.us/policy/P04-001/NYSTechPolicyP04-001.pdf
Peer review checklist	This has 30 – 40 questions used to enforce the EA compliance by verifying specific items have been addressed. It is used to ensure the proposals adhere to the EA standards. http://www.cio.state.ny.us/CIO_Council_Peer_Review_Process_Final.pdf

The "enterprise" in State government includes the counties.

It often appears that anything the State is doing, others within the State are doing differently. However, the State has found a way to mitigate that by working closely with Gino Menchini (NY City CIO) and others to reach consensus. Annually, the agencies identify a skeletal business case of what it will take to complete each of their projects, then aggregate those needs across agencies. By combining purchases, the State has been able to save money. For example, through collaboration, they were able to get 500,000 licenses for MS as a bundle, resulting in great savings.

STATE OF NORTH CAROLINA

The on-site visit for the State of North Carolina occurred on August 24, 2004. Participants in the North Carolina visit included the following members:

- George Bakolia, State CIO (Chief Information Officer)
- Mike Fenton, State CTO (Chief Technology Officer)
- Julie Batchelor, Manager, Enterprise Project Management Office, Department of Transportation
- Ben McLawhorn, Risk Mitigation Services Manager, Office of the State Controller
- Clyde Poole, Chief Technology Officer, Department of Health and Human Services
- Mark Griffith, Senior Enterprise Architect
- Stan Jenkins, Senior Enterprise Architect
- Chris Houghland, Enterprise Architect
- Keith Stouder, Enterprise Architect
- Don Sturdivant, Consultant – Radiant Systems, Inc.
- Sid Wise, Consultant – Keane, Inc.

NASCIO Visiting Team

- Eric Sweden, NASCIO
- Chris Clark, State of Kentucky
- Jake Moelk, State of Indiana
- Jean Bogue, Ciber

The State of North Carolina has approximately 200,000 employees and spends $26 billion/year to service the needs of 8.5 million citizens. If ranked with the private sector, North Carolina would be 64th compared to Fortune 500 companies, that's roughly equivalent to Pitney-Bowes, Charles Schwab, Hershey Foods, Adolph Coors, Hilton Hotels, H&R Block, and Gateway Computers combined. While Wal-Mart has 3,300 locations worldwide, North Carolina has 12,000 locations across the State. There are 400,000 corporations in North Carolina, not including the "mom and pop" shops. North Carolina is a two-term State; the current Governor is in his first term.

In 1995, North Carolina established a State CTO and in 1996 began publishing a statewide EA. The CTO was a visionary whose strategy was to tie EA to tangible programs. Thus, standards and practices were tied to actual initiatives to prove that they were applicable. Initially, EA compliant services were designed, developed, and implemented by subject matter experts within the CTO office. Over time, to further improve the effectiveness of service implementations, strong relationships have been built with operations teams, who now implement and maintain these services.

A government performance audit in 1996 led to the establishment of a Commission to establish standards and provide statewide IT leadership, guidance, and oversight. The Commission started as a twelve-person body. It eventually grew to 23 persons. Its initial focus was on defining strategies and doing Quality Assurance on major projects. Of the initial 12 members of the Commission, eight were appointed by the Governor with some agency representation. In 2004, Senate Bill 991 disbanded the Commission

and assigned responsibility and authority to the State CIO, who reports directly to the Governor. The new governance structure couples State IT initiatives with State budgeting priorities. As part of the newly passed SB 991 legislation, a new IT Advisory Board (ITAB) was also created, which will consist of twelve members, appointed by the General Assembly and the Governor. This board will serve as an advisory council to the State CIO.

North Carolina has long held that EA approaches such as Zachman, Meta Group, or Gartner provide great value. They chose to implement a modified version of the Meta Group approach that was better suited for their particular needs. Working in concert with Meta Group, they developed and implemented this modified approach, which has been very successful. North Carolina's EA is principle-based and focuses on enabling the business to change and adapt, rather than focusing on technology standards, which change very rapidly.

This modified approach has been widely accepted and they are currently completing a 3rd Generation of their architecture. Moving forward the architecture will undergo a continuous improvement process, which they call their "Evergreen Strategy", dynamically making incremental changes and improvements as they are needed.

North Carolina has had the opportunity to test the "life" of its EA; it has remained vibrant in the face of change - surviving five CIOs, reductions in force of the EA staff, changes in architects, changes in governors, changes in political parties, and changes in legislators. The EA has proven adaptable to change, which is its primary design point and has now been written into law per SB 991.

North Carolina has both agency architectures and Enterprise Architecture. The enterprise focus is on identifying the technology principles, practices, and standards, rather than focusing on dictating specific products. Products are not determined as part of their EA, but instead products are determined, as appropriate, within the agency architectures. For example, while databases must meet certain characteristics and standards, EA does not prescribe which database to use. North Carolina does not want to become locked into a particular vendor.

The State has learned that its Enterprise Architecture program must work closely with Statewide IT procurement and IT Project Management; this is extremely important for reviewing project architectures, for alignment with the statewide architecture, for monitoring project activities, and for assigning project management assistance. The State is aiming for constant, seamless communication throughout, plus independent audits. There is also an emphasis on sharing of knowledge.

EA comes from people learning from their mistakes and then formulating best practices. Accountability levels are being raised; therefore, the State needs the ability to measure effectiveness. EA can help determine better uses of money and help the State to do more with less.

North Carolina has a project approval process in place for any project over $500,000 (implementation costs plus five years of operation and maintenance). While portfolio management is done from a statewide perspective, project management is typically accomplished from an agency perspective. The current focus is on developing new content for the EA, referred in the State as the "North Carolina Statewide Technical Architecture" (www.ncsta.gov), providing a new user interface experience for content delivery, and strategic program development of infrastructure and services that can be used by the State to accomplish its business objectives. There is good buy-in from many of the agencies; other agencies are also working to develop agency architectures as a result of the new SB 991 legislative requirements.

STATE OF GEORGIA

The on-site visit for the State of Georgia occurred on August 26, 2004. Participants in the Georgia visit included the following members:

- Tom Wade, GTA – CIO and Executive Director
- Cigdem Delano, GTA – Deputy Director and COO
- Steve Nichols, GTA – Deputy Director and CTO
- Robert Woodruff, GTA – Director, Office of Technology
- Bruce Brownlee, GTA – Executive Staff Analyst
- Camilo Riano, GTA – Enterprise Data architect
- Alan Gibbons, Business Integration Group, Consultant
- Nancy Wolff, SRA – Senior Enterprise Architect (contractor)
- David Craig, Enterprise Systems Architect

NASCIO Visiting Team

- Jean Bogue, CIBER iTeam Consultant to NASCIO
- Eric Sweden, NASCIO
- Chris Clark, State of Kentucky
- Mark Griffith, State of North Carolina

Georgia currently has its first Republican governor since the Civil War. Georgia is primarily urban in the North and rural in the South. There are many Fortune 500 companies in the area, as well as Georgia Tech, so the citizens are used to high-tech based services. Georgia has been experiencing rapid growth, and the idea has been to move toward a centralized model of Georgia state government.

EA will provide structure to be able to determine when something is wrong and what needs to change. Unless there is a tool to measure the impact of these changes, at some time a change will affect others to a point where it could be catastrophic.

GTA is charged with creating a state blueprint, as well as with Project Management, Procurement, and Oversight. Virtually overnight, GTA went from a relatively small agency (about 100 FTEs) to a relatively large agency (over 700 FTEs). There are two to three employees working full-time documenting the technical blueprint. Projects are being used to drive the development of the architecture. The goal is to apply principles in a practical way. GTA has created a "procurement architecture", i.e. documenting the procedures around procurement. They can help people with items already identified as "Twilight" by assisting with the business case for a replacement. They can also help in a similar manner with "Emerging" technologies.

The EA effort was sidetracked after its inception almost four years ago, by a focus on Strategic Planning and Project Management. Now it is felt that EA is critical and a close link can be seen between EA and Strategic Planning. GTA has been talking to the agencies about EA without using the term "Enterprise Architecture"; instead, it is called "Blueprint for the State". The Governor appointed a commission to

look into specific areas, and it reaffirmed the importance of EA and Project Management. In addition, a new governance structure was developed and ways to consolidate IT are currently under exploration.

The Governance Council is composed of senior members from ten agencies who have established two main objectives for using EA:

- Importance of sharing information – The primary element; determining where to make the connections and how (e.g. clients getting assistance in one area, this should be shared with others)
- Shared services - Some people will be resistant. It is asset management for surplus property. EA needs to be involved in confirming needs. The number one area is server consolidation. There are approximately 3,000 servers; most are not to capacity and in need of maintenance. They are hoping architecture will help with this consolidation, but need compelling rationale that includes both cost savings and cost avoidance.

The CIO council is composed of the largest 25 agencies with some representation from smaller agencies. Georgia is just starting on Business Architecture. The objective will be to model the business and tie IT decision making to the business model.

There are five people in the GTA office, one a former Gartner consultant and one a developer of ME PRO and each with > 15 years experience and able to apply architecture to projects, gather requirements, etc. There have been 300 page RFPs that can be reduced to 50 pages. The RFP should be a list of what they really want and what standards need to be met; they hope to move to more graphical requirements. GTA is involved in all projects over $100,000.

Georgia is currently using Word and Visio to document their processes. There is a plan to go to a tool in the future, the most likely choices are Computas Metis or Popkins. Nothing has been published to the web yet.

Georgia has embraced the Zachman framework. Some felt that, if everyone would do processes the same way, it would solve Georgia's problems. One stated that, if there were case tools, Georgia's problems would be solved. Another felt training was the answer. The consensus is that EA provides a way to discuss things where everyone is talking the same language. Through the EA process, people are beginning to understand that often others within the organization are doing the same thing or have the same or similar needs.

NASCIO Visiting Team Presentations

Each on-site visit was conducted by members of the NASCIO assistance team. This team consisted of NASCIO's Chief Enterprise Architect, a member of the CIBER iTEAM Consulting Group, representatives from NASCIO's Architecture Working Group (AWG), and/or representatives from member states.

During the on-site visits, several of the assistance team members provided an overview of the EA efforts at their location. Summaries of the discussions for those NASCIO team members whose location was not one of the twelve on the current EA Tour agenda are captured below. For those NASCIO team members who are also members of an EA Tour site, a hyperlink to the on-site summary is provided.

NASCIO

(Eric Sweden – Chief Enterprise Architect, NASCIO Staff)

Each on-site visit included the presentation of a NASCIO PowerPoint presentation outlining NASCIO's current initiatives, its vision for the future, a general assessment of where the states are with EA, and a summary of various Federal initiatives. NASCIO continues to build upon its enterprise architecture (EA) portfolio of products. However, NASCIO wants to be sure that future enhancements to this portfolio reflect the needs and interests of its constituents – i.e., the state and territorial CIOs. The need for EA is apparent given the complexity and dynamic nature of inter-enterprise relationships that exist between the various levels of government and the necessary interaction at each level.

We find that the role of the CIO is changing from the role of technology expert to a greater emphasis as a business advisor requiring greater and greater business acumen. The role of the chief architect and other information technology professionals is also changing and evolving to emphasize more of a business perspective. As a comprehensive, holistic view of the enterprise, Enterprise Architecture provides an operating discipline complete with the necessary processes and documentation to assist the CIO and chief architect in managing complexity and inherent change in both the business and information technology environments.

NASCIO has created the *Enterprise Architecture Value Chain* to describe this overall process for a holistic, comprehensive view of the enterprise. This value chain begins with developing an environmental understanding. This provides the context, or *relative* world, for examining a market or citizen need. This environmental understanding includes fiscal and monetary policy and the anticipated immediate and latent effects of such policies. It includes identification and analysis of trends, customer/citizen behavior, etc. The next activity is the development of understanding for a particular market or citizen need. This includes understanding the supply and demand economics associated with a market or need. Once government has decided to meet a need or enter a market, it must establish strategic business intent. This intent is made explicit through articulating mission, vision, goals, objectives, strategies, etc. That intent is then enabled through various necessary capabilities. Information technology (IT) is one, but not the only, capability for enabling strategic business intent. Other capabilities include business processes, financing, relationships, etc. Capabilities are then delivered or further leveraged through management initiatives, programs and projects.

NASCIO's EA program is currently funded through a grant from the Department of Justice, Bureau of Justice Programs. Additional funding has been requested for continuing this program. A priority for the next grant period is for NASCIO to conduct additional similar visits to the states and territories to offer "technical assistance." Some of this technical assistance will be in the area of enterprise architecture planning and implementation. NASCIO will fully leverage its portfolio of products in assisting the states and territories. These tools include the NASCIO Enterprise Architecture Tool-Kit, Enterprise Architecture Video Library, and other NASCIO publications such as, *Business Case Basics and Beyond: A Primer on State Government IT Business Cases.*

The value of the Enterprise Architecture Assessments is they allow a state to establish a baseline assessment. Once the baseline has been established, the assessment process describes how to move to the next level of maturity. As more and more value is placed on interoperability, it is anticipated that there will be a requirement that the state and local jurisdictions be positioned at some level of parity with respect to enterprise architecture maturities.

Interoperability becomes a relevant capability in areas of focus such as public health, integrated justice, and homeland security. NASCIO believes that one of the greatest contributions it can make to its members is in providing assistance in initiating, and developing their enterprise architecture programs. One of the intended outcomes of this activity is the states will have greater capability to interact with each other and other levels of government, especially in the aforementioned areas of focus. This assistance is not intended to compete with existing programs or consultancies the states may have engaged. Rather, assistance is intended to provide the states with a jump start on their programs, and to insure the states include within their enterprise architecture programs, the necessary elements to insure success.

NASCIO will continue to play a role in advising its constituents even when a consulting company has been engaged to insure such consultancies fully leverage the learnings and knowledge the states have developed collectively. This will insure each state will not have to embark on the same learning curve, will be able to learn from the mistakes and successes of others, and all the states are able to benefit from ongoing collaboration within the NASCIO community. We will all continue to learn from each other in this process. The intended outcome is the ongoing transformation of government to better serve our citizens.

STATE OF MINNESOTA

(Mike Ryan, Chief Architect – Office of the CIO)

Mike Ryan, representing the State of Minnesota, visited the State of Kansas, the State of New Mexico, the State of Maine, and the State of Arkansas. The State of Minnesota has found that it needs people involved in architecture that have a foot in business, as well as a foot in technology, in addition to a few people with architectural skills. Therefore, the CIO heads EA, with a few architects that are primarily agency-specific.

Minnesota has found that getting the agency CIOs to look at things from an enterprise perspective gains a big advantage. Minnesota is promoting EA as more of a strategic plan than an IT function; while some people have trouble with the definition of EA, they understand strategic planning.

Minnesota is working with three "rings": Strategic Planning, Program Management, and Enterprise Architecture.

Minnesota created a conceptual architecture that includes the "Why Architecture?" component, which describes principles and values. Minnesota completed a 2-day session with Meta to begin the development of their EA. They used the NASCIO Tool-Kit in the development of their Governance process, especially the roles and responsibilities. They have learned that architecture is driven by principles and one of the main principles is collaboration. They have also learned that architecture is both a process and a plan.

To date, Minnesota has identified 10 domains and the conceptual architecture (business drivers/principles). For each domain, there is a domain chair.

It took almost a year to get the first blueprint completed and another to get the governance worked out, primarily because there is no "hammer" (unlike a federal mandate, where compliance is immediate and unquestioned). There is a new charter from the Architecture Review Board (ARB) to adopt some of the Federal and new NASCIO guidelines for Business Architecture, which will drive IT to revert to more of an analyst realm. Minnesota has recognized that EA is an iterative *program*, meaning that there is no end and it will always be in a state of flux.

Minnesota anticipates that it will take about five years to realize real value. The advice is not to exaggerate EA, but to look back and see that it is a good process, that it is able to move the enterprise forward, and that it achieves good progress. Minnesota is more interested in "business line architecture" (like the federal government) and is an advocate of Service Oriented Architecture.

STATE OF NORTH DAKOTA

(Jennie Witham, EA Architect)

Jennie Witham, representing the State of North Dakota, visited the State of Kansas and the State of Nebraska. Jennie's comments and discussion of EA in North Dakota have been incorporated into North Dakota's site report, which appears earlier in this document.

COMMONWEALTH OF PENNSYLVANIA

(Jem Pagan and Chris Bingaman)

Representing the Commonwealth of Pennsylvania, Jem Pagan attended the site tour for the State of New Mexico, while Chris Bingaman attended the site visit at the State of North Dakota.

The Commonwealth of Pennsylvania found that security and control were very good reasons for consolidation, and consolidated their e-mail based on costs, security, fail-over, etc. This immediately provided the benefit of global access lists for the users. They also teamed with Procurement and all investments now are routed through IT for review. The CIO has oversight of the agency budgets and must approve all expenditures over $25,000. Agencies are also doing collective buys, even multi-state (a collaboration with Massachusetts).

The Commonwealth of Pennsylvania issues ITB (Information Technology Bulletins) to publish new technology standards to which the agencies must adhere. Their experience has been that, once you lock into a single framework for EA, you end up connected to a vendor, so they have decided to develop their own framework. The Commonwealth ties every investment to the quality of life for the citizen, not to the needs of the State. One key trend is cost avoidance/containment, which is a catalyst to the other business drivers. However, the agencies find that there is no incentive to save money because the money will simply be taken away from them and not used to address other items of priority to the agency. There must be some type of incentive to follow the cost avoidance/containment approach.

The Commonwealth has introduced Enterprise Business Achievement Awards in order to recognize those who are actively engaged in the EA effort. Critical to this program is agreeing on what success looks like prior to funding, then providing the charter and supporting documents.

The Bureau of EA in Pennsylvania is under Office of IT (OIT), which is under the Office of Administration. They have defined "communities of practice", which are similar to the "pillars of government" often referred to in Business Architecture. Pennsylvania has developed four Communities of Practice: Government Operations, Environmental, Health and Human Services, and Public Safety. The Communities of Practice have common needs, which are in the process of being identified. Projects are reviewed within the Community of Practice, therefore providing a better understanding of what is being done across agencies.

The State CIO is very collaborative, bringing people to the table up front and meeting with agency CIOs. Pennsylvania has also started a Bureau of Project Management, and will have a Project Manager for each of the Communities of Practice.

Pennsylvania is still consolidated on mainframes; they believe the State's business would be hard to manage in a distributed environment because of costs, security, etc. They believe that mainframes will remain valuable for at least another decade. This also eliminates the need for each agency to build "tower" functions (security, infrastructure, etc.), allowing the agency to focus on providing the business function it owns.

OIT and the agencies are engaged in Business Architecture, Information Architecture, and Application Architecture. Application Architecture has provided the most significant cost savings because it provides information about both the current systems (fostering component reuse) and the future needs. They created a Center of Excellence, which assists with getting the most leverage out of every effort (for example, security is often an afterthought to a build, i.e. "I built it, now you make it secure"; this is not a good approach.) There is also an Infrastructure Architecture effort that is moving towards statewide stewardship for all IT devices, although each agency would still manage its own infrastructure and the State would step in only if necessary in case of an emergency. The Infrastructure Architecture is developing standard desktop, storage and database configurations, along with baseline imaging, etc.

Two important lessons Pennsylvania has learned:

IT often makes a mistake by treating Business as a customer. The citizen is the customer; IT and business must function as partners to deliver a service.

Training is ultimate; NEVER cut training. Training enables people to give more for less.

EA is lessening the impact of administration changes; each new administration tends to "add on" now rather than change. However, language is a big hindrance; the enterprise needs to go through the process

of defining its terms. Program Management is tightly coupled with EA due to the need to have an enterprise-wide view at all times.

Results from the Domain committees should be documented in a medium that provide a disciplines, structured approach in order to facilitate comparisons and queries, and they should be fed up to a Review or Standards Board. Pennsylvania has an EA Management System (EAMS) developed by HUD that should be populated by mid-year. They are adding a meta-model to it, and would like the ability to define the strategic process and business information.

Pennsylvania chose to use NASCIO's model because it is more geared to the States, whereas the Gartner model is geared more towards the private sector. Unlike the private sector, the States cannot drop something just because it comes from the CIO, and they cannot hire everything done privately. NASCIO considers these barriers, noting that politics needs to be managed as well as business. Impact to the citizen is what feeds the political machine, and cheaper does not always translate into better service for the citizens.

It is necessary to leverage the political drivers; better buy-in is achieved when that happens. A key driver is that citizens want a single face of government; they do not want to chase down information, and they shouldn't have to know the government organization to get something accomplished. The goal is to have the citizen feel "It is easy to do business with the government." Government will never have ROI that is added revenue; it has to be a return on investment to the citizen.

STATE OF NEW MEXICO

(Deb Taylor – Chief Enterprise Architect, Office of the CIO)

Deb Taylor, representing the State of New Mexico, visited the State of Indiana. Deb's comments and discussion of New Mexico's EA program have been incorporated into New Mexico's site report, which appears earlier in this document.

WESTCHESTER COUNTY, NEW YORK

(Norm Jacknis - CIO)

Norm Jacknis, representing Westchester County, attended the site visit at the State of New York. Norm's comments and discussion of Westchester County's EA program have been incorporated into Westchester County's site report, which appears earlier in this document.

STATE OF NORTH CAROLINA

(Stan Jenkins, Security/Enterprise Architect and Mark Griffith, Enterprise Architect)

Stan Jenkins and Mark Griffith, representing the State of North Carolina, attended two site visits. Stan visited the State of New York, while Mark visited with the State of Georgia. Their comments and discussion of North Carolina's EA program have been incorporated into North Carolina's site report, which appears earlier in this document.

STATE OF KANSAS

(Carey Brown, Don Hieman and Bill Roth, KDoT)

Carey Brown, Don Hieman and Bill Roth attended a number of site visits representing the State of Kansas. Carey visited the State of Indiana, the State of North Dakota, the State of Maine, the State of Arkansas, Westchester County, and the State of New York. Don attended the site visit at the State of Nebraska, while Bill visited with the National Park Service. Their comments and discussion of the EA program in Kansas have been incorporated into the site report for the State of Kansas, which appears earlier in this document.

STATE OF GEORGIA

(Robert Woodruff)

Robert Woodruff, representing the State of Georgia, visited the State of Nebraska. Robert's comments and discussion of Georgia's EA program have been incorporated into Georgia's site report, which appears earlier in this document.

STATE OF ARKANSAS

(Kym Patterson)

Kym Patterson, representing the State of Arkansas, attended the site visit at the National Park Service. Kym's comments and discussion of EA in Arkansas have been incorporated into the site report for Arkansas, which appears earlier in this document.

STATE OF NEW YORK

(Mike Mittleman – Deputy CIO)

Mike Mittleman, representing the State of New York, visited Westchester County. Mike's comments and discussion of EA in New York have been incorporated into the site report for the State of New York, which appears earlier in this document.

LOS ANGELES COUNTY, CALIFORNIA

(John Fullinwider - CIO)

John Fullinwider, representing Los Angeles County in California, visited Westchester County and the State of New York. While admitting that he has not been sold on EA, he does find it interesting. He will say he has an EA, but it may not look like others.

Los Angeles County has 39 departments, and most counties have their own IT (about 20). The largest county is larger that 42 of the U.S. states. In 1997, there was no planning, no process, no standards, and no consistency. Therefore, in 1997, John was named the County's first CIO; there is implied authority, but no direct authority. The CIO approves all budgets and projects, provides oversight and can take over a project. (The CIO has his own staff to do this.) The functions of ISD/ITS include operations, application programming, help desk, etc.…

The CIO's job is about business, relationships, compromise, leadership, and vision (And how to get there). It's not about technology.

John did not come to the CIO position thinking he was developing an EA; it evolved. LA County needed a standard directory capability, needed standards, needed interoperability, needed common training and needed the ability to move from department to department. There were a number of obstacles with which to contend, including elected officials, the independence of the departments, multiple departmental IT organizations, disparate technologies, a lack of standards, the perceived loss of control, no central vision, and emotion.

The ability to have staff move from department to department, while keeping the training requirements to a minimum is the reason to go to standard OS, desktop and email. The County standardized on CISCO, training, patches etc. otherwise it was only as good as its weakest link. The County spent $60,000 on networking years ago and, when it needed to upgrade the telephone system, they began to ask the question "Why not upgrade the communications network, instead of just the phones?" The cost has bee reduced to $38,000.

With EA, it is necessary to put into place an approach on how to operate. There are places that have good documentation that have no outcomes. Various options for approaches are listed below:

Options for Operational Approaches
Business solution vs. selling technology (vendors want to make a sale)
Risk vs. reward
Commitment vs. limited liability
Recognize existing investments and providing value vs. replacement strategy
Recognizing all cost vs. cost of product
Interoperability vs. F.U.D
Opportunity specific pricing vs. long-term enterprise pricing commitment
No solution vs. selling of elected officials
Relations and understanding the customer vs. selling the product
Commitment to tomorrow and beyond vs. fiscal/quarterly revenue commitment
Supporting strategy vs. Direction vs. Divide and conquer

LA County has realized that, as part of the EA effort, there is a need to examine, analyze and discuss outcomes, rather than just the documentation or structure.

PALM BEACH COUNTY, FLORIDA

(John Hipps - Architect)

John Hipps, representing Palm Beach County in Florida, attended the site visit at Westchester County, New York. Palm Beach County started out as a centralized IT community, but it is now decentralized. They are looking to other counties to determine how to manage their EA program, and seeking to democratize their IT environment. They want analysts to come from a variety of areas to collaborate and participate in developing the standards.

Over the last few months, Palm Beach County has begun documenting EA. There is a reporting body, i.e. the Architecture Committee. Based on NASCIO and Gartner (Gartner is technical advisor to the county), four domains have been established:

- Network Infrastructure
- Computing Infrastructure
- Common Services
- Application Services

Palm Beach County had an experience with EA in the past that didn't work out because it became too narrowly focused. People held onto their pet products rather than focusing on the good of the enterprise. Palm Beach County has a federated architecture and does not expect that to go away. Commissioners are geographically assigned. They have deputy commissioners that are aligned with functions and many have their own IT staff.

Palm Beach County is trying to ensure that EA will not be just an exercise in documentation. They are trying to make this a collaborative effort and get people talking to each other. They have not developed all the processes yet; a start was made, but it looks very bureaucratic, needing a rewrite to make it more simplified. They anticipate documenting a minimum of standards.

At first, there was little understanding of what EA is. There was fear that it would be restrictive. It had to be demonstrated that it really allowed more openness. The need for EA is more widely understood and accepted now and the strategic plan has been adjusted to incorporate EA. There is the knowledge that some things need to be centralized and others do not, although agencies/departments still want the flexibility to update items such as websites. It has been learned that institutional knowledge needs to be retained. It has also been shown that there is value in having staff from a variety of agencies involved in the EA program (including both Business & Technology expertise).

STATE OF KENTUCKY

(Chris Clark – Chief Architect)

Chris Clark, representing the State of Kentucky, visited the State of North Carolina and the State of Georgia. Kentucky established its EA program in the late 90s, so they feel that it is now time to look at

the program and ask where they are and where they are going. Kentucky has implemented the Technology Architecture and has created the following 10 domains:

- Hardware
- Software
- Network
- Data
- Security
- Systems Management
- Access/Communications
- Application Development (No work yet)
- Integration (No work yet
- Project Management (PMBOK).

Kentucky does not have a repository tool.

Governance within the State of Kentucky is changing; there are no longer "CIO" titles. Agency CIO titles are also going away. The role will remain, but now the title will be "ITO" (Information Technology Officer). The change is designed to get former CIOs more in touch with the business needs of the state. Architecture has been technology focused, because the active members are from Technology backgrounds. The State is looking to change that.

Compliance is currently a post audit activity, which doesn't work well because the information is late. However, the right relationships do not exist to enforce compliance at the front end. Architecture has a staff of one FTE, and the demand is out pacing the supply. Therefore, there has been an effort to try to keep things simple.

Kentucky elected a new governor last November, and one of the new Governor's first acts was to establish a blue ribbon commission whose focus area was IT. At that time, the State CIO held a cabinet position, with 13 other cabinet members. Agencies expressed their feelings about IT service, saying that they did not agree that another cabinet could tell them how to use technology. Therefore, the Governor abolished the State CIO cabinet position and brought the role back under the Finance cabinet. Since agencies were used to following financial standards, this was apparently more acceptable. Now a Commissioner of Technology reports to the Minister of Finance.

Kentucky has adopted the following key points:

- View IT from an Enterprise perspective
- Offer services as a utility
- Develop EA (one area that will work by consensus)
- Assist Education with technology
- Promote economic development with technology

Kentucky wants IT to function as an enabler. They should ensure that they get the proper sponsors from business, and then make it happen for the business. It is possible to bring about a change in mindset.

STATE OF INDIANA

(Jake Moelk– Systems consultant with ITOC, Content Management)

Jake Moelk, representing the State of Indiana, attended the site visit at the State of North Carolina. Jake's comments and discussion of EA in Indiana have been incorporated into the site report for Indiana, which appears earlier in this document.

EA Tour Summary

Assessment Summary

Each EA Tour site completed the assessment from a holistic enterprise perspective. This required rationalizing potentially diverse responses from multiple agencies and/or departments that constituted the enterprise. The responses reflect the enterprise as a whole.

Once each EA Tour site completed the on-line assessment, the NASCIO team analyzed the results and developed an EA Readiness Assessment Participant Summary Report for the participating site, based on the structure and content approved by the NASCIO Implementation sub-committee. Each summary report discussed the maturity of the EA program for the enterprise, as well as areas of strength and weakness. Each EA Assessment Participant Summary Report was provided to the person identified within the assessment. All distribution within the enterprise is determined locally.

It is important to note that NASCIO's intent is not to grade the EA program of any enterprise, but rather to document the alignment of the enterprise's "as is" EA Program to the EA Maturity Model for the sole purpose of identifying areas of opportunity that offer the greatest return in an EA program.

The *NASCIO Enterprise Architecture Maturity Model*, which is available in the SMART Library on NASCIO's website, is the core document upon which the EA Assessment is built. The model defines the five phases an organization will experience as their architecture program matures.

- Level 0 - No Program
- Level 1 - Informal Program
- Level 2 - Repeatable Program
- Level 3 - Well-defined Program
- Level 4 - Managed Program
- Level 5 - Continuously Improving, Vital Program

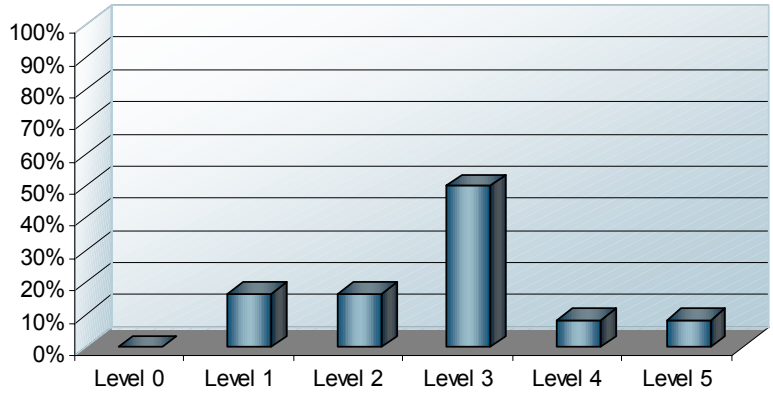
Within the document, the characteristics of eight critical dimensions of the EA Program are covered at each phase of the maturity model:

- Administration
- Planning
- Framework
- Blueprint
- Communication
- Compliance
- Integration
- Involvement

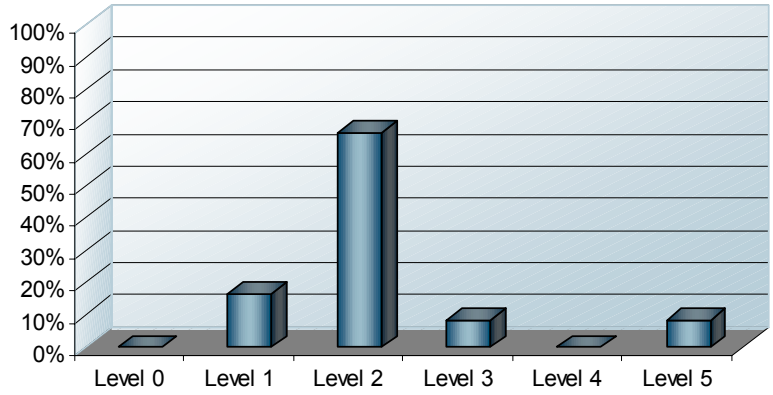
Each phase builds upon the previous one and there is an inter-dependence between the program dimensions. The information included in the following graphs is based on percentages and provide an overview of the distribution of maturity for each of these eight critical elements of an EA Program.

Reading the NASCIO EA Maturity Model will provide an understanding of the model that is the basis for the assessment and the following graphs.

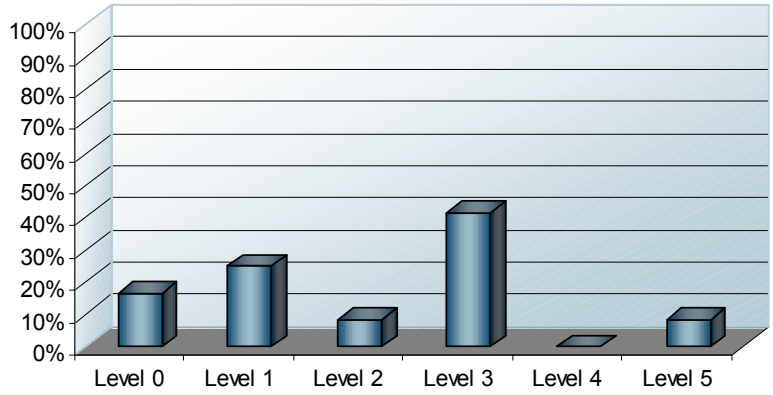
Administration – Governance Roles & Responsibilities



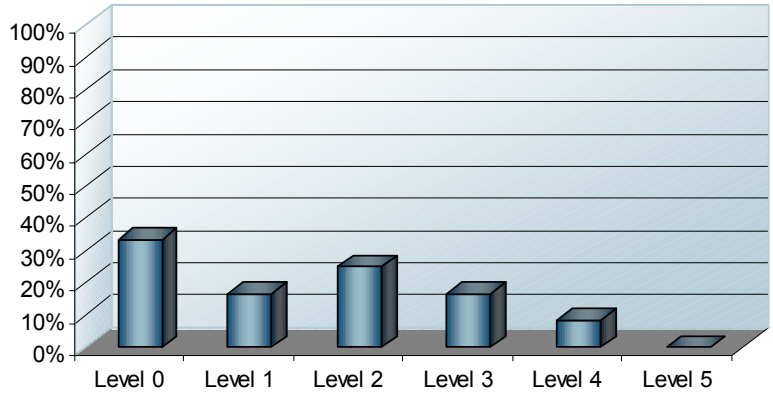
Planning – EA program road map and implementation plan



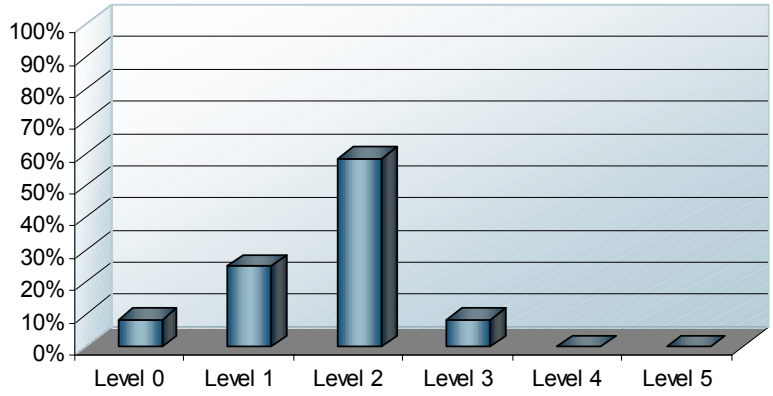
Framework – processes and templates used for Enterprise Architecture



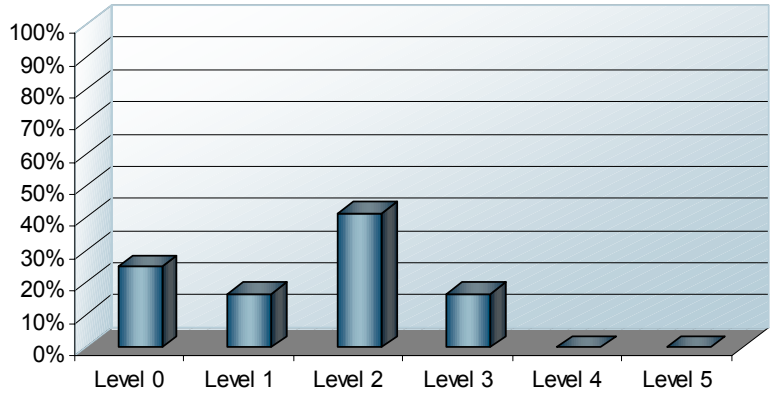
Blueprint – collection of the actual standards and specifications



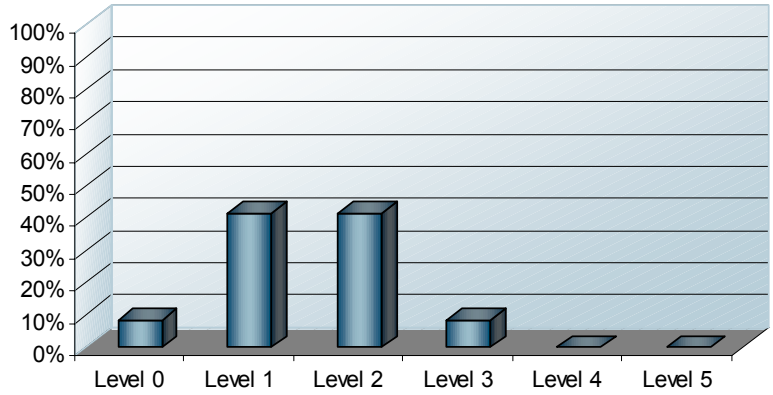
Communication –education and distribution of EA and Blueprint detail



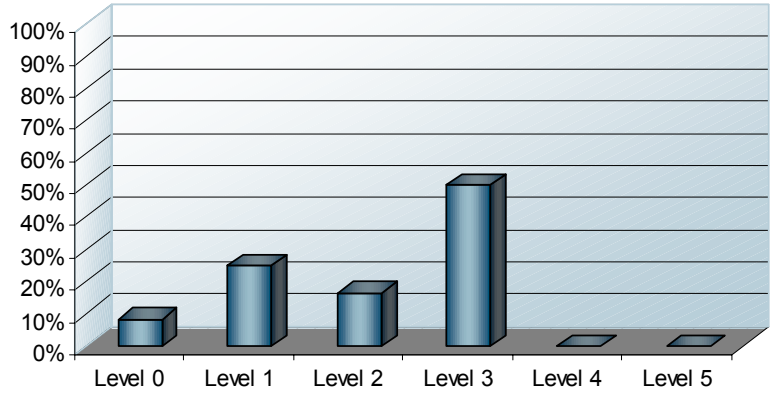
Compliance – adherence to published standards, processes and other EA elements, and the processes to document and track variances from those standards



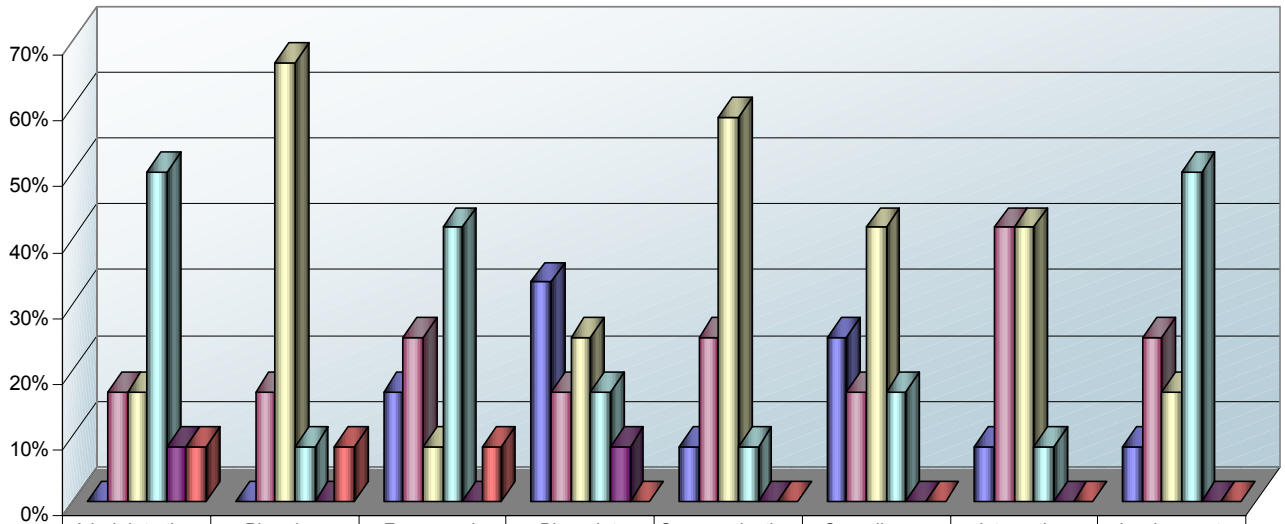
Integration – touch-points of management processes to the EA



Involvement – support of the EA Program throughout the organization



The following graph provides an “at-a glance” overview of all eight dimensions of an EA Program, covered in the NASCIO EA Maturity Model.



	Administration	Planning	Framework	Blueprint	Communication	Compliance	Integration	Involvement
Level 0	0%	0%	17%	33%	8%	25%	8%	8%
Level 1	17%	17%	25%	17%	25%	17%	42%	25%
Level 2	17%	67%	8%	25%	58%	42%	42%	17%
Level 3	50%	8%	42%	17%	8%	17%	8%	50%
Level 4	8%	0%	0%	8%	0%	0%	0%	0%
Level 5	8%	8%	8%	0%	0%	0%	0%	0%

Plans for the Future

Several updates to the NASCIO Enterprise Architecture Development Tool-kit are currently underway, including the expansion into the areas of Business Architecture, Information Architecture and Solution Architecture.

As these topics are developed and the existing topics of Governance and Technology Architecture are enhanced, the EA Readiness Assessment Program will require enhancements to increase the scope, as well as maintain the vitality and effectiveness of the program.

Areas to be considered for expansion in future versions of the EA Assessment program include, but are not limited to:

- *EA Maturity Model* – Additional level statements to address new architectures as they are added to the Tool-Kit
- *EA Readiness Assessment* – Additional or enhanced questions to address new level statements
- *EA Readiness Assessment Participant Summary Report* – Enhancements to the summary reports to coincide with NASCIO's EA Tool-Kit Portfolio enhancements

Comments and suggestions for enhancements to these documents were captured during the EA Tour site visits. The feedback from the participating members of the tour sites and the visiting team members will provide valuable input for future versions of these materials.

Conclusion

The Assessment Tour has been considered by all participants to be a great success. Noteworthy is the fact that over the course of the tour, the emphasis of the meetings changed from inspection and discussion of the survey tool to sharing and discussion amongst the participants. Each participant presented a summary of their enterprise architecture program which then led to questions and discussion. Without exception, the participating CIOs and Chief Enterprise Architects stated that this type of interaction was invaluable and should be continued.

APPENDIX - HIGHLIGHTS

The table below lists a sampling of the highlights from the various assessment sites and visiting participants. For more information on any jurisdiction's enterprise architecture program visit their website. Access to state websites is available from NASCIO's website at www.nascio.org. Entries in NASCIO's SMART system have included "EAMM" as a keyword to accommodate retrieval.

Jurisdiction	*Title*	*Description*	*Source*	*Contact*
Arkansas	*Arkansas Shared Technical Architecture Website*	The purpose of the Arkansas Shared Technical Architecture (STA) is to guide the process of acquiring, building, modifying, interfacing and deploying information technology resources throughout the state. This is accomplished by directing the formulation and publication of state policies, standards, and best practices for information technology (IT)	http://www.techarch.state.ar.us/	Doug Elkins Executive Chief Information Officer 124 W Capitol Ste. 200 Little Rock, AR 72201-3705 Phone: (501) 682-4301 Fax: (501) 682-2040 Email: doug.elkins@arkansas.gov
Arkansas	*Promulgation Process of Information Technology Rules and Business Processes*	Flowchart describing the promulgation process in Arkansas.	http://www.techarch.state.ar.us/promulgation/Promulgation_flow.pdf	Doug Elkins Executive Chief Information Officer 124 W Capitol Ste. 200 Little Rock, AR 72201-3705 Phone: (501) 682-4301 Fax: (501) 682-2040 Email: doug.elkins@arkansas.gov
Arkansas	*Financial and Risk Impact Statement for Proposed Policy or Standard*	Impact analysis check sheet for initial analysis of a policy or standard.	http://www.techarch.state.ar.us/domains/administrative/policy/Impact_Survey_Tool.doc	Doug Elkins Executive Chief Information Officer 124 W Capitol Ste. 200 Little Rock, AR 72201-3705 Phone: (501) 682-4301 Fax: (501) 682-2040 Email: doug.elkins@arkansas.gov

Jurisdiction	Title	Description	Source	Contact
Georgia	*Statewide Enterprise Architecture Program*	Overview of GTA EA Initiative ⌖ Organization ⌖ Governance ⌖ Goals ⌖ Portfolio of Products ⌖ Guiding Principles	NASCIO SMART (Strategic Materials and Resources Tool) www.nascio.org	Robert Woodruff Director Technology Office Georgia Technology Authority (GTA) 100 Peachtree St. NE Suite 2300 Atlanta, GA 30303 Phone: 404- 463-2335 woodruff@gta.ga.gov
Georgia	*Statewide Enterprise Architecture Program*	EA Future Perspective at GTA ⌖ Objectives and Approach ⌖ Intended Uses ⌖ Program Deliverables ⌖ Communication Deliverables	NASCIO SMART www.nascio.org	Robert Woodruff Director Technology Office Georgia Technology Authority (GTA) 100 Peachtree St. NE Suite 2300 Atlanta, GA 30303 Phone: 404- 463-2335 woodruff@gta.ga.gov
Georgia	*Statewide Enterprise Architecture Program*	EA Candidate Statewide Projects ⌖ Implementation Steps ⌖ Pilot Projects ⌖ Selection Criteria ⌖ Selection Process ⌖ Initial Timeline ⌖ EA Scope and Impact	NASCIO SMART www.nascio.org	Robert Woodruff Director Technology Office Georgia Technology Authority (GTA) 100 Peachtree St. NE Suite 2300 Atlanta, GA 30303 Phone: 404- 463-2335 woodruff@gta.ga.gov
Indiana	*Information Technology Oversight Commission*	⌖ Organizational structure ⌖ Templates ⌖ Mapping of lines of business to business functions ⌖ Technology Architecture Documentation ⌖ Domain matrices	http://www.state.in.us/itoc/html_site/architecture/tlc_structure.html	Jake Moelk Systems Consultant 100 N Senate Ave Rm N551 Indianapolis, IN 46204-2209 Phone: (317) 232-0185 jmoelk@itoc.state.in.us

Jurisdiction	Title	Description	Source	Contact
Kansas	*Strategic Information Management Plan Vitality Process*	This document is a set of Microsoft Powerpoint slides displaying the Kansas Information Technology Governance model. This document also lists the domains and disciplines defined, and the vitality process for the strategic information management strategy. ⌖ Presentation of the linkage from strategic planning to capital planning, balanced scorecard, and enterprise architecture. ⌖ Presentation of the Kansas IT Governance Model. ⌖ Presentation of the Kansas defined domains and disciplines. ⌖ Presentation of the IT and Business benefits of Enterprise Architecture	NASCIO SMART www.nascio.org	Bill Roth Chief Enterprise Architect Division of Information Systems & Communications Department of Administration 900 SW Jackson St Phone: (785) 296-2108 Billr@ksdot.org
Los Angeles County	Information Technology Tracking System (*ITTS)*	The new Information Technology Tracking System (ITTS) system enables all executive management from the Board of Supervisors to the project managers themselves to view the overall status of the County's IT projects. The system is a web enabled application designed and administered by the CIO's office, and programmed by the Internal Services Department's Information Technology Services branch. The system went into production on April 12, 2004.	NASCIO SMART www.nascio.org	Howard Baker Associate CIO Chief Information Office Room 493 Kenneth Hahn Hall of Administration 500 West Temple Street Los Angeles, CA. 90012 213.974.1772 work hbaker@cio.co.la.ca.us
Maine	*Information Technology Portfolio Management Policy*	This document includes the following regarding portfolio management: ⌖ Statement of Purpose ⌖ Scope of program ⌖ Policy ⌖ Procedures ⌖ Waiver process	http://www.maine.gov/cio/ispb/portfoliomanagement.htm	Kevin Jones Information Technology Management Analyst Office of the CIO 111 Sewall St 173 State House Station Augusta,, ME 04333-0173 207-624-7597 Kevin.jones@maine.gov

Jurisdiction	Title	Description	Source	Contact
Maine	*Information Technology Project Management Policy*	This document includes the following relative to project management: ⌖ Statement of Purpose ⌖ Scope of program ⌖ Policy ⌖ Procedures ⌖ Waiver process	http://www.maine.gov/cio/ispb/projectmanagement.htm	Kevin Jones Information Technology Management Analyst Office of the CIO 111 Sewall St 173 State House Station Augusta,, ME 04333-0173 207-624-7597 Kevin.jones@maine.gov
Maine	*State of Maine website*	This website was voted #1 Best of the Web by the Center for Digital Government and ranked # 2 by Brown University.	www.maine.gov	Kevin Jones Information Technology Management Analyst Office of the CIO 111 Sewall St 173 State House Station Augusta,, ME 04333-0173 207-624-7597 Kevin.jones@maine.gov
National Park Service	*Department of Interior Enterprise Architecture Web Site*	This web site contains the following information regarding DIO's enterprise architecture program: ⌖ Curriculum ⌖ Strategy and plans ⌖ White papers ⌖ Directives ⌖ Reference Models ⌖ Metamodels ⌖ Training materials ⌖ Business User Training – including Activity Based Costing and metrics	http://www.doi.gov/ocio/architecture/documents.htm	Ann Sulkovsky National Park Service Office of the Chief Information Officer Bureau Architect and Planner Ph: 202-354-2083 Fax: 202-371-1549 Ann_Sulkovsky@nps.gov

Jurisdiction	Title	Description	Source	Contact
Nebraska	*Nebraska Information Technology Commission (NITC)*	The NITC is a nine-member, governor-appointed commission. The members of the Commission shall be approved by a majority of the Legislature. The membership shall consist of one member representing elementary/secondary education, one member representing postsecondary education, one member representing communities, five members with strategic planning experience representing the general public, and the governor or his or her designee. Members serve four year terms and are limited to two consecutive terms.	http://www.nitc.state.ne.us/nitc/	Steven Schafer Chief Information Officer State of Nebraska 521 South 14th Street Suite 301 Lincoln, Nebraska 68508 Phone: (402) 471-4385 Fax: (402) 471-4864 Email: slschafe@notes.state.ne.us
Nebraska	*Nebraska Technical Architecture Web Site*	This web site include Nebraska's technical architecture, and project management standards.	http://www.nitc.state.ne.us/standards/index.html	Steven Schafer Chief Information Officer State of Nebraska 521 South 14th Street Suite 301 Lincoln, Nebraska 68508 Phone: (402) 471-4385 Fax: (402) 471-4864 Email: slschafe@notes.state.ne.us
New Mexico	*Enterprise Architecture Process*	Diagram describing an overview of the relationships among business, information technology, expertise centers, and projects.	NASCIO SMART www.nascio.org	Deb Taylor, Chief Enterprise Architect, 404 Montezuma Ave Santa Fe, NM 87501 Phone: 505-476-0400 x1412 Email: Deb.Taylor@state.nm.us
New Mexico	*Enterprise IT Shared Services Delivery Model*	Diagram presenting the concept of shared IT services mapped to agencies and agency affinity groups. This diagram is included within the state of New Mexico Framework for Enterprise Architecture Program.	NASCIO SMART www.nascio.org	Deb Taylor, Chief Enterprise Architect, 404 Montezuma Ave Santa Fe, NM 87501 Phone: 505-476-0400 x1412 Email: Deb.Taylor@state.nm.us

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New York State	*Peer Review Process and Checklist*	The purpose of the CIO Council Peer Review process is to: • Identify opportunities to leverage State Technology Infrastructure assets (State Data Center, Enterprise Help Desk, NYeNet backbone network, NYS Directory Services, etc.); • Identify opportunities to aggregate procurement of technology products and services with other agencies; • Identify opportunities to add to NYS Enterprise technology standards; • Identify "Best Practices" (in technology, management practices, and or Project Management practices) to add to the State's repository; • Ensure all projects comport with NYS Enterprise technology standards and "Best Practices"; • Identify "high risk" projects, and offer resources/recommendations/actions to mitigate risk, as well as issuing advisory or watch/warning to agencies (State Operations? Governor's Office?). The CIO Council Peer Review process is intended to enhance the probability of success for technology projects across NYS, by leveraging existing standards and expertise.	http://www.cio.state.ny.us/CIO_Council_Peer_Review_Process_Final.pdf	Dr. Mike Mittleman Deputy CIO New York State PO Box 2062 Albany, NY 12220-0062 Phone: (518) 408-2140 Email: Michael.mittleman@cio.state.ny.us

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North Carolina	*System Design Template*	This template was developed by the architecture team at the state of North Carolina. This template was referenced during an EAMM assessment visit as shared here as part of the state to state learning. Below is the introduction paragraph from this template: The System Design Template has been designed to enable agencies to provide an increasing amount of detail to Enterprise Technology Services (ETS) over the life of a project. Agencies requesting Project Certification will be required to complete this template, section by section, during the various phases of a project. To facilitate this process, this template has been separated into three sections. The sections of this template are described below in greater detail; in addition, they are summarized in Table 1: Project Certification Requirements.	NASCIO SMART www.nascio.org	Mark Griffith Senior Enterprise Architect State of North Carolina Enterprise Technology Strategies Office PO Box 17209 Raleigh, North Carolina 27619-7209 Phone: (919) 981-5394 Email: mark.griffith@ncmail.net
North Dakota	*Enterprise Architecture Website*	North Dakota Enterprise Architecture Program including: ⌖ Standards ⌖ Policies ⌖ Request for Services ⌖ Current Activities ⌖ Technology Forums	http://www.state.nd.us/ea/	Curtis Wolfe Chief Information Officer Information Technology Department 600 E. Boulevard Ave., Dept. 112 Bismarck, ND 58505-0100 Phone: (701) 328-3193 Fax: (701) 328-0301 Email: cwolfe@state.nd.us
North Dakota	*Project Management Website*	Project Management Program including: ⌖ Guidebook ⌖ Enterprise Project Sharing System ⌖ Training	http://www.state.nd.us/epm/ mary of the EA	Curtis Wolfe Chief Information Officer Information Technology Department 600 E. Boulevard Ave., Dept. 112 Bismarck, ND 58505-0100 Phone: (701) 328-3193 Fax: (701) 328-0301 Email: cwolfe@state.nd.us

Jurisdiction	*Title*	*Description*	*Source*	*Contact*
Pennsylvania	*Enterprise Architecture Governance*	Summary of the EA program in Pennsylvania	NASCIO SMART www.nascio.org	Jem Pagan Director of Enterprise Architecture Office of Administration 209 Finance Bldg Rm 209 Harrisburg, PA 17120 Phone: (717) 346-4554 jepagan@state.pa.us
Westchester County, New York	*Internal Portal for Enterprise Architecture*	This portal includes all documentation related to Westchester County's Enterprise Architecture Program. - general specifications - principles - vision documents - committees and work groups - policies and standards - applications and demos - security plans	Site is secured for internal use only	Dr. Norm Jacknis CIO for Westchester County 148 Martine Avenue White Plains, New York 10601 Phone: (914) 995-2976 Email: cio1@westchestergov.com
Westchester County, New York	*Principles Governing The Westchester County Information Technology Enterprise Architecture*	Goals for Enterprise Architecture - cost effectiveness - reduced complexity Enterprise Architecture Domains - Business Architecture - Information Architecture - Business Process Architecture - End-User Computing Architecture - Security Architecture	NASCIO SMART www.nascio.org	Dr. Norm Jacknis CIO for Westchester County 148 Martine Avenue White Plains, New York 10601 Phone: (914) 995-2976 Email: cio1@westchestergov.com
Westchester County, New York	*Architecture Best Practices*	This document covers the following topics: - Multi-Tiered Environment - Reusable Components - Partitioning and Modularity - Application Integration Design Approach - Project Directory Structures - Naming Conventions -	NASCIO SMART www.nascio.org	Dr. Norm Jacknis CIO for Westchester County 148 Martine Avenue White Plains, New York 10601 Phone: (914) 995-2976 Email: cio1@westchestergov.com

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Westchester County, New York	*Enterprise Architecture Assessment Checklist*	This checklist is used to measure projects against established principles.	NASCIO SMART www.nascio.org	Dr. Norm Jacknis CIO for Westchester County 148 Martine Avenue White Plains, New York 10601 Phone: (914) 995-2976 Email: cio1@westchestergov.com
West Palm Beach County, Florida	*West Palm Beach 2004 to 2006 Strategic Plan*	West Palm Beach County Strategic Plan including: IT Governance Vision Mission Guiding Principles Goals and Objectives Major IT Projects and Initiatives Linking Agency IT Projects to Goals and Objectives Management Controls and Processes	NASCIO SMART www.nascio.org	John L. Hipps, Ph.D ISS Department Palm Beach County 301 N. Olive Ave. West Palm Beach, Fl 33401 561-355-4267 office E-mail: jhipps@co.palm-beach.fl.us
West Palm Beach County, Florida	*West Palm Beach Technical Architecture*	The purpose of this document is to define the Palm Beach County technical architecture. A "technical architecture" is a conceptual framework to describe a logical or organizational structure or a set of guidelines intended to provide a cohesive whole pertaining to the infrastructure. For the purposes of this project, it will be used to describe a current state, future goals, and active guidelines for building new systems.	NASCIO SMART www.nascio.org	John L. Hipps, Ph.D ISS Department Palm Beach County 301 N. Olive Ave. West Palm Beach, Fl 33401 561-355-4267 office E-mail: jhipps@co.palm-beach.fl.us

Jurisdiction	*Title*	*Description*	*Source*	*Contact*
West Palm Beach County, Florida	*West Palm Beach Governance*	This document contains the following: ⌖ IT Governance Structure ⌖ Architecture Lifecycle Processes ⌖ Technology Architecture Blueprint Framework ⌖ Architecture Documentation Process	NASCIO SMART www.nascio.org	John L. Hipps, Ph.D ISS Department Palm Beach County 301 N. Olive Ave. West Palm Beach, Fl 33401 561-355-4267 office E-mail: jhipps@co.palm-beach.fl.us