

NATIONAL ASSOCIATION OF STATE CHIEF INFORMATION OFFICERS



Enterprise Architecture Maturity Model

VALIDATION REPORT





EA Readiness Assessment

VALIDATION REPORT

August 2003

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The opinions, findings, conclusions, and recommendations contained in this publication are those of NASCIO, and do not necessarily reflect the official positions or policies of the Department of Justice.

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EA ASSESSMENT VALIDATION



Background

VALIDATION REQUIREMENTS

Currently, NASCIO provides three 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 – allows state and local government to measure its readiness for an EA program. If a site has an EA program, this tool is applied to assess the program and determine the maturity using a number of architecture dimensions.
- NASCIO's EA Maturity Model (EAMM) DRAFT for Comment– describes the levels of EA Program maturity and identifies characteristics at each level.

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 to the next level.

The purpose of the EA Readiness Assessment Validation Project is to validate the completeness of the EA Maturity Model (EAMM) Draft, validate the EA Readiness Assessment for clarity and ease of use, and judge the usefulness and value of the EA Readiness Assessment Summary Report that will be provided to the participating organization. Feedback from this initiative will be used as input to launching a broader initiative involving all the states, territories, and the District of Columbia.

VALIDATION SITES

Validation of NASCIO's EA Readiness Assessment was conducted with members of the Department of Information Technology Services for the State of Mississippi in Jackson, MS, and the Office for Information Technology for the State of Pennsylvania in Harrisburg, PA.

VALIDATION INTERVIEW APPROACH

NASCIO's intent is to provide the highest benefit to the states through all of the tools and programs that it offers. NASCIO also intends to validate several aspects of the EA Readiness Assessment Program, including:

- Validate the clarity and content of the EA Maturity Model
- Validate the effectiveness of the process for taking the assessment and the materials provided
- Confirm that the process of results collection, analysis, and reporting is operable
- Gather comments and suggestions for improvements to the current assessment program

To prepare the participants, a copy of the EA Maturity Model was sent to the coordinator of each of the participating sites, conference calls were conducted to review expectations and to prepare the site team, and NASCIO provided support and answered questions regarding the EAMM as they arose during the entire process.

An EA Readiness Assessment Preview document was prepared and sent to each site at least one week prior to the start of the EA Assessment process. This preview document provided an introduction to the EA Readiness Assessment, as well as a listing of all questions and response options that were included in the on-line assessment. NASCIO also provided instructions on how to access and complete the assessment.

During the preview period, members from the validation site are encouraged to meet collectively to discuss items on the preview document and determine best responses.

Arrangements were made for an on-site visit with each of the participating sites to meet with the NASCIO validation team. The validation team consisted of the chair of NASCIO's AWG Implementation sub-committee, a member from the NASCIO staff, and a member of the NSR iTEAM Consulting Group, which is currently working with the AWG Implementation sub-committee to develop the EA Readiness Assessment Program. The intent of this meeting was to complete a thorough 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.

Following the on-site visit, the on-line assessment application was made available to the participant 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 sites. A report was customized for each site, based on the structure and content that was approved by the NASCIO Implementation sub-committee.

During this process, both sites were provided two feedback forms: one focused on the assessment process, while the other focused on report. Conference calls were set up with representatives of each site to discuss the feedback and gain additional insight into overall effectiveness of the process, appropriateness and applicability of the reports and any suggestions for future enhancements or advice for other states that may participate in the EA Readiness Assessment in the future.

The feedback received from the validation sites and the suggestions of the assessment development team were used to create this EA Assessment Validation Report. Enhancements to the EA Readiness Assessment Program components, which include the EA Maturity Model, the EA Readiness Assessment survey, EA Readiness Assessment Participant Summary Report and the procedures used to implement the program will be incorporated based on sub-committee consensus.



State of Mississippi

Mississippi is in the early steps of creating an enterprise architecture program and associated operating disciplines for maintaining such an architecture. They have started planning their architecture initiative and are using the *NASCIO Enterprise Architecture Development Toolkit* as a guideline. Mississippi had requested start-up assistance from NASCIO, and was therefore, very open to participating in EAMM validation process as a venue for gaining that assistance. Mississippi had also been identified as a candidate pilot site in the early planning discussions with Jack Galt, NASCIO Issues Coordinator, and Gerry Wethington, NASCIO President.

Currently there are eight people, representing two agencies, involved in the EA planning activities. Two staff members are focusing on Governance, two on the Business Architecture, and four on the Technical Architecture. Their initial thrust is to document the architecture as it currently exists.

They plan to form an Executive Committee from key agencies. They will be looking very closely at roles and how those can be formalized at the Task Force level. At this time, Claude Johnson, the Director of Strategic Services at ITS, fills the Manager role.

Mississippi looked forward to the validation effort as a way to help NASCIO in their efforts to validate and improve on the process, while at the same time gaining from the on-site conversations and the benefits of the “emphasis on change” that the formal documentation of the maturity levels would provide.

Mississippi participants included the following members:

- David Litchlitter: Executive Director, Department of Information Technology Services (ITS)
- Claude Johnson: Director, Strategic Services (ITS)
- Debbie Britt: IT Planning Coordinator (ITS)
- Lynn Ainsworth: Deputy Director, Information Systems Services (ITS)
- Craig Orgeron: Emerging Technology Coordinator (ITS)
- Cille Litchfield: Executive Director, Mississippi Management and Reporting Systems (MMRS)
- Bud Douglas: Consultant (ITS)
- Terry Bergin: Director, Data Services (ITS)
- Roger Graves: Director, Voice Services (ITS)
- Ann White: Application Infrastructure Manager (MMRS)
- Martha Pemberton: Director, Information Systems Services (ITS)

The overall reaction toward the NASCIO EA Readiness Assessment Program was extremely positive.

Mississippi indicated that the scope of the EA Readiness Assessment validation effort proved to be exactly what they had expected. The Enterprise Architecture Maturity Model provided valuable information and further strengthened our comfort in the overall process.

The Mississippi participants responded that the assessment preview document and materials were very helpful to their understanding of the process and what would be expected of them as they completed the assessment. They made a special point to mention that they appreciated receiving the preview document in advance of the visit.

Overall, the participants felt that the on-site visit was critical to the process, not only from a clarification standpoint, but also as an opportunity for shared learning. The following quote offered by Claude Johnson, made this point very clear. “A major strength was NASCIO’s ability to provide a person who has had a career in Architecture related work, a member of the consulting group that has assisted in the NASCIO Architecture initiative, and a person from a state that has been one of the leading states in the development of Architecture. All of the discussions that we had were a very good learning experience for the MS staff.”

The preview document and materials were very helpful to our understanding of the assessment process.

They indicated that bringing all of the Mississippi participants together in a collaborative session to review the questions and develop responses in advance of the NASCIO site visit was extremely valuable. This provided an opportunity for the Mississippi team to share a variety of perspectives on the overall EA program. It was also noted that having the entire Mississippi team meet with the NASCIO team at the time of the site visit produced valuable collaboration and dialogue. Managing the site visit in this manner insured the same message was conveyed to and understood by all members of the Mississippi team.

During the discussions, the members of the Mississippi team provided valuable comments and suggestions that will help to improve the process and materials. The one difficulty that the participants noted was their struggle to answer “for the Enterprise”, because often practices vary throughout the organization and they had mixed feelings on how this would or should affect the level of maturity. By the completion of the on-site visit, the Mississippi team members felt they had a good understanding of the assessment questions and were pleased with the opportunity the process had provided for the members to meet and collectively concur on responses from an enterprise perspective.

In regards to the use of the online assessment application, they felt the online assessment tool was very easy to use and the assessment size was appropriate.

Comments on the EA Readiness Assessment Participant Summary Report included the following, “We found the Summary report to be well structured and easy to understand. The report is very clear and concise and has a very organized flow to it”. In their review of the report, they felt that it fairly represents the situation at the State of Mississippi regarding Architecture. They found the greatest benefit from the *Next Steps* section that was included under each EA category of the report. These sections provide guidance on the steps to take in further building the architecture program, based on the maturity level.

They noted that they had made some progress in the area of Communication since the time they submitted their responses, but they realized that the assessment and report represent a snapshot in time. In their estimation, they would see the assessment as a valuable tool to use on an annual basis.

Claude Johnson indicated that NASCIO should feel free to use Mississippi as a reference and they would be willing and happy to tell others about their experience.

SUGGESTIONS FOR ENHANCEMENTS

The suggestions received from Mississippi vary in scope and application. The detail of the suggestions for individual questions, responses or narrative will not be provided here, but have been captured in a spreadsheet and will be analyzed and applied on a case-by-case basis. This report will describe only those items of a global interest.

EA MATURITY MODEL

Mississippi had no suggestions for updates to the EA Maturity Model.

EA READINESS ASSESSMENT QUESTIONS & RESPONSES

Overall - As stated in the general comments from Mississippi, the one thing they struggled with was keeping their focus on the enterprise rather than thinking from a department or IT focus. Based on this, the suggestion was made to change occurrences of the word “organization” to “enterprise”, which will help participants to keep this focus.

Throughout – Certain questions may not apply to all organizations. Consider adding a skip feature or a statement that prompts the user to skip to the next valid question if there are questions that will not pertain to their situation. For example, if the answer to question 5.4 is “No framework in place”, and the following questions apply only to those with a framework in place, the user could be prompted to skip to the next appropriate question.

Identification – Consider the possibility of adding a couple of profiling questions regarding the organization that is filling out the assessment, how they are organized, how funded, etc. for the purpose of comparison with other respondents that have similar characteristics.

Mississippi provided suggestions for additional responses for several questions, and several suggestions to help clarify the intent of questions and/or responses. These suggestions are described in the EA Assessment Validation Comments spreadsheet and will be addressed individually.

EA READINESS ASSESSMENT PARTICIPANT SUMMARY REPORT

Mississippi had no suggestions for updates to the EA Maturity Model; however, in the Mississippi feedback they had mentioned that they had made some progress in the area of Communication. In order to provide participants with a better idea of the timeframe that is covered by the report, a paragraph will be added to introduction of future reports, describing the “snapshot-in-time” concept and including the date the site submitted the assessment data.

Mississippi also expressed that receiving the summary report within 3 to 4 weeks after submitting the responses to the assessment is an appropriate timeframe.

OVERALL PROCESS

The EA Readiness Assessment process worked very well for Mississippi. They would highly recommend following the same process to other states, because of the benefits they felt they received. Their

recommendation is to document and provide a copy of the detailed process instructions to the assessment coordinator at each state.



Commonwealth of Pennsylvania

In Pennsylvania, the Office of Administration is responsible for developing and promulgating statewide policies and standards governing the management and use of the Commonwealth's information technology (IT) investments. These responsibilities are carried out through the Office for Information Technology (OIT), which is comprised of eight organizational units:

- Commonwealth Technology Center
- Bureau of Consolidated Computer Services
- Bureau of Desktop Technology
- Bureau of Commonwealth Telecommunications Services
- Office for IT Planning & Support
- Justice Network Project Office
- Public Safety Radio Project Office
- PA Open 4 Business Project Office

Pennsylvania started their Enterprise Architecture activities in 1997 and their "As Is" architecture has been documented, but they feel that there is much yet to be accomplished in this area. Art Stephens was appointed Deputy Secretary for Information Technology in March of 2003, and at the time of our validation visit, Pennsylvania was in the process of hiring an Enterprise Architect. The current focus of their architecture effort is on the infrastructure, and will be followed by application and data.

Pennsylvania was eager to participate in the EA Readiness Assessment validation effort and felt that the assessment of their current EA program maturity would help to provide a benchmark and guidance for their future efforts.

Pennsylvania participants included the following members:

- Art Stephens: Deputy Secretary for Information Technology
- Sandra Mateer: Director, IT Planning & Support
- Carol Bingaman: Acting Director, Bureau of Consolidated Computer Services
- Linda Rosenberg: Director, PA Justice Network (JNET)
- John Kanovich: Manager, Security Office – Bureau of Commonwealth Technology Center (CTC)
- Nick Giordano: Director, Bureau of Commonwealth Telecommunications Services
- Bruce Rabenold: Network Operations Center Manager, Radio Project
- Paul Roos: Director, PA Open for Business (PAO4B)
- Dennis Schleicher: Director, Bureau of Desktop Technology

The overall reaction to the EA Readiness Assessment in Pennsylvania was also positive. They stated that the NASCIO team has been very accommodating and seems to be cognizant of changes happening in the states, which is greatly appreciated.

Members of the Pennsylvania staff felt that the on-site visit was very valuable in allowing them to convey their concerns and talk about various concepts regarding their EA efforts and the assessment components.

Due to timing constraints of the participants, Pennsylvania chose to schedule individual interviews throughout the day. Meetings were held with the directors of each of the organizational units to discuss the EA Readiness Assessment materials and clarify questions.

Pennsylvania stressed the educational benefits of participating in the EA Readiness Assessment process.

Following the on-site visit, and prior to the on-line submission of the assessment responses, Pennsylvania participants met together to collaborate on the enterprise perspective. As was noted by Mississippi, Pennsylvania participants also stated that their greatest difficulty was determining responses from an enterprise perspective. Participants felt that though they had individually discussed the assessment questions and response options, they still felt unsure about how to respond to various questions. Pennsylvania suggested that having a NASCIO member facilitate this group session would have been very valuable.

Pennsylvania has made advances in several of the dimensions of EA within particular agencies and in terms of infrastructure rollouts. Pennsylvania participants felt that these accomplishments were an important part of their EA efforts, and although this detail was not reflected in the EA Summary, they still believed that the EA Readiness Assessment Participant Summary Report provided a fair assessment of their EA maturity from an enterprise perspective.

They also indicated that it is necessary to have some type of measurement by which to address the alignment to the levels of the EA Maturity Model. Pennsylvania commented that states need and want to know where they are on the continuum of EA maturity, and they felt the scale used in the summary report was good. The portions of the report that they feel are the most beneficial are the Next Steps sections. They stated that these provide good, pointed direction, for future EA activities.

In general, Pennsylvania participants felt the assessment size was “comfortable” and would expect that it will expand in the future, based on additional topics areas such as Business Architecture, etc. They see this assessment exercise as an effort to establish a benchmark and look forward to an annual assessment to help determine progress.

They felt the timeframe for the process was good, especially since this was a pilot effort. Their feelings regarding the timeframe for the entire assessment process is that six weeks is a good average from start to finish, however, they realize that timeframes are dependent on the schedules of each organization.

Pennsylvania would like to pass along to other states that ownership is a very important aspect when conducting the EA Readiness Assessment. “The CIO has a vested interest and should drive the marketing and promote the importance of an EA Program.” They also noted that NASCIO should stress the educational benefits of participating in the EA Readiness Assessment process to the sites.

SUGGESTIONS FOR ENHANCEMENTS

The suggestions received from Pennsylvania also vary in scope and application. The detail of the suggestions for individual questions, responses or narrative will not be provided here, but have been captured in a spreadsheet and will be analyzed and applied on a case-by-case basis. This report will describe only those items of a global interest.

EA MATURITY MODEL

Pennsylvania had no suggestions for updates to the EA Maturity Model.

EA READINESS ASSESSMENT QUESTIONS & RESPONSES

Identification – Similar to the suggestion Mississippi offered in their feedback, Pennsylvania suggested providing a means by which an organization can better define where they are organizationally within their state government and the relationships/control they have with county/local governments. The following questions were provided as examples:

- Is there strong county control in your state?
- Is there strong control and standardization at the state level that must be followed by the counties?

Consider adding a question or two regarding the type of “control” that exists within the state for compliance (e.g., control of funding, executive support, performance evaluations, direct reporting control, etc.).

Throughout – Identify the logical sequence of questions. In other words, if a “no” response on a question means that the following four questions are irrelevant, then, instruct the user to skip to the next appropriate question. Both validation sites made this suggestion.

Matrix Questions – In general, participants found the matrix questions to be confusing and needed additional clarification. In discussions with Pennsylvania, they agree that a brief instruction sheet on the various types of questions that will be used throughout the assessment with sample responses would be a good addition to the participant materials.

Final Section Questions – Each section of the assessment currently has a final question that begins, “What do you consider key information regarding ...”. Pennsylvania noted that it was difficult to know what was expected as a response to these questions. In discussions with the participants, the following revision to the wording was suggested: “What do you consider key information or pertinent background information that will help us interpret your responses?”

Pennsylvania provided suggestions for additional responses for several questions, and several suggestions to help clarify the intent of questions and/or responses. These suggestions are described in the EA Assessment Validation Comments spreadsheet and will be addressed individually.

EA READINESS ASSESSMENT PARTICIPANT SUMMARY REPORT

Pennsylvania reported that the alignment to the maturity levels provided in the EA Readiness Assessment Participant Summary Report gave a fair assessment of an enterprise from a “macro” perspective; however, they felt this enterprise view does not reflect the accomplishments and/or the maturity of specific sectors. Consider the ability to assess the maturity of agencies, departments and/or initiatives.

Pennsylvania also felt that it is important to consider the “Extra-Enterprise”, or Inter-enterprise architecture capability, which addresses how well a state is positioned to integrate its architecture with its strategic partners at the federal, state, county and local levels.

OVERALL PROCESS

Participants noted that sending the materials in advance was a very good idea. They suggest that an instruction sheet that describes the type of questions and related responses be included with the materials for distribution to the participants. Prior to the collaborative meeting of the participants, it would be beneficial to have a brief “orientation” meeting or conference call to clarify any questions that may exist. Give the group the ability to meet together on their own to go over the questions. Ask participants to document any issues in preparation for the facilitation sessions. Follow this meeting with a group session facilitated by the NASCIO team, which will be a precursor to the on-line submittal of responses.



SUMMARY



Applied Updates

All suggestions will be considered for inclusion in version 1.0 of the EA Readiness Assessment or will be identified as possible topics for future versions. Updates will be applied the EA Maturity Model, the EA Readiness Assessment questions and responses, the EA Readiness Assessment preview document and the EA Readiness Assessment Participant Summary Report.

Note that the feedback received from state CIO's regarding the EA Maturity Model will also be incorporated as noted below. In addition to the suggestions by outside sources, the process of the analyzing the participant data, and the development of the "Next Steps" scenarios for the participant reports provided valuable information. Enhancements to the EA Maturity Model and corresponding questions/responses in the EA Readiness Assessment will be applied as noted below.

The details for all suggested modifications and enhancement are included in the EA Assessment Comment spreadsheet. The NASCIO/NSR team will utilize the information in this spreadsheet when applying the modifications to the process and/or documents listed. All updates will be reviewed and approved by the NASCIO Implementation sub-committee prior to publication.

The updates that will be included in version 1.0 cover the following topics:

EA Maturity Model

- Enhancements to narrative and descriptions (per CIO feedback)
- Clarification of existing level statements, where applicable
- Development of additional level statements, where applicable

EA Readiness Assessment questions and responses

- Addition of "skip" statements throughout the assessment to make it more obvious to the participants which questions they can bypass
- Consideration of options for additional "Identification" questions to allow sites to present a picture of their organization
- Changes to the wording of the final question in each section to more clearly reflect the intent
- Development of additional question and/or responses to better address maturity levels
- Reword existing questions and/or responses to increase clarity, where applicable

EA Readiness Assessment preview document

- Updates to preview document to coincide with modification to assessment questions and responses
- Development of an instructional sheet to describe question types and provide sample completed matrix

EA Readiness Assessment Participant Summary Report

- Addition of paragraph to describe the timeframe covered by the assessment and report
- Consideration of options to ensure timely availability of participant summary reports

EA Readiness Assessment Process

- Development of an EA Readiness Assessment Process document that describes the recommended process and expectations for site participants

Ideas for the Future

In the coming year, there are plans for several updates to the NASCIO Enterprise Architecture Development Tool-kit, including expansion into the areas of Business Architecture, Information Architecture and Solutions 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 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

Conclusion

Mississippi and Pennsylvania have each expressed that the process of participating in the EA Readiness Assessment has provided value and benefits to their respective organizations. According to both sites, the item that proved to be most valuable was the opportunity the assessment offered for the members of the organization to come together in a structured, and non-confrontational forum to discuss their architecture efforts from an enterprise perspective. Immediately following the on-site visit in Mississippi, Claude Johnson stated that even if this process were to go no further, he felt that the organization and participants would benefit greatly from the time they have spent together to discuss and collaborate on their responses. In conjunction with this, the states also stressed that the opportunity to have representatives from another state available to share experiences, was extremely educational.

Both sites found value in the participant summary reports and in particular, the sections on Next Steps, which provide a roadmap for future EA activities, based on the maturity level of the participating site.

Based on the experiences of these two states, the EA Readiness Assessment Program is a valuable addition to the portfolio of tools for building enterprise architecture. In addition to the value provided to the states directly through the assessment, NASCIO will be able to use information gained through the EA Readiness Assessment to support the development of future EA assistance programs.



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