



Federal Enterprise Architecture Program EA Assessment Framework 2.0

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Introduction

Version 2.0 of the Office of Management and Budget (OMB) Enterprise Architecture Assessment Framework is designed to advance the use of enterprise architecture (EA) across the Federal government. This document will serve as the basis for enterprise architecture maturity assessments of federal agencies performed by OMB. This document is a successor to version 1.5 of the OMB EA Assessment Framework.

The OMB Enterprise Architecture Assessment Framework helps OMB and the agencies assess the capability of EA programs to guide and inform IT investments' support of agency strategic objectives. It also helps to better understand the current state of an agency's EA and assist agencies in integrating their EA into their decision-making processes. By applying the assessment themselves, agencies can identify strengths and weaknesses within their EA programs and adjust them accordingly. As a result, the agency's enterprise architecture will help improve the performance of information resource management (IRM) and information technology (IT) investment decision-making.

Major Changes in the Scope of the 2.0 Framework

Assessment Framework 1.5 focused on completion of an agency's EA including its baseline architecture, target architecture, and transition strategy. Assessment Framework 2.0 contains two additional primary objectives, which are known as capability areas: use and results. Below is a brief outline of each of the three capability areas.

1. **Completion** of an agency's EA including:

- Reflection of the FEA reference models
- EA work product development
- Line of sight between horizontal layers of an agency's EA (performance, processes, data, services, and technology)
- Transition strategy for an agency to move from its baseline to its target architecture

2. **Use** of an agency's EA including:

- Policies and procedures necessary for an agency to develop, maintain, and oversee its EA,
- Integration of EA with agency IRM programs and IT management processes including strategic and capital planning, and program/project management

3. **Results** achieved from the use of an agency's EA including:

- Measurement of the effectiveness and value of an agency's EA
- Demonstration of the progress of an agency in meeting its goals, closing performance gaps, and achieving critical results
- Improvement in mission performance, customer service, and delivering cost savings.
- Agency usage and participation within cross-governmental initiatives such as E-Gov, LoB Initiatives and SmartBUY
- EA alignment to specific OMB policies and memoranda, e.g. IPv6.

Assessment Structure

As with the 1.5 Framework, each capability area is evaluated using a set of assessment criteria. The 2.0 Framework provides more detailed guidance, and has added new criteria to assess the additional capability areas described above. As with the previous version, each assessment criterion is scored from 0-5 based on the agency's maturity level for that criterion.

In the 2.0 Framework, examples of representative artifacts have been included to assist agencies in demonstrating their maturity for each assessment criterion. It is important to note, however, the description of the artifacts is not intended to be exhaustive or prescriptive. OMB is interested in the content of the artifacts and does not prescribe the form they should take, so long as the artifact can be submitted to OMB without requiring the use of proprietary software products such as EA modeling tools. Moreover, agencies may well decide to develop additional artifacts or elaborate upon them further than described here. Appendix A of this document provides a description of these artifacts in more detail.

Figure 1 shows the six levels of maturity for each criterion including:

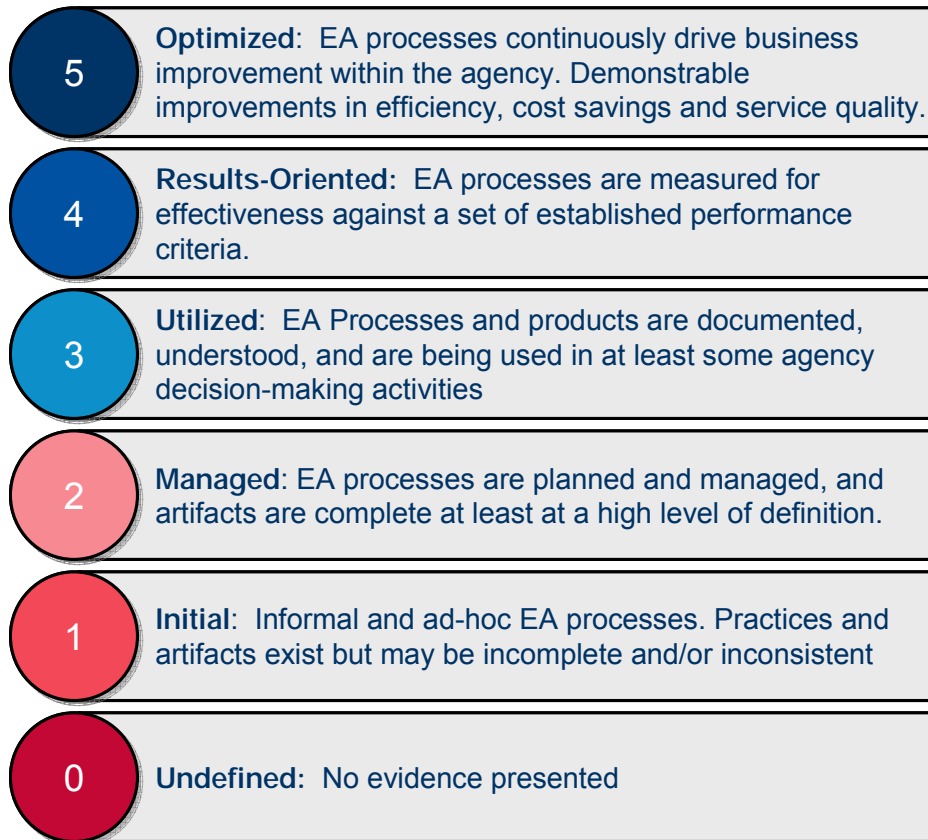


Figure 1. Maturity Levels

For each maturity level within the assessment criteria, a set of practices are defined. These practices are derived from sources including:

1. EA Frameworks

- OMB EA Assessment Framework 1.5
- Government Accountability Office (GAO) Information Technology – A Framework for Assessing and Improving Enterprise Architecture Management
- Treasury Enterprise Architecture Framework (TEAF)
- Federal Enterprise Architecture Framework (FEAF)
- CIO Council Practical Guide to the FEAF
- Department of Defense Architecture Framework (DoDAF)
- National Association of State CIOs (NASCIO) EA Maturity Model
- The Open Group Architecture Framework (TOGAF)
- Generalized Enterprise Reference Architecture Model (GERAM)

2. EA Policy and Guidance

- OMB Circulars

- OMB Memoranda
- FEA Reference Models and Additional Instructions
- Program Assessment Rating Tool (PART) documentation

3. Process Maturity Models

- GAO Information Technology Investment Management – A Framework for Assessing and Improving Process Maturity
- International Organization of Standardization (ISO) 9000
- Capability Maturity Model Integration (CMMI)

Additionally, for each assessment criteria both a rationale and a mandate are provided. The rationale explains why OMB considers it important to collect information about these criteria from agencies, while the mandate links the assessment criteria to law and/or policy where appropriate. All documents listed as mandates are available for download from OMB E-Government website on the following pages:

- Legislation: <http://www.whitehouse.gov/omb/egov/e-1-legislation.html>
- OMB Memoranda: <http://www.whitehouse.gov/omb/egov/e-3-memoranda.html>
- FEA Reference Models: <http://www.whitehouse.gov/omb/egov/a-2-EAModelsNEW2.html>

Agency EA Assessment Scoring and Process

The assessment process for this version of the framework has been significantly updated. OMB will continue to conduct an annual, comprehensive assessment of an agency's enterprise architecture. In addition, OMB will expect agencies to submit quarterly progress reports on their success in achieving the milestones set forth in their transition strategy and the improvements they have realized from using EA as a planning and management tool. Because the agency's EA transition strategy is central to the assessment process, more detailed guidance on the development of this artifact is provided in Appendix B of this document.

Both the annual and the quarterly reviews are discussed below. Detailed assessment criteria for each capability area are described in section 5. Finally, the list of agencies to be assessed using this Framework is included in Appendix C.

1.1 ANNUAL ASSESSMENT PROCESS

The annual assessment process is intended to be a comprehensive review of the state of an agency's enterprise architecture program. In particular, the assessment process will focus on three capability areas of EA:

- Completion of an enterprise architecture including its related artifacts,
- Use of EA to drive improved decision-making, and

- Results achieved that improve the agency's effectiveness

The purpose of the annual assessment is to review the current state of an agency's EA program. Traditionally, agencies have submitted their EAs with their budget submissions in September. In order to better inform agency decision-making as they begin developing their budget requests, the annual assessments will now be conducted in March.

The scoring process for Assessment 2.0 has also changed. Agencies will now receive an average score for each of three capability areas (Completion, Use, and Results). The average is calculated by summing the score for all criterion within that capability area and then dividing by the number of criteria. Scores will be rounded up to the nearest tenth.

The results of the annual assessment process will be reflected in the Status score for e-Government within the President's Management Agenda. The following table describes how Green, Yellow and Red indicators will be determined:

Green	Score equal to or greater than 3 in both the "Completion" <u>and</u> "Use" capability areas OR a score equal to 3 or greater in the "Results" capability area
Yellow	Score equal to or greater than 3 in either the "Completion" <u>or</u> "Use" capability area, and score less than 3 in "Results" area.
Red	Score less than 3 in each capability area (Completion, Use and Results)

Recognizing agency EA artifacts may not be complete by the initial March assessment, agencies may request a re-assessment by OMB, provided the request is made at the time they receive their initial annual assessment. The re-assessment will not take place until at least 90 days after the initial assessment, but agencies can request that the re-assessment be performed even later in the year if that is their preference. The agency will have the opportunity to submit revised artifacts for review to demonstrate improvements in maturity since the initial assessment. The Status score for e-Government within the PMA Scorecard will be updated accordingly based on the results of the re-assessment.

1.2 QUARTERLY EA PERFORMANCE REVIEW

The quarterly EA performance review will focus on evaluating the agency's progress in using its EA as an element of agency decision-making. A transition strategy provides an organization-wide view of programs and projects across the agency, giving leadership the visibility to use the EA for organization-wide planning. This enables high-level impact assessment of investment decisions and programmatic changes on the overall plans for moving toward the target EA. Agencies must articulate how the transition strategy will improve agency performance in the following areas:

- Cost savings
- Cost avoidance
- Improved services to citizens
- Improved mission performance
- Improved management and use of information including greater dissemination, reduced collection burden on the public, and greater information sharing and collaboration
- Technology consolidation and standardization

OMB will work with agencies during the annual EA assessment process to ensure the EA transition strategy includes concrete, measurable milestones for the completion and usage of the enterprise architecture. Agencies will be expected to submit quarterly progress reports documenting their progress against these milestones.

OMB will incorporate existing reporting processes for e-Government alignment and implementation into agency EA performance reporting, and the information will be collected at the same time each quarter. The quarterly review will be performed for each quarter, including the quarter in which the annual assessment is performed. The results of the quarterly review will be reflected in the agency's quarterly Progress score for e-Government within the President's Management Agenda, but will not affect the agency's Status score.

Assessment Framework 2.0 Criteria

1.3 COMPLETION CAPABILITY AREA

- *Description:* The agency EA is mature and EA products describe the agency in terms of processes, services, data, technology, and performance. The agency's baseline and target architectures are well-defined, showing traceability through all architectural layers. Using its transition strategy and sequencing plan, the agency is able to achieve its desired target state.
- *Outcomes:*
 - Identifies specific outputs (artifacts for each architectural layer) the agency needs to maintain and monitor its EA.
 - Describes the future capabilities (via sequencing plan and target architecture) to enable the agency to achieve its performance goals.
 - Identifies the magnitude of the gap between the baseline and target architectures and possible improvement strategies to realize its target state.
 - Identifies unnecessary duplication and opportunities for consolidation and reuse of information and technology within and across agencies.

- Provides a framework and a functional view of an agency's lines of business (LoBs), including its internal operations/processes.
- *Notes:*
 - The Completion capability area assesses agency maturity in developing six baseline and target architectures: Performance, Business, Data, Service Component, and Technology However, this should not be construed as a requirement that agencies restructure their EA frameworks into five corresponding layers or views. OMB does not require agencies to adopt one specific EA framework. Agencies are simply required to demonstrate in their submissions to OMB that the content described in each assessment criterion is available within their EA.
 - OMB does not require agencies to demonstrate that they have included every possible element for a given baseline or target architecture in order to receive credit for a given maturity level. Agencies may receive credit for partially complete architectures so long as they can demonstrate that the architectures address the highest-priority business questions of the agency as identified in Section 5.3.1 of this Framework.

1.3.1 Performance Architecture

- *Description:* The EA contains performance measurement indicators, aligned to the FEA Performance Reference Model (PRM) and layers of the agency EA, and the EA is used to help track improve agency performance.
- *Rationale:* The agency EA must clearly demonstrate how it furthers the agency's strategic objectives and aligns to well-defined performance goals. To achieve this, it is important to identify meaningful performance measurement indicators.
- *Mandate:* OMB A-11, s.300; GPRA; Clinger-Cohen Act, OMB Memorandum 05-23, A-130, PART

Level 1 Practices	<p><i>Activities:</i> Agency has identified performance measurement areas and categories based on the FEA PRM.</p> <p><i>Artifacts:</i> Baseline Performance Architecture</p>
Level 2 Practices	<p><i>Activities:</i> Agency has identified measurement indicators for its baseline architecture and aligned them to baseline processes, services, technology and data. There is clear traceability to measure and monitor performance throughout the agency EA.</p> <p><i>Artifacts:</i> Baseline Performance Architecture</p>

Level 3 Practices	<p><i>Activities:</i> Agency has identified measurement indicators for its target architecture and aligned them to target processes, services, technology and data. There is clear traceability to measure and monitor performance throughout the agency EA.</p> <p><i>Artifacts:</i> Target Performance Architecture</p>
Level 4 Practices	<p><i>Activities:</i> Incremental improvements in agency performance measures are included as milestones in the EA Transition Strategy.</p> <p><i>Artifacts:</i> Target Performance Architecture, Transition Strategy</p>
Level 5 Practices	<p><i>Activities:</i> Agency has documented its performance measurement processes and aligned them with other management processes including Capital Planning and Investment Control (CPIC), strategic planning, Systems Development Lifecycle (SDLC), and Information Resource Management (IRM).</p> <p>Performance measurement indicators and processes are monitored, measured, and updated on a regular basis.</p> <p><i>Artifacts:</i> Target Performance Architecture, Transition Strategy</p>

1.3.2 Business Architecture

- *Description:* EA contains an inventory of agency business processes, aligned to the FEA Business Reference Model (BRM), linked to layers of the agency EA and used to inform investment decision making.
- *Rationale:* Effective EA must be business-driven, requiring alignment between the IT architecture layers and business processes. Segment architectures are developed for each agency line of business, including Services for Citizens, as well as Support Lines of Business.
- *Mandate:* OMB A-11, s.300; GPRA; Clinger-Cohen Act

Level 1 Practices	<p><i>Activities:</i> Agency has identified business processes based on the FEA BRM including functions and sub-functions.</p> <p><i>Artifacts:</i> Baseline Business Architecture</p>
Level 2 Practices	<p><i>Activities:</i> Baseline business processes are linked to the layers of the agency's baseline EA including performance, services, technology and data, as well as other business elements such as stakeholders, organizations, facilities, programs, investments and activities and security processes.</p>

	<i>Artifacts:</i> Baseline Business Architecture
Level 3 Practices	<p><i>Activities:</i> Target business processes are linked to the layers of the agency's target EA including performance, services, technology and data, as well as other business elements such as stakeholders, organizations, facilities, programs, investments and activities and security processes.</p> <p>Segment architectures have been defined for all agency lines of business, including mission-critical business segments as well as administrative or common/shared lines of business.</p> <p>Target business architecture is aligned to the agency strategic plan and the IRM strategic plan.</p> <p><i>Artifacts:</i> Target Business Architecture</p>
Level 4 Practices	<p><i>Activities:</i> Business target architecture informs transition planning and investment decision-making. Transition strategy demonstrates transformation from baseline to target business architecture. Selected investments demonstrate alignment to target business architecture.</p> <p><i>Artifacts:</i> Target Business Architecture, Transition Strategy, CPIC Guide</p>
Level 5 Practices	<p><i>Activities:</i> Business architecture is monitored, measured, and updated on a regular basis.</p> <p><i>Artifacts:</i> Updated Target Business Architecture and Transition Strategy</p>

1.3.3 Data Architecture (Information Management)

- *Description:* Enterprise data described at the level of business data entities, linked to the FEA Data Reference Model (DRM) as it evolves and other layers of agency EA.
- *Rationale:* An enterprise data architecture is the key to identifying data sharing and exchange opportunities both within and across agencies.
- *Mandate:* OMB A-11, s.300; GPRA; Clinger-Cohen Act, Data Quality Act, E-Government Act of 2002, OMB M-05-04, OMB A-119, OMB Information Dissemination Memorandum 207(d)

Level 1 Practices	<i>Activities:</i> The agency has partially documented elements of its baseline data architecture including data assets as defined by the DRM.
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	<p><i>Artifacts:</i> Baseline Data Architecture</p>
<p>Level 2 Practices</p>	<p><i>Activities:</i> The agency has partially documented elements of its baseline data architecture including data assets, exchange packages and data suppliers and consumers as defined by the DRM.</p> <p><i>Artifacts:</i> Baseline Data Architecture</p>
<p>Level 3 Practices</p>	<p><i>Activities:</i> The agency has created a high-level target data architecture that identifies opportunities for information sharing and consolidation.</p> <p>When applicable and required by law and policy, the agency has prepared and published inventories of the agency's major information holdings and dissemination products, and otherwise made them available for use by all interested and authorized parties including other agencies and as appropriate, the general public, industry, academia, and other specific user groups.</p> <p><i>Artifacts:</i> Target Data Architecture</p>
<p>Level 4 Practices</p>	<p><i>Activities:</i> The target data architecture identifies mechanisms for information dissemination and classification within the agency.</p> <p>Where applicable, the agency is using data standards to fulfill mission needs and meet the requirements of law and policy and has published the nature and use of such standards centrally for access by all interested parties, including the general public. Where data standards are applicable, the agency has adopted voluntary standards or Federal Information Processing Standards; and, where existing standards are not available, has followed prescribed policies (i.e., OMB Circular A-119) for developing unique standards.</p> <p><i>Artifacts:</i> Target Data Architecture</p>

<p>Level 5 Practices</p>	<p><i>Activities:</i> When applicable and required by law and policy, the agency has:</p> <ol style="list-style-type: none"> 1) documented procedures to ensure information is properly managed (i.e., created, collected, categorized, inventoried, preserved, disseminated, searched for, retrieved, and shared) in a manner consistent with applicable information policies and procedures; 2) implemented such policies; and 3) prepared and published inventories and otherwise made them available for use by all interested and authorized parties including other agencies and as appropriate, the general public, industry, academia, and other specific user groups. <p>Where applicable, the agency is using data standards to fulfill mission needs and meet the requirements of law and policy and has published the nature and use of such standards centrally for access by all interested parties, including the general public.</p> <p>Where data standards are applicable, the agency has:</p> <ol style="list-style-type: none"> 1) adopted voluntary standards or Federal Information Processing Standards; 2) where existing standards are not available, has followed prescribed policies (i.e., OMB Circular A-119) for developing unique standards; 3) has documented procedures to ensure information is managed (i.e., created, collected, categorized, inventoried, preserved, disseminated, and searched for, retrieved, and shared) in a manner consistent with any applicable standards; and 4) has documented procedures to ensure IT investments and acquisitions comply with any applicable standards as well as other associated policies and procedures. <p><i>Artifacts:</i> Target Data Architecture</p>
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1.3.4 Service Component Architecture

- *Description:* This architecture describes agency services linked to the FEA SRM and other layers of agency EA.
- *Rationale:* The service component architecture is the foundation for identifying opportunities for reuse both within and across agencies.
- *Mandate:* OMB A-11, s.300; GPRA; Clinger-Cohen Act, E-Government Act

Level 1 Practices	<p><i>Activities:</i> Agency has identified its inventory of existing applications and aligned it with the FEA SRM.</p> <p><i>Artifacts:</i> Baseline Service Component Architecture</p>
Level 2 Practices	<p><i>Activities:</i> Baseline applications are linked to service components in the FEA SRM, which in turn link to baseline EA elements including performance, process, technology and data and security processes.</p> <p><i>Artifacts:</i> Baseline Service Component Architecture (</p>
Level 3 Practices	<p><i>Activities:</i> Target service components are linked to the layers of the agency's target EA including performance, process, technology and data and security processes.</p> <p><i>Artifacts:</i> Target Service Component Architecture</p>
Level 4 Practices	<p><i>Activities:</i> Service component target architecture informs transition planning and investment decision-making. Transition Strategy demonstrates transformation from baseline to target service component architecture. Standardization and reuse of service components is supported through agency SDLC and CPIC policy and procedures.</p> <p>The Transition Strategy informs agency investment planning and execution by providing specific investment recommendations as part of the CPIC process.</p> <p><i>Artifacts:</i> Target Service Component Architecture, Transition Strategy, SDLC and CPIC Guides</p>
Level 5 Practices	<p><i>Activities:</i> Service component architecture is updated on a regular basis and service component sharing and reuse within and across agencies is monitored and measured.</p> <p>Service components available agency-wide. EA provides capabilities to help enhance and improve interoperability and information sharing.</p> <p><i>Artifacts:</i> Updated Target Service Component Architecture and Transition Strategy</p>

1.3.5 Technology Architecture

- *Description:* Inventory of deployed and approved technologies linked to the FEA TRM and other layers of the agency EA; providing a basis for standardization opportunities.
- *Rationale:* The technology architecture is an opportunity to identify opportunities for technology standardization both within and across agencies.

- *Mandate:* OMB A-11, s.300; GPRA; Clinger-Cohen Act, E-Government Act, OMB Circular A-119

Level 1 Practices	<p><i>Activities:</i> Agency has identified technology products and standards currently used at the agency, based on the FEA TRM.</p> <p><i>Artifacts:</i> Baseline Technology Architecture</p>
Level 2 Practices	<p><i>Activities:</i> Current technology components are linked to the layers of the agency's baseline EA including performance, processes, services and data and security processes. Interoperability standards are defined at the business function level and are aligned to the TRM and SRM.</p> <p><i>Artifacts:</i> Baseline Technology Architecture</p>
Level 3 Practices	<p><i>Activities:</i> Target technology components are linked to the layers of the agency's target EA including performance, processes, services and data and security processes. Interoperability standards are defined at the business function level and are aligned to the TRM and SRM.</p> <p><i>Artifacts:</i> Target Technology Architecture</p>
Level 4 Practices	<p><i>Activities:</i> Technology target architecture informs transition planning and investment decision-making. Transition Strategy demonstrates transformation from baseline to target technology architecture. Standardization and reuse of technology components is supported through agency SDLC and CPIC policy and procedures.</p> <p>The Transition strategy informs agency investment planning and execution by providing specific investment recommendations as part of the CPIC process.</p> <p><i>Artifacts:</i> Target Technology Architecture, Transition Strategy, SDLC and CPIC Guides</p>
Level 5 Practices	<p><i>Activities:</i> Technology architecture is updated on a regular basis and technology standardization and reuse within and across agencies is monitored and measured. A well-defined process for technology insertion within the agency exists.</p> <p>Technology components available agency-wide. EA provides capabilities to help enhance and improve interoperability and information sharing.</p> <p><i>Artifacts:</i> Updated Target Technology Architecture and Transition Strategy</p>

1.3.6 Transition Strategy

- *Description:* A transition strategy describes the agency strategy for migrating between its baseline architecture to its target architecture. For a more detailed description of a transition strategy, please refer to Appendix B of this document.
- *Rationale:* The transition strategy defines projects, programs, and timelines/milestones and is the foundation for modernization and transformation activities from the baseline to target architecture.
- *Mandate:* OMB A-11, s.300; GPRA; Clinger-Cohen Act, E-Government Act

Level 1 Practices	<p><i>Activities:</i> Agency has a well-documented approach/methodology for creating, maintaining, and managing the EA Transition Strategy.</p> <p>This approach typically includes processes for performing gap analysis, alternatives analysis, and the management of projects over time.</p> <p><i>Artifacts:</i> Transition Strategy</p>
Level 2 Practices	<p><i>Activities:</i> Agency has performed a redundancy and gap analysis identifying opportunities for consolidation or reuse and gaps between the baseline and target architectures.</p> <p><i>Artifacts:</i> Transition Strategy</p>
Level 3 Practices	<p><i>Activities:</i> Agency has defined programs and projects in support of its target architecture and has a documented sequencing plan integrating program and project dependencies, performance improvement, security planning activities, staffing, and facilities plans, and enterprise transition states.</p> <p><i>Artifacts:</i> Transition Strategy</p>
Level 4 Practices	<p><i>Activities:</i> Agency shows clear linkage between programs and projects in the EA Transition Strategy and the initiatives in the agency investment portfolio.</p> <p><i>Artifacts:</i> Transition Strategy, IT Portfolio</p>
Level 5 Practices	<p><i>Activities:</i> Performance management has been incorporated in the agency Transition Strategy and Sequencing Plan and the agency is measuring progress towards achieving its target architecture. There is a clear line of site established between PART scores, Programs, investments and agency EA.</p> <p><i>Artifacts:</i> Transition Strategy, Agency IT Portfolio, Annual Performance Plan</p>

1.4 USE CAPABILITY AREA

- *Description:* The agency has established the necessary management practices, processes, and policies needed for developing, maintaining and overseeing EA and demonstrating the importance of EA awareness and the value of employing EA practices within an agency. The agency uses its EA to inform strategic, information resources management, IT, and capital planning and investment control processes.
- *Outcomes:*
 - Establishes strategic objectives and programs the agency needs to meet citizens' needs.
 - Demonstrates the relationship between EA, strategic and capital planning processes.
 - Provides the ability to make better management decisions, and as necessary, the ability to assess and re-assess the path forward.

1.4.1 EA Governance and Management

- *Description:* The agency must govern and manage the implementation and use of EA policies and processes. This includes the selection of a Chief Architect (CA), allocation of resources and the sponsorship of EA at the executive level.
- *Rationale:* Governance assures agency compliance with EA processes and procedures. The agency's EA Program Management Office governs the development, implementation and maintenance of the EA.
- *Mandate:* OMB A-11, s.300, OMB Circular A-130

<p>Level 1 Practices</p>	<p><i>Activities:</i> The agency has developed a vision and strategy for EA. The agency has begun to identify EA tasks, and resource requirements.</p> <p>Agency has appointed a CA. The agency has senior-level sponsorship of its EA Program, and the program is funded.</p> <p><i>Artifacts:</i> EA Program Plan, EA Framework</p>
<p>Level 2 Practices</p>	<p><i>Activities:</i> Agency has established an EA Governance Committee or other group for directing, overseeing, or approving EA activities.</p> <p>Internal and external stakeholders are identified based on their involvement in EA related activities and needed information.</p>

	<p>The agency has selected an EA Framework and implemented a tool/repository capable of supporting the chosen framework.</p> <p><i>Artifacts:</i> EA Governance Committee Charter, EA Repository, EA Program Plan,</p>
<p>Level 3 Practices</p>	<p><i>Activities:</i> EA Governance Committee or other group meets on a regular basis and makes decisions related to directing, overseeing, and approving EA activities within the agency. The Committee follows a formal process for holding, conducting, and recording meetings.</p> <p>The EA Compliance process is followed consistently throughout the agency. The Governance Committee reports compliance on a regular basis.</p> <p><i>Artifacts:</i> EA Governance Plan, EA Governance Committee Meeting Minutes, EA Program Plan,</p>
<p>Level 4 Practices</p>	<p><i>Activities:</i> EA Governance Committee manages and monitors the agency EA using the enterprise transition strategy and IT investment project plans. The EA Governance Committee identifies any risks to EA implementation and develops a plan to mitigate them.</p> <p>The agency captures metrics to measure the progress against the established EA plans. Goals are being set for the future of the EA Program Plan.</p> <p>Alignment to the EA standards has become common practice throughout the agency. The compliance process is reviewed and updated when deficiencies or enhancements to the process are identified</p> <p><i>Artifacts:</i> EA Transition Strategy , EA Program Plan, EA Governance Committee Meeting Minutes</p>
<p>Level 5 Practices</p>	<p><i>Activities:</i> The EA Governance Committee ensures EA compliance throughout the agency. If non-compliance is identified, the Committee is responsible for developing a plan to resolve the issues.</p> <p><i>Artifacts:</i> EA Governance Plan, EA Governance Committee Meeting Minutes, EA Program Plan,</p>

1.4.2 EA Change and Configuration Management

- *Description:* Agencies should have the ability to effectively manage changes to EA artifacts, including documents and any EA repositories.
- *Rationale:* Change and configuration management is essential to ensure EA work products and processes remain current since EA serves as a tool for strategic planning and IT investing.
- *Mandate:* OMB A-11, s.300, OMB Circular A-130

Level 1 Practices	<p><i>Activities:</i> Agency has developed an EA policy to guide the development, implementation, and maintenance of EA. It ensures agency-wide commitment to the development of EA and clearly assigns responsibility to do so.</p> <p><i>Artifacts:</i> Configuration Management Plan</p>
Level 2 Practices	<p><i>Activities:</i> A configuration management system exists to manage and maintain the EA. A configuration management system includes the storage media, the procedures, and the tools for accessing the system.</p> <p><i>Artifacts:</i> Configuration Management Plan, Configuration Management Reports</p>
Level 3 Practices	<p><i>Activities:</i> The agency has established an EA baseline that serves as the basis for further development, and can be changed only through the change control procedures.</p> <p>The agency's configuration management process is used to review and accept changes to the work products and document any necessary changes. As changes are made, the baseline is updated and archived.</p> <p><i>Artifacts:</i> Configuration Management Plan, Configuration Management Reports</p>
Level 4 Practices	<p><i>Activities:</i> The agency's configuration management process evaluates EA artifacts to determine any discrepancies between them and the approved baseline.</p> <p><i>Artifacts:</i> Configuration Management Reports, including recommended corrective actions (action items)</p>
Level 5 Practices	<p><i>Activities:</i> The agency's EA is a dynamic model that represents changes to the agency's constraints and business drivers. The agency has a formal process for defining and implementing changes to the architecture. This process recognizes both internally and externally prompted change, and provides for</p>

	<p>continuous capture and analysis of change proposals and informed decision-making about whether to make changes.</p> <p><i>Artifacts:</i> Configuration Management Plan, Configuration Management Reports</p>
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1.4.3 Federation of Enterprise and Segment Architectures

- *Description:* Agencies should have the ability to effectively federate lower-level segment architectures (including content, structure and policies) with higher-level agency-wide EA initiatives.
- *Rationale:* An effective agency-wide EA must incorporate the content of all of the agency's constituent organizational units, such as bureaus and offices, or else EA becomes just another "stovepipe" within the enterprise.
- *Mandate:* OMB A-130
- *Notes:* In the case of small agencies that do not contain subsidiary operating units, OMB may elect not to use this criterion for assessment, based on discussions with the agency.

Level 1 Practices	<p><i>Activities:</i> Multiple bureau-level architectures exist within the agency. No policies or procedures exist to integrate bureau-level architectures into the agency-wide EA.</p> <p><i>Artifacts:</i> EA Repository</p>
Level 2 Practices	<p><i>Activities:</i> Agency EA governance process has established integration policies and processes providing a mechanism to link bureau-level EAs to the agency-level EA.</p> <p><i>Artifacts:</i> EA Governance Plan</p>
Level 3 Practices	<p><i>Activities:</i> Enterprise and bureau-level EAs are using a standard EA framework and modeling standards.</p> <p>The Enterprise EA accurately reflects the bureau-level EAs. The EA is integrated with strategic and capital planning processes.</p> <p><i>Artifacts:</i> EA Framework</p>
Level 4 Practices	<p><i>Activities:</i> Agency has begun to standardize its common processes/LoBs across bureaus (e.g., finance, human resources, IT). The agency has identified common re-usable architecture components and technologies.</p> <p><i>Artifacts:</i> EA Repository, Transition Strategy</p>
Level 5 Practices	<p><i>Activities:</i> The agency has one centralized EA used by all</p>

	<p>bureaus and organizations. There is no redundancy between architectural elements (processes, information, services and technology) found at the enterprise and bureau levels and represented in the agency EA.</p> <p>The agency EA is integral to strategic and capital planning and systems development.</p> <p><i>Artifacts:</i> EA Repository</p>
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1.4.4 EA Deployment

- *Description:* Agencies should have the ability to deploy EA content out to their user community, including deployment of a repository, training and communications.
- *Rationale:* A strong communications and training program can provide the agency with a powerful communications vehicle to foster the development of a unified, agency-wide EA. EA products and processes must be available to both business and IT stakeholders, as they are an integral part to strategic planning, capital planning, and systems development.
- *Mandate:* E-Government Act, OMB A-130

Level 1 Practices	<p>EA artifacts are available, but dispersed throughout the agency. Some form of an EA Artifact inventory is available.</p> <p><i>Artifacts:</i> EA Artifact Inventory</p>
Level 2 Practices	<p><i>Activities:</i> An EA Repository exists within the agency. It houses the agency's EA artifacts and models and is readily accessible to the agency's EA user community</p> <p><i>Artifacts:</i> EA Repository</p>
Level 3 Practices	<p><i>Activities:</i> The agency's architecture is well defined and communicated. Training is available and provided throughout the agency to increase the awareness and understanding of the EA concepts and processes.</p> <p><i>Artifacts:</i> EA Training Plan, EA Training Materials</p>
Level 4 Practices	<p><i>Activities:</i> An EA Communication process is in place and being followed. The communication process is updated as necessary and the content of communications materials is updated periodically.</p> <p><i>Artifacts:</i> EA Communications Plan</p>
Level 5 Practices	<p>Use of the EA Repository and its web interface is integrated with CPIC, SDLC, and strategic planning processes.</p>

	<i>Artifacts:</i> EA Repository
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1.4.5 CPIC Integration

- *Description:* An effective agency EA should be integrated with the agency's CPIC process, including agency ability to align proposed investments to the approved transition strategy.
- *Rationale:* Investment decisions should be made so the agency can achieve a more efficient and effective target state.
- *Mandate:* OMB A-11, s.53 and 300

Level 1 Practices	<p><i>Activities:</i> Projects and purchases are typically done in isolation at the Bureau/LoB level, resulting in costly purchases and redundant development and training requirements.</p> <p>Scattered CPIC processes exist for selecting, controlling, and evaluating IT investments. EA data is not used to inform IT initiative/system funding decisions</p> <p><i>Artifacts:</i> CPIC Guide</p>
Level 2 Practices	<p><i>Activities:</i> Agency begins to streamline its CPIC process and integrate it with its EA Framework and process. The agency IT investment review process identifies the business needs for identified IT projects fitting within its architecture</p> <p><i>Artifacts:</i> CPIC Guide</p>
Level 3 Practices	<p><i>Activities:</i> The agency's EA Program is integrated with strategic planning and budgeting processes. The agency's policies and procedures specify the relationship of its architecture to its IT decision-making processes and criteria.</p> <p><i>Artifacts:</i> CPIC Guide, EA Transition Strategy</p>
Level 4 Practices	<p><i>Activities:</i> Enterprise Architecture is used to guide development and acquisition of investments/systems. The agency captures metrics to measure the savings in resources, including time and money. Costs and benefits, including benefits across agency boundaries, are considered in identifying projects.</p> <p><i>Artifacts:</i> IT Investment Review Board Minutes</p>
Level 5 Practices	<p><i>Activities:</i> Information gathered during the compliance process is used to proactively identify changes needed in the EA and drive the development of IT business cases for new IT investments. Architecture metrics are used to drive continuous process improvements.</p>

	<i>Artifacts:</i> CPIC Guide, IT Investment Review Board Minutes
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1.5 RESULTS CAPABILITY AREA

- *Description:* Agency is measuring the effectiveness and value of its EA by assigning performance measurements to its EA and related processes and using its analysis of the performance measurements to update its EA practice and guidance.
- *Outcomes:*
 - Demonstrates the relationship of IT investments to the agency's ability to achieve mission and program performance objectives.
 - Captures how well the agency or specific processes within an agency are serving citizens.
 - Identifies the relationships between agency inputs and outcomes.
 - Demonstrates agency progress towards goals, closing performance gaps, and achieving critical results.
 - Demonstrates alignment of agency architectures to OMB policy guidance

1.5.1 Business Driven

- *Description:* Agency architectures should be able to answer key business questions for its user community. These business questions should drive the outputs of the agency's EA tools so agency managers can make better decisions.
- *Rationale:* An agency EA is most valuable when it is closely aligned to strategic plans and executive level direction.
- *Mandate:* OMB Circular A-11, Circular A-130

Level 1 Practices	<p><i>Activities:</i> Agency EA program is informal and undefined. Processes and procedures for implementing a business-driven EA program may be incomplete and/or inconsistent across the agency.</p> <p><i>Artifacts:</i> EA Program Plan</p>
Level 2 Practices	<p><i>Activities:</i> Business and technology stakeholders are identified for each architecture/business segment.</p> <p><i>Artifacts:</i> EA Program Plan</p>
Level 3 Practices	<p><i>Activities:</i> The agency has begun to develop a vision for EA by identifying key business questions/business needs the EA (architecture/business segment) needs to answer and address.</p> <p><i>Artifacts:</i> Business Questions Inventory</p>

Level 4 Practices	<p><i>Activities:</i> EA artifacts and activities are designed and measured against the business questions/needs assessment in support of the agency mission</p> <p><i>Artifacts:</i> Business Questions Inventory, EA Program Plan</p>
Level 5 Practices	<p><i>Activities:</i> Business improvement opportunities are continuously identified and progress towards meeting the needs is demonstrated; business questions/needs are driving the EA program, transition strategies etc. in alignment with the strategic mission and executive direction of the agency.</p> <p><i>Artifacts:</i> Business Questions Inventory, EA Program Plan</p>

1.5.2 Collaboration and Reuse

- *Description:* Assess agency's ability to share and reuse services and service technology components.
- *Rationale:* Identifying and leveraging opportunities for reuse is one of the core benefits of an effective and mature EA Program.
- *Mandate:* OMB Memorandum M03-18

Level 1 Practices	<p><i>Activities:</i> Reuse is an ad hoc process and is not fully demonstrated across the agency. Agency does not structure new development toward reuse.</p> <p><i>Artifacts:</i> SDLC Guide</p>
Level 2 Practices	<p><i>Activities:</i> Agency EA is accurately aligned to the FEA reference models and profiles and agency services and service components are cataloged for reuse.</p> <p>Agency enterprise assets are classified according to a standardized taxonomy in order to identify similarities. Dependencies within EA have been identified and documented.</p> <p><i>Artifacts:</i> EA Repository, SDLC Guide</p>
Level 3 Practices	<p><i>Activities:</i> Agency has process in place for driving and ensuring reuse and a process or tool for measuring cost savings/avoidance as a result of reuse.</p> <p><i>Artifacts:</i> EA Repository, EA Transition Strategy</p>
Level 4 Practices	<p><i>Activities:</i> Agency can demonstrate realized cost savings/avoidance through reuse of components.</p>

	<i>Artifacts:</i> EA Repository, EA Transition Strategy.
Level 5 Practices	<p><i>Activities:</i> Enterprise-scale reuse occurring consistently within agency; demonstrating direct and tangible returns to an agency's EA investment. Reuse can include systems and technologies.</p> <p>Documented cost savings and avoidance from the reuse or services and service technology components.</p> <p><i>Artifacts:</i> EA Repository, EA Transition Strategy.</p>

1.5.3 Business Process and Service Improvement

- *Description:* Agencies should have the ability to demonstrate business process/service improvements and improved mission outcomes as a result of EA program implementation.
- *Rationale:* Business needs drive the EA and technology implementation.
- *Mandate:* OMB A-130

Level 1 Practices	<p><i>Activities:</i> Agency has identified stakeholders/customer/user population and conducted a satisfaction survey/needs assessment for improving services for each business segment.</p> <p><i>Artifacts:</i> EA Program Plan</p>
Level 2 Practices	<p><i>Activities:</i> Agency has identified and documented business process/service improvement metrics (including baseline and target) for each architecture/business segment and metrics are linked to transition strategies, implementation plans, strategic goals etc.</p> <p>Roles and responsibilities are assigned for performance measurement activities for improving each business segment.</p> <p><i>Artifacts:</i> EA Program Plan, Business Architecture</p>
Level 3 Practices	<p><i>Activities:</i> Agency monitors and tracks progress towards meeting the projected business process/service metrics. Business process improvement measures are tracked and well documented and available via a centralized repository.</p> <p>Agency demonstrates improved services and mission outcomes.</p> <p><i>Artifacts:</i> PMA progress reports, EA Transition Strategy, E-Gov alignment and implementation reports</p>
Level 4 Practices	<p><i>Activities:</i> EA program measured for effectiveness against the business process/service improvement criteria.</p>

	<p>Agency demonstrates improvements to business processes and customer services and mission outcomes.</p> <p><i>Artifacts:</i> PMA progress reports, Transition Strategy, E-Gov alignment and implementation reports</p>
Level 5 Practices	<p><i>Activities:</i> Agency optimizes use of stakeholder/customer/user business needs to continuously inform decision-making and resource allocation.</p> <p>Through performance measurement and reporting, relevant trends and anomalies are identified, corrective actions are taken, and cost savings/avoidance data calculations inform business/budget decision-making.</p> <p><i>Artifacts:</i> PMA progress reports, Transition Strategy, E-Gov alignment and implementation reports</p>

1.5.4 IT Implementation Improvement

- *Description:* Assess agency implementation of individual IT projects through EA principles such as interface and/or platform standardization, driving the agency towards service-oriented architecture implementations and improvements to the agency software development lifecycle process.
- *Rationale:* The EA should improve the quality of IT implementation projects within the agency by providing consistent standards and identifying opportunities for integration.
- *Mandate:* OMB A-130

Level 1 Practices	<p><i>Activities:</i> Agency SDLC processes exist, but they are not integrated with EA in any meaningful way. Agency developers do not align their activities to technical standards or reuse opportunities identified within the EA.</p> <p><i>Artifacts:</i> SDLC Guide</p>
Level 2 Practices	<p><i>Activities:</i> EA integrated in SDLC methodologies. Agency programmers and developers are aware of agency EA including technical standards, reuse strategy and interoperability standards.</p> <p><i>Artifacts:</i> SDLC Guide</p>
Level 3 Practices	<p><i>Activities:</i> Agency is using the EA to drive the SDLC and processes. SDLC processes are a reflection of EA framework and standards.</p>

	<i>Artifacts:</i> SDLC Guide
Level 4 Practices	<i>Activities:</i> Agency has a documented plan for evolving to a Service Oriented Architecture for various business segments. <i>Artifacts:</i> Service-Oriented Architecture
Level 5 Practices	<i>Activities:</i> Agency has implemented a Service Oriented Architecture (SOA) and is realizing the benefits <i>Artifacts:</i> Service-Oriented Architecture

- *Description:* Agency is actively utilizing the EA to ensure agency EA IT policy and implementation align to OMB IT Policy Guidance as documented in OMB Circulars, Memoranda and other communications to agencies.
- *Outcomes:*
 - Demonstrates agency implementation of specific OMB policies not already measured through other reporting

1.5.5 E-Gov, Line of Business, and SmartBUY Alignment and Implementation

- *Description:* Assess agency progress in aligning and implementing its EA in support of E-Gov initiatives, Line of Business (LoB) and SmartBUY opportunities.
- *Rationale:* A solid EA program supports the successful implementation of collaboration opportunities, common solutions, and SmartBUY license agreements as identified in the PMA.
- *Mandate:* E-Government Act, OMB Memorandum 97-07, OMB Memorandum M-04-08

Level 1 Practices	<i>Activities:</i> Agency has identified opportunities to align the EA to E-Gov initiatives, LoBs and SmartBUY solutions. <i>Artifacts:</i> PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report
Level 2 Practices	<i>Activities:</i> Agency has developed a Plan of Action and Milestones (POA&M) for implementing E-Gov initiatives, LoB and SmartBUY solutions. <i>Artifacts:</i> Implementation and Alignment Report
Level 3 Practices	<i>Activities:</i> Agency is conducting EA alignment and migration activities and measuring progress against its POA&Ms. Agency has documented cost savings/cost avoidance projections and is managing towards those goals.

	<i>Artifacts:</i> PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report; Transition Strategy
Level 4 Practices	<p><i>Activities:</i> Agency is implementing the common solution and/or migrating towards the common solution; duplicative and redundant systems are being shut down; resources realigned from administrative to more strategic focused work. Agency demonstrates real cost savings and cost avoidance as a result of EA program implementation.</p> <p><i>Artifacts:</i> PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report, SmartBUY license agreements</p>
Level 5 Practices	<p><i>Activities:</i> EA program is continuously driven by common solution strategies including E-Gov initiatives, LoBs and SmartBUY solutions. Agency is continuously identifying new opportunities to leverage cross-agency initiatives such as LoBs and SmartBuy .</p> <p><i>Artifacts:</i> PMA Scorecards (progress reports), E-Gov Implementation and Alignment Report, SmartBUY license agreements</p>

1.5.6 IPv6 Planning

- *Description:* Agency EA (including transition strategy) must incorporate IPv6 into agency target architecture
- *Rationale:* Federal agencies are required to implement IPv6 within their network backbone by June 2008.
- *Mandate:* OMB Memorandum M-05-22

Level 1 Practices	<p><i>Activities:</i> Agency has assigned an official to lead and coordinate agency planning for IPv6 transition.</p> <p><i>Artifacts:</i> Memorandum signed by the agency CIO documenting appointment and duties/responsibilities thereof.</p>
Level 2 Practices	<p><i>Activities:</i> agency has completed an inventory of existing routers, switches, hardware firewalls, and other IP-compliant devices and technologies.</p> <p><i>Artifacts:</i> IP device inventory using guidance in attachment A, OMB M-05-22</p>
Level 3 Practices	<i>Activities:</i> agency has performed an impact analysis to determine fiscal and operational impacts and risks of migrating to IPv6.

	Artifacts: IPv6 impact analysis document using guidance in attachment B, OMB M-05-22
Level 4 Practices	<p><i>Activities:</i> agency has developed an IPv6 transition plan and integrated this plan with the agency EA transition strategy.</p> <p>Artifacts: EA transition strategy with integrated IPv6 transition plan addressing areas listed in attachment C, OMB M-05-22.</p>
Level 5 Practices	<p><i>Activities:</i> agency has migrated its network backbone to IPv6, and provided a capability for all its networks to interface with this backbone.</p> <p>Artifacts: SDLC (systems development lifecycle) artifacts documenting the updated network infrastructure.</p>

Appendix A: Artifact Descriptions

The table below provides a brief description of the type of artifacts typically used to satisfy a specific maturity level for one of the assessment criteria described previously. These artifacts are submitted to OMB as part of the annual agency EA assessment.

It is important to note, however, the description of the artifacts is not intended to be exhaustive or prescriptive. OMB is interested in the content of the artifacts and does not prescribe the form they should take, so long as the artifact can be submitted to OMB without requiring the use of proprietary software products such as EA modeling tools. Moreover, agencies may well decide to develop additional artifacts or elaborate upon them further than described here.

Artifact Name	Artifact Description
Performance Architecture	<p>The Performance Architecture is a perspective of the overall agency EA that provides the information about the agency's baseline and target architectures. Examples of elements that may be included:</p> <ul style="list-style-type: none"> • Agency strategic goals and objectives (as per the agency's Strategic Plan and IRM Plan) • Agency-specific performance measurement indicators, aligned to the generic measurement indicators described in the FEA PRM • Linkage between the agency's strategic goals and investments • Linkage between the agency's performance measurement indicators and agency business processes
Business Architecture	<p>The Business Architecture is a perspective of the overall agency EA that provides the information about the agency's baseline and target architectures. Examples of elements that may be included:</p> <ul style="list-style-type: none"> • Agency business processes, aligned to business sub-functions within the FEA BRM • Internal and external participants (roles) within these business processes • Linkage between agency business processes and agency-specific performance measurement indicators • Linkage between business processes to agency service components • Agency programs, linked to business processes • Offices and facilities
Data Architecture	<p>The Data Architecture is a perspective of the overall agency EA that provides the information about the agency's baseline and target architectures. Examples of elements that may be included:</p> <ul style="list-style-type: none"> • Agency data model that describes the key data elements of the agency's business domain, and the relationships

	<p>between them. The data model may include data dictionaries, thesauri, taxonomies, topic maps</p> <ul style="list-style-type: none"> • An inventory of agency data stores, including the specific data elements it manages • A description of any data and data exchange standards that exist within the agency, which may include data exchange packages and messaging formats • Linkage between the agency data model and the service components that access the data elements • Documented agency policies and procedures for data/information management and quality • OMB M-05-04 - compliant agency websites and search engines; and/or metadata registries, repositories, and/or clearinghouse
Service Component Architecture	<p>The Service Component Architecture is a perspective of the overall agency EA that provides the information about the agency's baseline and target architectures. Examples of elements that may be included:</p> <ul style="list-style-type: none"> • Agency service components, aligned to the FEA SRM • Component interfaces • Linkage between service components and technology infrastructure, products and standards • Linkage between applications and the agency business processes they automate • Linkage between service components and the data objects accessed by these components • Linkage between service components and facilities where they are hosted
Technology Architecture	<p>The Technology Architecture is a perspective of the overall agency EA that provides the information about the agency's baseline and target architectures. Examples of elements that may be included:</p> <ul style="list-style-type: none"> • Agency technical reference model documenting technology products in use, aligned to the FEA TRM • Agency standards profile documenting applicable agency technology standards, aligned to the FEA TRM • Linkage between technology products and standards to service components
Transition Strategy	Please refer to Appendix B.
EA Governance Plan	<p>An EA Governance Plan is typically a document that describes how the development and evolution of agency's EA is to be governed. Typical elements may include:</p> <ul style="list-style-type: none"> • Description of EA governing bodies or individual roles within the agency

	<ul style="list-style-type: none"> • Responsibilities for each governing body or individual role • A description of the governance lifecycle, i.e. the process by which governance decisions are made • Relationship between the EA governance process and those for related IT governance bodies, e.g. Capital Planning, IT Strategy, or others
EA Governance Committee Meeting Minutes	To demonstrate agencies have developed effective governance processes, they may submit one or more examples of meeting minutes from the agency's EA governance body.
EA Governance Committee Meeting Charter	A Charter document describes the responsibilities of the agency's EA governance body with respect to the development and evolution of the agency EA. The Charter may also describe the EA governance body's relationship to other agency bodies such as IT investment review boards,
EA Training Plan	An EA Training Plan describes how the agency intends to train its user community in the use of the EA. This may include training on EA modeling tools and repositories, but also include training on how to align other agency initiatives such as capital planning and software development to the agency EA.
EA Training Materials	To demonstrate agencies have developed effective training processes, they may submit one or more examples of training materials. Examples might include coursebooks, presentations, workshop materials or other training content.
Configuration Management Plan	A Configuration Management Plan describes the process by which change to the agency's EA artifacts and repository will be managed. A CM plan may include rules for how changes are to be approved, how artifacts are to be versioned, and any relevant technical standards for implementing configuration management. Note if the agency already possesses an overall CM plan to which the EA initiative will simply conform, there is no need to create a specialized version for the EA initiative.
Configuration Management Reports	To demonstrate agencies have developed effective configuration processes, they may submit one or more examples of configuration management reports from the agency. These might include change logs for EA artifacts, minutes from an agency committee responsible for overseeing EA configuration management, or reports from any configuration management tool used to manage changes to EA content.
EA Framework Document	An EA Framework Document (sometimes called a metamodel) fundamentally describes three aspects of an enterprise architecture: <ul style="list-style-type: none"> • The types (or classes) of information the EA will concern itself with • The acceptable relationships between these types • Views of the architecture that show selected elements of the EA in a meaningful context

	Agencies may elect to wholly adopt an existing EA framework (such as Zachmann or DoDAF, for example), extend an existing framework, or create an entirely new framework as the needs of the agency dictate.
EA Program Plan	An EA Program Plan document describes the goals and objectives of the EA program and defines the scope of the initiative at least at a high level. It may identify key stakeholders of the EA program, the relationship of the EA to other agency initiatives and performance objectives for the EA. It is intended to be a non-technical document that can be validated with the agency business managers, not just IT personnel.
EA Business Questions Inventory	A Business Questions Inventory describes the list of business questions the agency's EA stakeholders would like the EA to be able to answer. It is analogous to a requirements document for a software development initiative. Note the inventory may be a list of candidate questions, some of which may be addressed by current versions of the EA, some by future versions, and some may never be implemented.
EA Artifact Inventory	An EA Artifact lists the artifacts that exist within the agency's EA initiative. This could be a report from an EA repository, a web page, or other documentation as appropriate.
EA Repository	An EA Repository is a mechanism for storing all of the relevant content within the agency's EA in a readily retrievable form. The implementation of a repository may be as simple as a common shared directory with agency EA artifacts, or it may include databases, web portals or EA-specific modeling tools and repositories.
SDLC Guide	An SDLC guide describes the agency's approved policies and methodology for software development projects. Subjects covered by an SDLC guide may include relevant industry or government standards, approved software development tools and languages, policies on reuse of existing components, and a methodology or framework for software development.
Service-Oriented Architecture	Service-Oriented Architecture (SOA) describes a means of organizing and developing IT capabilities as collaborating services that interact with each other based on open standards. Agency SOA artifacts may include models, approach documents, inventories of services or other descriptive documents. Note that SOA is sometimes referred to as Service Component-Based Architecture as well.
CPIC Guide	A CPIC guide describes the agency's approved policies and methodology for capital planning and investment control. This may include descriptions of agency capital planning governance policies, required documentation for business cases, tools used to manage the agency's IT portfolio, and a description of the capital planning lifecycle.
IT Investment Review Board	Each agency has a body responsible for selecting and prioritizing IT investments, although it may not be called an IT Investment

Minutes	Review Board. Minutes from this body can be utilized as evidence and a mature CPIC integration process with the EA.
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Appendix B: Transition Strategy Overview

The enterprise architecture (EA) Transition Strategy is a critical component of an effective EA practice. It describes the overall plan for an organization to achieve its target “to-be” EA within a specified timeframe. It clearly links proposed agency investments to the target architecture. Also, the Transition Strategy helps to define logical dependencies between transition activities (programs and projects) and helps to define the relative priority of these activities (for investment purposes).

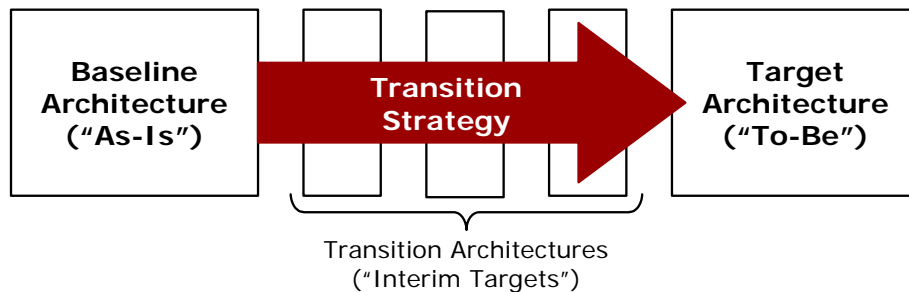


Figure 2. EA Transition Strategy: from Baseline to Target

EA is one of several main components of an overall Information Technology (IT) Lifecycle Framework. The IT Lifecycle Framework applies government and industry practices in EA, IT investment management, systems engineering, and program management. When working effectively and integrated well, the IT Lifecycle Framework provides the foundation for sound IT management practices, end-to-end governance of IT investments, and the alignment of IT investments with the goals of the agency. The framework is comprised of three phases – Architecture, Investment, and Implementation – which extend across the entire lifecycle of information technology. The diagram below shows how the EA Transition Strategy fits into the IT Lifecycle Framework.

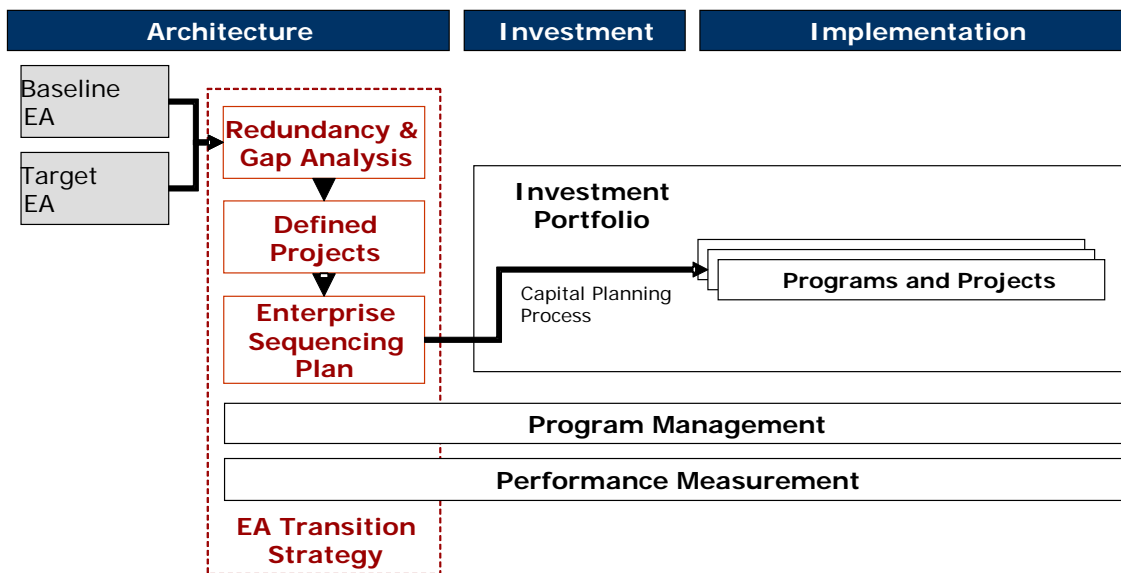


Figure 3. EA Transition Strategy in the IT Lifecycle Framework

In order to create the Transition Strategy, both the baseline EA and the target EA should already be documented (or inventoried in an EA repository). The required detail and completeness of the baseline EA should be to the level necessary for it to serve as the starting point for the Transition Strategy. The EA Transition Strategy should address the multi-year timeframe for which the agency's target architecture is defined (typically three to five years). As an organization's baseline and target EAs are updated periodically, the EA Transition Strategy should also be updated.

B.1 CONTENTS OF THE EA TRANSITION STRATEGY

1. Redundancy and Gap Analysis

The purpose of performing redundancy and gap analysis is to identify opportunities for consolidation or reuse in the baseline architecture and to identify "gaps" between the baseline and target architectures. These opportunities will be addressed by programs and projects laid out in the enterprise sequencing plan (described below).

2. Defined Programs and Projects

The projects and programs in the EA Transition Strategy should be examined in the context of the EA when they are defined. Projects and programs identified by the EA should feed directly into the investment management process. It is understood there are many drivers that can initiate the creation of a project or program, such as a legislative mandate.

Programs and projects defined in the Transition Strategy are the link between EA and the investment management process. Defined projects can be specific to the agency, or move toward common, government-wide solutions (E-Gov, LoB Service Center, SmartBUY). Each project should be assigned to a program, with a program manager who is responsible for budget and execution of the project. For the purposes of the EA Transition Strategy, a project should be addressed as rollup to a program and to show accurate dependencies between programs in the sequencing plan; the sequencing plan is not intended to serve as a low level project management tool (see below).

3. Enterprise Sequencing Plan

The enterprise sequencing plan provides an organization-wide view of programs and projects across the agency, giving leadership the visibility to use the EA for organization-wide planning. This enables high-level impact assessment of investment decisions and programmatic changes on the overall plans for moving toward the target EA. The impacts of budget cuts, cancelled or delayed projects, or changes to program priorities can be quickly assessed using the plan. The effects of those changes on other projects and programs can be identified and dealt with as needed. A conceptual enterprise sequencing plan is shown in Figure 4, and the key elements of the sequencing plan are defined below.

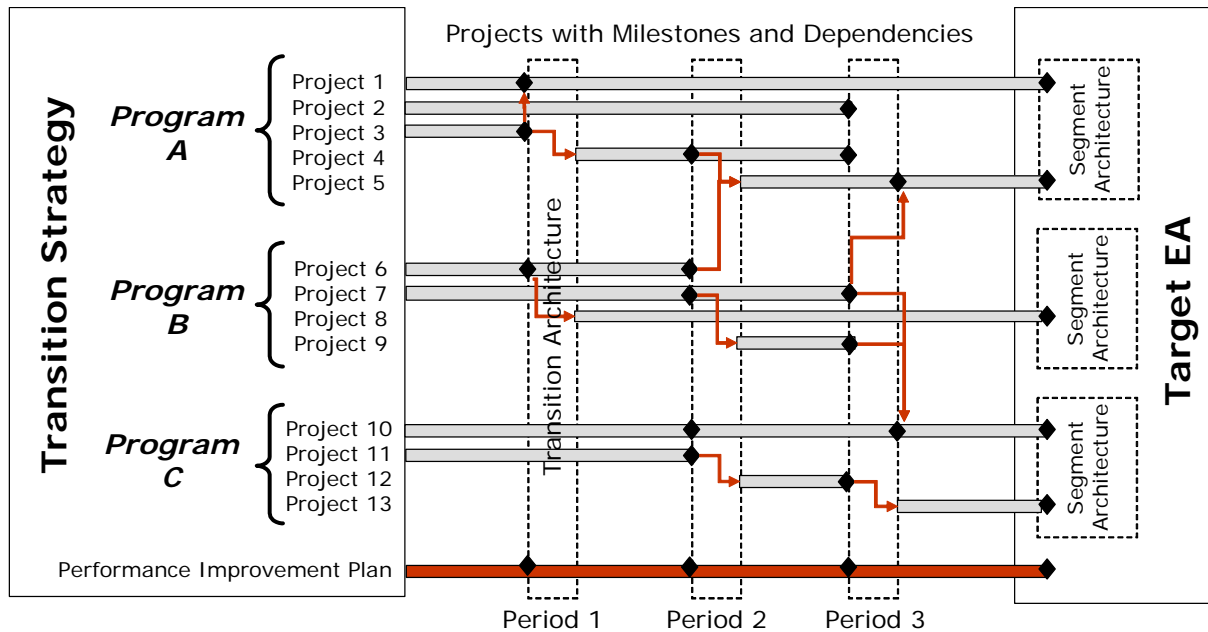


Figure 4. Conceptual Enterprise Sequencing Plan

Program – As defined in PART guidance from OMB, a program is an activity or set of activities intended to help achieve a particular outcome for the public. A program may be recognized by the Executive Branch and the Congress when making budget or other decisions. The nature of programs varies dramatically across the Federal government, therefore agencies and OMB have a great deal of flexibility in defining what a program is.

Project – a discrete, planned effort to achieve a specific goal or result within a brief timeframe. A program manager is accountable for each project as it moves through the investment process and implementation. Interactions between projects should be used to show accurate dependencies between programs; the Sequencing Plan is not intended to replace ongoing project management or to track agency budgets down to the project level.

Dependencies between Programs and Projects – Maps the dependencies between programs and projects so the effects of budget decisions or slipping schedules can be quickly assessed for impacts on performance milestones and plans to achieve the target EA.

Target EA – The target EA represents the future vision for the agency; also known as a “blueprint”. The target EA should already be designed before the transition strategy is created, since the target is the endpoint for the transition strategy. As the target EA is periodically updated, the Transition Strategy should also be updated. The current baseline EA is not shown in the diagram above, but it serves as the starting point for defining the projects to achieve the target.

Segment Architecture – A segment architecture is the information technology architecture for an individual line of business (LoB) or common technology service (called a “Service Component” in the FEA Service Component Reference Model (SRM)). A segment architecture has more detail than the overall EA and is typically

associated with a specific program. A segment architecture is at the level where measurable results (performance improvement, cost reduction) can be achieved.

Performance Improvement Plan – Summarizes the performance goals and planned results from each project or program identified in the sequencing plan. It also provides a consolidated view of cost reduction and performance improvement goals, including interim performance milestones.

B.2 PROGRAM MANAGEMENT

The agency should assign projects to programs and identify program managers to oversee architecture (e.g., planning), investment (e.g., budgeting), and implementation (e.g., execution) of programs and projects defined in the Transition Strategy. Throughout the lifecycle of a program, the program manager is accountable for success and has budget responsibility for the project(s) included in the program.

B.3 LINKAGE TO THE INVESTMENT PORTFOLIO

A primary output from the agency EA Transition Strategy is a proposed IT investment portfolio that can be traced back to a business-approved architectural portfolio. Once projects and programs are architected, agency planners should use these projects as proposed investments to the investment management process (i.e. Select Process). The EA Transition Strategy should include clear linkage between proposed investments and initiatives identified in the business-approved architecture.

B.4 IMPACT ASSESSMENT AND PERFORMANCE

The programs identified in the Transition Strategy should be linked to specific program performance metrics. Coupled with the dependency relationships in the sequencing plan, this provides the ability to assess the performance impact of changes across programs. For example, one program has its budget modified – the dependency between this program and another program shows the impact this budget adjustment will have on the ability of the second program to meet a planned performance objective.

In the future, accomplishment of performance milestones identified in the sequencing plan may also be incorporated into the annual OMB EA assessment. As the Transition Strategy is updated each year, the success in achieving performance milestones will be assessed against the previous year's plan.

Appendix C: Agencies Included in the EA Assessment Process

All agencies that are evaluated as part of the PMA Scorecard process will be assessed, namely:

Office of Personnel Management (OPM)
Department of Commerce (DOC)
General Services Administration (GSA)
National Science Foundation (NSF)
Smithsonian Institution (Smithsonian)
Department of Interior (DOI)
Department of State (State)
US Agency for International Development (USAID)
Corps of Engineers (COE)
Social Security Administration (SSA)
Department of Education (DOEd)
Department of Treasury (Treasury)
Department of Veterans Affairs (VA)
Department of Housing and Urban Development (HUD)
Department of Health and Human Services (HHS)
Department of Energy (DOE)
Department of Labor (DOL)
Department of Homeland Security (DHS)
Office of Management and Budget (OMB)
National Aeronautics and Space Administration (NASA)
Department of Transportation (DOT)
Department of Defense (DoD)
Small Business Administration (SBA)
Environmental Protection Agency (EPA)
Department of Justice (DOJ)
US Department of Agriculture (USDA)

Additional agencies that will be evaluated as part of the EA Assessment process include:

National Archives and Records Administration (NARA)
Nuclear Regulatory Commission (NRC)
Intelligence Community (IC)