



United States Department of
Health & Human Services

Enterprise Architecture
Program Management Office

HHS Guidelines for EA Compliance within the Enterprise Performance Life Cycle (EPLC)

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Document Change History

Version Number	Release Date	Summary of Changes
0.1	7/25/2010	First Internal Draft

1 Introduction

1.1 Purpose

These guidelines are used as requirements for completing the architectural analysis coinciding with the Enterprise Performance Life Cycle (EPLC) stage gates and aligned to Enterprise Architecture (EA) processes, policies, governance, and deliverables and supported by the FSAM, RSAM and EASR Artifacts and EA reports.

This document provides a high level overview of the EPLC, and responsibilities for project teams and the EA team in regards to EA requirements during stage gate reviews. This includes the approach and requirements for completing the necessary EA questions incorporated into this process.

1.2 Principles

These Principles define the overall structure and business rules associated with the EA participation in the EPLC process (see Section 2). The Principles also contain the responsibilities of EA for each stage gate taken from the EPLC Framework.

- The architectural analysis (EA Questions) coincide with the EPLC and EA processes, policies, governance, and deliverables and is supported by the FSAM, RSAM and EASR Artifacts and EA reports.
- The EA Reviewer will evaluate the work done by the project team.
- EA provides recommendations on whether the Project passes, fails, or is conditionally approved.
- Each question is weighted based on the importance of the topic being questioned (High Impact; Conditional; Low Impact)
- The questions in each EA Stage Gate review span all layers of the HHS EA Framework at progressing levels of granularity as the Project advances through the EPLC phases.
- The questions focus on the quality of the artifacts called out in the EPLC rather than if they have been completed.
- Critical EA Questions not fully answered will be carried-over to the next EPLC phase.
- Some questions will be tailored to particulars of the project being reviewed for example legislations, directives, initiatives, and other requirements (Technologies, processes, data, etc.)
- Knowledge creation – EPLC EA Critical Partner Review (CPR) review history will be maintained by using portal workflow technologies.

2 Enterprise Performance Life Cycle

The EPLC is a framework to enhance Information Technology (IT) governance through rigorous application of sound investment and project management principles and industry's best practices. The HHS EPLC provides the context for the HHS IT governance process and describes interdependencies between its project management, investment management, and capital planning components. The process is maintained by the OCIO CPIC Office.

HHS has established the following goals for EPLC framework implementation:

- Goal 1: Provide a coherent and effective project management methodology to guide IT project management at HHS. The methodology is intended to consistently deliver IT capabilities that provide maximum support to HHS business needs within approved cost and schedule constraints.
- Goal 2: Better integrate IT project planning and execution with IT Governance, including more effective multi-disciplinary reviews of IT projects by the Critical Partners.

This document focuses specifically on the following objective, stated under Goal 2:

- Ensure compliance with HHS Enterprise Architecture (EA) and prescribed design standards.

2.1 EPLC Life Cycle Phases

The EPLC framework consists of ten life cycle phases: Initiation, Concept, Planning, Requirement Analysis, Design, Development, Test, Implementation, Operations & Maintenance, and Disposition. Within each phase, activities, responsibilities, reviews, and deliverables are defined. Exit criteria are established for each phase and Stage Gate reviews are conducted through the IT Governance process to ensure that the project's management quality, soundness, and technical feasibility remain adequate and the project is ready to move forward to the next phase. EA questions are a part of nine of 10 stage gate reviews, with the exception being the Test phase.

2.1.1 Initiation

Identifies the business need, develops a Rough Order of Magnitude (ROM) cost and preliminary schedule, and basic business and technical risks. The outcome of the Initiation Phase is the decision to invest in a full business case analysis and preliminary project management plan.

2.1.2 Concept

Identifies the high level business and functional requirements required to develop the full business case analysis and preliminary Project Management Plan for the proposed project. The outcomes of the Concept Phase are selection to the HHS IT project portfolio; approval of initial project cost, schedule and performance baselines; and issuance of a Project Charter.

2.1.3 Planning

Completes development of a full Project Management Plan and if applicable, refinement of project cost, schedule and performance baselines.

Outcomes of the Planning phase are a complete and adequate project planning with sufficient requirements development to validate the planning and project baselines.

2.1.4 Requirements Analysis

Develop detailed functional and non-functional requirements, the Requirements Traceability Matrix (RTM) and award contracts if needed. The outcome of the Requirements Analysis Phase is award of contracts if needed and approval of the requirements.

2.1.5 Design

Develops the Design Document. The outcome of the Design Phase is completion of the Business Product design and successful completion of Preliminary and Detailed Design Reviews with physical Enterprise Architecture diagrams as needed.

2.1.6 Development

Develops code and other deliverables required to build the Business Product and conduct an Independent Verification & Validation Assessment. The outcome of the Development Phase is completion of all coding and associated documentation; user, operator and maintenance documentation, and test planning.

2.1.7 Test

Thorough testing and audit of the Business Product's design, coding and documentation. The outcome of the Test Phase is completed acceptance testing and readiness for training and implementation.

2.1.8 Implementation

Conduct user and operator training, determine readiness to implement, and execute the Implementation Plan, including any phased implementation. The outcome of the Implementation Phase is successful establishment of full production capability and completion of the Post-Implementation Review.

2.1.9 Operations and Maintenance

Operate and maintain the production system and conduct annual operational analyses. The outcome of the Operations and Maintenance Phase is successful operation of the asset against current cost, schedule and performance benchmarks.

2.1.10 Disposition

Retires an asset when operational analysis indicates that it is no longer cost-effective to operate the asset. The outcome of the Disposition Phase is the deliberate and systematic decommissioning of the Business Product with appropriate consideration of data archiving and security, migration of data or functionality to new assets, and incorporation of lessons learned over the project life cycle.

A more detailed description of each phase and the various tasks required to be performed during each phase are found in the EPLC Framework.

3 EA Role in the EPLC

As projects progress through the EPLC, EA critical partners are charged with ensuring achievement of the mission, strategic and operational business needs. In doing so, the EA team will perform reviews to ensure each project provides alignment to architecture principles, business processes, and technical architecture standards.

To adequately evaluate such alignment, the HHS EA team will participate in critical partner reviews and has produced EA questions for these reviews.

3.1 EA Responsibilities

Critical Partners (Security, Budget, CPIC, EA, etc.) maintain responsibilities at each stage. EA responsibilities in each stage are as follows:

3.1.1 Initiation

Validate alignment of the Business Need Statement with the Enterprise Architecture. Determine if the preliminary enterprise architecture review reveals any duplication or interferes, contradicts, or can leverage another existing or proposed project, if the project addresses compliance with HHS enterprise architecture goals, and if there is any impact on the Enterprise Architecture or the infrastructure.

3.1.2 Concept

Establish that the outcomes or results of executing the project are included in the Target Enterprise Architecture and that they are aligned to the HHS IT Strategic Plan. Ascertain that the Alternatives Analysis considers the use of existing systems and/or GOTS/COTS products. Verify that the business processes are modeled in sufficient detail.

3.1.3 Planning

Conclude that compliance with Enterprise Architecture has been maintained.

3.1.4 Requirements Analysis

Find out if requirements provide a suitable basis for subsequent design activities and all service components have been appropriately identified. Determine if technologies and other requirements are consistent with the Enterprise Architecture. Identify relevant technical and/or service standards that will apply to or constrain solution design and development activities. Determine if the Requirements document contains a traceability matrix that is complete and plans are complete to track technical changes. Establish that the Business Process Models and Logical Data Models are documented at the proper level.

3.1.5 Design

Conduct a formal review of the high-level architectural design to achieve confidence that the design satisfies the system requirements, is in conformance with the Enterprise Architecture and prescribed design standards.

3.1.6 Development

Determine if approved change requests are compliant with the Enterprise Architecture Technical Reference Model and do not negatively impact any dependencies on other systems.

3.1.7 Test

None

3.1.8 Implementation

Confirm that approved change requests are compliant with the Enterprise Architecture.

3.1.9 Operations and Maintenance

Confirm that the business product is being operated in accord with Enterprise Architecture guidelines.

3.1.10 Disposition

Make certain that the system is marked as decommissioned in the Enterprise Architecture and that any dependencies or relationships to the expired system are redirected or similarly expired if no replacement capability exists. Perform impact analysis to determine what changes need to be made to the architecture as a result of the disposition. This includes impact to any dependent systems.

3.2 EA CPR Matrix

The EA Critical Partner Review Matrix contains a set of EA questions for each respective phase of the EPLC. Generally the questions are of five different varieties:

- Business – These questions are in the context of enabling the agency or organization to satisfy its business needs and desired outcomes.
 - Example: Will the Project ensure there is no redundancy with other new and ongoing Projects?
- Strategy – These questions are in the context of enabling the agency to realize alignment to strategic goals and objectives.
 - Example: Is the Project aligned & consistent with the HHS and/or OPDIVs Strategic Plan (Goals, Objectives, Milestones)?

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- Open – These questions are in the context of validating IT system manager’s efforts to participate in OMB’s Open Government initiative (<http://www.whitehouse.gov/omb/>).
 - Example: Does the solution offer flexibility and openness in the ability to query, extract and report data?
 - Technical – These questions are in the context of determining that appropriate technical standards have been met.
 - Example: Is the project consistent with the HHS technology architecture?
 - Add-Hoc – These questions are specifically formulated in support of drivers and/or legislations directly impacting the project being evaluated

The EPLC framework is designed to provide the flexibility needed to adequately manage risk while allowing for differences in project size, complexity, scope, duration, etc. Therefore, these questions are only suggestions and may be modified or omitted. In particular, Critical Partners (the Stage Gate Review Team) may have more specific and specialized questions on project deliverables. These suggested questions are intended to form a basis for fact finding, discussion and dialogue with project key personnel. These questions also provide a way for EA to understand new IT systems and support project managers to meet all EA requirements and best practices.

In support of completing these questions, likely sources have been identified for answering these questions. When available, the matrix identifies relevant EPLC documentation, and sections within the FSAM and EASR that will assist in answering these questions. In addition, reports from the HHS Enterprise Architecture Repository (HEAR) were identified when applicable.

Each question may be weighted based on the importance of the topic being questioned:

1. High Impact (or stop)
2. Conditional
3. Low Impact (or none)

There are three possible outcomes to all EA questions:

1. Yes – The criteria within the question has been met.
2. No – The criteria within the question has not been met.
3. Some – The criteria within the question has been partially met.

Each outcome can be justified in the comments section provided. Comments are not necessary for every question; however they are especially useful when the outcome is “No” or “Some.” The comments section can also be used to provide a link or reference to relevant documentation, particularly helpful when a question asks for evidence for an answer.

3.2.1 Performing the EA CPR

The following process will be used at each stage gate review using the appropriate worksheet for the phase of the project

1. Project Manager (PM) sends documentation to CPR partners.
2. EA team uses the EA CPR Matrix to conduct a pre-CPR to answer as many questions as possible using the submitted documentation and other relevant artifacts.
3. EA team sends initial findings in EA CPR Matrix and any additional feedback to PM.
4. EA team participates in CPR review with all critical partners and asks key unanswered questions and seeks to clarify previous findings when applicable.
5. EA team recommends fail, conditionally approves, or pass to the CPR workgroup.
 - a. If fail, EA team provides EA CPR matrix and comments explaining the decision and requested actions to the PM.
 - b. If conditionally approves, the EA team provides requested actions to the PM.
 - c. If pass, the EA portion of the stage gate review is complete.
6. PM team performs required actions and submits EA CPR Matrix back to EA Team. Proceed to step 5, until a passing grade is issued.

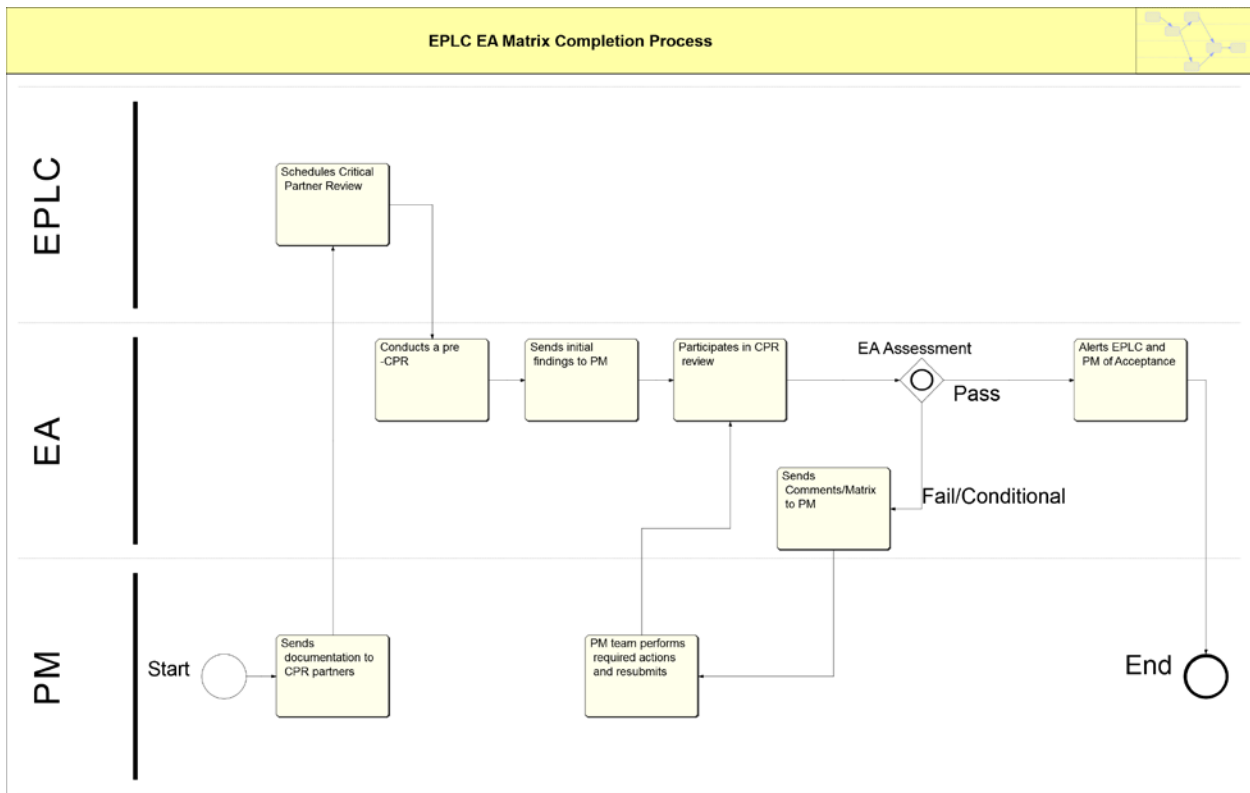


Figure 1 - EPLC EA Matrix Completion Process

3.2.2 Maintaining the EPLC EA Matrix

The EPLC EA Matrix is maintained by the HHS EA team. As priorities evolve, the matrix questions are adapted accordingly. The workbook is a bank of suggested questions, therefore not a firm deliverable requiring administrative sign off. Updates will remain fluid.

The following will be considered for ongoing maintenance of the EA Matrix:

- Supporting methods and tools (FSAM/RSAM Artifacts, Reports, Information Sharing Environment) when suggested will be considered relative to the questions.
- As HHS EA matures, this EA EPLC CPR will improve to become more refined.
- The addition of new reports and dashboards in the EA repository will support the streamlining of the EPLC EA CPR.

Appendix A REFERENCES

Reference	Title
EPLC Framework	Enterprise Performance Life Cycle Framework
EA CPR Matrix	Enterprise Architecture Critical Partner Review Matrix