



HUD's EA Governance Structure Version 1.2

February 2007

Revision History

| <u>Date</u> | <u>Version</u> | <u>Summary</u> |
|-------------|----------------|---|
| 12/19/2005 | 1.0 | Original version |
| 11/10/2006 | 1.1 | Updated to align with Service Discovery and Reuse Milestones documentation and Segment Architecture Development Process |
| 2/2007 | 1.2 | Updated to incorporate PMRB and IT Master Schedule |

Synopsis

Under the supervision of the Chief Architect, HUD's EA practice has implemented an EA governance structure across the Department's IT lifecycle framework. Designed to increase architectural awareness and compliance across each phase of the lifecycle framework, the EA governance structure is comprised of a series of touch-points between HUD's EA practice and key lifecycle operations.

This document describes the *currently* executed or supported, major touch points between the EA practice and the IT lifecycle framework. This document is not intended to provide details for the Department's IT lifecycle framework and the execution of lifecycle operations. References are provided to relevant policy handbooks, charters and process descriptions that provide the details.

Demonstrated level of EA Practice maturity

This document demonstrates the following level of EA practice maturity relative to the OMB EA assessment framework version 2.1.

| COMPLETION | | | |
|--------------------------------------|-----------------|--------------------------|---|
| Assessment Criteria | Level(s) | Section/Reference | Summary Rationale |
| EA Governance and Program Management | 4 | 5.2.1 | Documents lifecycle processes to manage and monitor the agency EA using the EA Transition Strategy and IT investment Project Plans. |

Presidential Management Agenda (PMA) Milestones

This document fulfills the following quarterly Presidential Management Agenda (PMA) milestones:

| <u>Milestone</u> | <u>Due Date</u> | <u>Completion Date</u> | <u>Status</u> |
|------------------|-----------------|------------------------|---------------|
| N/A | | | |

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1 HUD's IT Lifecycle Framework

HUD's IT lifecycle operations reflect a simple three-phase management framework—*architecture*, *investment*, and *implementation*. Each phase comprises one or more lifecycle processes.

| ■ Architecture | ■ Investment | ■ Implementation |
|---|--|---|
| <ul style="list-style-type: none"> ❑ Develop and maintain Enterprise Architecture ❑ Develop, review, reconcile and approve segment architecture | <ul style="list-style-type: none"> ❑ Select IT initiatives to define HUD's IT Investment Portfolio ❑ Control/Evaluate IT investments | <ul style="list-style-type: none"> ❑ Execute Program/Project Management Plan |

Lifecycle processes are tightly integrated and combine to transform top-down strategic goals and bottom-up end-user requirements into a logical series of lifecycle work products. Lifecycle work products include enterprise architecture documentation, segment architectures (detailed architecture for strategic mission areas and common business and enterprise services), IT investment business cases, program and project management plans, and end-user solutions.

The enterprise architecture practice interacts with lifecycle processes in each phase of the IT lifecycle framework. The following figure identifies the major EA governance touch points and illustrates the sequencing of lifecycle processes.

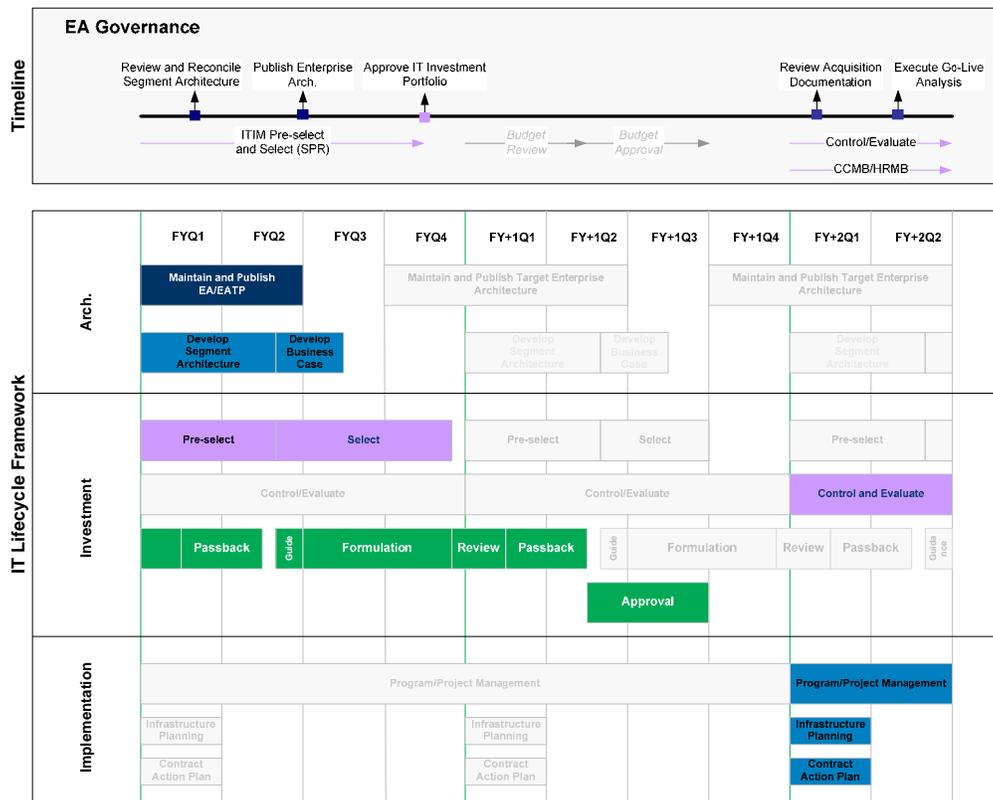


Figure 1: EA Governance Timeline

The EA Governance Timeline shows the sequencing of EA governance touch points relative to each phase of the IT Lifecycle Framework—*architecture, investment and implementation*. Specific processes within the IT Lifecycle Framework diagram are highlighted while others have been “grayed-out” to illustrate the relative timing of IT lifecycle processes for a single initiative, and to highlight relationships within the EA governance timeline.

2 EA Governance Touch Points

Major EA governance touch points are listed in the table below. Touch points are organized by the relevant phase of the IT Lifecycle Framework.

| |
|---|
| Architecture Phase |
| Review and reconcile segment architecture work products relative to enterprise architecture |
| Maintain and publish agency enterprise architecture and EA knowledgebase |
| Investment Phase |
| Support ITIM Pre-select/Select Process |
| Support ITIM Control/Evaluate Process |
| Implementation Phase |
| Review Acquisition Documentation |
| Post-acquisition Monitoring/Configuration Change Management Board (CCMB) |
| Support HITS Request Management Board (HRMB) |
| Support Infrastructure Planning/Go-live Analysis |

The following sections describe EA governance touch points for each phase of the IT Lifecycle Framework. Touch points are documented using a standard template that includes the following elements:

- Name
- Description
- Inputs
- Process
- Outputs
- Outcomes
- Timing/Frequency of Occurrence
- Supporting Documentation

3 Architecture Phase

3.1 Review and reconcile segment architecture work products relative to enterprise architecture

HUD's EA practice has defined a series of architectural principles to guide the development and implementation of the Department's enterprise architecture. These principles, approved by the Technology Investment Board Executive Committee (TIBEC)¹, state that "Compliance with HUD's EA is a prerequisite for IT investment", and that "HUD's EA is implemented through segment architectures".

Segment architecture development is the first step in the implementation of business and information management solutions for HUD's strategic mission areas and common business and enterprise services. Mission Areas, business services and enterprise services are defined by HUD's enterprise architecture and EA Transition Strategy.

Segment architecture work products are developed by Integrated Program Teams (IPTs) according to the Segment Architecture Development Guidelines² and are reviewed by the EA team to verify compliance with HUD's enterprise architecture and to reconcile segment architecture work products with the enterprise vision. This process helps to ensure that IT investments (initiatives) that result from the development of segment architectures are aligned with the Department's enterprise architecture.

Inputs

- Segment architecture work products for a strategic mission area, business service or enterprise service.

Process

1. IPT submits segment architecture work products to EA Team
2. EA Team reviews segment architecture work products relative to the agency enterprise architecture and Segment Architecture Development Guidance
3. EA Team compiles and submits review comments to IPT
4. The EA Team conducts working sessions with IPT to review comments and proposed changes to segment architecture
5. IPT and EA Team finalize segment architecture

Outputs

- Segment architecture work product review comments
- Segment Architecture

Outcomes

- Increased collaboration between the EA Team and Integrated Program Teams/Program Areas

¹ TIBEC Charter outlines the purpose, members and detailed responsibilities of the TIBEC

² Segment Architecture Development Guidelines/Work Product and Decision Templates, January 2007.

- Increased alignment of IT investments with agency EA and EA Transition Strategy.
- Increased alignment of business and information management solutions with agency EA and EA Transition Strategy

Timing/Frequency of Occurrence

- Ongoing, as required

Supporting documentation

- Segment Architecture Development Guidance/Work Product and Decision Templates

3.2 Maintain and publish agency enterprise architecture and EA knowledgebase

In accordance with the EA Process Requirements described in *HUD's EA Policy Handbook (April 10, 2002)*, the EA Team updates the Department's enterprise architecture throughout each planning period (fiscal year) and publishes official versions of the architecture to support the IT Investment Management (ITIM) Annual Select Process.

The EA Team continuously monitors architectural drivers and triggers to evaluate and update HUD's enterprise architecture and EA Transition Strategy. Examples of architectural drivers include changes in administration policy, Departmental strategy, secretarial priorities or Federal IT policy and guidance. Architectural triggers include the creation of segment architecture work products, CCMB approved new technology standards or other IT lifecycle work products that can result in a change to HUD's enterprise architecture.

Changes to the agency enterprise architecture work products are incorporated and the new work products are provided to the TIBEC for approval. Once approval is received the work products are published for use at HUD. In addition, relevant changes are published as updates to HUD's Enterprise Architecture Management System (EAMS).

Inputs

- Enterprise architecture work products
- New or revised architectural drivers and triggers

Process

1. EA Team monitors and evaluates architectural drivers and triggers to determine their impact on EA work products
2. EA Team updates EA work products in response to drivers and triggers
3. EA Team submits updated EA work products to TIBEC for review and approval
4. TIBWG/TIBEC reviews and approves updated EA work products
5. EA Team publishes approved EA work products
6. EA Team updates EAMS

Outputs

- Revised EA work products
- Updated EAMS

Outcomes

- Updated and approved enterprise architecture work products

- Increased collaboration between the EA Team and business (program) areas

Timing/Frequency of Occurrence

- Monitoring and evaluation of architectural drivers and trigger (continuous)
- Publication of updated EA work products and EAMS (annual)³

Supporting documentation

- EA Policy Handbook

³At minimum, the publication of updated EA work products is executed annually but can be executed more frequently in response to new drivers and triggers.

4 Investment Phase

4.1 Support ITIM Pre-select/Select Process

The EA process at HUD is a *continuous, iterative* succession of development and implementation actions closely tied to HUD's IT Capital Planning Process⁴. A series of interactions between the EA practice and Capital Planning and Investment Control (CPIC) process have been defined to establish an integrated IT Investment Management (ITIM) process.

HUD's EA practice is specifically integrated with the Pre-Select/Select Phase of the CPIC Process to provide strategic guidance to HUD's program offices to improve the alignment of individual IT investments and the IT investment portfolio with HUD's enterprise architecture. The agency enterprise architecture and EA Transition Strategy are published in advance of the annual Select Phase and are leveraged by both the EA team and Program Sponsors to guide and enhance the development of IT investment business cases.

Inputs

- Baseline IT Investment Portfolio

Process

1. *EA Team conducts Strategic Portfolio Review.* The Strategic Portfolio Review (SPR) is conducted during the Pre-Select phase of the CPIC process. The baseline IT investment portfolio is reviewed relative to the Department's enterprise architecture and EA Transition Strategy to develop IT investment guidance for HUD program and support offices. Guidance and recommendations are developed to align IT investment business cases (OMB 300s) with the agency EA and EA Transition Strategy.
2. *ITIM and EA Teams conduct one-on-one meetings and training sessions with program areas:* Meetings are conducted with HUD's program and support offices during the Pre-Select Phase to review the findings of the Strategic Portfolio Review (SPR). The EA team provides specific guidance and recommendations to program and support staff to align IT investments with the agency enterprise architecture. In addition, the EA team provides specific advice to program and support office staff to enhance IT investment business cases.
3. *TIBEC establishes Select Factors/Assessment Criteria:* A series of IT investment "Select Factors" or assessment criteria are reviewed and approved by the Technology Investment Board Executive Committee. Assessment factors are organized by category, e.g., strategic alignment, return on investment, performance measurement, IT security, and enterprise architecture, and are applied to score each IT investment business case. The EA team provides proposed select factors and assessment criteria for the enterprise architecture category to the TIBEC.
4. *Scoring team score baseline initiatives:* Representatives from the EA team provide assistance to the scoring team during the scoring of the EA section of each IT investment business case. Initiative scoring applies a "rate and gate" scoring method relative to the EA assessment criteria. Business cases that fail to achieve a minimum threshold score are

⁴HUD's EA Policy Handbook, Section 4-1C (April 2002)

“gated out” of the process and are returned to the program sponsor to improve the EA section of the business case⁵.

5. *The ITIM and EA Team develop Straw-man Portfolio and Investment Strategies:* EA team members collaborate with ITIM to prepare a “straw-man” investment portfolio for consideration by the Technology Investment Board Working Group (TIBWG) and TIBEC. EA team participation helps to promote IT investments that are aligned with HUD’s enterprise architecture.
6. *Recommend and Approve Portfolio (TIBWG/TIBEC):* The Chief Architect is a non-voting member of the TIBWG and TIBEC. In this role, the Chief Architect presents information to both the working group and executive committee during the consideration and approval of the IT investment portfolio.

Outputs

- Strategic Portfolio Review
- IT Investment Recommendations and Guidance
- Select Factors/Assessment Criteria
- IT Investment Scores
- Straw-man Portfolio and Investment Strategies
- IT Investment Portfolio (FY+1/FY+2)

Outcomes

- Increased collaboration between the Office of the Chief Information Officer (OCIO) and business (program) areas
- Increased quality (scores) for IT investments
- Improved alignment of IT investment portfolio with the agency enterprise architecture and EA Transition Strategy

Timing/Frequency of Occurrence

- Annual

Supporting documentation

- EA Policy Handbook (April 2002)
- TIBWG Charter (July 2002)
- TIBEC Charter (August 2002)

4.2 Support ITIM Control/Evaluate Process

HUD’s EA practice is integrated with the Control/Evaluate Phase of the CPIC Process. The EA team supports regular (monthly) control/evaluate actions to monitor the progress of selected IT investments toward the implementation of the agency enterprise architecture. Investment or program reviews are conducted by the Portfolio Management Review Board (PMRB)⁶.

⁵ The EA team provides assistance to program and support offices to improve the EA section and assists the ITIM scoring team with re-scoring of the EA section of the business case.

⁶ PMRB Charter outlines the purpose, members and detailed responsibilities of the PMRB.

The EA team participates in the process to identify and select candidate IT investments for a Control/Evaluate Review. Candidate investments typically represent a high level of interest to the ITIM staff and/or EA team, i.e., projects with a high-level of strategic or architectural significance.

Monthly control/evaluate session is conducted with for a chosen investment to assess it relative to project cost, schedule and performance data. In addition, the EA team helps to evaluate projects relative to architectural considerations including the implementation of enterprise standards, verification of project relationships and dependencies, the identification and fulfillment of opportunities to share and reuse business, data, application, and technology components and performance related to milestones identified in the IT Master Schedule. When appropriate, the EA team meets with the investment stakeholders to resolve any control/evaluate action items.

Inputs

- IT investment portfolio

Process

1. ITIM and EA team select high-interest project(s) for Control/Evaluate Review
2. Program/project manager prepares and submits standard control review submission package
3. PMRB members review the control review submission package provided by the program/project manager
4. PMRB conducts Control/Evaluate Review session
5. PMRB action items are captured
6. Follow up sessions are conducted to resolve PMRB actions

Outputs

- Control review results and recommendations for architectural realignment
- PMRB action items

Outcomes

- Increased collaboration between OCIO and business (program) areas
- Improved alignment of implementation projects with agency enterprise architecture
- Increased use of information technology standards
- Increased sharing and reuse of information technology components including reusable services
- Increased awareness of program/project dependencies

Timing/Frequency of Occurrence

- Monthly

Supporting documentation

- EA Policy Handbook
- Portfolio Management Review Board Charter

5 Implementation Phase

5.1 Review Acquisition Documentation

The Office of the Chief Information Officer (OCIO) reviews Contract Action Plans prepared by HUD's program offices and support offices, and reviews Standard Form 720 (SF720) in advance of the obligation of funds for individual contract actions. The Chief Architect participates in the review of the Contract Action Plans and is one of a list of OCIO signatories during the review of Standard Form 720. Standard Form 720 is reviewed for all IT investments greater than \$500,000 and is reviewed for all contract actions that will obligate funds for system development.

Contract Action Plan and SF 720 reviews identify projects (procurements) that need to be monitored by the EA practice for architectural compliance. In addition, the review and monitoring processes helps to identify emerging implementation requirements and provides input to the definition of information technology standards.

Inputs

- Acquisition documentation (Contract Action Plan and SF 720)

Process

1. Program or Support Office or Program/Project Manager submits acquisition documentation
2. Chief Architect/EA Team reviews acquisition documentation for compliance with agency enterprise architecture and EA Transition Strategy

Outputs

- Approval or rejection of acquisition documentation
- Candidate IT acquisition projects to be monitored by the EA practice
- Emerging technical requirements

Outcomes

- Increased collaboration between OCIO and business (program) areas
- Improved alignment of IT acquisitions with agency enterprise architecture and priorities defined by EA Transition Strategy

Timing/Frequency of Occurrence

- Contract Action Plan (annual)
- Standard Form 720 (as needed)

5.2 Support Configuration Change Management Board (CCMB) Process

Post-acquisition monitoring identifies project requirements that are unmet by HUD's target technical architecture. In addition, post-acquisition monitoring helps to actively manage HUD's technical standards profile including the disposition of obsolete technologies, maintenance of current standards, and the acquisition of new or emerging standards.

Post-acquisition monitoring is supported by the Configuration Change Management Board (CCMB)⁷. The purpose of the CCMB is to ensure that all changes made to the Department's IT infrastructure and system development platforms take place in accordance with a rational and orderly process that is in compliance with the goals set out in the Clinger-Cohen Act of 1996. The CCMB is responsible for the approval of enterprise standards for IT infrastructure and system development platforms.

Change requests are submitted to the CCMB by the program office or support office requesting the change. All submissions must articulate a specific decision for CCMB voting members to vote on, and must be related to the statement of purpose defined by the CCMB charter. The Chief Architect is a CCMB voting member.

Inputs

- CCMB Change Request

Process

1. Program or Support Office submits change request to CCMB
2. CCMB members review change request
3. CCMB members vote to determine if the change request is to be approved

Outputs

- CCMB decision to update or preserve enterprise standards for IT infrastructure and system development platforms

Outcomes

- Increased alignment of system implementation projects with technical standards profile

Timing/Frequency of Occurrence

- CCMB meetings are conducted monthly
- Emergency meetings may be called by the Chairperson

Supporting documentation

- CCMB Charter

5.3 Support HITS Request Management Board (HRMB) Process

The HUD Information Technology Services (HITS) Contract supports HUD's IT infrastructure and provides direct IT services for HUD headquarters and field offices. The HITS Request Management Board (HRMB)⁸ receives and manages requests to change HUD's baseline IT infrastructure. The HRMB process complements the definition of new/revised enterprise standards by the Configuration Change Management Board (CCMB).

⁷ Configuration Change Management Board (CCMB) Charter outlines the purpose, members and detailed responsibilities of the CCMB.

⁸ HITS Request Management Board (HRMB) Charter outlines the purpose, members and detailed responsibilities of the HRMB.

Inputs

- HRMB Request Form
- Statement of Objectives Form

Process

1. Program/Project Manager submits HRMB request
2. HRMB members review and conduct vote to approve or reject the request for a change to baseline IT infrastructure
3. HITS Contractor defines Rough Order of Magnitude (ROM) estimate for changes to baseline IT infrastructure

Outputs

- Approval/rejection notice
- ROM Estimate

Outcomes

- Update to HUD's baseline IT infrastructure

Timing/Frequency of Occurrence

- As-needed

Supporting Documentation

- HRMB Charter

5.4 Execute Go-live Analysis

Go-live analysis is an interim infrastructure planning process that determines whether current system implementation initiatives scheduled to deploy one or more system modules or applications ("go-live") during a fiscal year planning period, are aligned with the agency enterprise architecture. In addition, go-live analysis determines whether IT infrastructure requirements for system implementation activities can be fulfilled by HUD's current IT infrastructure.

During periods of financial constraint, go-live analysis is also applied to define system implementation priorities and to ensure that mission critical program requirements are fulfilled. Go-live working sessions are conducted by representatives from the IT Investment Management (ITIM) practice, EA practice, IT Operations, and HUD's HITS Contractor to verify architectural alignment for individual implementation projects and to define implementation costs and priorities.

Inputs

- IT Investment Business Case (OMB 300)
- IT Infrastructure requirements for current and future planning periods

Process

1. Go-live analysis working group conducts go-live analysis working sessions
2. Go-live analysis working group defines implementation priorities and gaps in IT infrastructure
3. Go-live analysis working group defines cost estimates to close gaps

Outputs

- Implementation priorities with cost estimate
- Identification of gaps in agency enterprise architecture

Outcomes

- Increased alignment of system implementation projects with agency enterprise architecture and standards profile
- Increased consolidation of IT infrastructure resources
- Improved cost effectiveness

Timing/Frequency of Occurrence

- Annual