

CHAPTER 9. INFORMATION TECHNOLOGY INVESTMENT MANAGEMENT (ITIM)

9-1. Overview of Information Technology Investment Management

ITIM is a systematic process for managing the risks and returns associated with IT initiatives. It is a continuous, integrated management process focused on achieving desired business outcomes and provides a context for the continuous selection, control, and evaluation of IT initiatives.

Recognizing the need to implement an IT investment oversight process and involve Principal Staff in IT investment decision-making, the Department began implementing an investment management process in 1989 with the formation of the Information Resources Management Planning Board and the Information Resources Management Working Group, which evolved today to the Senior Review Board (SRB) and the Technology Investment Board Work Group (TIBWG). The Clinger-Cohen Act (CCA) of 1996 requires HUD to implement a formalized ITIM process.

Since the enactment of CCA, HUD has implemented a comprehensive ITIM process to ensure that its portfolio of IT initiatives adequately addresses HUD's business strategies and is managed to achieve expected benefits in accordance with accurate and complete cost, schedule, technical and performance baselines. HUD uses the ITIM process not only to manage its technology portfolio, but also as a complement to the budget process. This process is a method by which the Department works toward the goals of the President's Management Agenda and as a tool for aligning with and implementing the Department's target Enterprise Architecture (EA).

ITIM at HUD consists of three iterative processes: Select; Control; and Evaluate.

- A. **Select.** The goal of the Select Process is to ensure that only sound and viable initiatives are included in HUD's IT portfolio. During the Select Process, HUD develops an IT portfolio composed of those initiatives that best support the Department's mission and strategic goals. All proposed IT initiatives are screened, scored, ranked, and selected based on benefits, costs, risks, and a set of predetermined criteria.
- B. **Control.** The Control Process ensures that HUD's IT portfolio remains healthy and is performing as expected to meet the Department's business objectives and goals. It involves on-going efforts to monitor, review, and correct, as necessary, the performance of the IT portfolio.

- C. Evaluate. The purpose of the Evaluate Process is to examine whether an IT investment has met its intended objectives and yielded expected benefits. The Evaluate Process is also intended to help identify lessons that can be applied to improve the Department's investment management process.

A number of laws and Executive directives of the past 10 years have mandates, guidance and goals that create requirements for HUD's ITIM process, including the following:

- A. Clinger-Cohen Act (CCA) of 1996. CCA, formerly known as the Information Technology Management Reform Act (ITMRA), requires each agency to undertake capital planning and investment control by establishing a process for maximizing the value and assessing and managing risks of IT acquisitions of the executive agency.
- B. Government Performance and Results Act (GPRA) of 1993. GPRA requires agencies to prepare updateable strategic plans and to prepare annual performance plans covering each program activity displayed in the budget. The performance plans are to establish performance goals in objective, quantifiable, and measurable form and performance indicators to be used in measuring relevant outputs, service levels, and outcomes.
- C. Paperwork Reduction Act (PRA) of 1995. PRA intends to minimize the paperwork burden on citizens by the federal government. Its purpose is to: coordinate, integrate, and standardize federal IRM policies and practices; improve the quality and use of federal information; and ensure that information technology is acquired, used, and managed to improve efficiency and effectiveness of agency missions.
- D. OMB Circular A-130: Management of Federal Information Resources (A-130). A-130 establishes requirements for a three-phased federal agency IT Capital Planning and Investment Control (CPIC) process. These phases – Select, Control, and Evaluate – are the foundation of HUD's ITIM process described in Chapters IV, V, and VI. A-130 also requires agencies to create an Enterprise Architecture Framework that documents linkages between mission needs, information content, and

IT capabilities, and guides both strategic and operational Information Resource Management (IRM) planning. Finally, A-130 requires agencies to incorporate security into the architecture of their information systems, to ensure that security supports agency business operations and that plans to fund and manage security planning built into life-cycle budgets for information systems.

- E. OMB Circular A-11: Preparation, Submission and Execution of the Budget (A-11). A-11 covers the development of the President's budget and how to prepare and submit materials required for Office of Management and Budget (OMB) and Presidential review of agency requests and formulation of the forthcoming budget. Sections 53 and 300 of A-11 are of particular significance to the ITIM process. Section 53 provides basic information an agency needs in order to link its internal planning, budgeting, acquisition and management of IT resources. Section 300 provides instructions for budget justification and reporting requirements for major information technology investments.
- F. Electronic Government Act of 2002. This act is intended to provide IT leadership, improve coordination and deployment of IT across the federal government, help agencies achieve the IT management reforms required under the CCA, include the private sector in e-Government solutions, and ensure greater citizen access to the federal government through the improved use of IT.
- G. Federal Information Security Management Act (FISMA) of 2002. FISMA requires federal agencies to provide information security protections commensurate with the risk and magnitude of the harm resulting from unauthorized disclosure, disruption, modification, or destruction of information collected by the agency or by a contractor on behalf of the agency. Periodic risk assessments, the testing and evaluation of information security controls and techniques, and security awareness training are required. An important new requirement is to ensure theft information security management processes are integrated with agency strategic and operational planning processes.
- H. Section 508 (Rehabilitation Act). Section 508 was enacted to eliminate barriers in information technology, to make available new opportunities for people with disabilities, and to encourage development of technologies that will help achieve these goals. The

law applies to all federal agencies when they develop, procure, maintain, or use electronic and information technology. Under Section 508 (29 U.S.C. 794d), agencies must give disabled employees and members of the public access to information that is comparable to the access available to others.

- I. GAO-04-394G: “Information Technology Investment Management (ITIM): A Framework for Assessing and Improving Process Maturity,” dated March 2004. The guide defines a framework for evaluating and assessing how well an agency is selecting and managing its IT resources. Using the framework to analyze an agency’s IT investment management processes provides: (1) a rigorous, standardized tool for internal and external evaluations of these processes; (2) a consistent and understandable mechanism for reporting the results of assessments; and (3) a roadmap that agencies can follow in improving their processes.

9-2. HUD Policy

The implementation of an effective, efficient, and repeatable ITIM process is required by law and is essential to ensure sound IT investment decisions. HUD’s ITIM process adheres to the CCA and other driving regulations and requirements promulgated to control the government’s investment in information technology.

- A. All HUD organizations shall select, fund (regardless of funding source), manage, control, and evaluate their IT investments in accordance with the IT investment management processes and procedures established by the Chief Information Officer (CIO). An Overview of ITIM Roles and Responsibilities can be found in Section 6-3 of this document.
- B. All IT investments shall be centrally evaluated and selected at the Departmental level in conjunction with the budgeting process. It is intended that all investments will be reviewed periodically, at the Departmental level, and recommendations will be made regarding revisions, adjustments, and investment priorities. Further, it is the Department’s policy that investments undergo a post-implementation review within 6 to 18 months of implementation to determine if the IT investment achieved the expected benefits projected in the business case.
- C. The Technology Investment Board Executive Committee (TIBEC) will provide final approval on recommendations for the composition, maintenance

and disposition of all projects within the HUD IT Investment portfolio. The TIBEC may designate additional review bodies to assist in its responsibilities. For each review body established, roles and responsibilities will be delineated in the form of a charter to be approved by the TIBEC.

- D. All investments proposed for inclusion in the IT Investment Portfolio will support work processes that have been simplified or redesigned (whenever feasible) to reduce costs and improve effectiveness. All investments must make maximum use of Commercial-Off-the-Shelf Software. All projects must utilize a modular implementation approach whenever feasible.
- E. All changes to the scope, schedule, and budget of a project included in the HUD IT Investment Portfolio, as well as actions to reprogram funds to cover IT projects not included in the approved IT investment portfolio, are subject to the review and concurrence of the TIBEC, and other review bodies, as appropriate.
- F. Each HUD organization shall provide sufficient information to the TIBEC, or designated review bodies, to support the decision to approve, disapprove, or defer judgment on each project under consideration in the HUD IT Investment Portfolio.
- G. Prior to submittal to the TIBEC or designated review bodies, each HUD Program Office Head (POH) shall review, approve, and concur on the submittal of IT projects to be considered for funding within the HUD IT Investment Portfolio. Each POH is accountable for the accuracy and validity of the initiative data provided to the TIBEC and/or its designated review body.
- H. Each HUD organization shall establish and execute the necessary project controls (in accordance with IT investment management processes and guidance) to manage requirements, risk, cost, schedule, and technical baselines and outcomes.
- I. Each HUD organization shall maintain and make available to the TIBEC sufficient information on the status, control, performance risk, and outlook for approved and funded IT projects that will be used to support the decision to continue, reduce, terminate, or defer project funding.
- J. All initiatives should be in alignment with the target EA. It is the Department's intent that initiatives be redirected, revamped, or

discontinued if the initiatives are not in compliance with the EA. For each new initiative and existing initiatives (as appropriate), the respective HUD organization shall provide to the TIBEC adequate evidence of conformance with the requirements of the HUD EA.

- K. Each major project, as defined by OMB Circular A-11 and interpreted by the Office of the Chief Information Officer, shall complete an Exhibit 300 (capital asset plan) in accordance with relevant guidance and direction.
- L. Each HUD organization shall develop and implement standard operating processes and procedures as necessary to support the implementation of the HUD IT investment management policy and processes.
- M. These policies apply to the selection, control, and evaluation of all IT projects within the Department's IT Investment portfolio. Further, these policies apply to all HUD organizations at HUD Headquarters and within all program and field locations that own, direct, maintain, or operate IT in support of the Department. Finally, these policies apply to all HUD contractors that direct, maintain, or operate IT systems in support of the Department. In these policies, HUD organizations and contractors are collectively referred to as HUD organizations. These policies are subject to periodic revision based on the progressive development and maturity of the HUD ITIM process.

9-3. Roles and Responsibilities

In accordance with CCA requirements, the CIO is responsible to the Secretary of HUD, for establishing ITIM policies and processes. Ensuring that the Department's ITIM process functions as intended requires the participation of HUD staff at many levels within the Department; POH participation is especially important. A number of working-level and executive-level committees, groups, and boards participate in the ITIM process and provide approval and oversight of HUD's IT portfolio.

While it should be noted that some of these bodies have responsibilities beyond ITIM, this section is intended to identify the roles and responsibilities of these committees, working groups, and boards with respect to HUD's ITIM policies and process.

A. Office of the Chief Information Officer (OCIO):

1. Establishes the HUD IT Investment Management Program, including the formulation of IT investment management policies and procedures to select, control, and evaluate IT projects;
2. Ensures that the management and execution of HUD's IT projects are carried out in accordance with IT investment management policies and procedures;
3. Ensures that HUD and Program Office priorities are considered and incorporated in the IT portfolio selection process;
4. Facilitates the selection, control, and evaluation of IT projects;
5. Develops and provides guidance and training to support Department-wide execution of the HUD ITIM Program;
6. Assesses the sufficiency of the information provided and maintained by HUD Program Offices to support the selection, control, and evaluation of HUD IT projects;
7. Conducts periodic reviews of IT projects to identify deficiencies and recommends and monitors corrective actions to address them;
8. Establishes direction and guidance for the HUD enterprise information architecture, as well as requirements and methodologies to govern the IT project life-cycle;
9. Defines and maintains a HUD-wide IT project work breakdown structure;
10. Assesses the extent to which IT projects are in compliance with the HUD enterprise information architecture and work breakdown structure; and
11. Authorizes funding changes for approved projects in the IT portfolio up to \$250,000, due to results of contract negotiations or issues identified between or during Control Reviews.

B. Office of the Chief Financial Officer (OCFO):

1. Establishes direction and guidance for IT budget formulation and execution; and

2. Oversees the identification, monitoring and maintenance of funding sources for IT projects.

C. Office of the Chief Procurement Officer (OCPO):

The OCPO establishes direction and guidance for the procurement and acquisition of IT resources and associated support services.

D. Technology Investment Board Working Group (TIBWG):

1. Communicates TIBEC goals, objectives, priorities, resolutions, and decisions to the IT project management community;
2. Participates in the ITIM screening and selection processes by conducting analysis (scoring) of all IT initiatives and providing portfolio and funding recommendations;
3. Participates in the oversight of the EA by recommending a target EA and EA policies and procedures;
4. Recommends IT portfolio funding recommendations based on OMB's IT Budget Passback (as necessary);
5. Participates in the ITIM control process by conducting periodic reviews of the projects in HUD's IT portfolio. Makes recommendations on continuation, deferment, modification, termination, or reprioritization of IT projects.
6. Reviews requests for IT portfolio changes (e.g., reprogramming requests), appeals, and waivers and makes recommendations;
7. Participates in the ITIM evaluation process by assessing IT investment outcomes and providing feedback to the TIBEC, organizations, and IT Project Management community;
8. Addresses common IT issues and recommends resolutions; and
9. Supports the refinement of the EA and ITIM process by providing comments and recommendations to the OCIO.

E. Project Management Review Board (PMRB):

1. Evaluates and provides resolution of issues and concerns for high priority/high risk projects escalated by the TIBWG;

2. Conducts reviews of IT projects that have been determined by the TIBWG to be unhealthy to assess project and project manager performance;
3. Monitors corrective action plans for projects receiving “red” during the quarterly control review process;
4. Provides the forum for addressing and resolving any project or contractual issues requiring senior level attention;
5. Ensures risk management is being exercised and that project risk is acceptable;
6. Ensures projects are still meeting HUD business and performance objectives; and
7. Conducts a post-implementation review within 6 to 18 months after implementation of a new system or major release.

F. Senior Review Board (SRB):

1. Serves as the advisory board to the TIBEC;
2. Authorizes changes within the TIBEC-approved IT Portfolio for all approved projects where the transfer of funds is between projects within one Program Office, or where the transfer of project funds is between two or more Program Offices and is less than \$500,000;
3. Reviews the TIBWG's recommendations on the composition, adjustments, and maintenance of HUD's IT portfolio and makes final recommendations to the TIBEC; and
4. Considers the institutional and organizational dimensions, risks, and impacts of actions against individual projects and the IT portfolio.

G. Technology Investment Board Executive Committee (TIBEC):

1. Directs and oversees Departmental efforts to institutionalize a HUD-wide ITIM process;
2. Takes appropriate management actions to ensure that the process will endure, including the recommendation, review, and approval of organizational IT policies and senior management sponsorship;

3. Oversees the select process:
 - a. Approves and prioritizes IT project scoring criteria for the Select process;
 - b. Reviews TIBWG and SRB recommendations on the composition, adjustments, and maintenance of HUD's IT portfolio;
 - c. Makes selection and funding decisions about IT projects and systems, based on comparisons and trade-offs between competing projects with an emphasis on meeting mission goals;
 - d. Provides final approval of the IT portfolio and submits revised funding requirements to the OCFO;
4. Authorizes the transfer of project funds greater than \$500,000 from an approved project(s) of one Program Office to a project in another Program Office within the TIBEC-approved IT portfolio. Authorizes all changes to the approved IT portfolio that result in a net increase or decrease to the total Portfolio; and
5. Directs and oversees Departmental efforts to institutionalize a HUD-wide EA. Takes the appropriate management actions to ensure the effective integration of business processes, systems, applications, and infrastructure in support of HUD's mission.

H. HUD Program Office Head (POH) (HUD Senior Managers):

Prior to submittal to the TIBEC or designated review bodies, each POH shall review and approve the IT projects to be considered for funding. Each POH shall be accountable for the accuracy and validity of the initiative data provided to the TIBEC and/or its designated review body.

I. HUD Program Sponsors:

1. Conduct periodic reviews of project status, control, performance, risk, and outlook for approved and funded IT projects. This information is reported to the investment boards to support their decision to award, continue, reduce, terminate, or defer the funding of each IT project under consideration for or already within the HUD IT investment portfolio; and
2. Establish and execute the necessary project controls to manage requirements, risk, cost, schedule and technical baselines, and performance outcomes.

J. Project Managers:

1. Assume full responsibility and accountability for the performance of all IT project management activities;
2. Maintain and provide sufficient information to senior managers on project status, control, performance, risk, corrective actions, and outlook;
3. Identify potential problems and develop and execute corrective actions to address them; and
4. Maintain current information in the ITIM reporting tool and update project performance documentation on a regular basis. This documentation includes actual costs, milestones achieved, schedule and performance variances, resource and scope changes, in accordance with guidance and requirements issued throughout the ITIM process.

9-4. Reporting Requirements

Reporting is required to keep HUD's IT portfolio current. This is accomplished through the ITIM reporting tool. Currently, this tool is the electronic capital planning and investment control (eCPIC) system.

eCPIC is HUD's web-based system developed to support the management of the IT investment management process. It serves as an IT investment analysis tool that automates and streamlines the IT investment decision-making process to facilitate the collection, storage, retrieval, and analysis of IT project data.

9-5. Information and Assistance

For more detailed information on ITIM, please refer to:

1. HUD Information Technology Investment Management Process Guide, September 2004 (available at <http://hudweb.hud.gov/po/i/cap/resources/itimgd.pdf>); and
2. HUD's Enterprise Architecture, Chapter 4.

Questions or requests for further information on ITIM should be directed to the OCIO, Office of IT Investment Management, (202) 708-0614, extension 8057.