



HUD Policy for Information Technology Capital Management

Handbook 3420.1

Version 1.1

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Version History

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Draft 1.0	Chris Niedermayer	December 22, 2010			Initial Draft
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Final	Jerry E. Williams	July 14, 2011	Jerry E. Williams	July 14, 2011	Finalized



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1. Purpose

This Information Technology (IT) Capital Management policy serves as the authority for establishing IT capital management requirements, objectives, and standards as the guide to effective selection, planning, execution, and control for IT capital investments, and for establishing IT capital management responsibilities and expectations for management of IT investments.

This policy promotes effective and efficient processes for preparing, selecting, approving, and managing IT investments in support of the Department of Housing and Urban Development's (HUD) strategic priorities and IT portfolio directions. As such, the capital management process promotes the effective integration of IT capital management processes with the Department's enterprise architecture, IT security, and Project Planning and Management (PPM) processes.

Specifically, this policy establishes the capital management process as an IT investment requirement at HUD and incorporates capital management as a major component of the HUD IT Management (ITM) Framework¹.

This is the first issuance of this policy. It overrides any conflicting policies that were published prior to its issuance.

2. Background

The Clinger-Cohen Act (CCA) of 1996 requires agencies to use a disciplined Capital Planning and Investment Control (CPIC) process to acquire, use, maintain, and dispose of IT. It also encourages the use of performance- and results-based management of these investments. The Federal Acquisition Streamlining Act requires that IT investments be tied to mission and strategic goals; have cost, schedule, and performance goals; and achieve on average 90 percent of these goals.

HUD's IT capital management process is an integral component of HUD's ITM Framework, which enables HUD to manage IT Investments with more transparency, accountability, and responsibility (Figure 1).

¹ The ITM Framework materials are posted on HUD's intranet at this URL:
<http://hudatwork.hud.gov/po/i/itm/index.cfm>.



Components of IT Management Framework

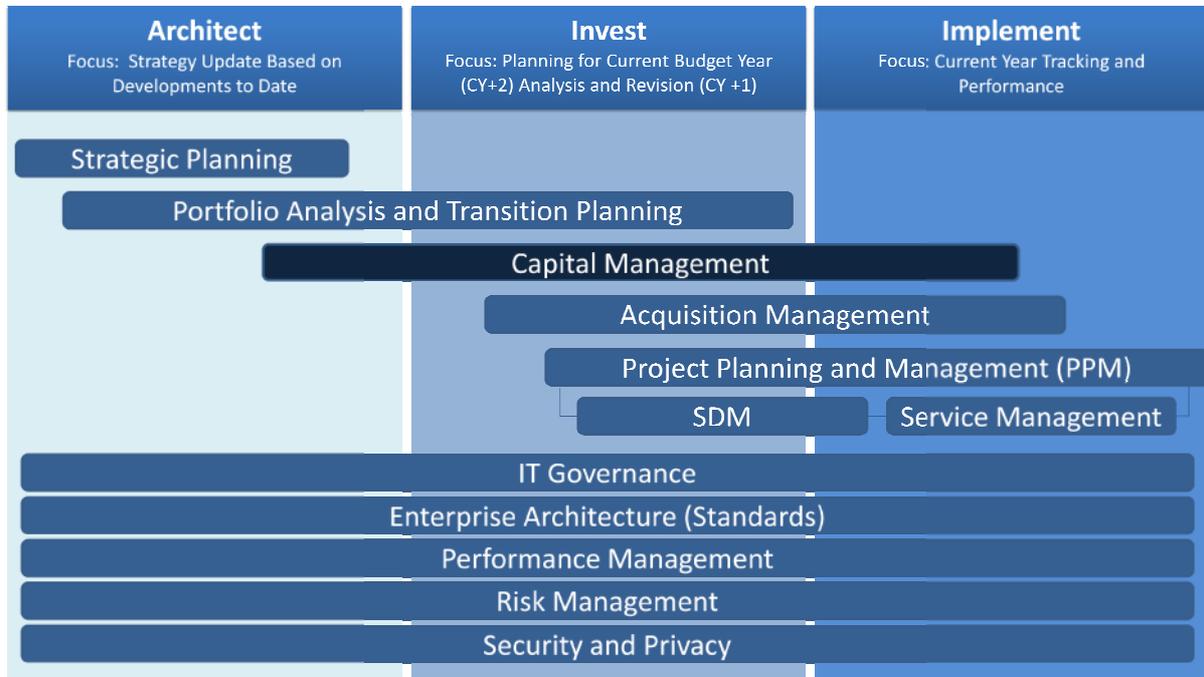


Figure 1 - Capital Management as a Component of the IT Management Framework

The IT capital management process comprises all the elements of traditional CPIC as well as activities focused on the development of HUD’s IT budget. Through the IT capital management process, IT investments are selected and then continually monitored and evaluated to ensure each chosen investment is well-managed, cost-effective, and supports the mission and strategic goals of the organization. By integrating with the other components of the ITM Framework — IT governance, enterprise architecture, IT strategic planning, PPM, and performance management, among others — the IT capital management process helps to ensure that the required disciplines of IT management drive the alignment of HUD’s IT capital investments with the HUD mission and enterprise architecture.

3. Scope

This policy applies to all HUD IT investments (including pilot and prototyping projects) throughout the entire investment life cycle, regardless of the source of funding or resources, whether owned and operated by HUD, or operated on behalf of HUD, except for those IT projects related to Ginnie Mae’s secondary mortgage activities².

4. Policy

The following policy governs the capital management of information technology assets at HUD.

² Title III, Sec 309 of the National Housing Act exempts all systems that are leased, owned, or operated for or on behalf of Ginnie Mae.



1. HUD will select IT investments that support the Department mission and align with the Department's IT architecture through the HUD transition plan; HUD will manage such investments with the goals of minimizing risks and maximizing returns; and HUD will evaluate the investments' results in accordance with applicable laws and mandates.
2. All IT investments will be planned and approved through IT capital management processes and in accordance with IT governance structures.
3. HUD offices will work through the IT capital management process to gain approval for any IT investment that they deem essential to the accomplishment of their missions and strategies.
4. The "as-is" and "to-be" business processes to be supported by an IT investment shall be documented before any investments are made.
5. Project sponsors will ensure that investment business cases are based on quantitative and qualitative measures of the business value that is expected to be achieved from the investment and will include evaluation criteria that can be used in measuring the achievement of that value.

This policy is part of the set of integrated policies defined by HUD's ITM Framework. All IT investments shall be defined and managed in compliance with these policies. Please see the *HUD Policy for Information Technology Management* for more detail. For specific roles and responsibilities as they apply to this policy, see *Roles and Responsibilities for the HUD Information Technology Management Framework*. For the list of Authorities and Guidelines upon which this policy is based, see *Authorities and Guidelines for the HUD Information Technology Framework*.

The elements of this policy are based on the Office of Management and Budget (OMB) and Government Accountability Office (GAO) guidance and incorporate practices and standards from the National Institute of Standards and Technology, the Project Management Institute, and other industry IT management groups.

5. Overview of the IT Capital Management Process

The HUD IT capital management component of the integrated ITM Framework consists of a multi-layered structure that comprises policy, processes, procedures, standards, and guidelines, with each layer providing an increasing level of detail. The IT capital management process follows the traditional CPIC sequence of selecting investments, managing and controlling investments, and evaluating investments. The IT capital management process integrates with the other processes that make up HUD's ITM Framework (see *HUD Policy for Information Technology Management*), including enterprise architecture, PPM, and performance management. The HUD IT Governance policy describes the decision-making structures, roles, and procedures for reviewing and approving HUD IT investments. In addition, all HUD IT investments are managed in accordance with HUD IT Security, Privacy Management, and Risk Management policies.

Selecting HUD's IT Investments

All requests for IT funding shall be reviewed by the Chief Architect and approved through HUD's IT governance structure for inclusion in the President's Budget and in the subsequent HUD Operating Plan that is based on the final budget allocated to HUD by Congress. Appropriations for the full costs of IT projects and investment acquisitions (including life cycle operations costs) shall be requested to ensure that all costs and benefits are fully considered when decisions are made.



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Priority consideration for funding and support shall be given to those IT projects that share use of IT across multiple programs within HUD or across other Federal agencies.

In order for an investment to be selected for funding in any fiscal year and to be included in the HUD IT Investment Portfolio, the investment must demonstrate a strong business justification that addresses the financial, technical, and strategic merits of the project, including estimates of full life cycle costs. This process shall be repeated each time funds are allocated to an IT project.

In following best practices and in response to Federal guidance, all IT projects shall prepare business process models for the “as-is” and “to-be” business environments, as well as any additional supporting project life cycle documentation required by HUD and OMB. This analysis is to ensure that the benefits of new IT investments create additional opportunities for more effective transparency, engagement, and collaboration with the stakeholders of these projects.

Operations and maintenance investments and mandatory projects shall be reviewed each year to ensure that the project is still required to support the mission, the return on the investment exceeds the outlay of resources, the solution is performing as expected, the solution is adequately funded, and the state of the technology is assessed and an appropriate refresh is planned for migration. IT projects considered but not included in the HUD IT Investment Portfolio may be resubmitted at a future date.

All HUD IT projects must demonstrate that costs for appropriate IT privacy and security controls, security test and evaluation, and system certification and accreditation are explicitly incorporated into the life cycle planning of all systems. Cost-effective security of HUD information systems and data must be an integral component of business operations.

HUD program offices are required to identify funding for business process modeling, application integration and installation support, data and database administration support, and operations and maintenance support for the life of the systems/applications. All major IT projects and high-risk IT projects are also required to identify funding for Independent Verification and Validation (IV&V).

Managing and Controlling HUD’s IT Investments

As HUD IT projects develop and investment expenditures continue, each selected IT project must continue to meet mission needs at the expected levels of cost and risk. If the IT project does not meet expectations or as problems arise, corrective actions need to be quickly taken to address the deficiencies. If mission needs change, HUD must also be able to adjust its objectives for the IT project and appropriately modify expected project outcomes.

All IT projects in the HUD IT Investment Portfolio shall be consistently monitored and evaluated to maximize value, mitigate risks, ensure successful results, and to make it possible to take corrective action when necessary.

All HUD IT projects shall be managed and implemented in a disciplined manner, using recognized project management practices and solution development methods as detailed in the HUD PPM policy, procedures, standards, and guidance. Performance measures and management processes shall be used to monitor actual versus expected results. All appropriate business stakeholders and technical experts shall be involved throughout the life cycle of the IT project.

Regular control gate reviews shall take place for each approved IT project to determine whether to continue, take corrective action, or stop a project.



All IT projects with expenditures for Development, Modernization, and Enhancement funds shall demonstrate satisfactory progress toward achieving the currently approved cost, schedule, and performance goals. All IT projects with DME activities must apply earned value management (EVM) policies and procedures, including the validation of cost, schedule, and performance baselines for reasonableness.

Each IT project with steady state activities to include mixed life cycle projects shall undergo an Annual Operational Analysis (AOA). The AOA is conducted to demonstrate how well the project is meeting program objectives and customer needs. The AOA is also used to determine how well the project is performing with regard to original and current baseline cost, schedule, and performance goals, and to the total costs for the investment over the life cycle, including all budgetary resources.

The IT capital management process integrates with the HUD acquisition management process to ensure that all IT acquisitions are made and tracked in accordance with investment approvals. Acquisition plans must be developed to reflect cost and schedule milestones and updated as the baselines are adjusted. Acquisition plans include outputs that feed into the budget and HUD IT management and governance processes. The plans shall also link resources to results through performance and EVM, as required, as well as build from the current enterprise architecture and transition to the target enterprise architecture.

All HUD IT acquisitions shall comply with Department regulations and the Federal Acquisition Regulation, and utilize HUD standard contracting vehicles in accordance with established acquisition criteria. Contracts awarded to support system development or systems integration efforts should be modular, performance-based, and require EVM reporting, integrated baseline reviews, and an adequate level of maturity of organization processes in accordance with the Software Engineering Institute (SEI) Capability Maturity Model Integration (CMMI), as appropriate.

All major IT projects or high-risk IT projects shall be subject to IV&V review at any time during the life cycle of the IT project.

Evaluating HUD Investments

All investments will be evaluated in an ongoing fashion throughout their implementation period so that returns on the investments for HUD are monitored over the investment life cycle (see *HUD IT Performance Management Policy*). Investments that may be cancelled prior to implementation are still evaluated for lessons learned.

The HUD IT capital management process is not complete until IT projects have been implemented and assessed as to whether they succeeded in delivering the benefits, products, and services that were intended at the start. Post-implementation performance measurement allows HUD to determine the success of the IT project once it becomes operational.

A post-implementation review shall be performed no later than one year following its implementation to determine if the IT project delivered the anticipated benefits and results. Actual project cost, schedule, and performance shall be evaluated against original and latest baselines and level of stakeholder and customer satisfaction to determine the degree of efficiency and effectiveness in meeting performance and financial objectives. The post-implementation review will measure the performance of the IT project against the proposed outcomes to determine if subsequent investment action is appropriate.



A Post-Implementation Review shall be conducted for any IT project that is canceled or before going into operation to determine lessons learned and compare actual versus expected results.

6. Responsibilities

HUD IT Investment Managers:

- Ensure that approved IT investments will follow the HUD PPM process and will be monitored and reviewed via a structured managerial control process. For each IT investment, HUD will establish a performance measurement baseline for cost, schedule, and performance goals to ensure that:
 - The investments meet Federal and HUD requirements that support mission and business goals and objectives
 - The investments progress in accordance with planned costs, schedule, and performance baselines
 - Modifications and adjustments are made to projects accordingly

The Office of the Chief Information Officer:

- Maintains and evolves the HUD IT capital management approach based on OMB, HUD, and other Federal experience and the best practices of the IT industry
- Provides IT stakeholders with the training, templates, checklists, and other implementation and support required for them to use the capital management process effectively

7. Effective Date/Implementation

This policy is effective immediately upon date of approval.

This policy will not be implemented in any recognized bargaining unit until the union has been provided notice of the proposed changes and given an opportunity to fully exercise its representational rights.

8. Approved



Jerry Williams, Chief Information Officer

7/14/11

Date