United States Government Accountability Office

February 2014

INFORMATION TECHNOLOGY

HUD's Expenditure Plan Satisfied Statutory Conditions; Sustained Controls and Modernization Approach Needed

GAO-14-283

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HUD's Expenditure Plan Satisfied Statutory Conditions; Sustained Controls and Modernization Approach Needed

Why GAO Did This Study

HUD relies extensively on IT to administer its community and housing programs. However, because HUD's IT environment has not effectively supported these programs, the department has been working to modernize its infrastructure and systems and implement management controls to overcome shortcomings in its capabilities. To facilitate oversight of these efforts, Congress set limitations on HUD's modernization funding. Specifically, the fiscal year 2013 appropriations act carried forward requirements for HUD to submit an expenditure plan that satisfied two sets of statutory conditions and was reviewed by GAO before all of the agency's modernization funding could be released. For fiscal year 2013, HUD submitted a plan that sought to obligate $24.2 million for 16 projects.

In reviewing the plan, GAO's objectives were to (1) determine whether the plan met statutory conditions and (2) provide any observations about the plan. To accomplish this, GAO analyzed the plan against the statutory conditions and compared its contents to HUD documentation, prior GAO reports, and best practices.

What GAO Recommends

Given the importance of managing and modernizing HUD's IT environment, GAO is recommending that the Secretary of HUD direct the Chief Information Officer to (1) establish a means for evaluating progress toward institutionalizing management controls and (2) define its overall modernization approach to effectively oversee the efforts. In written comments on a draft of this report, HUD concurred with GAO's recommendations.

View GAO-14-283. For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

What GAO Found

The Department of Housing and Urban Development's (HUD) fiscal year 2013 information technology (IT) expenditure plan satisfied the two sets of statutory conditions contained in the appropriations act. Regarding the first set of conditions, the plan identified for each project the functional and performance capabilities to be delivered, mission benefits, life-cycle costs, and key milestones. For example, for the Federal Housing Administration Transformation's Portfolio Evaluation Tool project, the plan identified functional capabilities such as the ability to produce on-demand reports to assess financial impacts and risks. The plan also satisfied the second set of conditions by demonstrating that each project was in compliance with HUD's enterprise architecture, was being managed in accordance with applicable life-cycle policies and guidance, conformed to capital planning and investment control requirements, and was supported by an adequately staffed project office. For instance, it included assessments demonstrating how projects conformed to requirements for planning and controlling investments. By satisfying these conditions, the plan should better inform the decision making of HUD's appropriations committees on current modernization projects.

GAO made two observations regarding the fiscal year 2013 expenditure plan. First, the plan outlined IT management controls, but did not describe progress toward institutionalizing these controls. A federal agency's ability to successfully modernize its IT environment depends on implementing key controls for managing projects, which include enterprise architecture, project life-cycle management, and human capital planning. Further, establishing a means for evaluating progress in institutionalizing these controls can enable effective oversight. While the plan outlined management controls the department developed in 2010 and how they are to be used, it did not provide a means for evaluating progress by describing the extent to which the controls had been established or commit to time lines and activities needed to institutionalize them. Second, while the plan included details on individual projects, it did not describe HUD's overall approach for its modernization efforts. Effective modernization planning includes defining the scope of the effort, an implementation strategy, and a schedule, as well as establishing results-oriented goals and measures. For individual projects requesting fiscal year 2013 funding, the plan included details regarding scope, strategy, and schedule. However, the plan lacked a similar discussion regarding the department's overall approach for modernization efforts. Specifically, the plan did not discuss the scope, implementation strategy, or schedule for HUD's modernization efforts or related projects beyond fiscal year 2013 funding. Further, the plan did not provide goals or measures for gauging the progress of the modernization efforts.

HUD officials stated that they did not view the plan as a mechanism for evaluating progress; rather, they were focused on satisfying the statutory conditions and considered modernization priorities insignificantly changed. However, without a means to evaluate progress toward institutionalizing management controls and an articulated approach for its overall modernization efforts, the department may lack reasonable assurance that projects planned or under way will be completed successfully and its ability to effectively manage improvements to its current IT environment may be limited.

_____ **United States Government Accountability Office**

Contents

Abbreviations

EA	enterprise architecture
FHA	Federal Housing Administration
HUD	Department of Housing and Urban Development
IT	information technology
OCIO	Office of the Chief Information Officer

February 12, 2014

The Honorable Patty Murray
Chairman
The Honorable Susan M. Collins
Ranking Member
Subcommittee on Transportation, Housing
  and Urban Development, and Related Agencies
Committee on Appropriations
United States Senate

The Honorable Tom Latham
Chairman
The Honorable Ed Pastor
Ranking Member
Subcommittee on Transportation, Housing
  and Urban Development, and Related Agencies
Committee on Appropriations
House of Representatives

The Department of Housing and Urban Development's (HUD) mission to create strong, sustainable, inclusive communities and quality, affordable homes for all has significantly evolved due to the economic and housing crisis. Legislation enacted over the past several years has given the department new responsibilities that have increased the need for greater system processing capabilities.[1] Accordingly, in carrying out its mission, HUD has increased its reliance on information technology (IT). However, notwithstanding this heavy dependence on IT in administering community and housing programs, the department has reported that its systems are overlapping, duplicative, not integrated, necessitate manual workloads, and employ antiquated, costly-to-maintain technologies. Further, as we

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[1]For example, the Housing and Economic Recovery Act of 2008, Pub. L. No. 110-289 § 2126, 122 Stat. 2654, 2840-41 (July 30, 2008).

have previously reported, the department has long experienced shortcomings in its IT management capability.[2]

To address these challenges, in 2010 HUD began working to modernize and improve its IT environment and management capabilities. Toward this end, the department identified priority modernization efforts and used available funding to undertake associated projects aimed at replacing or modifying its infrastructure and systems.[3] At the same time, the department began work to establish management controls in the areas of investment management, enterprise architecture (EA), strategic planning, life-cycle management, and human capital.

In order to provide oversight and inform decision making, Congress set limitations on the funds made available for projects supporting HUD's modernization efforts. Specifically, through appropriations acts in fiscal years 2010 through 2013, the department was limited to obligating 25 to 35 percent of its IT modernization funding until the Secretary of HUD submitted to the Committees on Appropriations an expenditure plan that satisfied two sets of statutory conditions and was reviewed by GAO.[4] To

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[2]GAO, *Information Technology: HUD Needs to Improve Key Project Management Practices for Its Modernization Efforts,* GAO-13-455 (Washington, D.C.: June 12, 2013); *HUD Information Technology: More Work Remains to Implement Necessary Management Controls,* GAO-12-580T (Washington, D.C.: Mar. 29, 2012); *Information Technology: HUD's Expenditure Plan Satisfies Statutory Conditions, and Implementation of Management Controls Is Under Way,* GAO-11-762 (Washington, D.C.: Sept. 7, 2011); *Information Technology: HUD Needs to Better Define Commitments and Disclose Risks for Modernization Projects in Future Expenditure Plans,* GAO-11-72 (Washington, D.C.: Nov. 23, 2010); and *Information Technology: HUD Needs to Strengthen Its Capacity to Manage and Modernize Its Environment,* GAO-09-675 (Washington, D.C.: July 31, 2009).

[3]HUD identified seven priority modernization efforts in its fiscal year 2010 and 2011 expenditure plans: FHA Transformation, Homeless Emergency Assistance and Rapid Transition to Housing and eGrants Management Implementation, HUD Agency-Wide Place-Based Performance Management System, Human Resources End-to-End, HUD Integrated Acquisition Management System, New Core System, and Next Generation Management System.

[4]The Consolidated Appropriations Act, 2010, Pub. L. No. 111-117 (Dec. 16, 2009); Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. No. 112-10, § 2259, 125 Stat. 38, 197-98 (Apr. 15, 2011); Consolidated and Further Continuing Appropriations Act, 2012, Pub. L. No. 112-55 (Nov. 18, 2011); and Consolidated and Further Continuing Appropriations Act, 2013, Pub. L. No. 113-6 § 1101, 127 Stat. 198, 412-13 (Mar. 26, 2013). Pending the submission of an expenditure plan, the department was limited to obligating 25 percent of its modernization funding in fiscal year 2010, 35 percent in fiscal year 2011, and 25 percent in fiscal years 2012 and 2013.

satisfy the first set of statutory conditions, the plan must identify for each project the functional and performance capabilities to be delivered, expected mission benefits, estimated life-cycle costs, and planned key milestones. For the second set of conditions, the plan must demonstrate that each project complies with the department's EA, is being managed in accordance with applicable life-cycle policies and guidance, conforms to capital planning and investment control requirements, and is supported by an adequately staffed project office.

As we have previously reported,[5] the department submitted expenditure plans for fiscal years 2010 and 2011 that satisfied the statutory conditions. For fiscal year 2012, the department reported that it did not obligate more than 25 percent of the appropriations made available to it for IT modernization and, thus, did not develop an expenditure plan. On August 15, 2013, HUD submitted its fiscal year 2013 expenditure plan for IT development, modernization, and enhancement, which sought to obligate a total of $24.2 million for 16 projects.[6]

Our objectives were to (1) determine whether HUD's fiscal year 2013 expenditure plan met statutory conditions, and (2) provide any observations about the plan. On December 13, 2013, we provided your offices with briefing slides that outlined the results of our study. The purpose of this report is to provide the published briefing slides to you and to officially transmit our study results to the Secretary of Housing and Urban Development. The slides, which discuss our scope and methodology, are included in appendix I.

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[5]GAO, *Information Technology: HUD's Fiscal Year 2011 Expenditure Plan Satisfies Statutory Conditions,* GAO-12-654 (Washington, D.C.: May 24, 2012), and GAO-11-762.

[6]The projects are Development Application Processing, Facilities Asset Management Enterprise System, FHA Transformation's Lender Electronic Assessment Portal Loan Review System, FHA Transformation's Portfolio Evaluation Tool, HUD Enforcement Management System, Multifamily Delinquency & Default Reporting System, Legal Matter and Workload Management System, Next Generation Management System's Affordable Housing Data Architecture, Next Generation Management System's Affordable Housing Life-cycle Information Center, Next Generation Management System's Cash Management, Next Generation Management System's Integrated Budget Forecasting Model, Next Generation Management System's Portfolio and Risk Management Tool, New Core System, Physical Assessment Sub-System's Housing Choice Vouchers Physical Inspection Protocol, Physical Assessment Sub-System's Photo for Physical Inspections, and Tenant Rental Assistance Certification System Low Income Housing Tax Credit.

We conducted this performance audit from August 2013 to February 2014 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

In summary, our review highlighted the following:

- HUD's fiscal year 2013 expenditure plan satisfied the two sets of statutory conditions contained in the appropriations act.[7] Specifically, for the first set of statutory conditions, the plan identified for each project the functional and performance capabilities to be delivered, expected mission benefits, estimated life-cycle costs, and planned key milestones. For example, with regard to the Federal Housing Administration Transformation's Portfolio Evaluation Tool project, the plan identified functional capabilities such as the ability to produce on-demand reports to assess financial impacts and risks. The plan also identified performance capabilities for this project, such as improving the processing time of current operations by 99.94 percent.

  For the second set of conditions, the plan demonstrated that each project was in compliance with the department's enterprise architecture, was being managed in accordance with applicable life-cycle management policies and guidance, conformed to capital planning and investment control requirements, and was supported by an adequately staffed project office. For example, for the Next Generation Management System's Affordable Housing Life-cycle Information Center project, the plan included an assessment demonstrating the project's conformance with Office of Management and Budget and HUD requirements for planning and controlling investments.

  By satisfying these conditions, the plan should provide the department's appropriations committees with visibility into the 16 IT projects under way and, accordingly, help inform decisions related to the fiscal year 2013 funding requested.

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[7]Pub. L. No. 113-6 § 1101, carrying forward the requirements of Pub. L. No. 112-55.

- We also made two observations about HUD's fiscal year 2013 expenditure plan.

First, the plan outlined IT management controls, but it did not describe progress toward institutionalizing these controls. A federal agency's ability to successfully modernize its IT environment depends on the implementation of key management controls embodied in statutory requirements, federal guidance, and best practices as repeatable processes. Further, establishing a means for committing to and evaluating progress in institutionalizing these controls can enable effective oversight. While HUD's plan outlined integrated management controls that the department developed in 2010 and discussed how the controls are used, it did not describe the extent to which controls had been established or commit to time lines for activities and next steps needed to fully implement and institutionalize the controls. For example, the plan described intended improvements to project management practices and included an associated time line for doing so; however, the time line was limited to activities intended to be accomplished prior to the August 2013 submission of the plan. Further, no information was provided in the plan regarding whether the outlined activities were completed or not. HUD officials, including the acting Chief Information Officer, stated that the department did not incorporate the status of institutionalizing the controls because they focused on satisfying the statutory conditions and did not view the plan as an oversight tool or mechanism for evaluating progress toward institutionalizing management controls. Until HUD establishes a means for evaluating progress toward institutionalizing management controls as repeatable processes and commits to time lines for activities and next steps, the department may lack reasonable assurance that modernization projects under way or planned will be completed successfully.

Second, details on individual projects were included in the fiscal year 2013 plan, but an overall approach for modernization efforts was lacking. Effective modernization planning includes defining the scope of the effort, an implementation strategy, and a schedule, as well as establishing results-oriented goals and measures. For individual projects requesting fiscal year 2013 funding, the plan included details regarding their scope, strategy, and schedule. For instance, the plan noted that the HUD Enforcement Management System project is intended to integrate six disparate systems (scope) through the development of software modules (strategy) that will be implemented by August 2014 (schedule). Nonetheless, the plan did not discuss the

department's overall approach (that is, scope, implementation strategy, or schedule) for completing its modernization priorities and related projects that may need funding beyond fiscal year 2013. For example, the plan stated that the Facilities Asset Management Enterprise System project requested partial funding in fiscal year 2013 to enhance the legacy system and complete an alternative analysis for developing a new enterprise-wide system in the future. However, the plan did not state when additional funding would be needed for the new system or whether this project would be incorporated into the department's overall approach for modernizing its IT environment. Further, the plan did not include results-oriented goals or measures for gauging the progress of HUD's modernization efforts identified in prior expenditure plans. According to HUD officials, overall priorities for modernization have not significantly changed since the 2011 plan, although new projects have been added that were different from those proposed and funded in prior years. Further, they stated that the department continues to be focused on simplifying its IT environment, reducing the costs of operating, and maintaining legacy costs. The officials acknowledged that the changes to the department's priorities and associated goals and measures were not included in the 2013 plan, as was done in prior-year plans. Without articulating the scope, implementation strategy, and schedule for its overall approach to accomplishing modernization efforts, with related goals and measures for effective oversight, HUD's ability to effectively manage improvements to its current IT environment may be limited.

Conclusions

HUD's fiscal year 2013 expenditure plan satisfied both sets of statutory conditions. As a result, the plan should provide HUD's appropriations committees with visibility into the 16 IT projects under way in order to inform decisions related to the fiscal year 2013 funding requested. However, the plan is limited in its value as a tool for enabling effective oversight of the department's overall modernization effort. Specifically, while the department outlined IT management controls, the plan did not describe the extent to which progress toward establishing controls had been made or commit to time lines for activities and next steps needed to fully implement and institutionalize the controls. Further, while the plan discussed individual projects, it did not articulate the department's overall approach (including a defined scope, implementation strategy, or schedule) for completing the priority modernization efforts or provide related outcome-based goals and measures. Overall, the 2013 plan's deficiencies represent a step back from the department's previously

submitted plans and limit its value as a tool for enabling effective oversight.

Until HUD establishes a means for evaluating progress toward institutionalizing IT management controls and articulates an approach with related goals and measures for overseeing its overall modernization effort, the department may lack reasonable assurance that projects under way or planned will be completed successfully. In addition, its ability to effectively manage improvements to its current IT environment may be limited.

Recommendations for Executive Action

To ensure effective management and modernization of HUD's IT environment, we recommend that the Secretary of Housing and Urban Development direct the department's Chief Information Officer to take the following two actions:

- establish a means for evaluating progress toward institutionalizing management controls and commit to time lines for activities and next steps, and
- define the scope, implementation strategy, and schedule of its overall modernization approach, with related goals and measures for effectively overseeing the effort.

Agency Comments

In written comments on a draft of this report (reprinted in appendix II), the department stated that it concurred with our recommendations and planned to provide a corrective action plan to address them.

We are sending copies of this report to interested congressional committees. We are also sending copies to the Secretary of the Department of Housing and Urban Development and the Director of the Office of Management and Budget. In addition, the report is available at no charge on GAO's website at http://www.gao.gov.

If you or your staffs have any questions on matters discussed in this report, please contact me at (202) 512-6304 or melvinv@gao.gov. Contact points for our Offices of Congressional Relations and Public

Affairs may be found on the last page of this report. GAO staff who made significant contributions to this report are listed in appendix III.

Valerie C. Melvin

Valerie C. Melvin
Director, Information Management
 and Technology Resources Issues

GAO

Information Technology: HUD's Fiscal Year 2013 Expenditure Plan Satisfied Statutory Conditions; Institutionalized Management Controls and Modernization Approach Needed

Briefing for Staff Members of the Subcommittees on Transportation, Housing and Urban Development, and Related Agencies

Senate and House Committees on Appropriations

December 13, 2013

GAO

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GAO   **Introduction**

The Department of Housing and Urban Development (HUD) relies extensively on information technology (IT) to support community and housing programs that involve the management of billions of dollars. While the role of IT is critical, the department has reported that its systems are overlapping, duplicative, not integrated, necessitate manual workloads, and employ antiquated, costly-to-maintain technologies.

Since 2010, the department has been working to improve its IT environment and management capabilities. Specifically, with the use of modernization funding made available, the department has undertaken IT projects aimed at replacing or modifying its infrastructure and systems. Further, the department has been working to establish and implement certain management controls needed to help ensure that its efforts to modernize are successful.

In order to facilitate oversight and inform decision making, Congress established limitations on funding for HUD's IT modernization projects through appropriations acts in fiscal years 2010 through 2013.[1] Pursuant to these acts, before fully using available funds, the Secretary of HUD was required to submit to the Committees on Appropriations an expenditure plan that satisfied two sets of statutory conditions and was reviewed by GAO.

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[1]The Consolidated Appropriations Act, 2010, Pub. L. No. 111-117 (Dec. 16, 2009); Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. No. 112-10, § 2259, 125 Stat. 38, 197-98 (Apr. 15, 2011); Consolidated and Further Continuing Appropriations Act, 2012, Pub. L. No. 112-55 (Nov. 18, 2011); and Consolidated and Further Continuing Appropriations Act, 2013, Pub. L. No. 113-6 § 1101, 127 Stat. 198, 412-13 (Mar. 26, 2013). Pending the submission of an expenditure plan, the department was limited to obligating its fiscal year modernization funding to 25 percent in 2010, 35 percent in 2011, and 25 percent in 2012 and 2013.

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GAO   Introduction

Specifically, to satisfy the first set of conditions, the plan must identify for each project the functional and performance capabilities to be delivered, expected mission benefits, estimated life-cycle costs, and planned key milestones. For the second set of conditions, the plan must demonstrate that each project complies with the department's enterprise architecture (EA), is being managed in accordance with applicable life-cycle policies and guidance, conforms to capital planning and investment control requirements, and is supported by an adequately staffed project office.

As we have previously reported,[2] the department submitted expenditure plans for fiscal years 2010 and 2011 that satisfied the statutory conditions. For fiscal year 2012, the department reported that it did not obligate more than 25 percent of the appropriations made available to it for IT modernization and thus did not develop an expenditure plan. For fiscal year 2013, HUD submitted an expenditure plan that sought to obligate $24.2 million across 16 modernization projects.

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[2]GAO, *Information Technology: HUD's Fiscal Year 2011 Expenditure Plan Satisfies Statutory Conditions,* GAO-12-654 (Washington, D.C.: May 24, 2012), and *Information Technology: HUD's Expenditure Plan Satisfies Statutory Conditions, and Implementation of Management Controls Is Under Way,* GAO-11-762 (Washington, D.C.: Sept. 7, 2011).

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GAO   **Objectives, Scope, and Methodology**

Our objectives for this review were to

- determine whether HUD's fiscal year 2013 expenditure plan meets statutory conditions and

- provide any observations about the plan.

To accomplish the first objective, we analyzed the expenditure plan to determine whether it contained, for all 16 IT projects, information to address the two sets of statutory conditions as specified in the act. For both sets of conditions, we determined whether the expenditure plan satisfied or did not satisfy each condition. To have satisfied a given condition, the plan had to meet all elements of that condition. In making our determination, we limited our assessment to the contents of the plan and its supporting artifacts, because the act required that the plan itself contain information to address the statutory conditions.

- For the first set of conditions, we reviewed the contents of the plan, including its supporting artifacts, to determine whether it identified, for each project, the functional and performance capabilities to be delivered, expected mission benefits, estimated life-cycle costs, and planned key milestones. To this end, we reviewed project summaries, charters, and associated artifacts to determine if the conditions were clearly addressed. Our review did not evaluate the extent to which the projects were achieving the established cost, schedule, and performance goals described in the plan.

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GAO   **Objectives, Scope, and Methodology**

- For the second set of conditions, we evaluated the plan and supporting artifacts to determine whether it demonstrated, for each project, compliance with the department's EA, management in accordance with applicable life-cycle policies and guidance, conformance with capital planning and investment control requirements, and support by an adequately staffed project office. In particular, we reviewed EA assessments, life-cycle artifacts, capital planning meeting decisions, and staffing plans. Because HUD is working to establish and implement management controls, we evaluated these controls relative to the department's progress in implementing them.

To accomplish the second objective, we developed observations about HUD's expenditure plan by analyzing the plan and comparing the details with relevant department-provided documentation on internal management controls, including previously submitted plans; prior GAO reports; and best practices. Specifically, we evaluated the contents of the plan to determine whether it included details regarding the status of implementing management controls and the department's overall direction to modernize its IT environment. Further, we interviewed relevant department and project officials to corroborate these observations.

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GAO   **Objectives, Scope, and Methodology**

We determined that information provided by HUD, such as project charters and documentation of life-cycle control gate reviews, was sufficiently reliable for the purposes of our study. To arrive at this assessment, we conducted reliability testing by comparing key information across multiple documents to identify discrepancies, and by interviewing officials from the Office of the Chief Information Officer (OCIO). However, we did not test the quality of certain information, such as project cost estimates and key milestones.

We conducted this performance audit from August 2013 to December 2013 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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GAO   **Results in Brief**

HUD's fiscal year 2013 expenditure plan satisfied the two sets of statutory conditions contained in the appropriations act. The plan met these conditions by, for example, identifying expected mission benefits for each project included in the plan and demonstrating the projects' compliance with the department's enterprise architecture. By satisfying these conditions, the plan should better inform decision making by HUD's appropriations committees on current modernization projects.

We have two observations about the fiscal year 2013 expenditure plan.

First, the plan outlined IT management controls, but did not describe progress toward institutionalizing these controls. A federal agency's ability to modernize its existing IT environment greatly depends on the extent to which institutional management controls have been implemented as repeatable processes. Further, establishing a means for committing to and evaluating progress can enable effective oversight and accountability for management. HUD's plan outlined integrated management controls the department developed in 2010 and how the controls are used; however, it did not provide a means for evaluating progress by describing details regarding the extent to which controls had been established or commit to time lines for activities and next steps needed to fully implement and institutionalize the controls. For instance, improvements to project management practices were outlined with a time line, but were limited to activities intended to be accomplished prior to the August 2013 submission of the plan. No information was provided in the plan regarding whether the outlined activities were completed or not.

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GAO

Results in Brief

Second, while the department included details on individual projects in the fiscal year 2013 plan, an overall approach for modernization efforts was lacking. Effective planning for modernization includes defining the scope, an implementation strategy, and a schedule, as well as establishing results-oriented goals and measures. For individual projects requesting fiscal year 2013 funding, the plan included details regarding their scope, strategy, and schedule, but lacked a similar discussion regarding the department's overall approach for priority modernization efforts or goals and measures to monitor progress. For example, the plan noted that the HUD Enforcement Management System project is intended to integrate six disparate systems (scope) through the development of software modules (strategy) that will be implemented by August 2014 (schedule). However, the plan did not discuss the department's scope, implementation strategy, or schedule for its modernization priorities or individual projects beyond fiscal year 2013 funding. For instance, it did not provide a strategy for 5 of the 16 individual projects that indicated future funding would be needed. Further, the plan did not provide goals or measures for gauging the progress for all of HUD's priority modernization efforts, as was discussed in prior plans.

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GAO

Results in Brief

HUD officials, including the acting Chief Information Officer, acknowledged the 2013 plan did not describe the status of institutionalizing management controls or articulate the department's approach to modernization efforts. These officials stated that they did not view the plan as a mechanism for evaluating progress; rather, they were focused on satisfying the statutory conditions and considered modernization priorities insignificantly changed.

Without a means to evaluate progress toward institutionalizing IT management controls and an articulated approach with related goals and measures for its overall modernization efforts, the department may lack reasonable assurance that projects planned or under way will be completed successfully, and its ability to effectively manage improvements to its current IT environment may be limited.

Given the importance of managing and modernizing HUD's IT environment, we are recommending that the Secretary of HUD direct the Chief Information Officer to (1) establish a means for evaluating progress toward institutionalizing management controls and commit to time lines for activities and next steps, and (2) define the scope, implementation strategy, and schedule of its overall modernization approach with related goals and measures for effectively overseeing the effort.

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GAO   **Results in Brief**

In commenting via e-mail on a draft of this briefing, HUD's Deputy Chief Information Officer for Customer Relationships and Performance Management stated that the department concurred with our recommendations and offered views on its intent to address them. Regarding the first recommendation, the official indicated that HUD intended to identify metrics and best practices for institutionalizing management controls. Further, while concurring with the second recommendation, the official commented that setting goals and plans for modernization efforts is contingent upon available funding.

We support the department's interest in identifying metrics and best practices, and consider its intent to address our recommendation a step in that direction. Moreover, defining an overall approach for modernization efforts with associated goals and measures may increase the likelihood that, even when available funding is limited, improvements to the department's IT environment will be more effectively managed. Thus, we continue to emphasize the importance of HUD also implementing this second recommendation.

In addition, HUD provided technical comments, which we incorporated as appropriate.

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GAO   **Background**

HUD's mission to create strong, sustainable, inclusive communities and quality, affordable homes for all has significantly evolved due to the economic and housing crisis. Legislation enacted over the past several years has given the department new responsibilities for, among other things, strengthening the housing market, which has increased the need for greater system processing capabilities. Accordingly, in carrying out its mission the department has increased its reliance on IT to support data collection and dissemination with internal and external stakeholders.

IT plays a critical role in the ability of the department's business areas to perform functions such as providing housing and economic opportunities to low- and moderate-income people; regulating aspects of the housing industry and maintaining and expanding home ownership, rental housing, and health care opportunities; and guaranteeing investors' payments and interest by federally insured or guaranteed loans. In addition, supporting and administrative offices use IT to aid the business areas by providing key services for the quality and sustainment of mission areas. Supporting offices include, among others, the Office of Faith-Based and Neighborhood Partnerships and the Office of Healthy Homes and Lead Hazard Control, and administrative offices include the Office of the Chief Operating Officer and OCIO.

A simplified view of the department's organizational structure is provided in figure 1.

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GAO   **Background**

Figure 1: Simplified HUD Organizational Chart
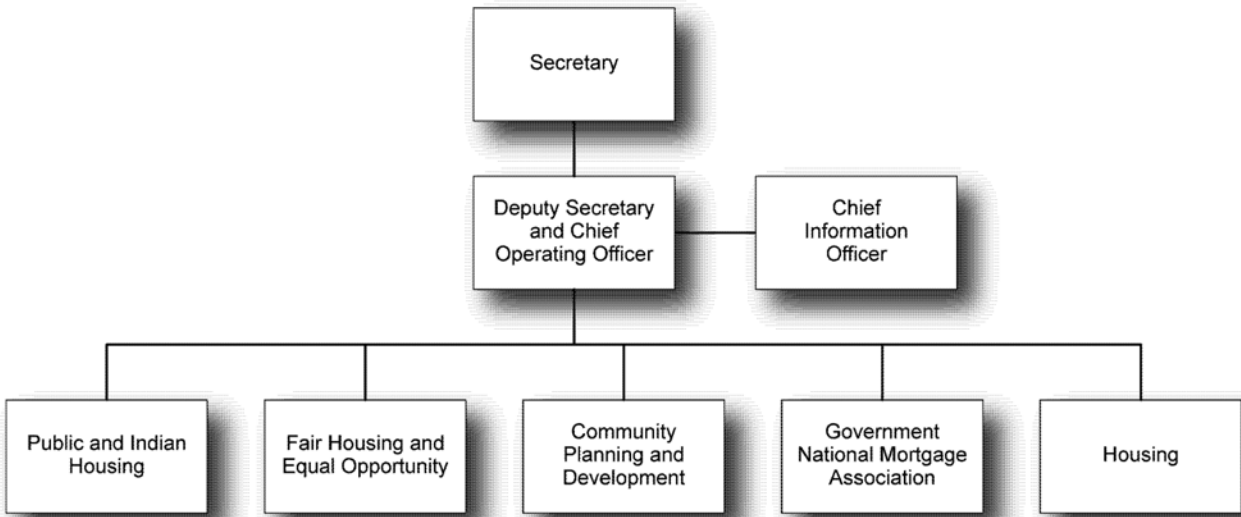
Source: GAO based on HUD data.

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GAO

Background

Notwithstanding the heavy reliance on IT in administering community and housing programs, HUD has reported that its systems are overlapping, duplicative, not integrated, necessitate manual workloads, and employ antiquated, costly-to-maintain technologies. Further, as we and others have reported, the department has long experienced shortcomings in its IT management capability.[3] For example, in a 2010 assessment HUD concluded that it lacked sufficient capability to execute basic management functions, which inhibited effective operations and the successful delivery of solutions.[4]

To address these challenges, in 2010 the department began to modernize and improve its IT environment. Toward this end, the OCIO and business areas identified seven priority modernization efforts aimed at transforming the department's infrastructure and systems.[5] At the same time, OCIO began establishing management controls in the areas of investment management, EA, strategic planning, life-cycle management, and human capital.

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[3]GAO, *Information Technology: HUD Needs to Improve Key Project Management Practices for Its Modernization Efforts,* GAO-13-455 (Washington, D.C.: June 12, 2013).
[4]HUD, *U.S. Department of Housing and Urban Development: IT Current State Assessment* (January 2011).
[5]HUD's seven priority modernization efforts were identified and outlined in the fiscal year 2010 and 2011 plans. These efforts are FHA Transformation, Homeless Emergency Assistance and Rapid Transition to Housing and eGrants Management Implementation, HUD Agency-Wide Place-Based Performance Management System, Human Resources End-to-End, HUD Integrated Acquisition Management System, New Core System, and Next Generation Management System.

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Background

To facilitate oversight and inform decision making, Congress set limitations in the fiscal year 2010 through fiscal year 2013 appropriations acts on the funds made available for projects supporting HUD's modernization efforts.[6] Specifically, the department was limited to obligating 25 to 35 percent of its IT modernization funding until the Secretary submitted an expenditure plan that satisfied two sets of statutory conditions and was reviewed by GAO. These acts stated that the plan must meet the following two sets of conditions:

(1) Identify for each project

- the functional and performance capabilities to be delivered,

- expected mission benefits,

- estimated life-cycle costs, and

- planned key milestones.

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[6]Our reviews of the department's expenditure plans for fiscal years 2010 and 2011 found that the plans satisfied the statutory conditions; see GAO-12-654 and GAO-11-762. For fiscal year 2012, the department reported that it did not obligate more than 25 percent of the appropriations made available to it for IT modernization and thus did not develop an expenditure plan.

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GAO   **Background**

(2) Demonstrate that each project

- is in compliance with the department's enterprise architecture,

- is being managed in accordance with applicable life-cycle management policies and guidance,

- conforms to capital planning and investment control requirements, and

- is supported by an adequately staffed project office.

On August 15, 2013, HUD submitted its fiscal year 2013 expenditure plan for IT development, modernization, and enhancement, which seeks to obligate a total of $24.2 million for 16 projects.

Table 1 summarizes the projects included in the plan and the associated requested funding.

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GAO

Background

Table 1: Summary of Projects Contained in HUD's Fiscal Year 2013 IT Expenditure Plan, Submitted August 15, 2013

Project	Description	Fiscal year 2013 requested funds
Development Application Processing	Enhance the legacy system by automating reporting functions designed to improve how the department tracks the distribution of lender risk for certain loans and by implementing codes for new mortgage insurance premium requirements.	$134,000
Facilities Asset Management Enterprise System	Conduct analysis to select a single enterprise solution that meets requirements for facilities asset management, such as personal property management, fleet management, real property management, and space management. Enhance the legacy system to meet immediate department needs until a new system is developed and implemented.	693,606
Federal Housing Administration Transformation		
Lender Electronic Assessment Portal Loan Review System	Reengineer business processes and capture detailed requirements designed to configure, test, and deploy capabilities which will support loan review processes.	2,000,000
Portfolio Evaluation Tool	Implement a tool for web-based reporting and analytics capabilities, including self-service and ad hoc reporting of the mortgage portfolio.	2,000,000
HUD Enforcement Management System	Consolidate functionality from six disparate enforcement systems to provide cross-departmental reporting and data-sharing ability for the coordination of enforcement actions.	3,169,000
Multifamily Delinquency & Default Reporting System	Enhance the existing system by providing a new online functionality for mortgage lenders/servicers to identify, designate, and report Federal Housing Administration-insured loans which may be delinquent and/or in default.	22,094
Legal Matter and Workload Management System	Implement a software-as-a-service legal workload management platform designed to support staff in reviewing, processing, and documenting litigation, enforcement actions, legislative reviews, and budgetary actions in the Office of General Counsel.	400,000

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GAO

Background

(Table 1 continued)

Project	Description	Fiscal year 2013 requested funds
Next Generation Management System		
Affordable Housing Data Architecture	Develop a data architecture foundation to enable the system to be extended to cover all public and affordable housing programs.	680,000
Affordable Housing Life-cycle Information Center	Define initial requirements for future system development intended to replace the existing housing information center system.	1,952,000
Cash Management	Provide ad hoc analysis and reporting tools to support advancing funds to public housing authorities based on near real-time data, provide monthly budget reconciliations for the Housing Choice Voucher program, and establish an interface with the department's planned financial management system to disburse funds.	688,000
Integrated Budget Forecasting Model	Perform an analysis of the Section 8 contract funding process and recommend solutions for improving time lines and quality of services to public housing authorities and project owners.	504,657
Portfolio and Risk Management Tool	Aggregate information from different levels of analysis and across business areas to enable a single point of access for analysis of portfolio performance and risk.	680,000
New Core System	Implement initial functionality for a consolidated enterprise financial system with a federal shared-service provider and replace legacy financial systems, including the department's centralized accounting and program system.	8,883,017
Physical Assessment Sub-System		
Housing Choice Vouchers Physical Inspection Protocol	Implement new business rules for inspection protocols and enhance the legacy system to support the recording and processing of inspection data.	750,000
Photo for Physical Inspections	Enhance the legacy system by adding functionality to support the digital capture and processing of photos from inspections as well as remote access for reviewing and reporting defects.	1,200,000
Tenant Rental Assistance Certification System Low Income Housing Tax Credit	Enhance the existing system to meet statutory requirements for collecting tenant information established by the Housing and Economic Recovery Act of 2008 and close or reduce performance gaps in data collection for the low-income housing tax credit program.	419,574
	Total	**$24,175,948**

Source: GAO analysis of HUD data.

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GAO   **Background**

In addition to our expenditure plan reviews, we have reported on the department's internal management controls.

- In July 2009, we reported on the department's capacity to manage and modernize its IT environment and made recommendations aimed at addressing identified weaknesses.[7] Since that time, HUD has taken actions and implemented our recommendations, resulting in the initial establishment of IT management controls, including EA and investment management.

- In March 2012, we reported that HUD had made progress in addressing weaknesses by implementing management controls in the areas of strategic planning, investment management, human capital, and EA.[8] At the same time, we noted that more actions were needed to help the department implement sound management controls and improve its IT management capabilities. For example, we reported that the department had developed a conceptual EA, but had not yet established a policy to guide architectural development, maintenance, and use. In response to our recommendation to develop a policy, the department reported in November 2013 that it had drafted a policy that is expected to be finalized by the end of the year.

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[7]GAO, *Information Technology: HUD Needs to Strengthen Its Capacity to Manage and Modernize Its Environment,* GAO-09-675 (Washington, D.C.: July 31, 2009).
[8]GAO, *HUD Information Technology: More Work Remains to Implement Necessary Management Controls*, GAO-12-580T (Washington, D.C.: Mar. 29, 2012).

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GAO

Background

- In June 2013, we reported on HUD's project management and found that it had not yet fully implemented key practices.[9] Specifically, while the department had established a project management framework, this framework had been inadequately applied. Accordingly, we made recommendations aimed at improving HUD's project management practices. In August 2013, the department provided a set of planned actions it expects to take toward addressing these recommendations by the end of June 2014.

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[9]GAO-13-455.

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GAO

Statutory Conditions

HUD's Fiscal Year 2013 IT Expenditure Plan Satisfied Statutory Conditions

HUD's fiscal year 2013 expenditure plan satisfied the two sets of statutory conditions contained in the appropriations act.

For the first set of statutory conditions, the plan identified for each project functional and performance capabilities to be delivered, expected mission benefits, estimated life-cycle costs, and planned key milestones. For example, for the FHA Transformation's Portfolio Evaluation Tool project, the plan identified functional capabilities such as the ability to produce on-demand reports to assess financial impacts and risks. For this project, the plan also identified performance capabilities such as improving the processing time of current operations by 99.94 percent.

For the second set of conditions, the plan demonstrated that each project was in compliance with the department's enterprise architecture, was being managed in accordance with applicable life-cycle management policies and guidance, conformed to capital planning and investment control requirements, and was supported by an adequately staffed project office. For example, the plan included for the Next Generation Management System's Affordable Housing Life-cycle Information Center project an assessment demonstrating its conformance with Office of Management and Budget and HUD requirements for selecting and controlling investments.

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GAO **Statutory Conditions**

By meeting these conditions, the plan should provide HUD's appropriations committees with visibility into the 16 IT projects under way in order to inform decisions related to fiscal year 2013 funding requested.

Tables 2 and 3 provide descriptions of the two sets of statutory conditions and our assessment of the department's plan against these conditions.

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GAO

Statutory Conditions

Table 2: GAO Assessment of HUD's Expenditure Plan against the First Set of Statutory Conditions

Description	GAO assessment
Functional and performance capabilities: Information regarding system capabilities should be defined to a level that permits meaningful understanding of what the system is to do (functions) and how well the system is to perform these functions (performance). These capabilities should be defined to a level that permits meaningful understanding of what capabilities are to be delivered and measurement of progress in doing so.	Functional and performance capabilities to be delivered were identified for projects included in the expenditure plan. For example, for the FHA Transformation's Portfolio Evaluation Tool project, the plan identified functional capabilities such as the ability to produce on-demand reports to assess financial impacts and risks. For this project, the plan also identified performance capabilities such as improving processing time of current operations by 99.94 percent. Further, for the Legal Matter and Workload Management System project, the plan stated that one of the capabilities would be to allow Office of General Counsel management and staff to track attorney workload, as well as to document litigation, enforcement actions, legislative reviews, and budgetary actions.
Mission benefits: The benefits to accrue from a proposed system should be specific and measurable, and should be linked to specific capabilities.	The plan identified expected mission benefits to be realized for each project. For example, for the Next Generation Management System's Cash Management project, the plan specifically described measurable mission benefits, such as reducing the amount of excess housing assistance funds disbursed to less than 3 percent of total disbursements. Also, for the HUD Enforcement Management System project, the plan identified specific and measureable benefits, such as reducing the time required to build a joint case file by 30 percent. The plan also linked mission benefits to organizational reporting and data-sharing capabilities. Additionally, the plan identified how the mission benefits for each of the projects aligned with HUD's strategic plan. For example, the plan described how the Development Application Processing project supports the department's goals for risk management, fraud protection, and more efficient automated processes.
Life-cycle costs: A project's life-cycle cost estimate should include all direct and indirect costs associated with planning, designing, developing, procuring, deploying, operating and maintaining, and disposing of the system. Estimates should include enough detail to understand and measure funds for major project work activities and deliverables.	Estimated costs for each project were identified in the plan. For example, for the HUD Enforcement Management System project, the plan identified estimated costs of about $3 million associated with planning, design, and development activities, as well as costs associated with operating and maintaining the system in future years. Further, the plan provided costs for the New Core System project that included details on the project work activities and deliverables.
Key Milestones: Project milestones should be tied to the capabilities to be delivered and should permit progress to be measured.	The plan identified planned key milestones for each project. For example, for the Next Generation Management System's Affordable Housing Data Architecture project, the plan stated that requirements for the data models intended to support the department's affordable housing programs would be defined by April 2014. Further, for the Next Generation Management System's Integrated Budget Forecasting Model project, the plan described forecasting and dashboard reporting capabilities to be implemented by August 2014.

Source: GAO analysis of HUD data.

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Statutory Conditions

Table 3: GAO Assessment of HUD's Expenditure Plan against the Second Set of Statutory Conditions

Description	GAO assessment
Enterprise architecture: An organization's IT investments should comply with an EA. Approved EA artifacts and products should include information regarding an organization's IT projects and how those projects are categorized and aligned relative to segments within the EA.	The department demonstrated how the projects included within the expenditure plan were categorized and aligned to segments (e.g., human resource management and subsidies management) of the department's EA. For example, the plan demonstrated that Next Generation Management System's Portfolio and Risk Management Tool project was aligned to the subsidies management segment. In addition, the plan demonstrated alignment of the two Physical Assessment Sub-System projects—Housing Choice Vouchers Physical Inspection Protocol and Photo for Physical Inspection—with the controls and oversight segments of the EA. The department also provided EA compliance checklists that further demonstrated alignment for the projects, as applicable.
Capital planning and investment control: An organization's performance can be dramatically impacted by effective management of its IT investments. Effective management includes reviewing IT projects to ensure that they conform to the Office of Management and Budget's requirements for selecting and controlling investments. Additionally, organizations should establish their own capital planning and investment control requirements.	The expenditure plan demonstrated conformance with the department's capital planning and investment control requirements for each project. For example, the plan included for the Next Generation Management System's Affordable Housing Life-cycle Information Center project an assessment demonstrating its conformance with Office of Management and Budget and HUD requirements for selecting and controlling investments. Similarly, for the Facilities Asset Management Enterprise System project, the plan included a description of how it conformed to investment control requirements. The plan also described the fiscal year 2013 IT budget decision criteria and capital planning requirements.
Life-cycle management: Following a life-cycle management process in which key activities and phases of a project are conducted in a logical and disciplined manner helps ensure that IT modernization projects achieve intended goals within established cost and risk levels.	HUD's plan demonstrated how each project was managed in accordance with life-cycle management processes—specifically, the department's project management framework. For example, the plan included the specific artifacts for the New Core System project related to its life cycle, such as a project charter and risk management plan. Additionally, the plan described how the FHA Transformation's Lender Electronic Assessment Portal Loan Review System project followed a logical and disciplined process using the project management framework. The plan also described improvements to the project management framework.
Staffed project office: Having adequate project staff is essential to a successful systems modernization project. Understanding the gaps in staffing resources and indentifying qualifications of key staff are critical in determining whether or not sufficient staffing resources exist to achieve the desired project outcomes.	The expenditure plan demonstrated how each project was supported by an adequately staffed project office by providing a list of team members and their respective roles. For example, for the Tenant Rental Assistance Certification System Low Income Housing Tax Credit project, the plan provided a list of all key staff positions, including project managers. Similarly, for the Next Generation Management System's Integrated Budget Forecasting Model project, the plan included a list of staff resources and provided evidence of the qualifications for key staff, such as project management certification.

Source: GAO analysis of HUD data.

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GAO

Observations

The Plan Outlined Management Controls and Detailed Individual Projects but Did Not Describe Progress toward Institutionalizing the Controls or an Overall Approach for Modernization Efforts

Beyond its satisfaction of the statutory conditions outlined in the appropriations act, we have two observations about HUD's fiscal year 2013 expenditure plan.

- The plan outlined IT management controls, but it did not describe progress toward institutionalizing these controls.

- Details on individual projects were included in the plan, but an overall approach for modernization efforts was lacking.

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GAO   **Observations**

Observation 1: The Fiscal Year 2013 Plan Outlined IT Management Controls, but It Did Not Describe Progress toward Institutionalizing These Controls

A federal agency's ability to effectively and efficiently modernize its existing environment depends greatly on how well it employs certain IT management controls that are embodied in statutory requirements, federal guidance, and best practices.[10] Establishing a means, such as an expenditure plan, for evaluating progress toward institutionalizing management controls enables effective oversight and demonstrates management commitments. Sufficiently institutionalizing these controls as repeatable processes increases the reasonable assurance that modernization efforts will be successfully completed.

Over the past 4 years, HUD has made progress in establishing and implementing management controls, but as we have previously reported, work remains to fully institutionalize them.[11] The fiscal year 2013 expenditure plan summarized management controls including EA, life-cycle management, and human capital.

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[10]40 U.S.C. §§ 11303, 11312, 11313, 11315; OMB, *Management of Federal Information Resources*, Circular A-130 (Washington, D.C.: Nov. 28, 2000); GAO, *Organizational Transformation: A Framework for Assessing and Improving Enterprise Architecture Management* (Version 2.0), GAO-10-846G (Washington, D.C.: August 2010), and *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity,* GAO-04-394G (Washington, D.C.: March 2004).
[11]GAO-13-455, GAO-12-654, GAO-12-580T, and GAO-11-762.

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GAO Observations

Specifically, the plan outlined integrated management controls the department established in 2010 and how the controls are to be used. For example, the plan stated that the department's target EA is to serve as a guide for developing IT solutions and budget decision making.

However, the 2013 plan did not describe what progress had been made toward establishing controls or commit to time lines for activities and next steps needed to fully implement and institutionalize the controls.

- For example, the plan stated that a process to develop a methodology for standardizing life-cycle cost estimates throughout the department would be started, but it did not include information on what specific steps would be taken or define a time line for implementing the methodology.

- Similarly, the plan stated that policies for functions such as performance and risk management were under development, but it did not disclose a time line for finalizing these policies.

- Further, the plan described intended improvements to project management practices and provided an associated time line for doing so. However, this time line was limited to activities intended to be accomplished prior to the submission of the expenditure plan in August 2013, and there was no indication if the planned activities were completed.

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GAO

Observations

Moreover, the plan did not indicate whether activities and next steps related to implementing management controls identified in prior plans had been completed, which would enable oversight in monitoring progress. Specifically, while the 2010 and 2011 plans included next steps for implementing certain controls such as EA and project management practices, the 2013 plan did not build upon these steps or describe follow-on activities for the continuation of commitments made to fully implement management controls. For example, the 2010 plan described efforts to develop a target EA, and the 2011 plan followed up with a time line to establish associated architecture segments. However, the 2013 plan did not describe the status of establishing the architecture segments or what next steps were needed to fully transition the department's systems and infrastructure to the target EA.

In addition, the 2013 plan's discussion on cost estimating was limited to the development of a methodology and did not indicate whether progress had been made toward establishing tools and guidelines as mentioned in the 2011 plan. Likewise, the 2013 plan briefly noted that policies were under development; however, it did not indicate if associated procedures, standards, or guidance would also be developed as called for in the 2011 plan.

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GAO   **Observations**

HUD officials, including the acting Chief Information Officer, acknowledged that while activities to implement management controls remain under way, the department did not incorporate the status of institutionalizing the controls because they focused on satisfying the statutory conditions and did not view the plan as an oversight tool or mechanism for evaluating progress toward institutionalizing management controls.

Until HUD establishes a means for evaluating progress toward institutionalizing management controls as repeatable processes and commits to time lines for activities and next steps, the department may lack reasonable assurance that modernization projects under way or planned will be completed successfully.

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GAO

Observations

Observation 2: Details on Individual Projects Were Included in the Fiscal Year 2013 Plan, but an Overall Approach for Modernization Efforts Was Lacking

Our experience with major modernization efforts has shown that having sound management for planning, oversight, and reporting progress is essential to achieving successful outcomes. Effective planning includes defining the scope of the effort, an implementation strategy, and a schedule. Furthermore, as we have previously reported, establishing results-oriented (i.e., objective, quantifiable, and measurable) goals and measures provides the information needed to effectively manage and oversee large modernization efforts.[12]

HUD's plan included details on the scope, implementation strategy, and schedule for individual projects requesting fiscal year 2013 funding, but lacked a similar discussion regarding the department's overall approach for priority modernization efforts aimed at improving its IT environment; the plan also did not discuss goals and measures for effectively managing and overseeing the overall modernization effort.

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[12]See, 40 U.S.C. §§ 11303, 11313; 5 U.S.C. § 306; 31 U.S.C. §§ 1115, 1116; GAO, *OPM Retirement Modernization: Progress Has Been Hindered by Longstanding Information Technology Management Weaknesses*, GAO-12-430T (Washington, D.C.: Feb. 1, 2012), and GAO-09-529.

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GAO **Observations**

For example, according to the plan, the intent of one individual project—the HUD Enforcement Management System[13]—is to integrate six systems (scope) by developing software modules (strategy) that are expected to be implemented by August 2014 (schedule).

Further, the plan described the status of individual projects associated with three of the department's seven priority modernization efforts.[14] For instance, it stated that the Portfolio Evaluation Tool project associated with the FHA Transformation priority modernization effort is intended to implement functionality to address single family housing requirements for credit risk models (scope) that builds upon developing tools for managing risks associated with the department's mortgage portfolios (strategy) and is expected to be implemented by March 2015 (schedule).

However, the 2013 plan did not articulate the department's overall approach to completing the seven priority modernization efforts and related projects. Specifically, the plan did not include the scope, implementation strategy, and schedule for completing the priority modernization efforts aimed at transforming the department's infrastructure and systems or specify how unrelated individual projects—such as the HUD Enforcement Management System project—would ultimately be incorporated into the department's overall modernization approach.

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[13]This project is not associated with HUD's seven priority modernization efforts.
[14]The three priority modernization efforts are FHA Transformation, New Core System, and Next Generation Management System.

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GAO

Observations

With regard to scope, although the plan discussed projects related to three of the seven priority modernization efforts, it did not discuss the scope of the remaining four.[15] Specifically, the plan did not state whether the department intends to continue its focus on the seven priority efforts or if new priorities would be established.

Further, the plan discussed individual projects unrelated to the seven priority efforts. For example, 8 of the 16 individual projects included in the 2013 plan were associated with the department's priority modernization efforts, while the other 8 individual projects were unrelated. Additionally, of the unrelated projects, 6 requested funding for changes to legacy systems and, according to the plan, were not expected to result in modernizing the department's IT environment.[16]

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[15]These priority modernization efforts are Homeless Emergency Assistance and Rapid Transition to Housing and eGrants Management Implementation, HUD Agency-Wide Place-Based Performance Management System, Human Resources End-to-End, and HUD Integrated Acquisition Management System.
[16]These individual projects are Development Application Processing, Facilities Asset Management Enterprise System, Multifamily Delinquency & Default Reporting System, Tenant Rental Assistance Certification Low Income Housing Tax Credit, and two Physical Assessment Sub-System projects: Housing Choice Vouchers Physical Inspection Protocol and Photo for Physical Inspections.

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GAO
Observations

The plan also did not include a discussion of the department's overall implementation strategy to guide modernization efforts that may need additional funding beyond what was requested in fiscal year 2013. In particular, the plan stated that future funding will be needed for 5 of the 16 individual projects,[17] but it did not disclose when the department expected to request funding for these projects or clarify how it would continue to pursue funding for the priority modernization efforts identified in prior plans.

For instance, the plan stated that the Facilities Asset Management Enterprise System project requested partial funding in fiscal year 2013 to enhance the legacy system and complete an alternative analysis for developing a new enterprise-wide system in the future. However, the plan did not state when additional funding is expected to be needed for the new system or whether this project would be incorporated into the department's overall approach for modernizing its IT environment.

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[17]The 2013 plan indicates that FHA Transformation's Loan Review System, Facilities Asset Management Enterprise System, New Core System, and the Next Generation Management System's Integrated Budget Forecasting Model and Affordable Housing Life-cycle Information Center projects will need additional funding.

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GAO   **Observations**

Moreover, the plan did not include a schedule for completing the priority modernization efforts or pursuing other unrelated individual projects in the future. Specifically, as we previously mentioned, three of HUD's priority modernization efforts were discussed in the plan, but a schedule for fully implementing these or the other remaining efforts was not included. For example, the plan indicated that initial deployment for a priority modernization effort—HUD's Integrated Acquisition Management System—was funded with 2010 monies during fiscal years 2010 through 2012. However, the plan did not indicate when this system is expected to be fully operational and integrated with HUD's financial systems.[18]

In addition, the plan did not include results-oriented (i.e., objective, quantifiable, and measurable) goals or measures that would enable effective oversight and monitoring of projects associated with modernization efforts intended to address long-standing challenges with the department's IT environment. Specifically, while the plan identified mission benefits for individual projects, it did not include goals or measures that could be used to gauge overall progress toward accomplishing the priority modernization efforts or future unrelated individual projects, such as implementing a new enterprise-wide system for the Facilities Asset Management Enterprise System.

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[18]In November 2013, HUD officials, including the Deputy Secretary and the acting Chief Information Officer, stated that the department may terminate the Integrated Acquisition Management System and acquire the same functionality this system was intended to provide as part of the New Core System modernization effort. However, the department has not yet communicated these potential plans as part of an overall modernization approach.

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GAO

Observations

According to HUD officials, including the acting Chief Information Officer, the department's overall priorities for modernization have not significantly changed since the 2011 plan, although new projects have been added that were different from those proposed and funded in prior years. Further, they stated that the department continues to be focused on simplifying its IT environment, reducing the costs of operating, and maintaining legacy costs. The officials acknowledged that the changes to the department's priorities and associated goals and measures were not included in the 2013 plan, as was done in prior-year plans.

Without articulating the scope, implementation strategy, and schedule for its overall approach to accomplishing modernization efforts, with related goals and measures for effective oversight, HUD's ability to effectively manage improvements to its current IT environment may be limited.

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GAO   **Conclusions**

HUD's fiscal year 2013 expenditure plan satisfied both sets of statutory conditions. As a result, the plan should provide HUD's appropriations committees with visibility into the 16 IT projects under way in order to inform decisions related to fiscal year 2013 funding requested.

However, while the department outlined IT management controls, the plan did not describe the extent to which progress toward establishing controls had been made or commit to time lines for activities and next steps needed to fully implement and institutionalize the controls. Further, while the plan discussed individual projects, it did not articulate the department's overall approach (including a defined scope, implementation strategy, or schedule) for completing the priority modernization efforts or provide related outcome-based goals and measures. Overall, the 2013 plan's deficiencies represent a step back from the department's previously submitted plans and limit its value as a tool for enabling effective oversight.

Until HUD establishes a means for evaluating progress toward institutionalizing IT management controls and articulates an approach with related goals and measures for overseeing its overall modernization effort, the department may lack reasonable assurance that projects under way or planned will be completed successfully, and its ability to effectively manage improvements to its current IT environment may be limited.

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GAO   **Recommendations for Executive Action**

To ensure effective management and modernization of HUD's IT environment, we
recommend that the Secretary of Housing and Urban Development direct the
department's Chief Information Officer to

- establish a means for evaluating progress toward institutionalizing management
  controls and commit to time lines for activities and next steps, and

- define the scope, implementation strategy, and schedule of its overall modernization
  approach, with related goals and measures for effectively overseeing the effort.

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GAO

Agency Comments and Our Evaluation

HUD's Deputy Chief Information Officer for Customer Relationships and Performance Management provided comments via e-mail on a draft of this briefing. In those comments, the official expressed appreciation for our determining that HUD's expenditure plan met the two sets of statutory conditions. In addition, the official stated that the department concurred with our recommendations and offered views on its intent to address them. Regarding the first recommendation on institutionalizing management controls, the official indicated that the department intended to identify metrics and best practices. Concerning the second recommendation, the official commented that setting goals and plans is contingent upon available funding, which drives the department's modernization efforts.

We support the department's interest in identifying metrics and best practices for institutionalizing management controls, and consider its intent to address our recommendation a step in that direction. Furthermore, while we acknowledge that modernization efforts may be limited by available funding, we maintain our position that defining an overall approach with associated goals and measures may increase the likelihood that, even when available funding is limited, improvements to the department's IT environment will be more effectively managed.

The department also provided technical comments, which we incorporated as appropriate.

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Appendix II: Comments from the Department of Housing and Urban Development

U.S. DEPARTMENT OF HOUSING AND URBAN DEVELOPMENT
WASHINGTON, DC 20410-3000

CHIEF INFORMATION OFFICER

FEB 0 4 2014

Ms. Valerie C. Melvin
Director, Information Management
  and Technology Resources Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Melvin:

The U.S. Department of Housing and Urban Development has reviewed the draft report entitled *Information Technology: HUD's Expenditure Plan Satisfied Statutory Conditions; Sustained Controls and Modernization Approach Needed* (GAO-14-283), January 2014.

Thank you for the opportunity to respond to the GAO draft report. We concur with the recommendations and have no comments on the draft report. When the final report is released, the Department will provide a corrective action plan to address the recommendations for executive action.

If you have questions or require additional information, please contact Joyce M. Little, Chief, Audit Compliance Branch, at (202) 402-7404 (Joyce.M.Little@hud.gov) or Juanita L. Toatley, Audit Liaison, Audit Compliance Branch, at (202) 402-3555 (Juanita.L.Toatley@hud.gov).

Sincerely,

Kevin R. Cooke, Jr.
Acting Chief Information Officer

Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact

Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov

Staff Acknowledgments

In addition to the contact named above, Mark T. Bird (Assistant Director), Teresa M. Yost (Assistant Director), Donald A. Baca, Kami J. Corbett, Amanda C. Gill, and Lee A. McCracken made key contributions to this report.