

May 2012

# INFORMATION TECHNOLOGY

## HUD's Fiscal Year 2011 Expenditure Plan Satisfies Statutory Conditions



## Why GAO Did This Study

The Department of Housing and Urban Development (HUD) relies extensively on information technology (IT) in carrying out its home-ownership and community development missions. Despite this role, HUD's IT environment has not effectively supported its business operations, and the department has been working to modernize its IT infrastructure and systems through its Transformation Initiative. In addition, HUD has been working to institutionalize key IT management controls to help ensure the success of these efforts. To provide oversight and inform decision making, Congress established limitations on funding for HUD's modernization efforts. Specifically, the 2011 appropriations act required HUD to submit an expenditure plan that satisfied two sets of statutory conditions before obligating more than 35 percent of the funds available.

To satisfy the first set of conditions, the plan had to identify for each of HUD's seven modernization projects, functional and performance capabilities, expected mission benefits, estimated lifecycle costs, and planned key milestones. For the second set of conditions, the plan had to demonstrate that each project is supported by an adequately staffed project office, conforms to capital planning and investment control requirements, complies with HUD's enterprise architecture, and is being managed in accordance with applicable lifecycle policies. Congress also required that GAO review the plan. To do this, GAO reviewed the plan and supporting documentation and determined whether it contained information to address both sets of statutory conditions.

View [GAO-12-654](#). For more information, contact Valerie C. Melvin at (202) 512-6304 or [melvinv@gao.gov](mailto:melvinv@gao.gov).

May 2012

## INFORMATION TECHNOLOGY

### HUD's Fiscal Year 2011 Expenditure Plan Satisfies Statutory Conditions

## What GAO Found

HUD's fiscal year 2011 expenditure plan, which seeks to obligate about \$114 million for seven modernization projects (see table), along with enterprisewide services and program management, satisfies both sets of statutory conditions contained in the 2011 appropriations act. Specifically, for the first set of statutory conditions, the plan identified the functional and performance capabilities, mission benefits, lifecycle costs, and key milestones for each of the projects. For example, the plan described specific and measurable mission benefits associated with HUD's Place-Based Performance Management System project, such as reducing the time to compile performance information from 50 hours to 20 hours. In addition, the plan described costs associated with the lifecycle of each project, providing details on funds needed for major work activities.

The plan also satisfied the second set of statutory conditions by describing how each project is supported by an adequately staffed project office, conforms to capital planning and investment control requirements, complies with the department's enterprise architecture, and is being managed in accordance with applicable lifecycle management policies and guidance. For example, the plan categorized each project according to a segment of the department's evolving enterprise architecture (e.g., grants management and financial management).

As a result, HUD's plan provides key information that should help congressional appropriations committees to oversee the department's modernization projects and hold it accountable for project outcomes. However, understanding the extent to which HUD is following through on the cost, schedule, and performance goals set forth in the plan requires additional review. Toward this end, GAO has received congressional direction to evaluate HUD's implementation of project management practices such as contractor management and cost estimation for selected IT modernization projects. This work should provide more specific insight regarding HUD's overall management of its modernization projects and determine the extent to which project benefits are being achieved.

Project	Purpose
Electronic Grants Management	Reengineer processes and implement an automated system for managing grants
Place-Based Performance Management System	Provide business intelligence and geospatial tools for assessing progress toward achieving strategic goals
Federal Housing Administration Transformation	Implement a commercially available industry-standard financial infrastructure for housing insurance programs
HUD Integrated Acquisition Management System	Integrate an acquisition management system that is compliant with federal regulations
HUD Integrated Financial Management Improvement Project	Deploy a commercial off-the-shelf integrated financial management system to enable compliance with relevant financial management laws and regulations
Human Resources End-to-End	Integrate human resources systems and tools to allow for automated recruitment and hiring documentation
Next Generation Management System	Reengineer management processes to establish a technical infrastructure to integrate disparate systems

Source: GAO analysis of HUD data.

HUD reviewed a draft of this report and stated that the department's position had been adequately represented.

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## Abbreviations

CIO	Chief Information Officer
EA	enterprise architecture
FHA	Federal Housing Administration
HEARTH	Homeless Emergency Assistance and Rapid Transition to Housing
HUD	Department of Housing and Urban Development
IT	information technology
OCIO	Office of the Chief Information Officer

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**United States Government Accountability Office**  
**Washington, DC 20548**

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May 24, 2012

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 John W. Olver  
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 is to create strong, sustainable, inclusive communities and quality, affordable homes for all. Information technology (IT) plays a critical role in HUD's ability to carry out its mission. For instance, the department reports that its business operations rely on IT to process over 50,000 loan requests per week, over 12,000 service calls per month, and more than 7,000 grant requests annually for each of its major grant programs. Despite this role, HUD's current IT environment has not effectively supported its business operations. We have previously reported that its information systems were overlapping and duplicative, not integrated,

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necessitated manual workloads, and employed antiquated technologies that were costly to maintain.<sup>1</sup>

The department has been working to modernize its IT infrastructure and systems through its Transformation Initiative. This initiative represents a strategy for reforming the way the department does business, and comprises four components: (1) research, evaluation, and program metrics; (2) program demonstrations; (3) technical assistance and capacity building; and (4) information technology. To provide oversight and inform decision making, Congress established limitations on funding for the Transformation Initiative IT modernization projects. Specifically, the appropriations act for fiscal year 2011 stated that the department may not obligate more than 35 percent of the funds made available until the Secretary submitted to the Senate and House Committees on Appropriations an expenditure plan that satisfied two sets of statutory conditions and was reviewed by GAO.<sup>2</sup>

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

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<sup>1</sup>GAO, *Information Technology: HUD Needs to Strengthen Its Capacity to Manage and Modernize Its Environment*, [GAO-09-675](#) (Washington, D.C.: July 31, 2009); *Information Technology: HUD Needs to Better Define Commitments and Disclose Risk for Modernization Projects in Future Expenditure Plans*, [GAO-11-72](#) (Washington, D.C.: Nov. 23, 2010); *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); and *HUD Information Technology: More Work Remains to Implement Necessary Management Controls*, [GAO-12-580T](#) (Washington, D.C.: March 29, 2012).

<sup>2</sup>Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. No. 112-10, § 2259, 125 Stat. 38, 197-98 (April 15, 2011).

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In January 2012, HUD submitted its expenditure plan for fiscal year 2011.<sup>3</sup> The plan seeks to obligate a total of \$114.1 million and includes seven modernization projects (\$81.1 million),<sup>4</sup> a group of enterprisewide services (\$21.0 million), and support for program management (\$12.0 million).

Our objective was to determine whether HUD's 2011 expenditure plan satisfied the statutory conditions. On March 27, 2012, we provided your offices with briefing slides and met with your staff to discuss the results of our review. The purpose of this report is to provide the published briefing slides to you and to officially transmit our study's results to the Secretary of Housing and Urban Development. The slides, which discuss our scope and methodology, are included in appendix I.

We performed our work in support of this performance audit at HUD headquarters in Washington, D.C., from January 2012 to May 2012, 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.

In summary, our review highlighted the following:

HUD's fiscal year 2011 expenditure plan satisfied the statutory conditions contained in the appropriations act. Specifically, for the first set of statutory conditions, the plan identified the functional and performance capabilities, mission benefits, lifecycle costs, and key milestones for each of the seven IT modernization projects. For example, in describing key milestones for the Next Generation Management System project,<sup>5</sup> the

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<sup>3</sup>Transformation Initiative appropriations made available in fiscal year 2011 are authorized for obligation by the department through September 30, 2013.

<sup>4</sup>The seven projects are Electronic Grants Management, Federal Housing Administration Transformation, HUD Integrated Acquisition Management System, HUD Integrated Financial Management Improvement Project, Human Resources End-to-End Solution, Next Generation Management System, and Place-based Performance Management System.

<sup>5</sup>The purpose of the Next Generation Management System is to reengineer management processes to establish a technical infrastructure that will integrate disparate systems and provide consistent information in order to support rental housing assistance services.

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plan stated that its budget forecasting tool, which is intended to support the end-to-end lifecycle of financial management, was expected to be delivered by May 2012. In addition, HUD's plan described costs associated with the lifecycle of each project by providing details on funds needed for major work activities and deliverables.

The plan also satisfied the second set of conditions by demonstrating that each project is supported by an adequately staffed project office; conformed to capital planning and investment control requirements; complied with the department's enterprise architecture; and had been managed in accordance with applicable lifecycle management processes. For example, the plan categorized each project by segment architecture (e.g., grants management and financial management) relative to HUD's evolving architecture.

As a result, HUD's expenditure plan provides key information that should help the appropriations committees to oversee the seven modernization projects and hold the department accountable for project results. However, understanding the extent to which HUD is following through on the cost, schedule, and performance goals set forth in the plan requires additional review. Accordingly, the fiscal year 2012 appropriations conference report has directed us to evaluate HUD's implementation of project management practices, including contractor oversight and cost estimation for selected IT modernization projects. We have also been directed to assess HUD's institutionalization of IT governance.<sup>6</sup> This work should allow additional and more specific insight regarding the overall management and oversight of the department's IT modernization projects' governance and facilitate efforts to determine the extent to which project benefits are being achieved.

HUD's Acting Deputy Chief Information Officer for Business and IT Modernization provided comments via e-mail on a draft of this report. In those comments, the official stated that the agency comments on the briefing slides incorporated into this report (see appendix I) adequately represented the department's position.

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<sup>6</sup>This direction is contained in the Senate Appropriations Committee report, S. Rep. No. 112-83, at 141-42 (2011), as approved by the conference committee in the Explanatory Statement, H.R. Conf. Rep. No. 112-284, at 286 (2011), accompanying the Consolidated and Further Continuing Appropriations Act, 2012, Pub. L. No. 112-55, 125 Stat. 552, 691-92 (Nov. 18, 2011).

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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. Copies of this report will also be 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](mailto: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 II.



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



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# Appendix I: Briefing for Staff Members of the Subcommittees on Transportation, Housing and Urban Development, and Related Agencies, Senate and House Committees on Appropriations

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## Information Technology: HUD's Fiscal Year 2011 Transformation Initiative Expenditure Plan Satisfies Statutory Conditions

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

Senate and House Committees on Appropriations

March 27, 2012



## Contents

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## Introduction

Information technology (IT) plays a critical role in the Department of Housing and Urban Development's (HUD) ability to carry out its home-ownership and community development mission. For instance, the department reports that its business operations rely on IT to process over 50,000 loan requests per week, over 12,000 service calls per month, and more than 7,000 grant requests annually for each of its major grant programs.

Despite this role, HUD's current IT environment has not effectively supported its business operations. As we have previously reported,<sup>1</sup> its information systems are overlapping and duplicative, are not integrated, necessitate manual workloads, and employ antiquated technologies that are costly to maintain.

The department has been working to modernize its IT infrastructure and systems through its Transformation Initiative, which consists of four components: (1) research, evaluation, and program metrics; (2) program demonstrations; (3) technical assistance and capacity building; and (4) information technology.

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<sup>1</sup>GAO, *Information Technology: HUD Needs to Strengthen Its Capacity to Manage and Modernize Its Environment*, GAO-09-675 (Washington, D.C.: July 31, 2009).



## Introduction

In order to provide oversight and inform decision-making, Congress established limitations on funding for HUD's Transformation Initiative IT modernization projects through appropriations acts in fiscal years 2010 and 2011.<sup>2</sup> These acts require that the Secretary of HUD submit to the Senate and House Committees on Appropriations an expenditure plan for IT modernization that satisfies two sets of statutory conditions and is reviewed by GAO.

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 lifecycle costs, and planned key milestones. For the second set of conditions, the plan must demonstrate that each project is supported by an adequately staffed project office, conforms to capital planning and investment control requirements, complies with the department's enterprise architecture (EA), and is being managed in accordance with applicable lifecycle management policies and guidance.

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<sup>2</sup>Department of Housing and Urban Development Appropriations Act, 2010, Pub. L. No. 111-117, div. A, tit. II, 123 Stat. 3074, 3093-3094 (Dec. 16, 2009); and Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. No. 112-10, § 2259, 125 Stat. 38, 197-98 (April 15, 2011).



## Introduction

In November 2010, we reported on HUD's first fiscal year 2010 expenditure plan and found that the plan did not satisfy statutory conditions.<sup>3</sup> Accordingly, we made recommendations aimed at addressing weaknesses in the plan. The department subsequently revised its plan and, in September 2011, we reported that the revised plan satisfied the conditions.<sup>4</sup>

On January 3, 2012, HUD submitted its fiscal year 2011 expenditure plan that seeks to obligate a total of \$114.1 million and includes seven modernization projects (\$81.1 million), a group of enterprisewide services (\$21.0 million), and support for program management (\$12.0 million).<sup>5</sup>

<sup>3</sup>GAO, *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).

<sup>4</sup>GAO, *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).

<sup>5</sup>The seven projects are Electronic Grants Management, Federal Housing Administration Transformation, HUD Integrated Acquisition Management System, HUD Integrated Financial Management Improvement Project, Human Resources End-to-End Solution, Next Generation Management System, and Place-Based Performance Management System—see table 1 for descriptions of the projects.



## Objective, Scope, and Methodology

As agreed with HUD's appropriations subcommittees, our objective was to determine whether the department's expenditure plan satisfies statutory conditions.

To accomplish our objective, we analyzed the expenditure plan to determine whether it contained, for all seven IT modernization projects, information to address each set of statutory conditions, as specified in the act.<sup>6</sup> For both 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.

Specifically, for the first set of conditions, we reviewed the contents of the plan, including its supporting artifacts, to determine whether it contained the functional and performance capabilities to be delivered, expected mission benefits, estimated lifecycle costs, and planned key milestones. To this end, we reviewed project summaries, charters, and associated artifacts including cost data, and compared the information against key project management practices. Our review did not evaluate the extent to which the projects are achieving the established cost, schedule, and performance goals described in the plan.

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<sup>6</sup>Pub. L. No. 112-10.



## Objective, Scope, and Methodology

For the second set of conditions, we evaluated the plan and supporting artifacts to determine whether it demonstrated support by an adequately staffed project office, conformance with capital planning requirements, compliance with the department's EA, and management in accordance with applicable lifecycle policies and guidance. In particular, we reviewed staffing plans, capital planning meeting minutes, EA segment reports, and lifecycle artifacts. Because HUD is working to establish key IT management controls, we evaluated these controls relative to the department's progress in implementing them.<sup>7</sup>

We determined that information provided by HUD, such as action plans, executive status reports, cost estimates, and schedules, were sufficiently reliable for the purposes of our study. To arrive at this assessment, we conducted limited 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.

<sup>7</sup>HUD established policies for two of the four IT management controls that comprise the second set of conditions, and is in the process of implementing these policies. Specifically, in May 2011, the department established a policy for lifecycle management, and in July 2011, a policy for capital planning and investment control. Additionally, in January 2011, the department developed a new target EA and has been working to establish an associated policy. Therefore, the plan was assessed against in-process controls for capital planning and investment control, EA, and lifecycle management. HUD has fully implemented the remaining control, IT project staffing.



## Objective, Scope, and Methodology

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We conducted this performance audit at HUD headquarters in Washington, D.C., from January 2012 to March 2012 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 objective. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objective.





## Results in Brief

HUD's fiscal year 2011 expenditure plan satisfied both sets of statutory conditions contained in the appropriations act.

Specifically, for the first set of statutory conditions, the plan identified the functional and performance capabilities, mission benefits, lifecycle costs, and key milestones for each of the seven projects. The plan's descriptions of mission benefits for each of the seven projects were specific, measurable, and linked to functional capabilities. For example, the Place-Based Performance Management System project satisfied this element by describing measurable mission benefits, such as reducing the time to compile performance information from 50 hours to 20 hours. In addition, HUD's plan described costs associated with the lifecycle of each project, providing details on funds needed for major work activities and deliverables.

The plan also satisfied the second set of statutory conditions by describing that each project is supported by an adequately staffed project office, conforms to capital planning and investment control requirements, complies with the department's EA, and is being managed in accordance with applicable lifecycle management policies and guidance. For example, the plan categorized each project by segment architecture (e.g., grants management and financial management) relative to HUD's evolving architecture.



## Results in Brief

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As a result, HUD has shown progress toward improving the contents of its plans, and thus provides key information needed by HUD's appropriations subcommittees to oversee these modernization projects and hold the department accountable for project outcomes. However, understanding the extent to which HUD is following through on the cost, schedule, and performance goals set forth in the plan requires additional review. Accordingly, the fiscal year 2012 appropriations conference report has directed us to evaluate HUD's implementation of project management practices, including contractor oversight and cost estimation for selected IT modernization projects. We have also been directed to assess HUD's institutionalization of IT governance. We anticipate initiating aspects of this work later this spring. These future studies should allow additional and more specific insight regarding the overall management and oversight of the department's IT modernization projects' governance and determine the extent to which project benefits are being achieved.

HUD's Acting Deputy Chief Information Officer (CIO) for Business and IT Modernization provided technical comments via e-mail on a draft of this briefing, which we incorporated, as appropriate.



## Background

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HUD's mission is to create strong, sustainable, inclusive communities and quality, affordable homes for all. To carry out this mission, HUD is organized into business areas that perform a range of core functions, including 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 through a HUD-owned corporation.

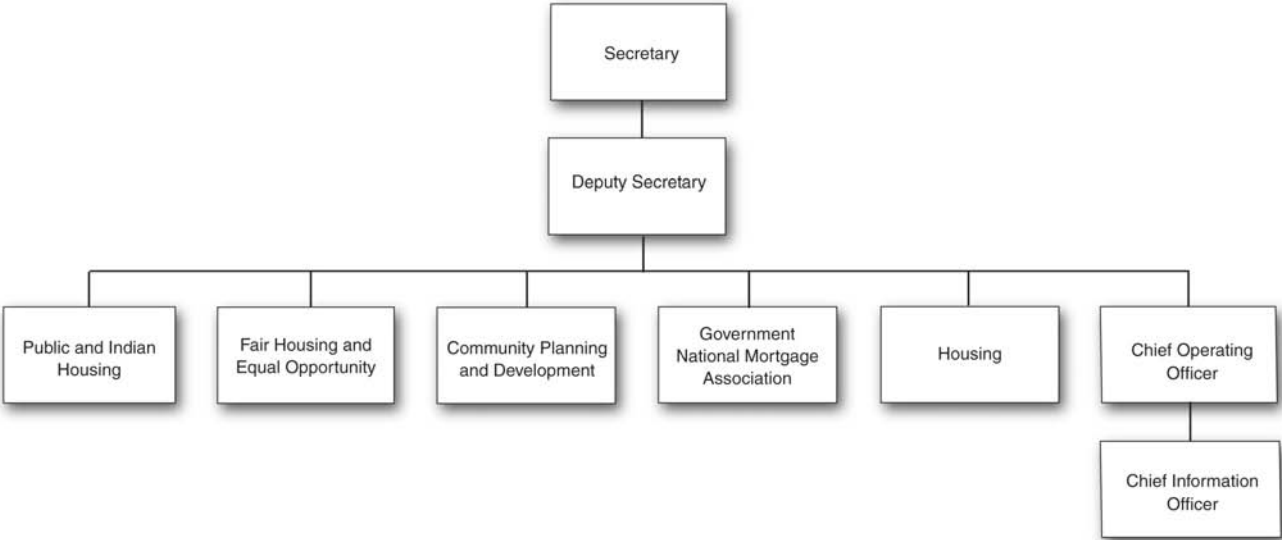
HUD's business areas are aided by several supporting and administrative offices. Supporting offices include the Office of Faith-Based and Neighborhood Partnerships and the Office of Healthy Homes and Lead Hazard Control, which provide key services for the quality and sustainment of mission areas. Administrative offices include the Office of the Chief Financial Officer and the OCIO, which provide management support to several business areas.

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



Background

Figure 1: Simplified HUD Organizational Chart



Source: GAO based on HUD data.



## Background

HUD's OCIO is responsible for developing, modernizing, and enhancing the department's IT environment. In this role, the OCIO is to have direct interaction with IT project managers in order to communicate HUD's processes and guidance for modernizing the department's IT environment.

We reported in July 2009 that the department's information systems are overlapping and duplicative, are not integrated, necessitate manual workloads, and employ antiquated technologies that are costly to maintain.<sup>8</sup> Additionally, we reported that HUD has been working to modernize its IT systems; however, its efforts have been hindered by the lack of institutionalized IT management controls in several key areas, including EA, investment management, and human capital planning.<sup>9</sup> Accordingly, we recommended that the department make improvements in these areas. HUD has made progress in implementing our recommendations; however, more work remains. For example, as we reported in September 2011, HUD anticipated finalizing its human capital plan by December 2011; however, as of March 2012, this plan was not complete.

<sup>8</sup>GAO-09-675.

<sup>9</sup>As we have previously reported, a federal agency's ability to effectively and efficiently maintain and modernize its existing IT environment depends in large part on how well it employs the IT management controls. In brief, an EA includes descriptions of an organization's current and target IT environment; investment management is aimed at selecting, controlling, and evaluating investments in order to ensure value is produced; and human capital management is intended to ensure that an organization has the appropriate knowledge and skills to effectively execute critical IT functions.



## Background

As a result of the previously reported IT management control weaknesses, Congress established limitations on funding for HUD's IT modernization projects through appropriations acts in fiscal years 2010 and 2011.<sup>10</sup> The appropriations acts required HUD to submit annual plans to Congress regarding how the department plans to spend IT modernization funding. Specifically, the appropriations acts provided that HUD may not obligate more than 25 percent in 2010 and 35 percent in 2011 of available funds until the Secretary of HUD submits to the appropriations committees an expenditure plan that satisfies two sets of statutory conditions and is reviewed by GAO.<sup>11</sup>

In addition, the fiscal year 2012 appropriations conference report has directed us to evaluate HUD's implementation of project management practices, including contractor oversight and cost estimation, for selected IT modernization projects.<sup>12</sup> We have also been directed to assess the department's institutionalization of IT governance. We anticipate initiating aspects of this work in late spring 2012.

<sup>10</sup>Pub. L. No. 111-117 and Pub. L. No. 112-10.

<sup>11</sup>To satisfy the first condition, the plan must identify functional and performance capabilities to be delivered, expected mission benefits, estimated lifecycle costs, and planned key milestones for each project. To satisfy the second condition, the plan must demonstrate that each project is supported by an adequately staffed project office, conforms to capital planning and investment control requirements, complies with the department's EA, and is being managed in accordance with applicable lifecycle management policies and guidance.

<sup>12</sup>This direction is contained in the Senate Appropriations Committee report, S. Rep. No. 112-83, at 141-42 (2011), as approved by the conference committee in the Explanatory Statement, H.R. Conf. Rep. No. 112-284, at 286 (2011), accompanying the Consolidated and Further Continuing Appropriations Act, 2012, Pub. L. No. 112-55, 125 Stat. 552, 691-92 (Nov. 18, 2011).



## Background

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In 2010, HUD submitted two initial expenditure plans, which sought to obligate \$42.8 million for its IT modernization projects. In November 2010, we reported that HUD needed to better define the information in its expenditure plan and that the department had made limited progress in establishing key IT management controls. For example, we reported that HUD was working to develop an approach to controlling investment portfolios; however, this approach had not yet been implemented. We also reported that the limited progress was due to a new IT leadership team and the introduction of a new approach to IT governance, which, according to HUD, required time to implement. We recommended, among other things, that HUD ensure that future plans satisfied each element of both statutory conditions. As a result, in February 2011, HUD submitted a revised expenditure plan.



## Background

HUD's revised expenditure plan sought to obligate a total of \$122.5 million of the funds available in fiscal year 2010. In September 2011, we reported that the revised expenditure plan satisfied both sets of statutory conditions. We also reported that HUD had made important progress toward strengthening its IT modernization management capacity; however, critical work remained to ensure that key management controls were fully institutionalized. For example, HUD had yet to establish a departmentwide policy that reflected a commitment to its newly developed EA. Therefore, we recommended that HUD approve a policy to govern its EA prior to further developing segments of its architecture. As of March 2012, according to HUD's Acting Deputy CIO for Business and IT Modernization, the EA policy is in draft and is expected to be submitted for final approval in April 2012.

On January 3, 2012, HUD submitted its fiscal year 2011 expenditure plan pursuant to the 2011 appropriations act. The 2011 expenditure plan seeks to obligate a total of \$114.1 million and includes seven modernization projects (\$81.1 million), a group of enterprisewide services (\$21.0 million), and support for program management (\$12.0 million).<sup>13</sup> Table 1 summarizes the plan's modernization projects and associated requested appropriations.

<sup>13</sup> HUD did not request fiscal year 2011 Transformation Initiative funding for the Human Resources End-to-End project. According to the expenditure plan, the department decided to not pursue contracting options and to discontinue use of the pilot software after encountering various challenges. As a result, the department has developed new plans and is seeking an alternative solution.





## Background

**Table 1: Summary of HUD's IT Modernization Projects and Activities Contained in the Fiscal Year 2011 Expenditure Plan, Submitted on January 3, 2012**

Project	Purpose	Fiscal year 2011 appropriations (in millions)
Electronic Grants Management in support of the HEARTH Act <sup>a</sup>	Reengineer processes and implement an automated system for managing grants that will reduce application time, eliminate manual paper processes, and increase the transparency of grant management information.	\$15.5
Place-Based Performance Management System	Provide business intelligence and geospatial tools for documenting and assessing progress toward achieving strategic goals that will enhance transparency, reduce workload, increase employee productivity, and improve data quality.	5.9
Federal Housing Administration (FHA) Transformation	Implement a commercially available industry standard financial infrastructure for all FHA's insurance programs (Single Family Housing, Multifamily Housing, and the Insured Health Care) that will enable improved lifecycle case management.	38.0
HUD Integrated Acquisition Management System	Integrate an acquisition management system that is compliant with federal regulations to reduce inefficiencies, time, and duplication in the procurement process across office locations to expedite services rendered to the public.	3.1
HUD Integrated Financial Management Improvement Project <sup>b</sup>	Deploy a commercial off-the-shelf integrated financial management system that will allow the department to be compliant with relevant financial management laws and regulations.	4.1
Human Resources End-to-End	Integrate human resources systems and tools to allow for automated recruitment and hiring documentation, reduction of manual data entry, and accelerated candidate decision making.	0.0
Next Generation Management System	Reengineer management processes to establish a technical infrastructure that will integrate disparate systems and provide consistent information in order to support rental housing assistance services.	14.5



## Background

(Table 1 continued)

Project	Purpose	Fiscal year 2011 appropriations (in millions)
Enterprise Services <sup>c</sup>	Support implementation of core projects by deploying enterprisewide services and supporting activities including data management, standardized technologies, and transition costs for migrating to automated systems and processes.	21.0
Program Management Support <sup>c</sup>	Provide program management support for implementation of key management controls.	12.0
<b>Total</b>		<b>\$114.1</b>

Source: GAO analysis of HUD data.

Note: Transformation Initiative appropriations are authorized to be transferred from other accounts and are available for obligation by the department through September 30, 2013.

<sup>a</sup>The Homeless Emergency Assistance and Rapid Transition to Housing (HEARTH) Act of 2009, Pub L. No. 111-22, div. B. (May 20, 2009), among other things, consolidates separate homeless assistance programs.

<sup>b</sup>According to the CIO, the department completed a review of the viability of the HUD Integrated Financial Management Improvement Project in March 2012, and is currently assessing the results of the review.

<sup>c</sup>These activities provide support for the IT modernization projects and data management and were included to disclose and ensure transparency of all funding covered in the plan.



## Results

### Statutory Conditions

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#### *HUD's Fiscal Year 2011 Transformation Initiative Technology Modernization Expenditure Plan Satisfied Statutory Conditions*

HUD's fiscal year 2011 plan satisfied both sets of statutory conditions for the seven modernization projects it covered. By doing so, the plan should provide HUD's appropriations committees with greater insight and visibility into key aspects of the modernization projects under way in order to support effective oversight and inform funding decisions.



**Results**  
Statutory Condition 1

***Functional and Performance Capabilities***

*GAO has previously reported that 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.<sup>14</sup>*

HUD's expenditure plan identified the functional and performance capabilities that are to be delivered for each of the seven projects. For example, for the Human Resources End-to-End project, the plan identified functional capabilities for developing an automated tool for managing the hiring process. Additionally, the plan described how well system capabilities were expected to perform. Furthermore, for the FHA Transformation Initiative project, the plan identified functional capabilities for automating HUD's lender approval workflow, and it identified performance measures, such as a 50 percent decrease in time to process new lender applications.

<sup>14</sup> GAO-11-72 and GAO-11-762.



## Results

### Statutory Condition 1

#### ***Mission Benefits***

*We have also reported that the benefits to accrue from a proposed system should be specific and measurable, and should be linked to specific capabilities.<sup>15</sup>*

HUD's plan described mission benefits for each of the seven projects that were specific, measurable, and linked to functional capabilities. For instance, for the Place-Based Performance Management System project, the plan satisfied this element by describing measurable mission benefits, such as reducing the time to compile performance information from 50 hours to 20 hours. Furthermore, the plan described how the mission benefits for each of the projects aligned with HUD's strategic plan. For example, the plan described how the FHA Transformation Initiative project's financial platform supports the department's goals for creating financially sustainable homeownership opportunities and establishing an accountable and sustainable housing finance system.

<sup>15</sup> GAO-11-72 and GAO-11-762.



## Results

### Statutory Condition 1

#### ***Lifecycle Costs***

*GAO's Cost Estimating Guide notes that a project's lifecycle 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.<sup>16</sup>*

HUD's plan described costs associated with the lifecycle of each project, providing details on funds needed for major project work activities and deliverables. In particular, each of the seven projects' lifecycle cost estimates included a breakdown of costs associated with specific capabilities expected to be delivered. For example, for the FHA Transformation Initiative project, the plan identified costs associated with the software and hardware needed to support its deployment of a financial services infrastructure for housing mortgage insurance programs.

<sup>16</sup> GAO, *Cost Estimating and Assessment Guide: Best Practices for Developing and Managing Capital Program Costs*, GAO-09-3SP (Washington, D.C.: March 2009).



## Results

### Statutory Condition 1

#### **Key Milestones**

*As we have previously reported, a project's milestones should be tied to the capabilities to be delivered and should permit progress to be measured.<sup>17</sup>*

The plan identified key milestones for each of the seven projects. For instance, the plan described the Next Generation Management System project's budget forecasting tool that is intended to support the end-to-end financial management lifecycle (functional capability) and stated that this tool was expected to be delivered by May 2012 (key milestone). Further, these milestones provided start and end dates for various components of the projects. For example, as part of the Human Resources End-to-End project, the plan provided start and end dates for milestones associated with implementing functionality to manage employee performance evaluations.

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<sup>17</sup> GAO-11-72 and GAO-11-762.



## Results

### Statutory Condition 2

#### ***Adequately Staffed Project Office***

*As discussed in our reports, having adequate project staff is essential to a successful systems modernization program. Understanding the gaps in staffing resources and identifying qualifications of key staff are critical in determining whether or not sufficient staffing resources exist to achieve the desired project outcomes.<sup>18</sup>*

The plan described the adequacy of project office staff and identified qualifications for key staff for the seven projects. In particular, the plan presented a clear understanding of staffing resources by providing a list of team members and their respective roles. For example, for the Electronic Grants Management project, the plan provided information showing that all key staff positions had been filled and identified the roles and responsibilities for these individuals. Additionally, the plan disclosed the project management certifications obtained by these individuals (where applicable). Similarly, for the Next Generation Management System project, the plan showed that all roles and responsibilities were filled, along with the certifications that certain key officials obtained.

<sup>18</sup> GAO-09-675, GAO-11-72, and GAO-11-762.





**Results**  
Statutory Condition 2

***Capital Planning and Investment Control***

*GAO has previously reported that 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 Office of Management and Budget requirements for selecting and controlling investments. Additionally, organizations should establish their own capital planning and investment control requirements.<sup>19</sup>*

The plan described how each project conformed to the department's capital planning and investment control requirements, which are currently being implemented. For example, the plan described the process the department's IT governance boards used to ensure that the Place-Based Performance Management System project conformed to the Office of Management and Budget's requirements for selecting and controlling investments. In addition, the plan described how the OCIO monitored and controlled each project through bi-weekly meetings (referred to as TechStats). Specifically, according to the plan, during the bi-weekly meetings, project officials brief the CIO and his staff on the status and current risks facing each project, as well as address concerns raised by the CIO.

<sup>19</sup> GAO-09-675, GAO-11-72, and GAO-11-762.



## Results

### Statutory Condition 2

#### ***Enterprise Architecture***

*As previously reported, 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.<sup>20</sup>*

The plan categorized each project by segment architecture (e.g., grants management and financial management) relative to HUD's evolving architecture. For example, the plan described how the FHA Transformation project has been categorized within HUD's homeownership segment architecture. Additionally, the plan described how HUD's grants management segment architecture included the Electronic Grants Management project. The plan also described how both these projects mapped to the business, performance, technology, and data architectures.

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<sup>20</sup> GAO-09-675, GAO-11-72, and GAO-11-762.



## Results

### Statutory Condition 2

#### ***Lifecycle Management***

*GAO's prior reviews of IT systems have found that following a lifecycle management process in which key activities and phases of a project are conducted in a logical and disciplined process helps ensure that IT modernization projects achieve intended goals within established cost and risk levels.<sup>21</sup>*

HUD's plan included information for each project that demonstrated that the projects conformed to HUD's lifecycle management processes, which are currently being implemented. For example, the plan described specific activities that the Electronic Grants Management project needed to complete in order to graduate to the next lifecycle phase, such as developing a quality assurance plan and test plan. Furthermore, the plan described how the Human Resources End-to-End project followed logical and disciplined processes through OCIO control gate meetings.

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<sup>21</sup>GAO-11-72 and GAO-11-762.



## Agency Comments

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HUD's Acting Deputy CIO for Business and IT Modernization provided technical comments via e-mail on a draft of this briefing, which we have incorporated, as appropriate.



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# Appendix II: GAO Contact and Staff Acknowledgments

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## GAO Contact

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

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## Staff Acknowledgments

In addition to the contact named above, Shannin O'Neill (Assistant Director), Kami Corbett, Lee McCracken, and Teresa M. Neven made key contributions to this report.

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