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# INFORMATION TECHNOLOGY

## HUD's Expenditure Plan Satisfies Statutory Conditions, and Implementation of Management Controls Is Under Way

U.S. Government Accountability Office

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Highlights of [GAO-11-762](#), a report to congressional committees

## INFORMATION TECHNOLOGY

# HUD's Expenditure Plan Satisfies Statutory Conditions, and Implementation of Management Controls Is Under Way

### Why GAO Did This Study

Information technology (IT) is critical to the Department of Housing and Urban Development's (HUD) ability to carry out its home ownership and community development mission. Provisions of the Consolidated Appropriations Act, 2010, require HUD to develop and submit to Congress an expenditure plan for its efforts to modernize the department's IT environment prior to using 75 percent of the funds made available for IT modernization. The plan is to satisfy certain statutory conditions and is to be reviewed by GAO. Accordingly, GAO's objectives were to (1) determine whether HUD's revised plan satisfies statutory conditions and (2) provide observations about the plan and management of HUD's IT modernization program. To accomplish this, GAO assessed the plan against the statutory conditions, analyzed department documentation and relevant plans on key internal management controls, and reviewed HUD's efforts to address open GAO recommendations. GAO also interviewed cognizant department officials.

### What GAO Recommends

To ensure institutional commitment for current and future enterprise architecture development, maintenance, and use, GAO is recommending that HUD approve a policy to govern the architecture prior to further developing its segment architectures. In written comments on a draft of this report, HUD concurred with GAO's recommendation.

### What GAO Found

HUD's revised fiscal year 2010 expenditure plan satisfied the statutory conditions contained in the act. Specifically, pursuant to the statute, the plan identified the functional and performance capabilities, mission benefits, lifecycle costs, and key milestones for seven identified IT projects that support HUD's modernization efforts. For example, the plan stated that one of the mission benefits expected from the HUD Integrated Financial Management Improvement Project is to support the timeliness and responsiveness of financial transactions by ensuring that invoices are paid on time equal to or greater than 98 percent of the time. Further, the plan demonstrated that each project had support from an adequately staffed project office; conformed to the department's in-process policies and procedures on capital planning and investment control; complied with the department's in-process enterprise architecture; and had been managed in accordance with HUD's in-process lifecycle management processes. For example, the plan disclosed detailed information regarding how each project was categorized in relation to the department's conceptual architecture currently in development.

GAO made two observations regarding the department's management of its IT modernization program:

First, HUD has made progress toward implementing key IT management controls. For example, HUD created a conceptual enterprise architecture that is expected to be fully defined by spring 2012; however, it has not yet established institutional commitment through an approved policy to guide the development, maintenance, and use of the architecture. Further, the department has begun establishing a new investment management governance structure which is expected to support the fiscal year 2013 budget process. Lastly, HUD has committed to developing an IT human capital plan by December 2011 that is expected to include strategies to accomplish the human capital goals of the Office of the Chief Information Officer.

Second, HUD has fully implemented or has plans to address prior GAO recommendations related to its expenditure plan and IT management. Specifically, of eight recommendations made in two reports issued in July 2009 and November 2010, respectively, HUD has fully implemented six of these recommendations and is taking steps to address the remaining two. For example, GAO recommended that future expenditure plans clearly describe the status of the department's efforts to establish and implement modernization management controls. HUD's revised plan addressed this recommendation by detailing what progress the department has made and what activities it is taking toward institutionalizing management controls. In addition, the department has developed a plan to address investment management weakness; however, work remains to develop criteria for evaluating the investment portfolio. HUD is also developing strategies to close skill gaps in its IT workforce.

View [GAO-11-762](#) or key components.  
For more information, contact Valerie C. Melvin at (202) 512-6304 or [melvinv@gao.gov](mailto:melvinv@gao.gov).

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## Abbreviations

CIO	Chief Information Officer
EA	enterprise architecture
FHA	Federal Housing Administration
HEARTH Act	Homeless Emergency Assistance and Rapid Transition to Housing Act of 2009
HUD	Department of Housing and Urban Development
IT	information technology
OCIO	Office of the Chief Information Officer

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G A O

Accountability \* Integrity \* Reliability

United States Government Accountability Office  
Washington, DC 20548

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September 7, 2011

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. 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.

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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.: November 23, 2010).

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Since 2010, 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. Congress provided funding for HUD's IT modernization projects with certain limitations through the Consolidated Appropriations Act, 2010.<sup>2</sup> Specifically, the act states that the department may not obligate more than 25 percent of the funds made available until the Secretary submits to the Senate and House Committees on Appropriations an expenditure plan that satisfies two sets of statutory conditions and is reviewed by GAO.<sup>3</sup>

In 2010, HUD submitted two initial expenditure plans that were intended to be part of a series of incremental plans. We reviewed the first of these two plans and reported to the Senate and House Committees on Appropriations on August 24, 2010, that the plan did not satisfy all of the statutory conditions and thus was limited as a congressional oversight and decision-making tool.<sup>4</sup> We did not report on the second plan because, after its submission, HUD reassessed and revised the number and scope of its Transformation Initiative IT projects. On February 14, 2011, HUD submitted to Congress a revised expenditure plan that sought to obligate a total of \$122.5 million. According to the revised plan, this funding was to be used to support seven modernization projects (\$85.7 million), a group of enterprisewide services (\$33.8 million), and a key assessment of HUD's IT environment (\$3.0 million).

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<sup>2</sup>The act, Pub. L. No. 111-117, title II, Department of Housing and Urban Development Appropriations Act, 2010, 123 Stat. 3074, 3093-3094 (Dec. 16, 2009), states that not less than \$80 million and not more than \$180 million shall be available for IT modernization projects supporting the Transformation Initiative.

<sup>3</sup>Under the act, the expenditure plan must satisfy two sets of statutory conditions and be reviewed by GAO prior to HUD spending 75 percent of the funds made available for IT modernization. First, for each project, the plan must identify functional and performance capabilities to be delivered, expected mission benefits, estimated lifecycle costs, and planned key milestones. Second, 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, and is being managed in accordance with applicable lifecycle management policies and guidance.

<sup>4</sup>[GAO-11-72](#).

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In reviewing HUD's revised expenditure plan, our specific objectives, as agreed with your offices, were to (1) determine whether HUD's expenditure plan satisfies statutory conditions and (2) provide observations about the plan and management of HUD's IT modernization program.

On June 9, 2011, we provided your offices with briefing slides that outlined the results of our study. On June 15, 2011, we met with your staff to discuss our findings, conclusions, and recommendation. The purpose of this report is to provide the published briefing slides to you and to officially transmit our recommendation to the Secretary of the Department 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 November 2010 to September 2011 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 revised fiscal year 2010 expenditure plan satisfied the statutory conditions contained in the act.<sup>5</sup>

First, the plan identified the functional and performance capabilities, mission benefits, lifecycle costs, and key milestones for each of the seven IT modernization projects.<sup>6</sup> For example, the plan described the Federal Housing Administration Transformation project's automated fraud analysis tools that are to support risk management within

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<sup>5</sup>Pub. L. No. 111-117, 123 Stat. 3093-3094.

<sup>6</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 Voucher Management System, and Place-based Performance Management System.

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housing insurance programs (capabilities) and stated that these tools were expected to be delivered by October 2011 (key milestones).

Second, the plan demonstrated that each project had support from an adequately staffed project office; conformed to the department's in-process policies and procedures on capital planning and investment control; complied with the department's in-process enterprise architecture; and had been managed in accordance with HUD's in-process lifecycle management processes. For example, with respect to adequate project staffing, the plan provided a list of roles and responsibilities for each member of the project team and provided an assessment regarding the current status of staffing resources for each project.

- We made two observations regarding HUD's management of its IT modernization program:

First, HUD has made progress toward implementing key IT management controls. For example, HUD created a conceptual enterprise architecture that is expected to be fully defined by spring 2012; however, it has not yet established institutional commitment through an approved policy to guide the development, maintenance, and use of the architecture. This is of concern because without such a policy, segment architectures that are being developed may not reflect departmentwide goals and priorities for modernizing the IT environment, and as a result, may require future revision. Additionally, the department has begun establishing a new investment management governance structure which is expected to support the fiscal year 2013 budget process. Lastly, HUD has committed to developing an IT human capital plan by December 2011 that is expected to include strategies to accomplish the human capital goals of the Office of the Chief Information Officer.

Second, HUD has fully implemented or has plans to address the eight prior GAO expenditure plan and IT management recommendations made in two reports issued in July 2009 and November 2010, respectively.<sup>7</sup> Specifically, HUD has fully implemented six of these recommendations and is taking steps to address the remaining two.<sup>8</sup>

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<sup>7</sup>GAO-09-675 and GAO-11-72.

<sup>8</sup>The two remaining recommendations are in the areas of investment management and human capital.

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For example, we recommended that future expenditure plans clearly describe the status of the department's efforts to establish and implement modernization management controls. HUD's revised plan addressed this recommendation by detailing what progress the department has made and what activities it is taking toward institutionalizing management controls. In addition, the department has developed a plan to address investment management weakness; however, work remains to develop criteria for evaluating the investment portfolio.<sup>9</sup> HUD is also developing strategies to close skill gaps in its IT workforce, and plans to complete these strategies by December 2011.

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## Conclusions

HUD's revised expenditure plan satisfied both sets of statutory conditions for the department's seven IT modernization projects. As a result, the plan provides key information needed by HUD's appropriations subcommittees to oversee these modernization projects and hold the department accountable for project results.

In addition, HUD has made important progress to strengthen its IT modernization management capacity; however, critical work remains to build on these accomplishments. Specifically, the department has begun to implement a new governance structure, as well as fully implementing most of the recommendations we have made to improve future expenditure plans and develop select IT management controls. HUD has also committed to completing key actions necessary to fully address our outstanding recommendations in the areas of investment management and human capital. However, work to refine the new departmentwide architecture is being performed in the absence of an approved enterprise architecture policy to guide this effort. Until an architecture policy is established and planned actions in response to open recommendations are fully completed, the department will be unable to effectively institutionalize its modernization management program.

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<sup>9</sup>As reflected in appendix I, HUD officials stated that the plan would be updated by July 2011 to include activities for establishing criteria; however, as of September 1, 2011, the plan had not been updated.



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## Recommendation for Executive Action

To ensure institutional commitment for current and future enterprise architecture development, maintenance, and use, we are recommending that the Secretary of HUD direct the Chief Information Officer to approve a policy to govern the architecture prior to further developing its segment architectures. Because HUD has committed to specific milestones to address prior GAO recommendations in the areas of investment management and human capital, we did not make additional recommendations at this time relative to these two areas.

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## Agency Comments

In written comments on a draft of this report, which are reprinted in appendix II, HUD's Chief Information Officer stated that HUD concurred with our recommendation and that the comments included in the transmitted briefing adequately represented the department's position. Moreover, the Chief Information Officer stated that the department remains committed to the approval of a policy to govern the enterprise architecture and will dedicate resources toward implementing our recommendation.

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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 Web site 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 III.



Valerie C. Melvin  
Director, Information Management  
and Human Capital 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 Expenditure Plan Satisfies Statutory Conditions; Implementation of Management Controls Underway**

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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

June 9, 2011

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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.

Since 2010, the department has been working to modernize its IT infrastructure and systems through its Transformation Initiative.<sup>2</sup> In order to provide oversight and inform decision-making, Congress established limitations on funding for HUD's Transformation Initiative IT modernization projects through the Consolidated Appropriations Act, 2010.<sup>3</sup>

<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).

<sup>2</sup>HUD's Transformation Initiative consists of four components: (1) research, evaluation, and program metrics; (2) program demonstrations; (3) technical assistance and capacity building; and (4) information technology.

<sup>3</sup>Pub. L. No. 111-117, title II, Department of Housing and Urban Development Appropriations Act, 2010, 123 Stat. 3074, 3093-3094 (Dec. 16, 2009).



## Introduction

Specifically, the act states that not less than \$80 million and not more than \$180 million shall be available for IT modernization projects supporting the Transformation Initiative. Further, the act states that the department may not obligate more than 25 percent of the funds made available until the Secretary submits to the Senate and House Committees on Appropriations an expenditure plan that is reviewed by GAO and satisfies two sets of statutory conditions:

First, for each project, the plan must identify

- functional and performance capabilities to be delivered,
- expected mission benefits,
- estimated lifecycle costs, and
- planned key milestones.

Second, 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.



## Introduction

In 2010, HUD submitted two initial expenditure plans that were intended to be part of a series of incremental plans to obligate \$138 million across 29 IT modernization projects. The two initial plans sought to obligate \$42.8 million of the funds across 15 projects. We reviewed the first of these two plans and reported to the Senate and House Committees on Appropriations on August 24, 2010, that the plan did not satisfy all of the statutory conditions and thus was limited as a congressional oversight and decision-making tool.<sup>4</sup> We also made recommendations aimed at improving future plans and the management of HUD's modernization efforts. We did not report on the second plan because, after its submission, HUD reassessed and revised the number and scope of its Transformation Initiative IT projects. This action, undertaken at the direction of the Office of Management and Budget, was consistent with our recommendation to pursue modernization projects commensurate with the department's capacity to manage them.<sup>5</sup>

On February 14, 2011, HUD submitted a revised expenditure plan that sought to obligate a total of \$122.5 million of the funds made available in fiscal year 2010. The revised plan included seven modernization projects (\$85.7 million), a group of enterprisewide services (\$33.8 million), and a key assessment of HUD's IT environment (\$3.0 million).

<sup>4</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>5</sup>[GAO-11-72](#).



## Objectives

As agreed with HUD's appropriations subcommittees, our review objectives for the revised fiscal year 2010 plan were to

- determine whether HUD's expenditure plan satisfies statutory conditions, and
- provide observations about the plan and management of HUD's IT modernization program.



## Scope and Methodology

To accomplish our first 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> Specifically,

- For the first condition, we assessed the plan to determine whether it contained the following four elements: functional and performance capabilities to be delivered, expected mission benefits, estimated lifecycle costs, and planned key milestones.
- For the second condition, we evaluated the plan to determine whether it described four elements: 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.

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 for a given condition. In making our determination, we limited our assessment to the contents of the plan because the act required that the plan itself contain information to address the statutory conditions.

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<sup>6</sup>Pub. L. No. 111-117, 123 Stat. 3093-3094.





## Scope and Methodology

To accomplish our second objective, we did the following:

- Developed observations about HUD’s IT modernization program by analyzing relevant department-provided documentation on key internal management controls, including IT investment management, EA, and human capital. We also interviewed relevant department and project officials, including the Associate Chief Information Officer for Customer Relationship and Performance Management and the Director of Enterprise Architecture, and observed management review meetings to corroborate these observations.
- Determined the extent to which HUD had implemented our prior recommendations on IT management and future expenditure plans by analyzing supporting documents, including investment management charters and implementation plans, EA development plans, human capital plans, and project risk lists. We also interviewed relevant department officials such as the Deputy Chief Information Officers responsible for human capital and investment management.



## Scope and Methodology

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 this briefing. To arrive at this assessment, we conducted limited reliability testing by comparing key information across multiple documents to identify discrepancies and interviewing cognizant HUD officials. However, we did not test the quality of this information, including project cost estimates and key milestones.

We conducted this performance audit at HUD headquarters in Washington, D.C., from November 2010 to June 2011 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.



## Results in Brief

HUD's revised fiscal year 2010 expenditure plan satisfied both sets of statutory conditions contained in the Consolidated Appropriations Act, 2010.<sup>7</sup> Specifically, for the first set of conditions, the plan identified the functional and performance capabilities, mission benefits, lifecycle costs, and key milestones for each of the seven projects. For example, the plan stated that one of the mission benefits expected from the HUD Integrated Financial Management Improvement Project is to support the timeliness and responsiveness of financial transactions by ensuring that invoices are paid on time equal to or greater than 98 percent of the time. Further, for the second set of conditions, the plan demonstrated that each project had support from an adequately staffed project office; conformed to the department's in-process policies and procedures on capital planning and investment control; complied with the department's in-process EA; and had been managed in accordance with HUD's in-process lifecycle management processes.<sup>8</sup> For example, the plan disclosed detailed information regarding how each project was categorized in relation to the department's conceptual EA currently in development.

<sup>7</sup>Pub. L. No. 111-117, 123 Stat. 3093-3094.

<sup>8</sup>The plan was assessed against in-process controls for three of the four IT management controls that comprise the second set of conditions: capital planning and investment management, EA, and lifecycle management. Two of these controls are discussed in our second objective. HUD has not fully implemented these controls but has fully implemented the remaining control, IT project staffing.



## Results in Brief

We have two observations regarding HUD's management of its IT modernization program:

- Since our most recent report in November 2010,<sup>9</sup> HUD has made progress toward implementing key IT management controls. For example, HUD created a conceptual EA that is expected to be fully defined by spring 2012; however, it has not yet established institutional commitment through an approved policy to guide the development, maintenance, and use of the EA. This is of concern because without such a policy, segment architectures that are being developed may not reflect departmentwide goals and priorities for modernizing its IT environment, and as a result may require future revision. Additionally, the department has begun establishing a new investment management governance structure and anticipates finalizing it by the end of this month. Lastly, HUD has committed to developing an IT human capital plan by December 2011 that is expected to include strategies to accomplish the human capital goals of the Office of the Chief Information Officer (CIO).

<sup>9</sup>GAO-11-72.



## Results in Brief

- HUD has fully implemented or has plans to address prior GAO expenditure plan and IT management recommendations. Specifically, of eight recommendations made in two reports issued in July 2009 and November 2010, respectively,<sup>10</sup> HUD has fully implemented six of these recommendations and is taking steps to address the remaining two. For example, the department has developed a plan to address investment management weakness; however work remains to develop criteria for evaluating the investment portfolio. HUD is also developing strategies to close skill gaps in its IT workforce. In addition, we recommended that future expenditure plans clearly describe the status of the department's efforts to establish and implement modernization management controls. HUD's revised plan addressed this recommendation by detailing what progress the department has made and what activities it is taking toward institutionalizing management controls.

Due to the importance of the department's efforts to modernize its IT environment, we are recommending that the Secretary of HUD direct the CIO to approve a policy to govern the development, maintenance, and use of EA. Because HUD has committed to plans that address prior GAO recommendations in the areas of investment management and human capital, we are not making recommendations relative to these two areas at this time.

<sup>10</sup>GAO-09-675 and GAO-11-72.



## Results in Brief

In commenting on a draft of this briefing provided via e-mail, HUD's Deputy Associate CIO for Customer Relationship and Performance Management neither agreed nor disagreed with our recommendation. The department official stated that HUD's approach to developing a new EA policy includes several steps to reduce the risk associated with not having an approved policy, such as involving senior executives in restructuring HUD's IT investment portfolio in light of the new architecture design, among other things. While we support this approach, we maintain that continued development of segment architectures in the absence of an approved policy increases the likelihood that the department will continue to invest in systems that are potentially duplicative and poorly integrated.



## Background

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.

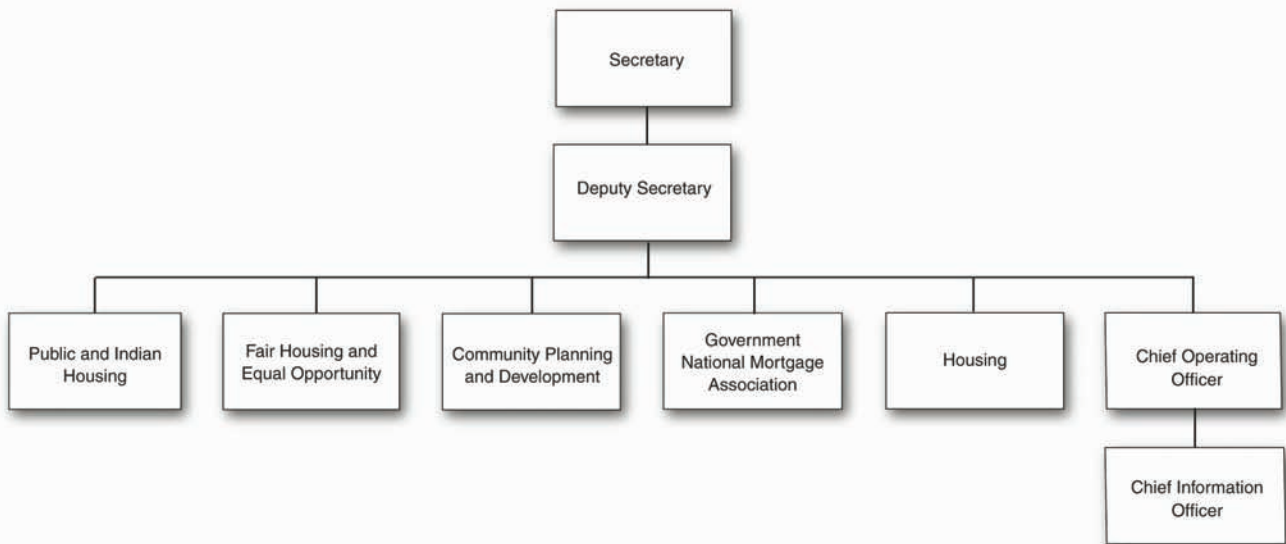
HUD's business areas are aided by several supporting and administrative offices. Supporting offices include the Office of Faith-Based and Neighborhood Partnerships and the Office of Healthy Homes and Lead Hazard Control, which provide key services for the quality and sustainment of mission areas. Administrative offices include the Office of the Chief Financial Officer and the Office of the Chief Information Officer (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 has direct interaction with IT project managers in order to communicate HUD's processes and guidance for modernizing the department's IT environment. The OCIO has also been working toward developing and establishing key IT management controls that will provide the department with institutionalized processes for more efficient and effective implementation of systems and technology tools aimed at improving the business units' ability to achieve HUD's mission.

To this end, the OCIO has established four management goals, which align with the department's 2010-2015 Strategic Plan:<sup>11</sup> (1) enhance the quality, availability, and delivery of HUD information to citizens, business partners, and government; (2) promote an enterprise approach to IT that will foster innovation and collaboration; (3) achieve excellence in IT management practice; and (4) transform the OCIO to a culture of operational excellence that can achieve current and future departmental goals.

<sup>11</sup>HUD Strategic Plan Fiscal Year 2010-2015 (May 2010).



## Background

HUD's Transformation Initiative represents a strategy for reforming the way the department does business. In particular, the initiative comprises four components: (1) research, evaluation, and program metrics; (2) program demonstrations; (3) technical assistance and capacity building; and (4) information technology. The Consolidated Appropriations Act, 2010<sup>12</sup> authorized not less than \$80 million and not more than \$180 million to be available for the information technology component of this initiative, which includes the department's IT modernization efforts, and stated that HUD may not obligate more than 25 percent of these funds until the Secretary submits to the Senate and House Committees on Appropriations an expenditure plan that is reviewed by GAO and that satisfies the two sets of statutory conditions.<sup>13</sup>

<sup>12</sup>Pub. L. No. 11-117, 123 Stat. 3093-3094.

<sup>13</sup>For the first condition, for each project the plan must identify functional and performance capabilities to be delivered, expected mission benefits, estimated lifecycle costs, and planned key milestones. For 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.



## Background

HUD submitted the first in a series of incremental expenditure plans on April 26, 2010, which sought to obligate about \$28.1 million across eight modernization projects. On August 24, 2010, we provided the results of our review of the April 2010 expenditure plan to the Senate and House Committees on Appropriations. We reported that the plan was limited as a congressional oversight and decision-making tool because it did not satisfy all of the statutory conditions.<sup>14</sup> Accordingly, we made multiple recommendations to improve future expenditure plans, including disclosing risks and ensuring that modernization projects are commensurate with the department's institutional capacity to execute them.

On September 16, 2010, HUD submitted a second increment of the expenditure plan and provided supplemental information to address deficiencies in the first plan. This second plan included an additional seven modernization projects and sought to obligate an additional \$14.7 million.

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<sup>14</sup>[GAO-11-72](#).



## Background

In October 2010, at the direction of the Office of Management and Budget and to address our recommendation on balancing modernization projects with IT management capacity, HUD reassessed its inventory of IT modernization projects. As a result, a revised expenditure plan that superseded the April and September 2010 plans was submitted to the Senate and House Committees on Appropriations on February 14, 2011. This plan seeks to obligate \$122.5 million for seven IT modernization projects, a group of enterprisewide services, and a key assessment of HUD's IT environment.

Table 1 summarizes the revised plan's modernization projects and associated requested appropriations.

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



**Background**

**Table 1: Summary of HUD’s IT Modernization Projects and Activities Contained in the Revised Fiscal Year 2010 Expenditure Plan, Submitted on February 14, 2011**

<b>Project</b>	<b>Purpose</b>	<b>Fiscal year 2010 appropriations (in millions)<sup>c</sup></b>
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.	10.1
Enterprise Services <sup>b</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.	33.8
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.	20.5
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.	3.4
HUD Integrated Financial Management Improvement Project	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.	10.0
Human Resources End-to-End Solution	Integrate human resources systems and tools to allow for automated recruitment and hiring documentation, reduction of manual data entry, and accelerated candidate decision making.	10.0

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



**Background**

(Table 1 continued)

<b>Project</b>	<b>Purpose</b>	<b>Fiscal year 2010 appropriations (in millions)<sup>c</sup></b>
IT Assessment/Management Support <sup>b</sup>	Conduct an assessment of the IT environment of modernization projects and provide project management support to the core projects and OCIO.	3.0
Next Generation Voucher Management System	Reengineer voucher management processes to establish a technical infrastructure that will integrate disparate systems and provide consistent information in order to support rental housing assistance services.	29.0
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.	2.7
<b>Total</b>		<b>\$122.5</b>

Source: GAO analysis based on HUD data.

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

<sup>b</sup>According to the plan, these efforts are not projects in the sense of delivering a modernized system solution, and were included to disclose and ensure transparency of all funding covered in the plan.

<sup>c</sup>Transformation Initiative appropriations authorized to be transferred from other accounts are available for obligation by the department through September 30, 2012.



## Objective 1: Statutory Conditions

### *HUD's Transformation Initiative IT Expenditure Plan Satisfied Statutory Conditions*

In contrast to previously submitted expenditure plans, HUD's February 2011 plan satisfied both sets of statutory conditions for the seven IT 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.

For the first set of conditions, the plan identified the functional and performance capabilities to be delivered, expected mission benefits, estimated lifecycle costs, and planned key milestones for each of the seven projects. For example, the plan described the FHA Transformation project's automated fraud analysis tools that are to support risk management within FHA's insurance programs (capabilities) and stated that these tools were expected to be delivered by October 2011 (key milestones).

Table 2 provides a summary of our assessment.

**Appendix I: Briefing for Staff Members of the  
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**Objective 1: Statutory Conditions**

**Table 2: Summary of GAO’s Assessment of HUD’s Expenditure Plan against Statutory Condition 1**

<b>Description of the first condition</b>	<b>GAO assessment</b>
<p><u>Functional and performance capabilities:</u> The 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.</p>	<p>HUD’s expenditure plan described the functional capabilities that are to be delivered and described information on system performance for each of the seven projects. For example, for the FHA Transformation, the plan identified functional capabilities expected to be delivered by October 2011, such as automated fraud analysis tools to support risk management within FHA’s insurance programs. Further, the plan identified that the Human Resources End-to-End Solution would provide the capability to track and report real-time information regarding HUD’s hiring and recruitment activities.</p>
<p><u>Mission benefits:</u> The benefits to accrue from a proposed system should be specific and measurable, and should be linked to specific capabilities.</p>	<p>The plan described mission benefits for each of the seven projects that were specific, measurable, and linked to functional capabilities. For instance, for the HUD Integrated Financial Management Improvement Project, the plan identified that the project will support timeliness and responsiveness by ensuring that invoices are paid on time equal to or greater than 98 percent of the time. The plan also stated that the Electronic Grants Management in Support of the HEARTH Act project is expected to eliminate manual processes, including the review of paper applications, and that this capability would result in \$800,000 in annual savings on data entry.</p>
<p><u>Lifecycle costs:</u> 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.</p>	<p>HUD’s plan described costs associated with the lifecycle of a project, providing details on funds needed for major project work activities and deliverables. For example, for the Next Generation Voucher Management System project, the plan described direct costs associated with planned deliverables as well as indirect costs associated with operation and maintenance activities. Additionally, the HUD’s Integrated Acquisition Management System project estimate contained a breakdown of costs associated with lifecycle phases, including design and deployment.</p>





## Objective 1: Statutory Conditions

(Table 2 continued)

Description of the first condition	GAO assessment
<p><u>Key milestones:</u> Project milestones should be tied to the capabilities to be delivered and should permit progress to be measured.</p>	<p>The plan described key milestones for each of the seven projects. Specifically, the plan described milestones that were tied to capabilities, permitted progress to be measured, and documented to what extent the milestones were being achieved. For instance, for the Electronic Grants Management in Support of the HEARTH Act project, the plan identified key milestones by project phase and deliverable timeframes for the development of requirements and software releases. The plan also outlined key milestones for the Place-Based Performance Management System, such as implementing a database by July 2010 to track and report department performance goals, which the project reported as completed in October 2010.</p>

Source: GAO analysis of HUD data.



## Objective 1: Statutory Conditions

For the second set of conditions, the plan described how each project complied with the four IT management controls that comprise this condition. HUD has not yet fully implemented three of the IT management controls,<sup>15</sup> two of which are discussed in the following section of this briefing. In these cases, we assessed the plan against the department's in-process controls.

The plan stated that each project was supported by an adequately staffed project office, conformed to capital planning and investment control requirements, complied with the department's EA, and was managed in accordance with applicable lifecycle management policies and guidance. For example, with respect to adequate project staffing, the plan provided a list of roles and responsibilities for each member of the project team and provided an assessment regarding the current status of staffing resources for each project.

Table 3 provides a summary of our assessment.

<sup>15</sup>The IT controls not yet fully implemented are capital planning and investment control, EA, and lifecycle management.



**Objective 1: Statutory Conditions**

**Table 3: Summary of GAO’s Assessment of HUD’s Expenditure Plan against Statutory Condition 2**

<b>Description of the second condition</b>	<b>GAO assessment</b>
<p><u>Adequately staffed project office:</u> 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.</p>	<p>The plan described the adequacy of project office staff for the seven projects and identified which projects were adequately staffed. In particular, the plan provided a clear understanding of staffing resources by identifying qualifications of key staff and providing a list of team members and their respective roles. For example, for FHA Transformation, the plan stated that all key staff positions had been filled and provided the names for the individuals that had filled them. Further, the plan reported that only one project—the Next Generation Voucher Management System—was insufficiently staffed as of February 9, 2011.</p>
<p><u>Capital planning and investment control:</u> 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.</p>	<p>The plan stated that each project conformed to the department’s capital planning and investment control requirements. For example, the plan states that HUD’s Integrated Acquisition Management System project was subject to review by the investment management committee in order to continue funding. Further, the plan described the department’s new IT investment management framework and steps being taken to institutionalize associated policies and procedures.</p>
<p><u>Enterprise Architecture:</u> 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 relative to segments within the EA.</p>	<p>The plan described how each project complied with HUD’s EA relative to the conceptual architecture and sequencing plan that have been developed thus far. In particular, it identifies compliance by categorizing each project by the segment architecture (e.g., grants management and financial management) as defined in the conceptual EA. For example, the plan identified that the Place-Based Performance Management System is part of the business analytical services segment architecture. The plan also described the status of HUD’s efforts to develop its EA and provided next steps for implementing architecture segments.</p>



## Objective 1: Statutory Conditions

(Table 3 continued)

Description of the first condition	GAO assessment
<p><u>Lifecycle management</u>: 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.</p>	<p>The plan described how each project conforms to HUD's lifecycle management processes. Specifically, the plan identified the type of investment and lifecycle phase for all modernization projects. It also listed key project management documentation required by the department's lifecycle management processes. For example, for the Next Generation Voucher Management System, the plan identified the project as a development project in the definition phase and outlined 39 key project management analyses and plans that were specific to the definition phase of the lifecycle management process. The plan also described efforts HUD has under way to establish required management reviews before projects are able to proceed to the next lifecycle phase.</p>

Source: GAO analysis of HUD data.



## Objective 2: Observations

We have two observations regarding the department's management of its IT modernization program:

- HUD has made progress in developing key components of selected IT management controls—investment management, EA, and human capital—that are needed to effectively carry out its modernization efforts. However, the department has not yet established an EA policy that reflects an institutional commitment for this management control.
- HUD has fully implemented or has plans to address prior GAO recommendations for improving future expenditure plans and IT management controls.

Collectively, these observations indicate that HUD is making progress toward effective management of its IT modernization efforts, although work remains to ensure that management controls are fully institutionalized.



## Objective 2: Observations

### **Observation 1:** *HUD Has Made Progress in Establishing and Implementing IT Management Controls, but Further Work to Develop an EA Policy Remains*

An organization's ability to effectively modernize its IT environment greatly depends on the extent to which it has established and implemented IT management controls. These controls include IT investment management, the development and use of an EA, and IT human capital management.

Over the past 5 years, we have reported on HUD's efforts to establish and implement these IT management controls.<sup>16</sup> In November 2010, we reported that HUD was in the process of introducing new approaches to its management of IT, which the department described as significant in nature and requiring time to accomplish.

Since that time, HUD has made progress in establishing and implementing key elements of these IT management controls, but further work to develop a policy for EA remains, as detailed in the following discussion.

<sup>16</sup>GAO, *Enterprise Architecture: Leadership Remains Key to Establishing and Leveraging Architectures for Organizational Transformation*, [GAO-06-831](#) (Washington, D.C.: Aug. 14, 2006); [GAO-09-675](#); [GAO-11-72](#).



## Objective 2: Observations

### *IT Investment Management*

Investment management includes the selection and control of investments to ensure that they produce business value in the investment decision-making process.<sup>17</sup> If managed effectively through an appropriate governance structure, IT investments can have a dramatic impact on an organization's performance and accountability. Through a portfolio-based approach, the organization can consider new investment proposals, along with previously funded investments, and identify the appropriate mix of these investments to best meet mission needs.

In July 2009, we reported<sup>18</sup> weaknesses in HUD's management of its IT investment portfolio and recommended that the department develop and implement a plan to address these weaknesses. We discuss the status of this recommendation in our second observation. Specifically, the department has a draft plan to address identified weaknesses and expects this plan to be completed by the end of June 2011.

<sup>17</sup>GAO, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, [GAO-04-394G](#) (Washington, D.C.: March 2004).

<sup>18</sup>[GAO-09-675](#).



## Objective 2: Observations

In November 2010, we reported<sup>19</sup> that HUD was establishing a new IT governance structure intended to increase the transparency of and facilitate decision-making for its IT investment portfolio, and that the department was in the process of restructuring its projects into a single portfolio.

Since then, HUD began implementing the new governance structure and completed the restructuring of its Transformation Initiative portfolio in December 2010. Specifically, the department has held monthly governance meetings that include the review of IT modernization investments and have resulted in the approval of a future conceptual EA.

As a result, the department consolidated and re-prioritized its Transformation Initiative IT portfolio to align with the new EA strategic direction. In addition, HUD has begun to analyze its comprehensive list of IT systems to justify ongoing investments, which will inform the new single portfolio.

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<sup>19</sup>[GAO-11-72](#).





## Objective 2: Observations

To support this new structure, HUD developed a governance plan, committee charters, and investment management policies and procedures. These guiding documents were developed consistent with federal requirements<sup>20</sup> and are intended to institutionalize the governance structure. For example, the investment management policy provides criteria for reviewing IT investments, such as demonstrating security controls that are consistent with the Federal Information Security Management Act of 2002.<sup>21</sup>

The plan and its associated policies and procedures were drafted and originally expected to be completed by October 2010; however, the department has experienced several delays. According to HUD's Deputy Associate CIO for Customer Relationship and Performance Management, the department has made progress toward completing the internal review, which has taken longer than anticipated. Finalization of the new governance structure with its associated documentation is expected by the end of this month.

<sup>20</sup>The Office of Management and Budget Circular No. A-11, Preparation, Submission, and Execution of the Budget (July 2010).

<sup>21</sup>The Federal Information Security Management Act of 2002 was enacted as title III, E-Government Act of 2002, Pub L. No. 107-347, Dec. 17, 2002.



## Objective 2: Observations

HUD has applied this new structure to its portfolio of Transformation Initiative investments and plans to implement the governance structure across all IT investments. According to the Deputy Associate CIO, this is expected to occur by September 2011 in support of the fiscal year 2013 budget approval process.

Once this new governance structure is finalized and applied to all IT investments, HUD should be able to effectively identify the appropriate mix of departmentwide investments that best meets its mission needs.



## Objective 2: Observations

### *Enterprise Architecture*

An EA is a corporate blueprint for organizational transformation and IT modernization.<sup>22</sup> Generally speaking, it describes an enterprise’s current, or “as-is,” operational and technological environment and its target, or “to-be,” environment, and contains a sequencing plan for transitioning from the current to the target environment. An approved corporate policy is fundamental to establishing institutional commitment and direction for defining an EA. Such a policy institutionalizes the architecture’s importance, role, and relationship to other corporate management areas. The policy should define the EA, identify major roles and responsibilities, and acknowledge interdependencies and relationships among the EA program and other related management controls such as investment management, privacy, and records management. Further, this policy serves as an executive-level commitment to EA as a corporate asset and should govern EA development, maintenance, and use. The absence of a well defined EA, based on an approved policy, can result in sub-optimal technology infrastructures and systems that are duplicative and poorly integrated.

<sup>22</sup>[GAO-10-846G](#).



## Objective 2: Observations

In August 2006 and July 2009, we reported<sup>23</sup> that HUD had largely established an EA program but needed to address weaknesses associated with the lack of a security architecture and independent verification and validation.

Additionally, in July 2009, we reported<sup>24</sup> that HUD's approach to developing segment architectures to modernize individual components of the overall organization did not reflect key aspects of relevant federal guidance. For example, while the department had identified and prioritized segments to be modernized, it had not adhered to these priorities, and most segments were out of date. Accordingly, we made recommendations aimed at improving the department's segment architecture approach.

<sup>23</sup> [GAO-06-831](#), [GAO-09-675](#).

<sup>24</sup> Segment architectures can be used to provide a bridge between the corporate frame of reference captured in the EA and each individual program and system investment. The Office of Management and Budget issued the *Federal Segment Architecture Methodology* (December 2008), which provides guidance for agencies to group their segment architectures into three categories: core mission areas, business services, and enterprise services.



## Objective 2: Observations

In November 2010, we reported that HUD's CIO had decided to reexamine and redefine the department's EA segments based on business functions that transcend business units (e.g., business intelligence, grants management, and workflow management).<sup>25</sup> Because of this new direction, the department initiated work to analyze its existing portfolio of modernization projects in order to identify potential duplication and inform the next version of its EA.

By January 2011, HUD had developed a conceptual as-is and to-be architecture with a corresponding sequencing plan for transitioning to the new environment. For example, the department's conceptual architecture calls for 21 segment architectures that are categorized into core mission areas, business services, and enterprise services. This conceptual architecture is expected to be the basis for developing HUD's segment architectures. In lieu of an approved EA, the OCIO has worked with project teams to categorize investments according to their relevant architecture segments.

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<sup>25</sup>GAO-11-72.



## Objective 2: Observations

However, the department has not updated its EA policy to reflect this new direction, but plans to do so by spring 2012. According to the Deputy Associate CIO for Customer Relationship and Performance Management, updating the EA policy has not been a priority given the department's focus on developing segment architectures. This is of concern because developing segment architectures in the absence of an approved policy could result in rework later on. For example, without appropriate stakeholder input, the developed segment architectures may not reflect departmentwide goals and priorities for modernizing its IT environment.

Until HUD has an approved policy that establishes institutional commitment for its new EA direction, ongoing activities may not align with the new direction, which increases the likelihood that the department will continue to invest in systems that are duplicative and poorly integrated.



## Objective 2: Observations

### *IT Human Capital Management*

By employing strategic human capital management, organizations can better position themselves to have people with the right knowledge, skills, and abilities to support mission operations both today and in the future.<sup>26</sup> Since 2001, we have designated the strategic management of human capital as a governmentwide high-risk area.<sup>27</sup> Principles for strategic workforce planning include, among other things, analyzing the gaps between current skills and future needs and developing strategies for filling gaps. If performed effectively, these activities can collectively create a strategic and proactive approach to human capital management.

In July 2009, we reported<sup>28</sup> that HUD had developed a strategy for closing IT human capital gaps; however, the strategy was based on an unreliable gap analysis and it had yet to be implemented. Accordingly, we recommended that the department establish and execute IT human capital gap closure strategies that are based on a complete and current inventory of its existing IT workforce skills. While we indicate the status of this recommendation in our second observation, the next slide discusses progress made.

<sup>26</sup> GAO, *Human Capital: Key Principles for Effective Strategic Workforce Planning*, [GAO-04-39](#) (Washington, D.C.: Dec. 11, 2003).

<sup>27</sup> GAO, *High-Risk Series: An Update*, [GAO-11-278](#) (Washington, D.C.: February 2011).

<sup>28</sup> [GAO-09-675](#).



## Objective 2: Observations

In November 2010, we reported<sup>29</sup> that HUD began work toward developing an IT human capital management plan and had mapped skills of current staff to determine whether resource gaps exist. We also reported that the department had begun to develop IT human capital gap strategies but had yet to establish a timeframe for completion.

Since then, HUD has continued its efforts toward developing the IT human capital plan and made progress in implementing our recommendation to establish skill gap closure strategies. Specifically, the department appointed an OCIO Chief Learning Officer to address identified IT skills gaps through targeted training for staff. In addition, HUD has created a statement of work related to establishing a human capital plan that includes tasks such as identifying challenges and developing performance metrics and strategies to accomplish OCIO human capital goals. According to the CIO, the department plans to complete the IT human capital plan and associated strategies to address IT skill gaps by December 2011.

Once HUD completes its IT human capital management plan as well as planned actions to address our recommendation, the department will be better positioned to acquire the skill sets needed to effectively support the delivery of its IT modernization projects.

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<sup>29</sup>[GAO-11-72](#).





## Objective 2: Observations

### **Observation 2:** *HUD Has Fully Implemented or Has Plans to Address Prior GAO IT Management and Expenditure Plan Recommendations*

As discussed previously in this briefing, HUD has several activities under way to address recommendations we made for improving its future expenditure plans and IT management capacity. In total, we made eight recommendations aimed at improving these areas. HUD has fully implemented six of the eight prior recommendations and has plans to address the remaining two. Table 4 summarizes our prior recommendations, the status of their implementation, and actions taken or remaining to fully address weaknesses identified.



**Objective 2: Observations**

**Table 4: Status of HUD’s Progress in Implementing Prior GAO Recommendations**

<b>GAO recommendation</b>	<b>Status</b>	<b>HUD actions</b>
Report actions planned to address our prior EA recommendations and develop a plan for reexamining segment priorities and updating and developing segment architectures in accordance with these priorities and relevant guidance. (GAO-09-675)	Implemented	HUD developed a conceptual EA that reflects its modernization projects. As a result, GAO recommendations made regarding HUD’s outdated EA are superseded by the department’s new EA. In addition, the department developed a plan for reexamining and updating its segment architectures in accordance with priorities and relevant guidance.
Ensure that future expenditure plans satisfy each element of each statutory condition for each project in the plan, or disclose why any element is not satisfied, along with any associated project risks and plans for addressing those risks. (GAO-11-72)	Implemented	HUD’s revised expenditure plan satisfied the elements of each statutory condition for all projects identified in the plan. In addition, the plan includes the associated project risks and plans for addressing those risks.
Ensure that future expenditure plans clearly describe the status of HUD’s efforts to establish and implement modernization management controls, along with the project-specific risks and mitigation plans associated with this status. (GAO-11-72)	Implemented	The plan clearly describes the status of the department’s efforts to establish and implement modernization management controls. In addition, the plan includes project-specific risks and mitigation plans associated with the status of implementing management controls.
Ensure that the number and scope of HUD’s modernization projects are commensurate with the department’s institutional capacity to execute them. (GAO-11-72)	Implemented	At the direction of the Office of Management and Budget, HUD reduced its portfolio of modernization projects from 29 to 7, which was consistent with our recommendation.
Establish an enterprisewide program office with the responsibility and authority for managing the department’s modernization efforts. (GAO-09-675)	Implemented	HUD recently established an enterprisewide project management office, headed by the Office of the Chief Human Capital Officer, which is responsible for formalizing processes for identifying projects. This office has authority for assisting to prioritize projects across the department’s program management offices, and building project management competencies with dedicated resources.

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**Objective 2: Observations**

(Table 4 continued)

<b>GAO recommendation</b>	<b>Status</b>	<b>HUD actions</b>
Develop a plan for developing and implementing the department's new performance management framework, including an implementation schedule of key activities and related resource needs, and ensure that this plan provides for complying with the statutory requirement for annual reporting of progress in achieving IT strategic goals. (GAO-09-675)	Implemented	HUD developed and implemented a plan for establishing the department's new performance management framework. In May 2010 HUD issued a new strategic plan with associated goals, such as transforming the way the department does business. Accordingly, the OCIO developed new specific IT strategic goals to align to the new Strategic Plan. In addition, the OCIO developed a plan that outlines specific measures for achieving those goals, such as transforming the OCIO to a culture that can achieve current and future departmental goals. As a result, the department is positioned to comply with the statutory requirement for annual reporting of progress in achieving IT strategic goals.
Develop and implement a plan to address the IT portfolio investment management weaknesses. (GAO-09-675)	In progress	HUD is making progress in implementing IT portfolio investment management controls. In particular, it developed a plan to address identified weaknesses in its investment management approach. This plan calls for activities that are consistent with federal requirements, as discussed in the previous section of this briefing. Specifically, the plan calls for establishing key policies and procedures for reviewing, evaluating, and improving the department's portfolio, as well as establishing resources for reviewing the portfolio and ensuring board members are familiar with the process. However, the plan does not include activities for developing criteria for assessing portfolio performance and defining and collecting data consistent with the criteria. According to HUD officials, the plan will be updated to include activities for establishing criteria, and they expect the plan to be completed by July 2011.



## Objective 2: Observations

(Table 4 continued)

GAO recommendation	Status	HUD actions
Establish and execute IT human capital gap closure strategies that are based on a complete and current inventory of its existing IT workforce skills. (GAO-09-675)	In progress	HUD is making progress toward establishing and executing strategies to address IT workforce gaps. Specifically, the department completed an assessment of existing workforce skills, including a review of how IT resources support the goals in HUD's 2011-2015 strategic plan. The department is still working to develop and execute skill gap closure strategies, and these strategies are expected to be included in HUD's IT human capital plan, as discussed earlier in this briefing.

Source: GAO analysis based on HUD data.



## Conclusions

HUD's revised expenditure plan satisfied both sets of statutory conditions for the department's seven IT modernization projects. As a result, the plan provides key information needed by HUD's appropriations subcommittees to oversee these modernization projects and hold the department accountable for project results.

In addition, HUD has made important progress to strengthen its IT modernization management capacity; however, critical work remains to build on these accomplishments. Specifically, the department has begun to implement a new governance structure, as well as fully implementing most of the recommendations we have made to improve future expenditure plans and develop select IT management controls. HUD has also committed to completing key actions necessary to fully address our outstanding recommendations in the areas of investment management and human capital. However, work to refine the new departmentwide architecture is being performed in the absence of an approved EA policy to guide this effort. Until an EA policy is established and planned actions in response to open recommendations are fully completed, the department will be unable to effectively institutionalize its modernization management program.



## Recommendation for Executive Action

To ensure institutional commitment for current and future EA development, maintenance, and use, we are recommending that the Secretary of HUD direct the CIO to approve a policy to govern the EA prior to further developing its segment architectures. Because HUD has committed to specific milestones to address prior GAO recommendations in the areas of investment management and human capital, we are not making additional recommendations at this time relative to these two areas.



## Agency Comments and Our Evaluation

HUD's Deputy Associate CIO for Customer Relationship and Performance Management provided comments on a draft of this briefing via e-mail. In those comments, the official did not explicitly agree or disagree with our recommendation, but acknowledged the value of an approved policy to guide HUD's EA and reported that the department has a working draft of such a policy. The official also stated that HUD's approach for developing an approved policy includes several activities aimed at reducing risks associated with the absence of a new policy. Specifically, the official said that HUD's senior executives, who have taken sponsorship of segments of the EA, are leading discussions to review inefficiencies in the mix of investments and systems in order to identify EA development priorities, among other things. Additionally, the official stated that the department is undertaking activities to evaluate the performance of ongoing investments and assess external factors that might require changes to its portfolio. Further, the official commented that collectively these activities are expected to inform the structure, policy, procedures, standards, and guidelines being developed for the department's EA.

We support HUD's approach toward developing a new policy. Nevertheless, we maintain our position that an approved policy is fundamental to establishing institutional commitment and direction for the EA. Continued development of segment architectures without such a policy increases the likelihood that the department will continue to invest in systems that are duplicative and poorly integrated.



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## GAO on the Web

Web site: <http://www.gao.gov/>

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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

Ms. Valerie C. Melvin  
Director, Information Management  
And Human Capital Issues  
U.S. Government Accountability Office  
441 G Street, NW  
Washington, DC 20548

AUG 12 2011

Dear Ms. Melvin:

Thank you for the opportunity to comment on the Government Accountability Office (GAO) draft report entitled, *Information Technology: HUD's Expenditure Plan Satisfies Statutory Conditions, and Implementation of Management Controls is Underway* (GAO-11-762).

The Department of Housing and Urban Development (HUD) reviewed the draft report and concurs with the recommendation for executive action. Agency comments on a draft of this briefing document adequately represent HUD's position.

The Department remains committed to the approval of a policy to govern the enterprise architecture. To this end, we will dedicate resources toward achieving the Executive Action recommended by GAO.

If you have any questions or require additional information, please contact Jerry E. Williams, Chief Information Officer, at 202-708-0306.

Sincerely,

A handwritten signature in black ink, appearing to read "Jerry E. Williams".

Jerry E. Williams  
Chief Information Officer

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# Appendix III: 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, Carol Cha (Assistant Director), Lee McCracken, Teresa M. Neven, Matthew Strain, and Daniel Swartz made key contributions to this report.

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