



## Testimony

Before the Subcommittee on Federal Financial Management,  
Government Information, Federal Services, and  
International Security, Committee on Homeland Security  
and Government Affairs, U.S. Senate

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# INFORMATION TECHNOLOGY

## Continued Improvements in Investment Oversight and Management Can Yield Billions in Savings

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### Abbreviations

CIO	chief information officer
IT	information technology
OMB	Office of Management and Budget

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# Highlights

Highlights of GAO-11-511T, a testimony before the Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security, Committee on Homeland Security and Government Affairs, U.S. Senate

## Why GAO Did This Study

The federal government anticipates spending \$79 billion on information technology (IT) in fiscal year 2011. The Office of Management and Budget (OMB) plays a key role in overseeing the implementation and management of federal IT investments. Given the size of these investments and their importance to the health, economy, and security of the nation, it is critical for OMB and federal agencies to provide appropriate program oversight and ensure adequate transparency. Over the past several years, GAO has issued a number of reports and testimonies on OMB's initiatives to highlight troubled projects, justify IT investments, and use project management tools. Partly in response to this prior work, in 2009 OMB deployed a public Web site—known as the IT Dashboard—that provides detailed information on approximately 800 major federal IT investments, including assessments of these investments' performance against cost and schedule targets (referred to as ratings).

GAO was asked to testify on OMB's key efforts to improve the oversight and management of federal IT investments through the use of the Dashboard and other efforts. To prepare this statement, GAO drew on previously published work on IT investments, including OMB's Dashboard, agencies' oversight boards, and agencies' use of project management tools.

View GAO-11-511T or key components. For more information, contact David A. Pownier at (202) 512-9286 or [pownierd@gao.gov](mailto:pownierd@gao.gov).

April 12, 2011

## INFORMATION TECHNOLOGY

### Continued Improvements in Investment Oversight and Management Can Yield Billions in Savings

## What GAO Found

OMB has improved the oversight and management of IT investments through multiple initiatives. By establishing the IT Dashboard, OMB has drawn additional attention to over 300 troubled IT investments at federal agencies, totaling \$20 billion, which is an improvement from the previously used oversight mechanisms. The Federal Chief Information Officer (CIO) recognized that the Dashboard has increased the accountability of agency CIOs and established much-needed visibility into investment performance. However, GAO has found that the data on the Dashboard are not always accurate. Specifically, in reviews of selected investments from 10 agencies, GAO found that the Dashboard ratings were not always consistent with agency cost and schedule performance data. In these reports GAO made a number of recommendations to OMB and federal agencies to improve the accuracy of Dashboard ratings. Agencies agreed with these recommendations, while OMB agreed with all but one. Specifically, OMB disagreed with the recommendation to change how it reflects current investment performance in its ratings because Dashboard data are updated on a monthly basis. However, GAO maintained that current investment performance may not always be as apparent as it should be; while data are updated monthly, ratings include historical data, which can mask more recent performance.

In addition to the Dashboard, beginning in January 2010 the Federal CIO began leading reviews—known as “TechStat” sessions—of selected IT investments involving OMB and agency leadership to increase accountability and transparency and improve performance. OMB officials stated that, as of December 2010, 58 sessions had been held and resulted in improvements to or termination of IT investments with performance problems. For example, the June 2010 TechStat session for a National Archives and Records Administration investment resulted in the halting of development funding pending the completion of a strategic plan. In addition, OMB identified 26 additional high-priority IT projects and plans to develop corrective action plans with agencies at future TechStat sessions. According to the Federal CIO, OMB's efforts to improve management and oversight of IT investments have already resulted in \$3 billion in savings.

Additionally, in December 2010, OMB issued an 18-month plan for reforming federal IT management that has five major goals, including strengthening program management, streamlining governance and improving accountability, and using shared solutions, among others. These goals and the plans in place to support them are consistent with GAO's work highlighting IT management and governance weaknesses, as well as work to identify duplicative activities in the government. As part of this plan, OMB has initiatives under way to strengthen agencies' investment review boards and to consolidate federal data centers.

GAO has ongoing work to review the Dashboard and other OMB initiatives. Continued OMB oversight and the implementation of its 18-month plan along with outstanding GAO recommendations, could result in further significant savings and increased efficiency.



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April 12, 2011

Chairman Carper, Ranking Member Brown, and Members of the Subcommittee:

I am pleased to be here today to discuss the federal government's key activities and efforts to improve the management of information technology (IT) investments, totaling an estimated \$79 billion for fiscal year 2011. Given the size of these investments and the criticality of many of these systems to the health, economy, and security of the nation, it is important that the Office of Management and Budget (OMB) and federal agencies provide appropriate oversight of and adequate transparency into these programs.

During the past several years, we have issued multiple reports and testimonies on OMB's initiatives to highlight troubled projects, justify IT investments, and encourage the use of project management tools.<sup>1</sup> We made numerous recommendations to OMB and to federal agencies to improve these initiatives to further enhance the transparency, oversight, and management of IT projects.

As part of its response to our prior work, OMB deployed a public Web site in June 2009, known as the IT Dashboard, which provides

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<sup>1</sup>See for example, GAO, *Information Technology: OMB Has Made Improvements to Its Dashboard, but Further Work Is Needed by Agencies and OMB to Ensure Data Accuracy*, GAO-11-262 (Washington, D.C.; Mar. 15, 2011); *Information Technology: OMB's Dashboard Has Increased Transparency and Oversight, but Improvements Needed*, GAO-10-701 (Washington, D.C.: Jul. 16, 2010); *Information Technology: Federal Agencies Need to Strengthen Investment Board Oversight of Poorly Planned and Performing Projects*, GAO-09-566 (Washington, D.C.; June 30, 2009); *Information Technology: Management and Oversight of Projects Totaling Billions of Dollars Need Attention*, GAO-09-624T (Washington, D.C.: Apr. 28, 2009); *Information Technology: Agencies and OMB Should Strengthen Processes for Identifying and Overseeing High Risk Projects*, GAO-06-647 (Washington, D.C.: June 15, 2006).

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detailed information on federal agencies' major IT investments,<sup>2</sup> including assessments of actual performance against cost and schedule targets (referred to as ratings) for approximately 800 major federal IT investments. The Dashboard is intended to improve the transparency and oversight of these investments.

You asked us to testify on OMB's key efforts to improve the oversight and management of federal IT projects. Specifically, my testimony covers OMB's efforts to improve IT management—in particular, through the use of the Dashboard and its recently announced IT reform plan.<sup>3</sup> In preparing this testimony, we relied on prior GAO reports and testimonies that assessed the government's management of IT investments, including OMB's Dashboard, agencies' oversight boards, and agencies' use of project management tools.<sup>4</sup> All of our work for these reports and testimonies was performed in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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<sup>2</sup>Major IT Investment means a system or an acquisition requiring special management attention because it: has significant importance to the mission or function of the agency, a component of the agency, or another organization; is for financial management and obligates more than \$500,000 annually; has significant program or policy implications; has high executive visibility; has high development, operating, or maintenance costs; is funded through other than direct appropriations; or is defined as major by the agency's capital planning and investment control process.

<sup>3</sup>OMB, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Washington, D.C., 2010).

<sup>4</sup>GAO-11-262; GAO-10-701; GAO, *Information Technology: Agencies Need to Improve the Implementation and Use of Earned Value Techniques to Help Manage Major System Acquisitions*, GAO-10-2 (Washington, D.C.; Oct. 8, 2009); GAO-09-566; *Information Technology: Agencies Need to Establish Comprehensive Policies to Address Changes to Projects' Cost, Schedule, and Performance Goals*, GAO-08-925 (Washington, D.C.; July 31, 2008); *Information Technology: Agencies Need to Improve the Accuracy and Reliability of Investment Information*, GAO-06-250 (Washington, D.C.; Jan. 12, 2006); *Information Technology Management: Governmentwide Strategic Planning, Performance Measurement, and Investment Management Can Be Further Improved*, GAO-04-49 (Washington, D.C.; Jan. 12, 2004).



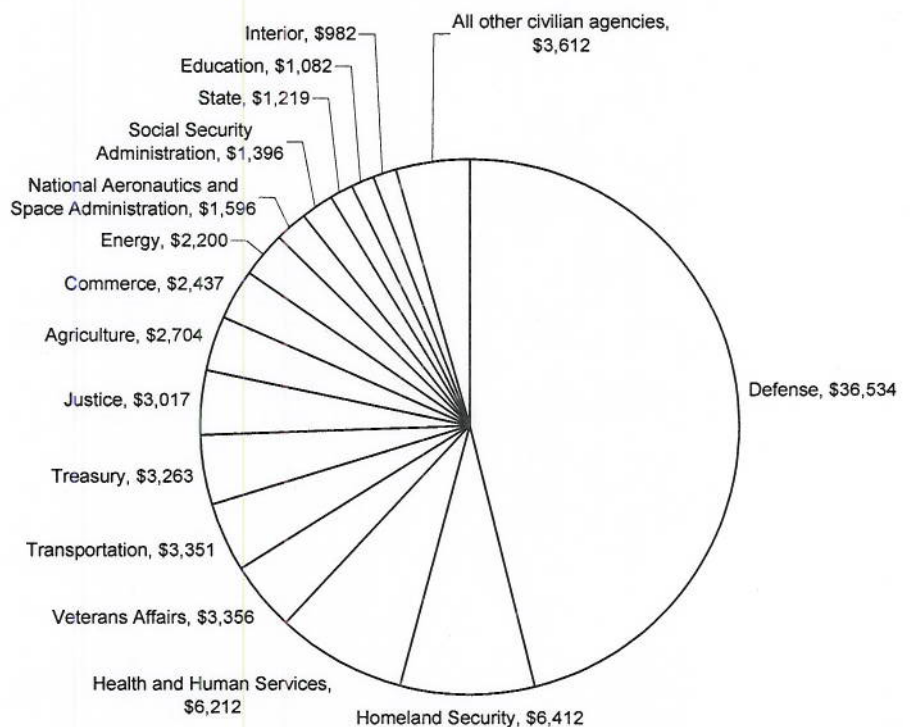
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## Background

Each year, OMB and federal agencies work together to determine how much the government plans to spend on IT projects and how these funds are to be allocated. The President's Budget for fiscal year 2011 totaled an estimated \$79.4 billion for IT investments. Figure 1 displays the breakdown of agencies' planned IT expenditures for fiscal year 2011.

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**Figure 1: Breakdown of \$79.4 Billion in Planned IT Investments for Fiscal Year 2011**



Source: OMB data.

OMB plays a key role in overseeing the implementation and management of federal IT investments. To improve oversight, Congress enacted the Clinger-Cohen Act of 1996, which requires OMB to establish processes to analyze, track, and evaluate the risks and results of major capital investments in information systems made by federal agencies and report to Congress on the net program

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performance benefits achieved as a result of these investments.<sup>5</sup> Further, the act places responsibility for managing investments with the heads of agencies and establishes chief information officers (CIO) to advise and assist agency heads in carrying out this responsibility.

To help carry out its oversight role, in 2003 OMB established the Management Watch List, which included mission-critical projects that needed to improve performance measures, project management, IT security, or overall justification. Further, in August 2005, OMB established a High-Risk List, which consisted of projects identified by federal agencies, with the assistance of OMB, as requiring special attention from oversight authorities and the highest levels of agency management. Our reviews of these efforts have highlighted many issues regarding the accuracy and usefulness of these lists.<sup>6</sup> To address these issues, we made multiple recommendations to OMB, including disclosing risks and deficiencies of troubled projects and reporting to Congress on remediation plans for these projects.

More recently, in June 2009, OMB replaced the Management Watch List and High-Risk List with a public Web site—known as the IT Dashboard—to further improve the transparency into and oversight of agencies' IT investments. It displays detailed information on federal agencies' major IT investments, including assessments of actual performance against cost and schedule targets (referred to as ratings) for approximately 800 major federal IT investments. According to OMB, these data are intended to provide a near real-time perspective of the performance of these investments, as well as a historical perspective. Further, the public display of these data is intended to allow OMB, other oversight bodies, including Congress, and the general public to hold government agencies accountable for results and progress.

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<sup>5</sup>40 U.S.C. § 11302(c).

<sup>6</sup>GAO-09-624T; GAO-08-1051T; GAO-07-1211T; GAO-06-1099T; GAO-06-647; GAO-05-571T; GAO-05-276.



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## Prior Reviews of Agencies' IT Investment Governance Have Identified Weaknesses

We have previously reported on the enduring challenges that agencies have faced in effectively managing IT investments. Specifically, we found that agencies had weaknesses in several areas relating to the oversight, budget justification, planning and management of these investments, among others.

- In January 2004, we reported that agencies did not always have the mechanisms in place for investment review boards to effectively control their investments.<sup>7</sup> Among other things, we reported that selected agencies largely had IT investment management boards, but these boards did not have key policies and procedures in place for ensuring that projects are meeting expectations. Agencies cited a variety of reasons for not having these mechanisms in place, such as that the CIO position had been vacant, a requirement was not included in guidance, or that the process was being revised. We made recommendations to the agencies regarding those practices that were not fully in place.
- In January 2006, we reported that the underlying support for agencies' IT budget justifications for IT investments (OMB's Capital Asset Plan and Business Case, also known as the exhibit 300) was often inadequate.<sup>8</sup> Specifically, we found weaknesses in all 29 of the exhibit 300s that we reviewed. For example, 21 investments were required to use a specific management system as the basis for the cost, schedule, and performance information in the exhibit 300, but only 6 did so following OMB-required standards. We made recommendations aimed at improving related guidance and training and at ensuring the disclosure and mitigation of limitations on reliability.
- In July 2008, we reported that approximately half of the federal government's major IT projects had been rebaselined—i.e., had modifications made to their cost, schedule, and performance goals

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<sup>7</sup>GAO-04-49.

<sup>8</sup>GAO-06-250.



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to reflect changed circumstances.<sup>9</sup> Reasons for these rebaselines included changes in project goals, changes in funding, or inaccurate original baselines. We also found that agencies lacked comprehensive rebaselining policies and that without such policies, baseline changes could be used to mask cost overruns or schedule delays. We recommended that OMB issue guidance for rebaselining policies and that the major agencies develop policies that address identified weaknesses. Consequently, OMB issued a memorandum in June 2010 on baseline management that provided this guidance.<sup>10</sup>

- In June 2009, we reported that about half of the projects we examined did not receive selection reviews (to confirm that they support mission needs) or oversight reviews (to ensure that they are meeting expected cost and schedule targets).<sup>11</sup> Specifically, 12 of the 24 reviewed projects that were identified by OMB as being poorly planned did not receive a selection review; and 13 of 28 poorly performing projects we reviewed did not receive an oversight review by a department-level board. To address these weaknesses, we made recommendations to selected agencies to improve their department-level board representation and selection and oversight processes.
- In October 2009, we reported that selected agencies' policies were not fully consistent with best practices for a key program management tool.<sup>12</sup> Specifically, most agencies' policies lacked appropriate earned value management training requirements and did not adequately define criteria for revising baselines. Earned value management is a project management approach that, if implemented appropriately, provides objective reports of project status, produces early warning signs of impending schedule delays and cost overruns, and provides unbiased estimates of anticipated costs at completion. Additionally, we reported that for 13 of 16 selected investments, key practices necessary for sound earned value management execution

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<sup>9</sup>GAO-08-925.

<sup>10</sup>OMB Memorandum, M-10-27.

<sup>11</sup>GAO-09-566.

<sup>12</sup>GAO-10-2.

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had not been implemented. Finally, we estimated the total cost overrun of these investments to be about \$3 billion at program completion. We recommended that the selected agencies modify policies to be consistent with best practices, implement practices that address identified weaknesses, and manage negative earned value trends.

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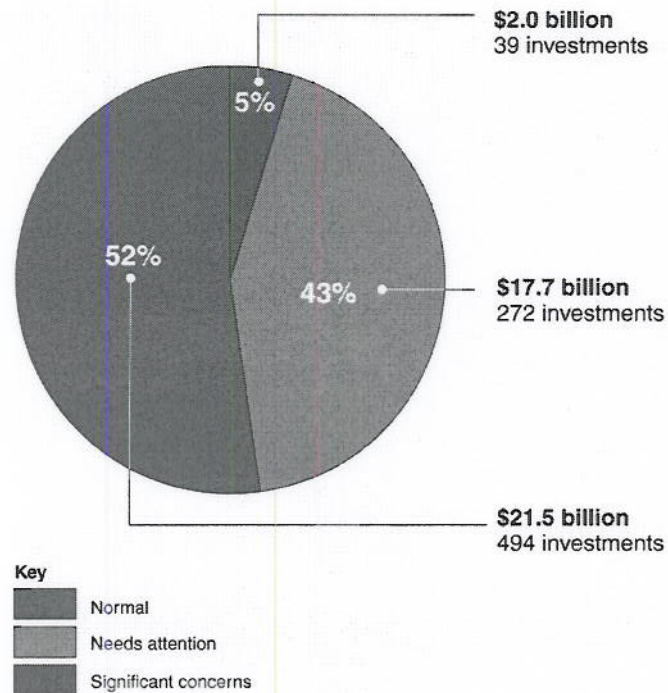
## OMB Has Several Initiatives Under Way to Improve the Oversight and Management of IT Investments, but Continued Attention Is Needed

OMB has initiated several efforts that have improved the oversight and transparency of IT investments. As discussed earlier, OMB deployed its IT Dashboard in June 2009, providing detailed information, including performance ratings, for over 800 major investments at federal agencies. Each investment's performance data are updated monthly, which is a major improvement from the quarterly reporting cycle used by OMB's prior oversight mechanisms.

As of March 2011, the Dashboard provided visibility into over 300 IT investments, totaling almost \$20 billion, in need of management attention (rated "yellow" to indicate the need for attention or "red" to indicate significant concerns). (See fig. 2.)



**Figure 2: Overall Performance Ratings of Major IT Investments on the Dashboard, as of March 2011**



Source: OMB's Dashboard.

The Federal CIO stated that the Dashboard has greatly improved oversight capabilities compared to previously used mechanisms, increased the accountability of agencies' CIOs, and established much-needed transparency.

However, in a series of reviews, we have found that the data on the Dashboard are not always accurate. Specifically, in reviews of selected investments from 10 agencies, we found that the Dashboard ratings were not always consistent with agency performance data.

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- In July 2010, we reported that cost and schedule performance ratings were not always accurate for selected investments.<sup>13</sup> Specifically, we reviewed investments at the Departments of Agriculture, Defense, Energy, Health and Human Services, and Justice and found that the cost and schedule ratings on the Dashboard were not accurate for 4 of 8 selected investments and the ratings did not take into consideration current performance. For example, the Dashboard rated a Justice investment's cost performance as "green" from July 2009 through January 2010, but our analysis showed the investment's cost performance was equivalent to a "yellow" rating, meaning it needed attention. We also found that there were large inconsistencies in the number of investment activities that agencies report on the Dashboard.
  - In March 2011, we also reported that agencies and OMB need to do more to ensure the Dashboard's data accuracy.<sup>14</sup> Specifically, we reviewed investments at the Departments of Homeland Security, Transportation, Treasury, and Veterans Affairs, and the Social Security Administration and found that cost ratings were inaccurate for 6 of 10 selected investments and schedule ratings were inaccurate for 9 of 10. We also found weaknesses in agency and OMB practices contributing to the inaccuracies on the Dashboard. In particular, we found that agencies had uploaded inconsistent or erroneous data, failed to submit data, and/or used unreliable source information. Additionally, we found that OMB's ratings understated some schedule variances and did not emphasize current performance.

In these reviews, we made recommendations to the agencies and OMB aimed at improving data accuracy on the Dashboard. Specifically, we recommended that the selected agencies comply with OMB's guidance to standardize activity reporting, provide complete and accurate data to the Dashboard on a monthly basis, and ensure that CIO ratings disclose issues that could undermine the accuracy of investment data. These agencies generally

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<sup>13</sup>GAO-10-701.

<sup>14</sup>GAO-11-262.



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concluded with our recommendations. We also recommended that OMB improve how it rates investments related to current performance and schedule variance. Further, we recommended that OMB report on the effect of planned changes to the Dashboard and provide guidance to agencies to standardize reporting. OMB agreed with most of these recommendations but disagreed with the recommendation to change how it reflects current investment performance in its ratings because Dashboard data are updated on a monthly basis. However, we maintained that current investment performance may not always be as apparent as it should be; while data are updated monthly, ratings include historical data, which can mask more recent performance.

Our recent and ongoing work has identified additional opportunities for using the Dashboard to increase operational efficiency and realize cost savings. As part of our first report responding to a statutory requirement that GAO identify duplicative goals or activities in the federal government, we reported on the potential for further significant savings if OMB implements planned improvements to the Dashboard, along with outstanding GAO recommendations.<sup>15</sup> We also have ongoing work to evaluate the data provided by the Dashboard in order to determine the extent to which agencies may be investing in similar projects, as well as OMB's efforts to identify and act on such duplicative investments.

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## Recent OMB Efforts Have Resulted in Improved Management of Troubled IT Investments

Drawing on the visibility into federal IT investments provided by the Dashboard, OMB has initiated efforts to improve the management of IT investments needing attention. In particular, in January 2010, the Federal CIO began leading TechStat sessions—a review of selected IT investments between OMB and agency leadership to increase accountability and transparency and improve performance. OMB has identified factors that may result in a TechStat session, such as

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<sup>15</sup>GAO, *Opportunities to Reduce Potential Duplication in Government Programs, Save Tax Dollars, and Enhance Revenue*, GAO-11-318SP (Washington, D.C.; Mar. 1, 2011).

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policy interests, Dashboard data inconsistencies, recurring patterns of problems, or an OMB analyst's concerns with an investment.

As of December 2010, OMB officials stated that 58 TechStat sessions have been held with federal agencies. According to OMB, these sessions have enabled the government to improve or terminate IT investments that are experiencing performance problems. For example, the June 2010, TechStat on the National Archives and Records Administration's Electronic Records Archives investment resulted in six corrective actions, including halting fiscal year 2012 development funding pending the completion of a strategic plan. In January 2011, we reported that the National Archives and Records Administration had not been positioned to identify potential cost and schedule problems early, and has not been able to take timely actions to correct problems, delays, and cost increases on this system acquisition program.<sup>16</sup> Moreover, we estimated that the program would likely overrun costs by between \$205 and \$405 million if the agency completed the program as originally designed. We made multiple recommendations to the Archives, including establishing a comprehensive plan for all remaining work, improving the accuracy of key performance reports, and engaging executive leadership in correcting negative performance trends. The Archivist of the United States generally concurred with our recommendations.

OMB has also identified 26 additional high-priority IT projects and plans to coordinate with agencies to develop corrective actions for these projects at future TechStat sessions. According to OMB officials, OMB and agency CIOs identified these projects using Dashboard data, TechStat sessions, and other forms of research. For example, OMB directed the Department of the Interior to establish incremental deliverables for its Incident Management Analysis and Reporting System, which will accelerate delivery of services that will help 6,000 law enforcement officers protect the nation's natural resources and cultural monuments.

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<sup>16</sup>GAO, *Electronic Records Archive: National Archive Needs to Strengthen Its Capacity to Use Earned Value Techniques to Management and Oversee Development*, GAO-11-86 (Washington, D.C.: Jan. 13, 2011).



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According to OMB, the TechStat sessions and other OMB management reviews have resulted in a \$3 billion reduction in life-cycle costs, as of December 2010. Further, OMB officials stated that, as a result of these sessions, 11 investments have been reduced in scope and 4 have been cancelled. Additional opportunities for potential cost savings and efficiencies exist with the use of the Dashboard by executive branch agencies to identify and make decisions about poorly performing investments, as well as its continued use by congressional committees to support critical oversight efforts.

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## Recent OMB Plan Aims to Reform IT Management

In addition to the efforts already described, in December 2010, OMB issued its *25 Point Implementation Plan to Reform Federal Information Technology Management*, a plan spanning 18 months to reform IT management throughout the federal government. The plan contains five major goals:

- strengthen program management,
- align the acquisition and budget processes with the technology cycle,
- streamline governance and improve accountability,
- increase engagement with industry, and
- apply “light technology” and shared solutions.

Many of these major goals, and their supporting reform initiatives, are consistent with our body of work on IT acquisition issues—which has shown a lack of implementation or execution of critical project management and executive governance activities. For example, as previously discussed, in a June 2009 review<sup>17</sup> of 24 IT projects identified by OMB as needing the most attention, about half did not receive selection or oversight reviews by agency governance boards. OMB’s plan acknowledges this issue and calls for agency

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<sup>17</sup>GAO-09-566.

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Investment Review Boards to be restructured according to OMB's TechStat session model, in support of the goal to streamline governance and improve accountability.

Additionally, in support of the goal to apply "light technology" and shared solutions, the plan outlines OMB's Federal Data Center Consolidation Initiative to guide federal agencies in developing and implementing data center consolidation plans. According to OMB, the number of federal data centers grew from 432 in 1998 to more than 2,000 in 2010. These data centers often house similar types of equipment and provide similar processing and storage capabilities. These factors have led to concerns associated with the provision of redundant capabilities, the underutilization of resources, and the significant consumption of energy. In our March 2011 report<sup>18</sup> on duplicative goals or activities within the federal government, we noted that data center consolidation makes sense economically and as a way to achieve more efficient IT operations. However, we also described key challenges associated with this effort, such as agencies' ability to ensure the accuracy of their inventories and plans and integrate consolidation plans into fiscal year 2012 agency budget submissions (as required by OMB).

In October 2010, OMB reported that all federal agencies had submitted consolidation plans. OMB plans to monitor agencies' progress through annual reports and has established a goal of closing 800 of the over 2,100 federal data centers by 2015. We are currently evaluating the data center initiative as well as agencies' efforts to develop and implement consolidation plans.

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In summary, OMB's recent efforts have resulted in greater oversight and management of federal IT investments, but continued attention is necessary to build on the progress that has been made. For example, OMB and federal agencies need to improve the accuracy of information on the Dashboard, and continue to use OMB's TechStat sessions to address troubled investments. In addition, the full

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<sup>18</sup>GAO-11-318SP.



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implementation of OMB's 18-month roadmap to reform federal IT management, along with outstanding GAO recommendations, should result in more effective IT management and delivery of mission-critical systems, as well as further reduction in wasteful spending on poorly managed investments.

Chairman Carper, Ranking Member Brown, and Members of the Subcommittee, this concludes my statement. I would be happy to answer any questions at this time.

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## Appendix I: GAO Contact and Staff Acknowledgements

If you should have any questions about this testimony, please contact me at (202) 512-9286 or by e-mail at [pownerd@gao.gov](mailto:pownerd@gao.gov). Individuals who made key contributions to this testimony are Carol Cha, Assistant Director; Lee McCracken; and Kevin Walsh.