United States Government Accountability Office

GAO

Report to the Committee on Homeland Security and Governmental Affairs, U.S. Senate

September 2011

ELECTRONIC GOVERNMENT

Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can Be Improved

ELECTRONIC GOVERNMENT

Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can Be Improved

Why GAO Did This Study

Congress enacted the Electronic Government (E-Gov) Act in 2002 to promote better use of the Internet and other information technologies (IT), thereby improving government services for citizens, internal government operations, and opportunities for citizen participation in government. Among other things, the act established the E-Gov Fund to support projects that expand the government's ability to carry out its activities electronically. The act also created the Office of Electronic Government within the Office of Management and Budget (OMB). The Administrator of this office is to assist the OMB Director in approving projects to be supported by the E-Gov Fund. The General Services Administration (GSA) is responsible for administering the fund and notifying Congress of how the funds are to be allocated to projects approved by OMB. GAO was asked to (1) identify and describe the projects supported by the E-Gov Fund, including the distribution of fiscal year 2010 funds among the projects and their expected benefits; and (2) for selected projects, identify their progress against goals. To do this, GAO reviewed project and funding documentation, analyzed project goals, and interviewed agency officials.

What GAO Recommends

GAO is recommending that GSA ensure that performance metrics that align with all project goals be developed for ongoing E-Gov projects. In written comments on a draft of this report, GSA concurred with GAO's recommendation.

View GAO-11-775. For more information, contact Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov.

What GAO Found

The $34 million appropriated by Congress in fiscal year 2010 for the E-Gov fund was distributed among 16 projects in six investment areas, as defined by GSA (see table).

Distribution of Fiscal Year 2010 E-Gov Fund Appropriation

Investment area	E-Gov fund resources
Improving Innovation, Efficiency, and Effectiveness and Federal IT	$10 million
Citizens Engagement and Access	5 million
Federal Funding and Accountability Act Initiative	9.5 million
Efficient Federal Workforce	5 million
Accessible and Transparent Government Information/Data.gov	3 million
E-Gov Project Management Best Practices	1.5 million
Total	**$34 million**

Source: GSA, OMB, and Treasury data.

One investment area—Improving Innovation, Efficiency, and Effectiveness and Federal IT—accounted for $10 million of the fiscal year 2010 appropriation. This area included an initiative on federal cloud computing—the use of Internet-based computing services. The remaining investment areas supported projects promoting government transparency, collaboration, and public participation and a project for developing best practices for IT management. Among other benefits, the 16 projects are expected to improve data quality and foster cross-agency knowledge sharing and communication as well as increase public access and use of federal datasets.

As of May 2011, the four E-Gov projects GAO selected for more detailed review had made varying progress toward their goals. For example, a cloud computing security initiative was still being developed; a dashboard for displaying target and actual customer service metrics had been developed in a pilot with four agencies, but had not been publicly released; a platform for government employees and contractors to use web-based networking and collaboration tools was in limited deployment; and a website (Data.gov) that allows the public to find, download, and use government-generated data had been fully launched. In addition, the four projects had defined performance metrics that aligned with many, though not all, of their major goals and intended benefits. Although the E-Gov Administrator (who serves as the Federal Chief Information Officer) announced the termination of two of the four reviewed projects in May 2011, the two ongoing projects do not yet have fully defined metrics that align with all of their major goals and intended benefits. Thus, managers and stakeholders cannot effectively assess project results and provide credible evidence of progress, which is particularly important in a resource-constrained environment.

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September 23, 2011

The Honorable Joseph I. Lieberman
Chairman
The Honorable Susan M. Collins
Ranking Member
Committee on Homeland Security
   and Governmental Affairs
United States Senate

The Electronic Government (E-Gov) Act of 2002[1] was enacted with the general purpose of promoting better use of the Internet and information technology (IT) to improve government services for citizens, internal government operations, and opportunities for citizen participation in government. Among other things, the act established the E-Gov Fund,[2] which is to be used to support projects that enable the federal government to expand its ability to conduct activities electronically. The act also created, within the Office of Management and Budget (OMB), the Office of Electronic Government, to be headed by an Administrator. The E-Government Administrator is to assist the Director of OMB in approving projects to be supported by the E-Gov Fund. The General Services Administration (GSA) is responsible for administration of the fund[3] and is required to submit to Congress a notification of how the funds are to be allocated to projects approved by OMB. In fiscal year 2010, Congress appropriated $34 million[4] to the fund.

At your request, we reviewed the projects supported by the E-Gov Fund. Specifically, our objectives were to (1) identify and describe the projects supported by the fund, including the distribution[5] of the funds

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[1]Pub. L. 107-347 (Dec. 17, 2002).

[2]Pub. L. 107-347, sec. 101(a); 44 U.S.C. § 3604.

[3]This includes transferring funds to agencies that are responsible for allocating funds for the project.

[4]These funds are "no-year" funds; that is, funds that remain available for an indefinite period of time.

[5]In this report, *distribution* is used to refer to both the transfer of funds to another agency's account and the allocation of funds within an agency.

appropriated in fiscal year 2010 among the projects, as well as their expected benefits; and (2) for selected projects, identify project progress against goals.

On May 25, 2011, we provided to committee staff written briefing slides that outlined the results of our study; on May 31, 2011, we met with them to discuss our findings, conclusions, and recommendation. During our discussion, the committee staff requested that we update our study results to reflect recent decisions and actions by OMB and GSA regarding two E-Gov Fund projects that were terminated subsequent to our review.

The purpose of this report is to provide the updated briefing slides to you and to officially transmit our recommendation to the Administrator of GSA. Appendix I of this letter provides the updated slides, which include details on our scope and methodology.

We conducted this performance audit from April 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.

Our study highlighted the following:

The E-Gov Fund was distributed among 16 projects in six investment areas defined by GSA in notifications to Congress. Table 1 shows the investment areas and planned spending, the projects in each investment area, and the distribution of funds to each project.

Table 1: Distribution of Fiscal Year 2010 E-Gov Fund Appropriation

Dollars in millions

Investment area	Projects	E-Gov Fund resources[a]
Improving Innovation, Efficiency, and Effectiveness of Federal IT	FedRAMP (Federal Risk and Authorization Management Program)	$1.91
	Apps.gov	0.75
	E-Mail as a Service	0.50
	SAJACC (Standards Acceleration to Jumpstart the Adoption of Cloud Computing)	1.00
	Data center inventory and consolidation planning	0.88
	USA.gov redesign	0.26
	Mobile Apps	0.60
	Payment Information Repository Proof of Concept	1.35
	Invoicing Standards Pilot	0.15
	Data.gov (Innovative functionality)[b]	2.50
	(Undistributed)[c]	0.10
	Subtotal	**10.00**
Citizens Engagement and Access/ Web 2.0	Citizen Engagement Platform	1.51
	Citizen Challenge Platform	1.00
	Citizen Services Dashboard	2.49
	Subtotal	**5.00**
Federal Funding and Accountability Act Implementation	USAspending.gov and dashboards	9.50
Efficient Federal Workforce	FedSpace	5.00
Accessible and Transparent Government Information/Data.gov	Data.gov (Basic functionality)[b]	3.00
E-Gov Project Management Best Practices	Project Management Best Practices	1.50
Total		**$34.00**

Source: GSA, OMB, and Treasury data.

[a]As of November 30, 2010.

[b]Funds for Data.gov were distributed between two investment areas; for simplicity, we treat Data.gov as one project.

[c]As of November 30, 2010, $100,000 was undistributed.

As the table shows, one investment area supported nine innovation projects,[6] including projects supporting an initiative on federal cloud computing. For example, the FedRAMP project (Federal Risk and Authorization Management Program) aims to define and implement a set of controls and common processes for conducting security assessments and authorizations of cloud computing systems offering services to agencies. The remaining investment areas supported six projects[7] promoting the open government principles of transparency, collaboration, and public participation and one project to develop best practices for IT management. For example, the goal of the Citizen Challenge Platform project is to provide a platform for agencies to post challenges and the public to submit solutions. The intended benefits of the 16 projects include improving government services for citizens, internal government operations, and opportunities for citizen participation in government. Further details on each project are provided in the briefing (app. I).

As of May 2011, the four E-Gov Fund projects we selected for more detailed review (FedRAMP, Citizen Services Dashboard, FedSpace, and Data.gov) had made varying progress toward their goals and had defined performance metrics that aligned with many, though not all, major goals and intended benefits.[8]

- The FedRAMP project had released a draft proposal for security assessments and continuous monitoring for cloud computing systems; however, it had not yet finalized the proposal or begun implementation, initially expected to occur in September 2010. GSA officials attributed the delay to the need to collaborate with a wide range of stakeholders to gain agreement on controls and other issues.

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[6]The investment area also supported innovative aspects of one project, the Data.gov website; the site's basic functions were supported by another of the six investment areas. For simplicity, we treat Data.gov as one project categorized under the investment area related to accessible government information.

[7]These projects include Citizen Engagement Platform, Citizen Challenge Platform, Citizen Services Dashboard, USAspending.gov and dashboards, FedSpace, and Data.gov.

[8]OMB has directed agencies to define and select meaningful outcome-based performance metrics that measure the intended result of carrying out a program or activity. We have also reported that aligning performance metrics with goals can help to measure progress toward those goals, emphasizing the quality of the services an agency provides or the resulting benefits to users. Industry experts describe performance measures as necessary for management and planning and for monitoring the performance of a project against plans and stakeholders' needs.

Further, the project had defined performance metrics addressing the initial adoption of the program by agencies, such as number of customers, but metrics related to goals such as improving consistency and fostering cross-agency knowledge sharing and communication of best practices had not yet been defined.

- The Citizen Services Dashboard was to promote customer service across the federal government by displaying metrics online for top citizen-facing services. The project worked with four pilot agencies to select and define an initial set of customer services and metrics that would be most meaningful for the public (for example, for the Social Security Administration, one chosen service was retirement benefits; a related metric was speed of processing). However, at the time of our review, the dashboard had not yet been publicly released. According to GSA officials, this did not occur because of funding uncertainties. One performance metric, increasing the number of services displayed, had been defined, but metrics for goals such as driving service improvements had not yet been fully defined.

- The FedSpace project was to provide a platform for executive branch employees and contractors to use collaboration and networking tools to increase cross-agency collaboration and knowledge sharing. The project implemented a collaboration website and made it available for pilot testing and use by federal employees. However, according to officials, funding uncertainties had inhibited the expansion of the pilot to full deployment, originally scheduled for September 2010. A number of performance metrics related to increased site participation had been defined, but metrics for goals such as improving business processes had not yet been defined.

- The Data.gov project had made progress toward its goals, which include increasing public access and use of federal datasets. For example, the site deployed "community pages"—collections of information on specific topics, such as the "Semantic Web."[9] The performance metrics defined for Data.gov address a range of goals, and the number of metrics has increased since the project's inception to address more aspects of project goals.

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[9]Defined as "a web of data that can be processed directly and indirectly by machines," the Semantic Web involves the use of machine-readable metadata that reflect the semantics, or meaning, of information on the web, increasing the potential usefulness of the data.

In May 2011, two of the four projects were terminated. Specifically, Congress passed an appropriation for fiscal year 2011 that provided $8 million for the E-Gov Fund,[10] for which $35 million had been requested. On May 24, the Federal Chief Information Officer (CIO) announced that as a result of the reduced funding, the scope of several projects would be altered: among other things, the FedSpace and Citizen Services Dashboard projects would be terminated, and planned enhancements to other projects would be postponed. According to the CIO's announcement, each of these initiatives would be revisited if the E-Gov Fund received the $34 million requested for fiscal year 2012.

As of June 2011, GSA officials stated that they had not been able to identify opportunities for collaborations that would make it financially feasible to continue using the capabilities developed by the FedSpace and Citizen Services Dashboard projects. Thus, the officials told us that they were taking the systems off-line and planned to archive and store the system software so that it could be revived and made operational if funding to sustain operations were to become available in the future.

Conclusions

The fiscal year 2010 E-Gov Fund appropriation supported 16 projects that aimed to improve IT and promote innovation, collaboration, public participation, and transparency. The projects we reviewed had made varying progress toward their goals and had begun to define metrics to measure success. Additionally, the projects could potentially lead to benefits including cost savings and efficiency, customer service transparency, and governmentwide collaboration and information sharing. However, defining performance metrics and aligning these with project goals would help ensure that managers and stakeholders can assess project results and provide credible evidence of progress, which is particularly important in a resource-constrained environment.

Recommendation for Executive Action

We are recommending that for any E-Gov Fund projects that continue to be supported, the Administrator of the General Services Administration ensure that performance metrics are developed that align with those project goals, especially those that currently lack such metrics.

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[10]Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. 112-10 (Apr. 15, 2011).

Agency Comments and Our Evaluation

In written comments on a draft of this report, which are reprinted in appendix II, GSA's Administrator stated that the agency concurred with our recommendation and will work to align goals and performance measures for E-Gov Fund projects that currently lack such measures. The agency also provided a technical comment on the draft report, which we have addressed as appropriate.

We also provided a draft of this report to the Office of Management and Budget and the Departments of Commerce and the Treasury. The three agencies provided e-mail responses, stating that they had no comments on the draft report.

We are sending copies of this report to the Director of the Office of Management and Budget, the Administrator of the General Services Administration, the Secretaries of Commerce and the Treasury, and other interested parties. This report will also be available at no charge on GAO's website at http://www.gao.gov.

Should you or your staffs have any questions about this report, please contact me at (202) 512-6304 or melvinv@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs may be found on the last page of this report. GAO staff who made major contributions to this report are listed in appendix III.

Valerie C. Melvin
Director, Information Management
  and Human Capital Issues

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Electronic Government: Projects Aimed at Promoting Improvement, Innovation, and Transparency

Briefing for Staff Members of the U.S. Senate Committee on Homeland Security and Governmental Affairs

May 25, 2011

These briefing slides have been updated to reflect changes to electronic government projects that occurred subsequent to the identified briefing date.

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Introduction

The Electronic Government (E-Gov) Act of 2002[1] was enacted with the general purpose of promoting better use of the Internet and other information technologies to improve government services for citizens, internal government operations, and opportunities for citizen participation in government. Among other things, the act established the Electronic Government Fund,[2] which is to be used to support projects that enable the federal government to expand its ability to conduct activities electronically.

The act also created, within the Office of Management and Budget (OMB), the Office of Electronic Government, to be headed by an Administrator. The E-Government Administrator is to assist the Director of OMB in approving projects to be supported by the E-Gov Fund. The General Services Administration (GSA) is responsible for administration of the fund[3] and is required to submit to Congress a notification of how the funds are to be allocated to projects approved by OMB.

In fiscal year 2010, Congress appropriated $34 million to the fund, which has been used to support, among other things, projects aimed at expanding federal use of cloud computing[4] as well as other goals. These funds are "no-year" funds; that is, funds that remain available for an indefinite period of time.

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[1]Pub. L. 107-347 (Dec. 17, 2002).
[2]Pub. L. 107-347, sec. 101(a); 44 U.S.C. § 3604.
[3]This includes transferring funds to agencies that are responsible for allocating funds for the project.
[4]Cloud computing relies on Internet-based services and resources to provide computing services to customers.

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Objectives, Scope, and Methodology

You asked that we review the projects supported by the E-Gov Fund. Specifically, as agreed with your office, our objectives were to (1) identify and describe the projects supported by the E-Gov Fund, including the distribution[5] of the funds appropriated in fiscal year 2010 among the projects, as well as their expected benefits, and (2) for selected projects, identify project progress against goals.

To address our first objective, we reviewed project and funding documentation (such as vision statements, business cases, project plans, schedules, program management briefings, and expenditure plans) and interviewed cognizant agency officials.

To address our second objective, we analyzed project goals for four of the projects, which we identified in project documentation (such as project plans and schedules) and through discussions with agency officials. We selected these projects based primarily on those that had the largest distributions from the E-Gov Fund. For the selected projects, we identified project progress and the extent to which goals and benefits were achieved, based on our review of management review briefings and other relevant documentation, as well as functionality of Web sites and interviews with agency officials. Attachment 1 contains additional details on our objectives, scope, and methodology.

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[5]In this briefing, *distribution* is used to refer to both the transfer of funds to another agency's account and allocation of funds within an agency.

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Objectives, Scope, and Methodology

In addition, following our May 2011 briefing, we agreed with your office to update our study results to reflect recent developments with regard to the projects: specifically, the termination of two of the projects that we had selected for detailed review. To do so, we reviewed OMB's announcement of the termination and consulted cognizant GSA officials.

We performed the initial audit work from April 2010 through May 2011; the work to update the initial audit was performed from June through July 2011. We conducted our work 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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Results in Brief

The $34 million that Congress appropriated in fiscal year 2010 for the E-Gov Fund was distributed among 16 projects in six investment areas. One investment area supported nine innovation projects,[6] including projects supporting an initiative on federal cloud computing. For example, the FedRAMP project (Federal Risk and Authorization Management Program) aims to define and implement a set of controls and common processes for conducting security assessments and authorizations of cloud computing systems offering services to agencies. The remaining investment areas supported one project to develop best practices for information technology management and six projects promoting the open government principles of transparency, collaboration, and public participation. For example, the goal of the project called "FedSpace" was to promote cross-agency collaboration and knowledge sharing by providing a platform for executive branch employees and contractors to use Web 2.0[7] networking and collaboration tools. The intended benefits of the 16 projects include improving government operations, promoting public participation in government activities, and improving electronic services to citizens.

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[6]It also supported innovative aspects of one of the projects, the Data.gov Web site: the site's basic functions were supported by another of the six investment areas; for simplicity, we treat Data.gov as one project.

[7]Web 2.0 refers to a second generation of the World Wide Web as an enabling platform for communities of interest, collaboration, and interactive services. Technologies include Web logs ("blogs"), which allow users to respond online to postings; social-networking sites (such as Facebook and Twitter), which can facilitate informal sharing of information among organizations and individuals; and "wikis," which allow individual users to directly collaborate on the content of Web pages.

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Results in Brief

The four selected projects, FedRAMP, Citizen Services Dashboard, FedSpace, and Data.gov, made varying progress toward their goals. As of late May 2011, the projects were in different stages of maturity: FedRAMP was still being developed; the Citizen Services Dashboard had been developed in a pilot with four agencies, but was not publicly released; FedSpace was in limited deployment; and Data.gov was a fully launched Web site. The four projects had defined performance metrics that aligned with many, though not all major goals and intended benefits, with more mature projects having more numerous and well-aligned goals.

- The FedRAMP project is to develop and implement a process for conducting joint or shared security assessments, authorizations, and continuous monitoring for cloud computing systems intended for multi-agency use. It released a draft proposal, including a set of baseline security controls, for public comment, and it is currently working to address comments and develop a process for implementation. However, it has not yet finalized the proposal or begun implementation, initially expected to occur in late 2010. GSA officials attributed the delay to the need to collaborate with a wide range of stakeholders to gain agreement on controls and other issues. The project has defined performance metrics addressing the initial take-up of the program, such as number of customers, but metrics related to goals such as improving consistency have not yet been defined.

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- The Citizen Services Dashboard (subsequently terminated) was to promote customer service across the federal government by displaying metrics online for top citizen-facing services. The project worked with four pilot agencies to select and define an initial set of customer services and metrics that would be most meaningful for the public (for example, for the Social Security Administration, one chosen service was retirement benefits; a related metric is speed of processing). However, the dashboard had not been publicly released. According to GSA officials, the dashboard had not yet been released to the public because of funding uncertainties. One performance metric, increasing the number of services displayed, had been defined, but metrics for goals such as driving service improvements had not yet been defined.

- The FedSpace project (subsequently terminated) was to provide a platform for executive branch employees and contractors to use collaboration and networking tools to increase cross-agency collaboration and knowledge sharing. The project implemented a collaboration Web site and made it available for pilot testing and use by federal employees. However, according to officials, funding uncertainties inhibited the expansion of the pilot to full deployment, originally scheduled for September 2010. A number of performance metrics related to increased site participation were defined, but metrics for goals such as improving business processes were not yet defined.

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- The purpose of the Data.gov Web site is to provide public access to datasets collected or developed by federal agencies. Through maintaining and enhancing the site, the Data.gov project is making progress toward goals that include increasing public access and use of federal datasets. For example, the site deployed "community pages"—collections of information on specific topics, such as the "Semantic Web."[8] The performance metrics defined for Data.gov address a range of goals, and the number of metrics has increased since the project's inception to address more aspects of project goals.

Defining performance metrics and aligning these with project goals will be important for ensuring that managers and stakeholders can assess project results and provide credible evidence of progress, particularly in a resource-constrained environment. We are recommending that for those projects that continue to be supported, GSA ensure that performance metrics are developed that align with those project goals that currently lack such metrics.

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[8]Defined as "a web of data that can be processed directly and indirectly by machines," the Semantic Web involves the use of machine-readable metadata that reflect the semantics, or meaning, of information on the Web, increasing the potential usefulness of the data.

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Results in Brief

We provided a draft of the initial briefing for review and comment to GSA, OMB, and the Departments of the Treasury and Commerce (which received E-Gov Fund support for certain projects). In written comments, the GSA Administrator stated that the agency concurred with our recommendation. Also, GSA and OMB both provided technical comments, which we incorporated into the draft as appropriate. OMB offered no further comment on the draft. The Departments of the Treasury and Commerce had no comments on the draft.

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Background

A long-standing goal of the Congress has been to improve the performance and transparency of the federal government by use of information technology (IT). This was, for example, a major goal of the E-Government Act of 2002.[9] Under the act, the Administrator of OMB's Office of Electronic Government is responsible for assisting the Director of OMB in carrying out the act and other e-government initiatives, including overseeing the distribution of funds from the E-Gov Fund and ensuring appropriate administration and coordination of the fund. The current E-Gov Administrator has also been designated the federal Chief Information Officer (CIO).

Other responsibilities of the E-Gov Administrator include

- promoting innovative use of IT by agencies;

- leading the activities of the CIO Council;

- working with the Administrator of OMB's Office of Information and Regulatory Affairs in setting strategic direction for e-government under relevant laws, including the Paperwork Reduction Act and the Clinger-Cohen Act; and

[9]Pub. L. No. 107-347 (Dec. 17, 2002).

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- working with the Office of Information and Regulatory Affairs Administrator and other OMB offices to oversee implementation of e-government under the act and other laws.

According to the act, projects supported by the E-Gov Fund may include efforts to make federal government information and services more readily available to members of the public, making it easier for the public to apply for benefits, receive services, pursue business opportunities, submit information, and conduct transactions with the federal government. Such projects may also include efforts to enable federal agencies to take advantage of IT in sharing information and conducting transactions with each other and with state and local governments.

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Current and past Administrations have also focused on using IT to improve the effectiveness of government. In its *Analytical Perspectives* on the fiscal year 2010 budget,[10] the current Administration described leveraging the power of technology to transform the federal government, with a focus on

- promoting a more transparent, participatory, and collaborative government through the adoption of innovative Web 2.0 technologies;

- modernizing and improving the effectiveness of government services through the adoption of modern IT systems;

- securing federal systems and national information infrastructure; and

- saving money by improving the IT investment planning process through leveraging investments for wider use across federal agencies, eliminating duplicative and poorly managed projects, and streamlining IT procurement.

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[10]OMB, *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2010*. The *Analytical Perspectives* is one of several documents that support the President's annual budget request to Congress.

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The focus on transparency, participation, and collaboration in the *Analytical Perspectives* reflects the Administration's emphasis on these as important principles for open government, as described in a presidential memorandum of January 2009.[11] This memorandum directed OMB and GSA to work with executive agencies to develop recommendations for an Open Government Directive. When issued in December 2009,[12] this directive required, among other things, that agencies publish government information online, develop Open Government Plans, and improve the quality of government information. For example, the directive required each agency, within 45 days, to identify and publish online in an open format[13] at least three high-value datasets and to designate a high-level senior official to be accountable for the quality of federal spending information publicly disseminated through USAspending.gov and similar Web sites.

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[11]Presidential memorandum, *Transparency and Open Government* (Jan. 21, 2009).
[12]OMB Memorandum, M-10-06, *Open Government Directive* (Dec. 8, 2009).
[13]The directive defines an open format as one that is platform independent, machine readable, and made available to the public without restrictions that would impede its re-use.

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Background
Cloud Computing

As part of its focus on adopting modern IT systems, the *Analytical Perspectives* also highlighted cloud computing, an emerging form of delivering computing services, as having the potential to provide IT services more quickly and at a lower cost than traditional methods. This form of computing relies on Internet-based services and resources to provide computing services to customers, potentially freeing them from the burden and costs of maintaining the underlying infrastructure. Cloud computing takes advantage of several broad evolutionary trends in IT, including the use of virtualization;[14] the decreased cost and increased speed of networked communications, such as the Internet; and overall increases in computing power. Examples of cloud computing include Web-based e-mail applications and common business applications that are accessed online through a browser, instead of through a local computer. Depending on the type of service offered, cloud offerings may be referred to as Software as a Service (such as offering e-mail or other applications), Platform as a Service (such as providing the capability for customers to deploy applications), or Infrastructure as a Service (such as providing data storage or other computing resources).[15]

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[14]Virtualization allows multiple, software-based "virtual" machines, which may have different operating systems, to run in isolation, side-by-side, on the same physical machine. Virtual machines can be stored as files, making it possible to save a virtual machine and move it from one physical server to another.

[15]The National Institute of Standards and Technology (NIST) has developed a draft special publication to define cloud computing: NIST, *The NIST Definition of Cloud Computing (Draft), Recommendations of the National Institute of Standards and Technology*, Special Publication 800-145 (Draft) (Gaithersburg, Md., January 2011).

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Cloud Computing

In May 2010, we reported on information security issues associated with cloud computing.[16] We concluded, among other things, that cloud computing presents both possible benefits and risks. Benefits include those related to the use of virtualization (such as faster deployment of patches) and economies of scale (such as potentially reduced costs for disaster recovery). Risks include dependence on a vendor's security practices and assurances, dependency on the vendor, and concerns related to sharing of computing resources.

We noted that governmentwide cloud computing security initiatives were under way, but significant work remained. For example, OMB had not yet finished its cloud computing strategy, GSA faced challenges in completing a procurement for cloud computing services owing partially to information security concerns, and NIST had not yet issued cloud-specific security guidance. We noted also that although the CIO Council was developing a shared assessment and authorization process,[17] which could help foster adoption of cloud computing, this process remained incomplete.

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[16]GAO, *Information Security: Federal Guidance Needed to Address Control Issues with Implementing Cloud Computing*, GAO-10-513 (Washington, D.C.: May 27, 2010).
[17]This process would address authorizing operation of a system, including the development and implementation of risk assessments and security controls. The assessment and authorization process is described in NIST's SP 800-37, *Guide for Applying the Risk Management Framework to Federal Information Systems*, revision 1. This process replaces the certification and accreditation process described in the previous version, entitled *Guide for the Certification and Accreditation of Federal Information Systems*.

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Background
Cloud Computing

Accordingly, we made recommendations to OMB, GSA, and NIST regarding cloud computing security, including that

- OMB establish milestones for completing a strategy, ensuring that it addresses the information security challenges associated with cloud computing, and have the CIO Council develop a plan, with milestones, for completing a governmentwide security assessment and authorization process for cloud services;

- GSA ensure that security is considered in its planned procurement of cloud computing services; and

- NIST issue guidance related to cloud computing security.

All three agencies generally concurred with our recommendations. In January, NIST issued a set of draft guidelines, and in February 2011, OMB issued a strategy.[18]

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[18]NIST, *Guidelines on Security and Privacy in Public Cloud Computing*, Draft Special Publication 800-144 (January 2011); Vivek Kundra, U.S. CIO, *Federal Cloud Computing Strategy* (Feb. 8, 2011).

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Background
E-Gov Fund Appropriation in Fiscal Year 2010

In fiscal year 2010, Congress appropriated $34 million to the E-Gov Fund, administered by GSA.[19] Under the E-Gov Act, before the funds could be transferred to any agency, GSA was required to submit to the Congress a notification and description of how the funds are to be allocated and how the expenditure would further the purposes of the act. In addition, the House report accompanying the 2010 appropriations bill directed GSA to submit a detailed expenditure plan before obligation of funds, describing the projects selected and their budget, timeline, objectives, and expected benefits.[20] GSA submitted a plan in December 2009, as well as a later modification (July 2010); according to the letter accompanying the plan, it was to serve both as the expenditure plan and as the notification required in the act.

According to GSA, OMB and GSA collaborated in developing the budget request and expenditure plan for the E-Gov Fund, involving other participating agencies and the CIO Council.

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[19]In fiscal year 2008, $3 million was appropriated for the E-Gov Fund; in fiscal year 2009, no money was appropriated for the fund.
[20]House Committee Report 111–202, Financial Services and General Government Appropriations bill, 2010 (July 10, 2009); see also, Pub. L. 111-117, 123 Stat. 3190, and Conference Report 111-366 (Dec. 8, 2009).

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Background
E-Gov Fund Appropriation in Fiscal Year 2010

According to the expenditure plan, as modified in July 2010, these funds were to be divided among six investment areas, as shown in table 1.

Table 1: Planned Use of Fiscal Year 2010 E-Gov Fund Appropriation (as Modified in July 2010)
(Dollars in millions)

Investment areas	Planned spending
1. Improving Innovation, Efficiency and Effectiveness and Federal IT	$10.0
2. Citizens Engagement and Access/Web 2.0	5.0
3. Federal Funding and Accountability Act Implementation	9.5
4. Efficient Federal Workforce	5.0
5. Accessible and Transparent Government Information/Data.gov	3.0
6. E-Gov Project Management Best Practices	1.5
Total	**$34.0**

Source: GSA.

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Background
Oversight Board

To oversee the projects, an E-Gov Fund Projects Oversight Board was established; the board's charter was approved in July 2010. It describes the board as responsible for executive review, opportunity and risk management, and decision-making of the E-Gov Fund technology projects and advising the federal CIO on critical matters and project direction, as appropriate. According to the charter, the oversight board is to provide recommendations to the federal CIO regarding

- approval, disapproval, or modification of funding of E-Gov Fund projects;

- corrective actions for investments not meeting cost, schedule, or benefit expectations;

- project terminations at key milestones or when they fail to meet performance, cost, or schedule criteria;

- migration paths for transitioning pilot projects to production environments; and

- approval of funding and strategy for transitioning pilot projects to ongoing operational status.

In addition, the board is to meet at least once a month.

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Background
Oversight Board

The charter describes the membership of the board, shown in table 2.

Table 2: Membership of E-Gov Fund Projects Oversight Board

Role	Agency	Member
Chair	OMB	Deputy Administrator for E-Government and Information Technology
Co-chairs	GSA	Associate Administrator for the Office of Citizen Services and Innovative Technologies
		Deputy Associate Administrator for the Office of Governmentwide Policy
Voting members	OMB	E-Gov Portfolio Manager for General Government
	OMB	Federal Chief Architect
	OMB	E-Gov Capital Planning Policy Lead
	GSA	E-Gov Project Portfolio Officer
	Treasury	E-Gov Project Portfolio Officer
	CIO Council (excluding OMB)	Two representatives, appointed by the federal CIO
	OMB	General Government Resource Management Officer
	GSA	Chief Financial Officer's Office
Nonvoting members	(varies)	E-Gov Program Managers

Source: GSA and OMB data.

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Background
Recent Changes to E-Gov Fund Resources

On October 1, 2010, GSA notified the Congress that during the fiscal year 2011 Continuing Resolution (CR) period, it intended to use $1.8 million for E-Gov Fund projects and activities, specifying that this amount would support efforts to improve transparency in federal spending data, including management of USAspending.gov[21] and the IT Dashboard[22] (these projects were funded by the $9.5 million planned for "Federal Funding and Accountability Act Implementation" in table 1).

On March 7, 2011, GSA notified the Congress of its intention to change its expenditure plan for the E-Gov Fund and redistribute those funds remaining from the $34 million in fiscal year 2010 appropriated funds and the $1.8 million referred to in its October 2010 letter. According to the notification, these unspent funds amounted to approximately $2.6 million. To meet short-term requirements until additional funds were appropriated, GSA intended to focus the $2.6 million on funding the operation of systems supported by the E-Gov Fund, including USAspending.gov. The distribution was as shown in table 3.

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[21]USAspending.gov is a free, publicly accessible Web site, containing data on federal awards (e.g., contracts, loans, and grants), as required by the Federal Funding Accountability and Transparency Act of 2006.
[22]The IT Dashboard, itdashboard.gov, displays information on federal IT investments.

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Background
Recent Changes to E-Gov Fund Resources

Table 3: Planned Use of Remainder of Fiscal Year 2010 E-Gov Fund Appropriation and Funds from Fiscal Year 2011 CR (per March 2011 Notification)
(Dollars in millions)

Investment areas	Planned spending
Transparency and Accountability in Government Information	$1.82
Efficiency and Cost-Effectiveness of Federal IT	0.78
Total	**$2.60**

Source: GSA.

According to GSA officials, the first area in table 3 combines investment areas 3 and 5 in table 1 ("Federal Funding and Accountability Act Implementation" and "Accessible and Transparent Government Information/Data.gov"). The second combines the other areas.

The most recent (April 2011) appropriation for fiscal year 2011 provided $8 million for the E-Gov Fund,[23] for which $35 million had been requested. At a Senate hearing on April 12,[24] the federal CIO said that the implications of the cut were still being evaluated, "but we are going to have to make some tough decisions around which systems are going to have to go off-line versus what can be supported with $8 million in funds." GSA officials told us they were also considering options for transferring projects to other portfolios.

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[23]Department of Defense and Full-Year Continuing Appropriations Act, 2011, Pub. L. 112-10 (Apr. 15, 2011).
[24]Subcommittee on Federal Financial Management, Government Information, Federal Services, and International Security (under Senate Committee on Homeland Security and Governmental Affairs), April 12, 2011.

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Background
Recent Changes to E-Gov Fund Resources

Following the April 12 hearing, the federal CIO announced on May 24 that, as a result of the reduced funding, plans for the E-Gov Fund for fiscal year 2011 were revisited, and the scope of several projects was altered. The CIO stated, among other things, that two projects, FedSpace and the Citizen Services Dashboard, would be terminated, and planned enhancements to other projects would be postponed. Additionally, the CIO stated that each of these initiatives would be revisited if the E-Gov Fund received the $34 million requested for fiscal year 2012.

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Objective 1 Results: E-Gov Fund Project Descriptions

The E-Gov Fund supported 16 projects with the $34 million appropriated for fiscal year 2010. The bulk of the projects were led by GSA in its role as provider of services to government agencies. In addition, funds were provided to NIST for a cloud standards effort, and to the Department of the Treasury for efforts regarding invoicing and federal payment information.

Table 4 shows the distribution of funds among the projects in the expenditure plan before the request for redistribution of March 7, 2011. The projects are listed according to the investment areas in the expenditure plan as amended in July 2010.[25] The table also presents GSA's estimated balance of funds remaining for each project before the redistribution.[26]

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[25]Subtotals are provided for those investment areas having multiple projects; see table 1 for planned funding per investment area.
[26]Treasury also supplied balance information.

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E-Gov Fund Project Descriptions

Table 4: Distribution of Fiscal Year 2010 E-Gov Fund Appropriation before March 2011 Redistribution
(Dollars in millions)

Expenditure plan investment areas and projects	Lead agency	E-Gov Fund resources [a]	Estimated balance before redistribution [b]
1. Improving Innovation, Efficiency and Effectiveness and Federal IT:			
Federal Cloud Computing Initiative:			
FedRAMP (Federal Risk and Authorization Management Program)	GSA	$1.91	<$0.001
Apps.gov	GSA	0.75	0
E-Mail as a Service	GSA	0.50	<0.001
SAJACC (Standards Acceleration to Jumpstart the Adoption of Cloud Computing)	NIST	1.00	0
Data center inventory and consolidation planning	GSA	0.88	0
USA.gov redesign	GSA	0.26	0.11
Mobile Apps	GSA	0.60	0.38
Payment Information Repository Proof of Concept	Treasury	1.35	0.39[c]
Invoicing Standards Pilot	Treasury	0.15	0
Data.gov (Innovative functionality)[d]	GSA	2.50	0
	Subtotal	*$9.90[e]*	

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E-Gov Fund Project Descriptions

Expenditure plan investment areas and projects	Lead agency	E-Gov Fund resources[a]	Estimated balance before redistribution[b]
2. Citizens Engagement and Access/ Web 2.0:			
Citizen Engagement Platform	GSA	$1.51	$0.30
Citizen Challenge Platform	GSA	1.00	0.01
Citizen Services Dashboard	GSA	2.49	<0.001
Subtotal		5.00	
3. Federal Funding and Accountability Act Implementation:			
USAspending.gov and dashboards	GSA	9.50[f]	0.07
4. Efficient Federal Workforce:			
FedSpace	GSA	5.00	0.05
5. Accessible and Transparent Government Information/Data.gov:			
Data.gov (Basic functionality)	GSA	3.00	0.96
6. E-Gov Project Management Best Practices:			
Project Management Best Practices	GSA	1.50	0.03

Source: GSA, OMB, and Treasury data.

[a]As of November 30, 2010.
[b]As of January 22, 2011, except as noted.
[c]In May 2011, the Treasury planned to return this balance to the E-Gov Fund.
[d]Funds for Data.gov's basic functionality were also distributed from investment area 5.
[e]Of $10 million planned for this investment area (see table 1), about $100,000 was not distributed as of November 30, 2010.
[f]GSA notified the Congress in October 2010 that it intended to use an additional $1.8 million of Continuing Resolution funds for this project.

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E-Gov Fund Project Descriptions

The following slides describe the 16 projects, ordered according to the six investment areas in GSA's spend plan for the E-Gov Fund appropriation. For each project, we present first basic information: the project's name; the E-Gov Fund resources from the fiscal year 2010 appropriation distributed to the project (before the March 2011 reallocation); the project's status (completed or ongoing); and approximate time frames (based on project documentation and statements from agency officials), that is, approximate dates that project planning began, and for projects that are completed, when the project was completed.[27]

We then summarize the project's purpose and intended benefits, followed by a brief project description.

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[27]For ongoing projects, projected completion dates are uncertain in light of funding uncertainties.

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E-Gov Fund Project Descriptions: **Investment area 1**

Investment area 1 (Improving Innovation, Efficiency and Effectiveness and Federal IT) supported nine projects that are to promote innovations and improvements in federal IT, as well as the innovative portions of the Data.gov project.[28] Four of these projects are related to the Federal Cloud Computing Initiative, a set of efforts to support the Administration's emphasis on moving government IT toward a cloud model:

- Federal Risk and Authorization Management Program (FedRAMP),

- Apps.gov,

- E-Mail as a Service, and

- Standards Acceleration to Jumpstart the Adoption of Cloud Computing (SAJACC).

Although GSA leads the Federal Cloud Computing Initiative as a whole, SAJACC is led by NIST. According to GSA officials, planning for the Federal Cloud Computing Initiative began in early 2009. GSA's current investment plans for Cloud Computing extend through September 2014.[29]

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[28]For simplicity, we treat Data.gov as one project despite this funding division, discussing it under investment area 5.
[29]GSA's fiscal year 2012 Capital Asset Plan and Business Case Summary, Exhibit 300.

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E-Gov Fund Project Descriptions: Investment area 1
FedRAMP

Project: **FedRAMP**

*FY 2010 E-Gov Fund
resources:*
$1.91 million

Status:
Ongoing

Time frames:
Sept. 2009–

Purpose: To provide joint security assessments, authorizations, and continuous monitoring of cloud computing systems[30]

Intended benefits: Facilitate adoption of cloud computing, allow agencies to leverage other agencies' assessments and authorizations, avoid duplication, save or avoid cost.

Description: Part of the Federal Cloud Computing Initiative, FedRAMP is intended to address security authorization of cloud computing systems, among other things. To do so, FedRAMP aims to define an agreed-upon set of baseline security controls applicable to assessing the security posture of low- and moderate-impact cloud systems.[31] The project is then to develop and implement processes based on the controls. The program structure is to include a Joint Authorization Board to perform authorizations and a FedRAMP Office to manage and support the program. (More information on this project is provided under objective 2 in this briefing.)

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[30]This is the effort to develop a shared assessment and authorization process, as mentioned in our previous work: GAO-10-513.
[31]That is, systems for which agencies have assigned a security impact value of low or moderate for the security objectives of confidentiality, integrity, or availability. In accordance with the Federal Information Security Management Act of 2002, agencies must categorize their information and information systems according to a range of risk levels based on the sensitivity and criticality of the federal information that these systems process, store, and transmit. NIST, *Standards for Security Categorization of Federal Information and Information Systems,* Federal Information Processing Standard 199 (February 2004).

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E-Gov Fund Project Descriptions: Investment area 1
Apps.gov

Project: **Apps.gov**	*FY 2010 E-Gov Fund resources:* $0.75 million	*Status:* Ongoing	*Time frames:* April 2009[32]–

Purpose: To (1) establish a GSA storefront to help agencies research and procure cloud computing products and services (the Apps.gov Web site) and (2) set up cloud-related operational structures and processes

Intended benefits: Facilitate adoption of cloud computing

Description: Part of the Federal Cloud Computing Initiative, Apps.gov is an online GSA storefront that presents GSA cloud offerings, categorized by type. In addition to GSA contract cloud offerings, the site includes numerous free Web 2.0 offerings that have agreed to terms of service appropriate for federal agencies. Launched on September 15, 2009, the Apps.gov site was built on GSA's online shopping and ordering system, GSA Advantage, and is also linked to eBuy, GSA's online request for quotation tool.

Associated with Apps.gov is another site, info.apps.gov, which provides information on federal cloud computing. It includes information about the Federal Cloud Computing Initiative, the FedRAMP project, getting started with cloud computing, resources such as case studies and other documents, and a calendar of cloud-related events.

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[32]Although the site launched in September 2009, GSA told us that this project began in April 2009.

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E-Gov Fund Project Descriptions: Investment area 1
Apps.gov

With regard to its second purpose (setting up cloud-related operational structures and processes), the project worked, for example, to establish appropriate terms of service for the free Web 2.0 offerings on Apps.gov and to develop a blanket purchase agreement[33] for Infrastructure as a Service offerings such as Web hosting, cloud storage, and virtual machines. However, these offerings have not yet been made available through Apps.gov; according to GSA, the vendors' systems are still undergoing security assessment and authorization.

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[33]A blanket purchase agreement is intended to be a simplified method of fulfilling repetitive needs for supplies and services and also provides an opportunity to seek reduced pricing from vendors' schedule prices.

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E-Gov Fund Project Descriptions: Investment area 1
E-mail as a Service

Project: **E-Mail as a Service**

| *FY 2010 E-Gov Fund resources:* $0.50 million | *Status:* Ongoing | *Time frames:* April 2009[34]– |

Purpose: Facilitate agencies' procurement of e-mail services hosted in a cloud computing infrastructure

Intended benefits: Lower cost, reduce e-mail system duplication, and increase the number of e-mail systems that are interoperable across the federal government

Description: Part of the Federal Cloud Computing Initiative, this project is aimed at enabling agencies to acquire common, cloud-hosted e-mail services. In June 2010, a working group was formed whose focus included developing a set of baseline functional and technical requirements for a common, cloud-hosted federal e-mail solution, as well as requirements for a blanket purchase agreement for governmentwide procurement of cloud-based e-mail services. GSA's issuance of a request for quotation for these services was announced on May 11, 2011.

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[34]GSA officials told us that this project began in April 2009, although the working group was not established until June 2010.

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E-Gov Fund Project Descriptions: Investment area 1
SAJACC

Project: **SAJACC** (NIST)

*FY 2010 E-Gov Fund
resources:* $1.00 million

Status:
Ongoing

Time frames:
March 2010–

Purpose: Drive the formation of cloud computing standards, through collaboration with government, industry, and academia, by developing and making available usage scenarios (use cases) and other information

Intended benefits: Facilitate standards development organizations in developing standards that address portability, interoperability, and security of cloud system interfaces

Description: Part of the Federal Cloud Computing Initiative, the SAJACC project aims to develop and make cloud system use cases available on a Web portal[35] and provide examples showing how these use cases can be supported on cloud systems. By generating and disseminating data about how different kinds of cloud system interfaces can support portability, interoperability, and security, this effort is intended not only to facilitate the development of standards addressing these needs, but also to increase the level of confidence to enable cloud computing adoption. Through a working group, the project has developed and posted 24 key use cases. According to NIST, cloud interfaces have been tested on 7 of the 24 use cases. In the future, NIST plans, among other things, to refine the use cases and draft a second version of the use case document.

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[35]www.nist.gov/itl/cloud/sajacc.cfm. See also collaborate.nist.gov/twiki-cloud-computing/bin/view/CloudComputing/SAJACC.

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E-Gov Fund Project Descriptions: Investment area 1
Data center inventory and consolidation planning

The remaining five projects in investment area 1 are not part of the Federal Cloud Computing Initiative.

Project: **Data center inventory and consolidation planning**	*FY 2010 E-Gov Fund resources:* $0.88 million	*Status:* Completed	*Time frames:* Feb.–July 2010

Purpose: Develop an inventory of existing federal data centers and develop consolidation plans

Intended benefits: Enable improved efficiency, lower cost

Description: In February 2010, the federal CIO began a data center consolidation initiative,[36] an effort to reduce costs and increase efficiency. According to GSA officials, GSA developed templates for agencies to inventory their data centers and craft data center consolidation plans, and then performed analysis of the results and reported to OMB. The inventory was intended to provide a baseline for planning the initiative and assessing its progress.

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[36]The larger Federal Data Center Consolidation Initiative is being funded from a variety of sources.

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E-Gov Fund Project Descriptions: Investment area 1
USA.gov redesign

Project: **USA.gov redesign**	*FY 2010 E-Gov Fund resources:* $0.26 million	*Status:* Completed	*Time frames:* March–July 2010[37]

Purpose: Redesign the federal government Web portal

Intended benefits: Improve usability and customer satisfaction

Description: The USA.gov redesign project aimed to improve the usability and functionality of the government's "front door" portal. According to GSA officials, this effort involved incorporating new technology in the form of an improved search engine; in addition to search results, this engine provides information related to a search, such as other related searches, frequently asked questions, government forms, and popular searches. GSA also reports that the new search engine is nine times faster than the previous search engine. Among other things, the redesigned site includes a panel providing featured information (such as public service announcements).

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[37]GSA reported.

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E-Gov Fund Project Descriptions: Investment area 1
Mobile apps

Project: **Mobile Apps**	*FY 2010 E-Gov Fund resources:* $0.60 million	*Status:* Completed	*Time frames:* July–Sept. 2010[38]

Purpose: Develop a gallery of software applications that tap federal information through mobile devices

Intended benefits: Improve service to members of the public who use mobile devices

Description: This effort included developing and encouraging the development of new applications providing government information to users of mobile devices, as well as showcasing these and existing apps on USA.gov. USA.gov now includes a "Featured App" on its home page, as well as a link to "Find More Apps."

Although the project concluded at the end of fiscal year 2010, the effort to encourage mobile apps development continues; according to GSA, as of October 1, 2010, a GSA staff member was assigned to facilitate governmentwide coordination of mobile device efforts.

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[38]GSA reported.

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E-Gov Fund Project Descriptions: Investment area 1
Payment Information Repository

Project: **Payment Information Repository Proof of Concept** (Treasury)	*FY 2010 E-Gov Fund resources:* $1.35 million	*Status:* Ongoing	*Time frames:* March 2010[39]–

Purpose: Develop proof of concept for a central source for all federal payment information to better support governmentwide accounting and transparency initiatives

Intended benefits: Reduce cost, increase efficiencies, provide more accurate and timely payment information, and make financial information accessible to stakeholders

Description: The project, led by the Department of the Treasury, aims to develop a scalable centralized payment information repository for vendor invoice payment data and provide these data to USAspending.gov for matching to obligations contained in USAspending.gov. According to Treasury officials, the proof of concept also includes developing a Web-enabled front-end interface to the repository that provides basic query capabilities to authorized users. After completion of the proof of concept, the Treasury plans to develop a business case for the development and implementation of a payment information repository to harmonize, manage, and centralize all types of payment data across the federal government. According to the Treasury, the proof of concept project is to be completed in June 2011.

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[39]Treasury reported.

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E-Gov Fund Project Descriptions: Investment area 1
Invoicing Standards Pilot

Project: **Invoicing Standards Pilot**
(Treasury)

*FY 2010 E-Gov Fund
resources:*
$0.15 million

Status:
Ongoing

Time frames:
Aug. 2010[40]–

Purpose: Create and pilot baseline data standards to facilitate electronic invoicing from suppliers to the government

Intended benefits: Facilitate expansion of e-commerce, reduce cost of invoicing

Description: According to Treasury, the Invoicing Standards Pilot is an effort with the Social Security Administration to establish a baseline of invoice data standards for use with the Treasury's Internet Payment Platform, a centralized electronic invoicing and payment Information service available to federal agencies and their suppliers. These standards are intended to facilitate expansion of e-commerce and reduce the cost of invoicing. In addition, the project includes the implementation of an interface between the Social Security Administration and the Internet Payment Platform. Treasury officials told us that they will consider the project to be completed on May 30, 2011, when they expect this interface to go into operation.

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[40]Treasury reported.

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E-Gov Fund Project Descriptions: **Investment area 2
Citizen Engagement Platform**

Investment area 2 (Citizens Engagement and Access/Web 2.0) supported three projects: the Citizen Engagement Platform, Citizen Challenge Platform, and the Citizen Services Dashboard.

Project: **Citizen Engagement Platform**	*FY 2010 E-Gov Fund resources:* $1.51 million	*Status:* Ongoing	*Time frames:* Feb. 2010–

Purpose: Provide a platform for agencies to interact with the public using Web 2.0 tools

Intended benefits: Facilitate engagement with public, avoid duplication

Description: Federal agencies have begun to interact with the public through Web 2.0 tools (such as blogs,[41] wikis,[42] and discussion forums). The Citizen Engagement Platform is intended to facilitate this process by providing a central platform for agencies to deploy such tools. A central platform is intended to allow agencies to deploy tools for which technology and policy issues have already been addressed, rather than each agency needing to do so independently. The project launched the citizen.apps.gov site in August 2010. As of April 2011, the site reported that about 44 agencies had deployed tools. (Current statistics on site usage are provided at citizen.apps.gov/reports.php.) According to GSA, funding to support this site will run out in July 2011.

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[41]Blogs are Web sites where regular entries are made (such as in a journal or diary), presented in reverse chronological order.
[42]Wikis are collections of Web pages that encourage users to contribute or directly modify content.

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E-Gov Fund Project Descriptions: Investment area 2
Citizen Challenge Platform

Project: **Citizen Challenge Platform**

*FY 2010 E-Gov Fund
resources:*
$1.00 million

Status:
Ongoing

Time frames:
March 2010[43]–

Purpose: Provide a platform for agencies to post challenges and the public to submit solutions

Intended benefits: Solve problems at lower cost, encourage public participation in government

Description: OMB issued a memo in March 2010 that committed the Administration to make available, within 120 days, a Web-based platform for prizes and challenges.[44] In April, GSA issued a request for information from providers wishing to offer a no-cost solution for a governmentwide challenge platform.[45] According to GSA, the platform was intended to provide agencies with a free tool (compliant with federal policy) for posting challenges eliciting solutions to government problems. GSA officials told us that challenge.gov was launched to agencies on July 6, 2010, meeting OMB's deadline, and that the public launch occurred in September 2010, providing the public with a central forum for finding challenges and responding to them. As of April 2011, the site reported over 80 challenges, of which about 19 were still open.

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[43]GSA reported.
[44]OMB Memorandum M-10-11, *Guidance on the Use of Challenges and Prizes to Promote Open Government* (Mar. 8, 2010).
[45]The request stated that after the OMB memorandum, more than one provider had alerted GSA to possible no-cost solutions.

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E-Gov Fund Project Descriptions: Investment area 2
Citizen Services Dashboard

Project: **Citizen Services Dashboard**   *FY 2010 E-Gov Fund resources:*   *Status:*   *Time frames:*
$2.49 million   Terminated[46]   May 2010–May 2011

Purpose: Provide customer service metrics for top citizen-facing services

Intended benefits: Increase transparency, ensure accountability, and improve service delivery

Description: The online Citizen Services Dashboard was intended to promote customer service across the federal government by displaying target and actual service metrics. Under this initiative, the dashboard was being piloted with four agencies (the Internal Revenue Service, Department of Veterans Affairs, Centers for Medicare and Medicaid Services, and Social Security Administration). These agencies were initially to report metrics for seven different top citizen-facing services, including metrics on speed, quality, and satisfaction. The dashboard had not been made available to the public before the decision to terminate it. (More information on this project is provided under objective 2, later in this briefing.)

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[46]On May 24, 2011, the federal CIO announced the termination of this project owing to reduced funding.

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E-Gov Fund Project Descriptions: **Investment area 3
USAspending.gov and dashboards**

Project: **USAspending.gov and dashboards**

FY 2010 E-Gov Fund resources:
$9.50 million

Status:
Ongoing

Time frames:
December 2007–

Purpose: Provide spending data in compliance with the Federal Funding Accountability and Transparency Act (FFATA) of 2006;[47] support online dashboards of federal data

Intended benefits: Improve transparency and usability of data

Description: This project operates, maintains, and enhances USAspending.gov, a free, publicly accessible Web site, containing data on federal awards (e.g., contracts, loans, and grants), as required by FFATA. The law required OMB to establish the site by January 1, 2008, and include the name and location of the entity receiving the award, award amount, and other information on the award. The site was launched in December 2007. However, posting of subaward data was not achieved by the law's January 2009 deadline;[48] the site began reporting subaward data in October 2010.[49] In 2010, hosting of the site was moved to the National Aeronautics and Space Administration's cloud computing environment, and additional features were provided, such as the ability to compare spending across agencies.

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[47]Pub. L. 109-282 (Sept. 26, 2006); 31 U.S.C. § 6101 note.
[48]GAO, *Electronic Government: Implementation of the Federal Funding Accountability and Transparency Act of 2006*, GAO-10-365 (Washington, D.C.: Mar. 12, 2010).
[49]As stated in GSA's October 2010 notification to the Congress, $1.8 million in CR funding was to be used to support transparency in federal spending data; GSA and OMB officials told us that these funds were used for the FFATA Subaward Reporting System.

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E-Gov Fund Project Descriptions: Investment area 3
USAspending.gov and dashboards

The USAspending.gov project also supports other dashboard Web sites, including

- the IT Dashboard, itdashboard.gov, showing information on federal IT investments;[50]

- PaymentAccuracy.gov, which provides information about improper payments (rates and amounts, why they occur, and agencies' actions to reduce and recover such payments);

- the Performance.gov dashboard, an online management tool for quarterly tracking of agency progress on certain performance goals (this site is not currently public, but the Administration has stated that it intends to open portions of the site to the public);[51] and

- the Small Business Dashboard, smallbusiness.Data.gov, which displays information about federal contracts awarded to small businesses based on a subset of the information available on USAspending.gov.

According to GSA, the project used the USAspending.gov framework to develop or to provide data for these dashboards.

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[50]See GAO, *Information Technology: OMB's Dashboard Has Increased Transparency and Oversight, but Improvements Needed*, GAO-10-701 (Washington, D.C.: July 16, 2010).

[51]OMB, *Analytical Perspectives, Budget of the United States Government, Fiscal Year 2012*.

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E-Gov Fund Project Descriptions: **Investment area 4
FedSpace**

Project: **FedSpace**

| *FY 2010 E-Gov Fund resources:* $5.00 million | *Status:* Terminated[52] | *Time frames:* Feb. 2010–May 2011 |

Purpose: Provide a platform for executive branch employees and contractors to use Web 2.0 networking and collaboration tools

Intended benefits: Create a secure collaboration workspace for employees, make it easier to find people and information in government, improve business processes and reduce redundancies, drive innovation and discovery, and build effective relationships across the federal government

Description: This project was to develop a platform with a suite of collaboration tools (such as wikis, a governmentwide employee directory, shared workspaces, and blogs), intended to promote cross-agency collaboration and knowledge sharing. The project was to take advantage of the authentication system used by OMB's MAX system, available to federal employees and contractors.[53] Before the project's termination, the FedSpace Web site was in beta testing;[54] according to GSA, about 500 users had access to the site. (More information is provided under objective 2, later in this briefing.)

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[52]On May 24, 2011, the federal CIO announced the termination of this project owing to reduced funding.
[53]The MAX Federal Community is used by federal agencies to share information and collaborate, such as when agencies submit budget information to OMB. Federal employees in the executive branch and government contractors with a valid .gov, .mil, or .fed.us e-mail address are eligible for MAX accounts; however, they must register to gain access to the system.
[54]Beta testing is testing of a prerelease version of software by selected cooperating users.

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E-Gov Fund Project Descriptions: **Investment area 5**
Data.gov

Project: **Data.gov**

FY 2010 E-Gov Fund resources: $5.50 million[55]	*Status:* Ongoing	*Time frames:* Feb. 2009–

Purpose: Increase public access to machine readable datasets generated by the executive branch of the federal government

Intended benefits: Make federal data more accessible and usable; drive accountability; facilitate public education, engagement, and innovation; and improve the federal data management process.

Description: After a planning phase, Data.gov was launched in May 2009 to provide access to federal government data. This site allows the public to find, download, and use machine-readable datasets that are generated or collected by executive branch agencies. Providing these data is intended to enable research, oversight, and knowledge discovery, as well as potential economic opportunities for entrepreneurs who may harness the data by creating applications. The Data.gov project covers operation and maintenance of the site as well as enhancements, such as improved search tools and features that promote use and dissemination of the data. The project also operates a system that allows agencies to supply the site with datasets and information about each dataset. (More information is provided under objective 2, later in this briefing.)

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[55]Of this total, $2.5 million is from investment area 1 for innovative functionality.

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E-Gov Fund Project Descriptions: **Investment area 6**
Project Management Best Practices

Project: **Project Management Best Practices**	*FY 2010 E-Gov Fund resources:* $1.50 million	*Status:* Completed	*Time frames:* Aug.–Dec. 2010[56]

Purpose: Analyze best practices in IT program management and procurement

Intended benefits: Enable improved federal IT management and procurement

Description: This project reviewed best practices related to procuring technology and managing IT programs successfully from design through implementation. The initiative was intended to help enable the federal government to reform the management of IT projects in an effort to lower costs and improve government performance. The results of the review were used as input to the federal CIO's plan to reform federal IT management, released in December 2010.[57]

[56]GSA reported.
[57]U.S. CIO, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Dec. 9, 2010).

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Objective 2 Results: Progress of Selected E-Gov Projects

Four selected projects (FedRAMP, Citizen Services Dashboard, FedSpace, and Data.gov) have made varying degrees of progress toward their goals. They have also defined performance metrics that align with many, though not all major goals and intended benefits. Continuing to define performance metrics and align these with project goals will be important for ensuring that managers and stakeholders can assess project results and provide credible evidence of progress, particularly in a resource-constrained environment.

The importance of performance metrics for gauging the progress of programs and projects is well recognized. OMB has directed agencies to define and select meaningful outcome-based performance metrics that measure the intended result of carrying out a program or activity.[58] Additionally, as we have previously reported, aligning performance metrics with goals can help to measure progress toward those goals, emphasizing the quality of the services an agency provides or the resulting benefits to users.[59] Furthermore, industry experts describe performance measures as necessary for management and planning and for monitoring the performance of a project against plans and stakeholders' needs.[60]

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[58]OMB, Guide to the Performance Assessment Rating Tool.
[59]GAO, *NextGen Air Transportation System: FAA's Metrics Can Be Used to Report on Status of Individual Programs, but Not of Overall NextGen Implementation or Outcomes*, GAO-10-629 (Washington, D.C.: July 27, 2010).
[60]Thomas Wettstein and Peter Kueng, "A Maturity Model for Performance Measurement Systems," and Karen J. Richter, Ph.D., Institute for Defense Analyses, CMMI® for Acquisition (CMMI-ACQ) Primer, Version 1.2.

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Progress of Selected E-Gov Projects
FedRAMP

FedRAMP. The FedRAMP project has made progress toward developing a governmentwide risk and authorization management program to provide joint security assessment, authorizations, and continuous monitoring of cloud computing services. The project reached preliminary consensus on baseline controls and processes,[61] developed and issued a draft proposal for a security authorization, assessment, and continuous monitoring program,[62] and collected stakeholder comments. However, the development of the proposal has taken longer than originally expected, owing, according to GSA and OMB officials, to the wide range of stakeholders involved in this process. As a result, the project has not yet developed a model for implementing the FedRAMP process, or begun implementation (initially expected to occur in late 2010). The project has defined performance metrics related to the initial take-up of the program (number of customers and number of cloud products to receive authorizations to operate); however, it has not defined metrics related to other goals, such as improving consistency and fostering cross-agency knowledge sharing and communication of best practices.

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[61]The controls, which are applicable in assessing the security posture of low- and moderate-impact cloud systems, are based on NIST guidance, primarily NIST Special Publication 800-53, Revision 3, *Recommended Security Controls for Federal Information Systems and Organizations* (August 2009, including updates as of May 1, 2010).

[62]CIO Council, *Proposed Security Assessment & Authorization for U.S. Government Cloud Computing*, Draft ver. 0.96 (Nov. 2, 2010).

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Progress of Selected E-Gov Projects
FedRAMP

Background: Planning for the FedRAMP project began in 2009 under the auspices of the CIO Council's Cloud Computing Executive Steering Committee. The CIO Council established the committee to promote the use of cloud computing in the federal government, with technical and administrative support provided by GSA's Cloud Computing Program Management Office. The Executive Steering Committee launched the inter-agency Cloud Computing Security Working Group, which, among other things, worked to develop a set of baseline security controls for cloud computing systems, as well as high-level concepts for a common authorization and assessment (A&A) process.

Also, the federal CIO tasked a Joint Authorization Board to be responsible for authorizing cloud computing systems. The board is to perform determination and acceptance of FedRAMP-authorized systems and have the final decision-making authority on FedRAMP security controls, policies, and procedures. Permanent members of the board are the CIOs of the Department of Homeland Security, Department of Defense, and GSA.[63] In addition, each member appoints a technical representative. The Joint Authorization Board has also been acting as a review board for issues related to the FedRAMP process. According to GSA officials, the Security Working Group presents issues and concerns related to FedRAMP controls to the board at monthly meetings.

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[63]During a FedRAMP A&A of a cloud system, an official representing the agency sponsoring the system would also be a rotating member.

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Progress of Selected E-Gov Projects
FedRAMP

The following are the goals for the FedRAMP project, based on project documentation and discussions with agency officials:

- Develop a cloud computing security requirements baseline that is used across the federal government.

- Develop and implement processes for joint security assessment, authorizations, and continuous monitoring of cloud computing services.

- Promote consistent interpretation of cloud service provider authorization packages through a standard set of processes and evaluation criteria.

- Improve consistency and efficiency of continuous monitoring of cloud computing systems and foster cross-agency knowledge sharing and communication of best practices.

- Obtain interagency vetting and buy-in of the approach to security assessment, authorizations, and continuous monitoring of cloud computing services.

Achieving these goals is intended to facilitate adoption of cloud computing, allow agencies to leverage other agencies' assessments and authorizations, avoid duplication, and save or avoid cost.

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Progress of Selected E-Gov Projects
FedRAMP

Table 5 shows the progress of the FedRAMP project against its goals.

Table 5: Progress of FedRAMP Project

Goal	Progress
Develop a cloud computing security requirements baseline that is used across the federal government.	The draft released for comment in November 2010 includes a proposed baseline set of security controls for low-impact and moderate-impact cloud systems. The draft also describes requirements for continuous monitoring of security controls.
	GSA worked with security officials across government to agree on the controls and solicited comments from industry and government.
	According to GSA officials, in responding to comments they are further refining the controls and requirements.
Develop and implement processes for joint security assessment, authorizations, and continuous monitoring of cloud computing services.	Process descriptions were presented in the November 2010 draft; however, GSA has not yet completed an operational model for implementation or begun implementation.
Promote consistent interpretation of cloud service provider authorization packages through a standard set of processes and evaluation criteria.	The November 2010 draft presents proposed processes and evaluation criteria for cloud service provider authorization packages.

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Progress of Selected E-Gov Projects
FedRAMP

Goal	Progress
Improve consistency and efficiency of continuous monitoring of cloud computing systems and foster cross-agency knowledge sharing and communication of best practices.	The November 2010 draft proposes a set of requirements for continuous monitoring that are intended to provide a baseline standard and improve consistency and efficiency. Draft includes description of proposed means of knowledge sharing through a repository/database of authorized cloud systems.
Obtain broad agency vetting and buy-in of the approach to security assessment, authorizations, and continuous monitoring of cloud computing services.	Development of proposal included broad agency vetting through CIO Council and other groups (including industry and nonprofit security groups, according to GSA officials); comments were received from major agencies.

Source: GAO analysis of GSA data.

The project has made progress toward its goals, as shown in table 5, but the project has taken longer to reach implementation than originally expected. The FedRAMP project plan envisioned initiating the first FedRAMP A&A in the fall of 2010. According to GSA officials, the project time was extended primarily because the time required for collaboration among stakeholders to develop and vet the baseline controls was greater than anticipated. For example, the comment period for the draft proposal, originally due to end on December 2, 2010, was extended until January 17, 2011.

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Progress of Selected E-Gov Projects
FedRAMP

According to GSA officials, they extended the comment period to ensure that comments were captured from major stakeholders in industry, government, and the public, having received requests from various stakeholders for the extension. These officials said that the extension was useful as it helped the agency receive comments from industry, including cloud related companies, and all but 4 of the 24 Chief Financial Officers Act agencies.

To respond to comments, the project enlisted "Tiger Teams" of representatives from across government to work through comments. According to project officials, many of the comments focused on specific controls and the number of controls, including those related to continuous monitoring; these officials stated that the project worked with the National Security Agency, the CIO Council's Information Security and Identity Management Committee, and other security experts on changes including reducing the number of controls requiring continuous monitoring. According to these officials, these changes have been presented to the security working group and Joint Authorization Board.

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Progress of Selected E-Gov Projects
FedRAMP

According to GSA officials, they are currently working on a model for operationalizing the proposed FedRAMP process, having concentrated first on its technical aspects. They plan to complete the process model in late summer or early fall 2011, hoping to have a beta version of the FedRAMP process by the summer. These officials believe that getting consensus across agencies on the proposed controls was an important step and that the proposal had increased the willingness among agencies to accept the value in the concept of leveraging another agency's documentation for A&A of cloud solutions. However, these officials stated that as a new process, FedRAMP will require time to obtain buy-in from potential user agencies.

With regard to the funding uncertainties arising as a result of the reduction to the requested E-Gov Fund resources in fiscal year 2011, GSA officials told us that, as for all E-Gov Fund projects, funding for FedRAMP will need to be revisited.

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Progress of Selected E-Gov Projects
FedRAMP

GSA established performance metrics for FedRAMP in its Fiscal Year 2012 Capital Asset Plan and Business Case Summary for Cloud Computing:

- Number of new federal customers using FedRAMP services

- Number of cloud products to receive [authorizations][64] from FedRAMP

Project officials have also identified additional possible metrics:

- Savings to agencies for leveraging FedRAMP authorizations

- Efficiencies of FedRAMP over agency-specific A&A process

Such metrics would be useful indicators of the main benefits identified for the program, as they address the initial buy-in and take-up of the program by agencies, as well as cost and duplication avoidance. However, the project has not developed metrics to measure the degree to which goals such as improving consistency and communicating best practices are being achieved, nor defined measures for "efficiencies." Defining performance metrics that align with these goals would improve the ability of managers and stakeholders to assess project results and provide credible evidence of progress.

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[64]Although the document refers to "ATOs" (authorizations to operate), GSA and OMB officials told us that they do not plan to continue using this term and asked that it be changed as shown.

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Progress of Selected E-Gov Projects
Citizen Services Dashboard

Citizen Services Dashboard. Before its termination, the Citizen Services Dashboard had made progress toward developing a capability to display customer service metrics on the top federal citizen-facing services, but this capability had not yet been made public. The dashboard was piloted with four agencies, reporting metrics for seven customer services; according to project officials, development of the dashboard was mostly complete. Until the site was publicly launched, however, the project could not achieve all its planned goals and benefits. Further, although one performance metric, increasing the number of services displayed, had been defined, metrics for goals such as "improving customer service through citizen collaboration and engagement" had not yet been established.

Background: Agencies are required to post customer service standards and report results to customers, according to a 1993 Executive Order issued by President Clinton and a related 1995 memorandum.[65] However, as we reported in October 2010, although service standards exist, they have not always been made easily available to the public and sometimes were not made available at all.[66]

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[65]Exec. Order No. 12862, "Setting Customer Service Standards," September 11, 1993; 58 Fed. Reg. 48257 (Sept. 14, 1993).
[66]GAO, *Managing for Results: Opportunities to Strengthen Agencies' Customer Service Efforts*, GAO-11-44 (Washington, D.C.: Oct. 27, 2010). This report described results of a survey we performed of selected services.

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Citizen Services Dashboard

We also reported that OMB was pursuing initiatives to promote federal agencies' responsibility for quality customer service to their customers, including the pilot dashboard, and that it expected to launch the dashboard publicly in late fall 2010.[67]

Four agencies participated in the pilot: the Internal Revenue Service (IRS), Social Security Administration (SSA), Department of Veterans Affairs (VA), and Centers for Medicare and Medicaid Services (CMS). In developing the pilot, OMB asked participating agencies to review their existing strategic and operating plans to identify meaningful customer service metrics, without necessarily creating new ones.

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[67]OMB is the executive sponsor of the dashboard and GSA funds the project through the E-Gov Fund.

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Progress of Selected E-Gov Projects
Citizen Services Dashboard

The following were the goals of the project, based on project documentation and
discussions with agency officials:

- Provide public and government access to meaningful data on government
  performance for key citizen-facing services.

- Help manage and fulfill citizen expectations of government services, including
  educating citizens on government services.

- Improve customer service through citizen collaboration and engagement.

- Improve agency management's understanding of agency performance over time on
  key metrics.

Achieving these goals was intended to increase transparency, ensure accountability, and
improve service delivery.

The progress of the project in meeting its goals, prior to its termination, is presented in
table 6.

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Progress of Selected E-Gov Projects
Citizen Services Dashboard

Table 6: Progress of Citizen Services Dashboard Project

Goals	Progress
Provide public and government access to meaningful data on government performance for key citizen-facing services.	The four participating agencies agreed upon seven key citizen-facing services, for which performance metrics were being tracked:

The four participating agencies agreed upon seven key citizen-facing services, for which performance metrics were being tracked:

- IRS: Individual income taxes
- SSA: Retirement benefits; disability benefits
- VA: Veterans pension benefits; veterans disability compensation; veterans education benefits
- CMS: Medicare benefits

The dashboard generally reported target and actual performance information on these services, presented in three areas: speed, quality, and satisfaction. (Not all metrics included target data. Also, VA services did not include satisfaction metrics.) For example, SSA featured the following metrics related to retirement benefits:

Speed: On average, how long will callers be on hold before their call to the SSA 800 number is answered?

Quality: What percentage of claims payments cases are free of underpayments?

Satisfaction: What percentage of customers filing for SSA's retirement benefits are satisfied with the overall claims filing process?

Dashboard users could also view additional information on metrics such as the channel of delivery for the service (i.e., phone, mail) and the metrics' target and actual values for the current period (e.g., fiscal year 2010).

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Progress of Selected E-Gov Projects
Citizen Services Dashboard

Goals	Progress
Help manage and fulfill citizen expectations of government services, including educating citizens on government services.	The dashboard's "Did You Know" section provided links to Web sites that include information on the service displayed. For example, for SSA's retirement benefits service, this section included a link to an agency Web page that featured an online calculator for estimating citizens' retirement benefits and information on how to use it.
	The "What We Are Working On" section provided links to Web sites that display related agency efforts. For example, for the retirement benefits service, this section included a link to a retirement benefits estimator in Spanish.
	The "Get Help" section featured direct links to agency Web sites for more information on services. For example, for the retirement benefits service, this section included a link for citizens to get more information on the retirement benefits application process.
Improve customer service through citizen collaboration and engagement.	The "Help Us Improve" feature of the dashboard allowed users to generate and post suggestions for improving each of the federal services.
	Dashboard users also had the ability to vote in support of particular suggestions.

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Progress of Selected E-Gov Projects
Citizen Services Dashboard

Goals	Progress
Improve agency management's understanding of agency performance over time on key metrics.	According to the Citizen Services Dashboard Operating Manual, the dashboard was to include current and historical data for each of the metrics depending on the length of time data are available, for a maximum of 5 years including the current period.

Source: GAO analysis of GSA data.

As shown in table 6, the project made significant steps to meet its goals. However, since the dashboard had not been released to the public, most could not be fully met. GSA officials told us that the dashboard was launched internally in October 2010, but OMB made a policy decision not to launch publicly because of funding uncertainties.

According to the CIO's May 24, 2011, announcement, this project was terminated because of the reduced funding provided in the fiscal year 2011 appropriation. GSA officials stated, as of June 2011, that they had not been able to identify opportunities for collaboration that would make it financially feasible to continue using the capabilities developed by the project. Instead, they told us that they were taking the system off-line and planned to archive and store the system software in an organized way so that it could be revived and made operational if new funding were to become available.

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Progress of Selected E-Gov Projects
Citizen Services Dashboard

GSA established a performance metric for the project in its Capital Asset Plan and Business Case Summary for fiscal year 2012: increasing the total number of services displayed. In addition, according to project officials, once the dashboard was formally launched, they would be able to gauge to what extent the dashboard achieved the intended benefits using Web analytics (such as number of site visits) and feedback from the public. However, no specific metrics had been defined for goals such as "improve customer service through citizen collaboration and engagement," and "help manage and fulfill citizen expectations of government services, including educating citizens on government services." If the project were to be revived, defining performance metrics aligned with these goals would help in assessing project results and progress.

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Progress of Selected E-Gov Projects
FedSpace

FedSpace. Before its termination, the FedSpace project had made progress toward providing a platform offering Web 2.0 networking and collaboration tools to enable executive branch employees and contractors to work collaboratively across agencies. As of May 2011, the FedSpace Web site was in beta testing. According to GSA, an initial pilot test group of about 70 (around July 2010) had grown to approximately 500 users, including users from GSA, the National Aeronautics and Space Administration, Department of Commerce, and others in the MAX community. The most recent beta version, pilot release 1.0, became available in January 2011. However, GSA had noted that the project has not yet moved to full deployment to all potential users; this was originally scheduled for September 2010. According to officials, deployment was postponed primarily because of funding uncertainty. The project defined a number of performance metrics related to increased participation in the site, but metrics for other goals, such as improving business processes, had not yet been defined.

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Progress of Selected E-Gov Projects
FedSpace

The following were the goals of the project, based on project documentation and discussions with agency officials:

- Provide an integrated suite of collaboration tools such as wikis, shared workspaces, and blogs, to enable secure collaboration across the federal government.

- Make it easier to find and connect people in government.

- Facilitate the building of relationships across the federal enterprise.

- Enable the sharing of information such as ideas, best practices, and knowledge among people in government.

- Make it easier to find information in government.

- Drive innovation and discovery.

- Improve business processes and reduce redundancies.

Achieving these goals was expected to promote cross-agency collaboration and knowledge sharing. GSA indicated that collaboration would be achieved by strategically leveraging a shared secure platform, making content and resources available more consistently, and providing Web 2.0 technologies.

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Progress of Selected E-Gov Projects
FedSpace

The progress of the project in meeting its goals, prior to termination, is presented in table 7.

Table 7: Progress of FedSpace Project

Goals	Progress
Provide an integrated suite of collaboration tools such as wikis, shared workspaces, and blogs, to enable secure collaboration across the federal government.	FedSpace pilot release 1.0 became available in January 2011. According to GSA, FedSpace project concept planning began in February 2010, and from October to December 2010, the project launched several releases of the platform for user testing.
	The FedSpace site provided collaboration tools including wikis, blogs, microblogs, forums, calendars, and communities of common interest.
	To create a secure collaboration environment, FedSpace made use of the user authentication and authorization process currently used for the MAX federal community. According to GSA officials, the security A&A for the FedSpace system was expected to be completed by the end of May 2011.
Make it easier to find and connect people in government.	FedSpace included directory features that allowed users to search for FedSpace and MAX users.
	FedSpace user profiles included contact information and (optionally) a picture and attributes such as projects worked on, professional experience, and education.

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Progress of Selected E-Gov Projects
FedSpace

Goals	Progress
Facilitate the building of relationships across the federal enterprise.	User profiles and communities facilitated relationships.
	Users could post "status" updates on their own activities and could choose to "follow" other users to view recent activity such as status updates, postings, and so on.
	A "People You May Know" feature showed a user's picture, agency, and job title.
Enable the sharing of information such as ideas, best practices, and knowledge among people in government.	A "Create & Share Content" feature allowed users to add bookmarks and create wiki pages.
	Users could, through a social bookmarking feature, share bookmarks with other users.
	The site provided lists of top five "popular discussions" and "recently viewed discussions."
Make it easier to find information in government.	The site included a search feature that queried, among other things, wiki pages, microblogs, and community announcements.
	However, the limited deployment reduced the amount of information that was stored in FedSpace and could thus be found.
Drive innovation and discovery.	Limited deployment reduced the amount of information in FedSpace that could drive innovation and discovery.
Improve business processes and reduce redundancies.	The deployment had the potential to reduce redundancy through providing a cross-agency collaboration platform.

Source: GAO analysis of GSA data.

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Progress of Selected E-Gov Projects
FedSpace

As the table shows, the project had made progress in meeting goals related to enabling collaboration. However, several of FedSpace's goals depended to some extent on a wide deployment of the site and its use by a substantial number of users. Recognizing this, GSA had developed an outreach plan with the aim of, among other things, motivating the use of FedSpace among its target population. Specific planned outreach actions included, for example, the posting of banners in Web sites, an e-mail campaign, press interviews, public speaking engagements, and participation in conferences.

According to the CIO's May 24, 2011, announcement, this project was terminated because of the reduced funding provided in the fiscal year 2011 appropriation. GSA officials stated, as of June 2011, that they had not been able to identify opportunities for collaboration that would make it financially feasible to continue using the capabilities developed by the project. Instead, they told us that they were taking the system off-line and planned to archive and store the system software in an organized way so that it could be revived and made operational if new funding were to become available.

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Progress of Selected E-Gov Projects
FedSpace

GSA established metrics in its Fiscal Year 2012 Capital Asset Plan and Business Case Summary for the FedSpace project. GSA reported that it met all of its performance metrics for fiscal year 2010; additionally, it reported that all but one performance metric was met for fiscal year 2011.[68] These metrics, shown in table 8, could generally be linked to individual goals or the project goals overall, through user take-up of the site.

Table 8: Metrics Established for FedSpace, 2010–2012

Metric	Fiscal years	Relevant goals
Increase awareness and usage of the tool by 5% of 29,000 existing OMB MAX users	2010	This user take-up metric would be relevant to the overall success of the FedSpace project.
Increase agency participation in the directory service by 12.5% of the 24 Chief Financial Officers Act agencies	2010–2012	Make it easier to find and connect people in government.
Increase active participation through the tool by 5% of the baseline	2010	This user take-up metric would be relevant to the overall success of the FedSpace project.
Increase the number of code or widget uploads to the repository	2010	Enable the sharing of information such as ideas, best practices, and knowledge among people in government.

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[68]GSA reported that the performance metric "Agency participation in the Directory Service by 12.5% of the 24 Chief Financial Officers Act Agencies" was not met in fiscal year 2011.

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FedSpace

Metric	Fiscal years	Relevant goals
Increase the number of communities by 30	2011–2012	Provide an integrated suite of collaboration tools to enable secure collaboration across the federal government. Enable the sharing of information among people in government.
Increase the number of wiki pages by 50	2011–2012	Provide an integrated suite of collaboration tools to enable secure collaboration across the federal government. Enable the sharing of information among people in government.
Increase active participation through the tool by 600 users	2011–2012	This user take-up metric would be relevant to the overall success of the FedSpace project.

Source: GAO analysis of GSA data.

However, metrics were not defined for goals such as driving innovation and discovery, improving business processes, and reducing redundancies. GSA indicated that in formulating the goal of improving business processes, it had "no preconceived processes in mind." Instead, it suggested that "any number of processes could be improved as site users explore and compare existing processes and share existing resources across government." GSA provided the example of e-learning and data management, which it commented are prevalent across federal agencies. If the project were to be revived, it would be difficult for the project to demonstrate that these goals were being met without a defined metric.

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Progress of Selected E-Gov Projects
Data.gov

Data.gov. Data.gov has made progress toward increasing public access to federal datasets and enabling their use. The Data.gov project is maintaining and enhancing the site, increasing the number of datasets that are available and improving the discovery and technical capabilities of the site. The project has also developed performance metrics that are well aligned with its goals.

Background: Initially launched in May 2009 as the Administration's flagship initiative for open government, the site is aimed primarily at three general types of users:

- researchers, who typically download data for analysis;

- application developers, who typically create applications that exploit datasets; and

- the general public, who can use the platform to download and explore datasets and tools, as well as (recently) to perform visualizations of certain datasets.

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The following are the goals of the project, based on project documentation and discussions with agency officials:

- Focus on access. Increase access to authoritative sources of federal data through a transparent, collaborative, and participatory platform that fosters development of applications and analyses by third parties.

- Open platform. Facilitate shared services for agencies and enable the development of third party tools by using a modular architecture with application programming interfaces (API).[69]

- Disaggregation of data. Provide data at the lowest analytical unit so that users can make their own analyses of the agency-provided information.

- User feedback. Grow and improve Data.gov through user feedback in areas such as identifying high-value data sets and setting priorities for new and existing datasets, agency-provided applications, and improvements to usability of disseminated data and applications.

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[69]An API is a set of instructions and standards that provides a way for software programs to interact with each other. An API is generally developed by the programmer providing software so that other programmers can make their own software or Web site more powerful by integrating several programs together.

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- Program responsibility. Ensure agencies retain responsibility for ensuring information quality, providing context and meaning for data, protecting privacy, and assuring information security, as well as establishing effective data management.

- Rapid integration. Provide a vehicle to rapidly disseminate new data (in accordance with the Open Government Directive) and to improve access to and usability of currently available data.

- Best practices. Implement, enhance, and propagate best practices for data and information management, sharing, and dissemination across agencies, with international, state, local, and tribal partners.

Achieving these goals is intended to make federal data more accessible and usable; drive accountability; facilitate public education, engagement, and innovation; and improve the federal data management process.

The progress of the project toward its goals is presented in table 9.

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Data.gov

Table 9: Progress of Data.gov Project

Goal	Progress
Increase access to authoritative sources of federal data through a transparent, collaborative, and participatory platform that fosters development of applications and analyses by third parties.	The site provides access to • data in platform-independent, machine-readable formats, such as Extensible Markup Language (XML), character-separated values (CSV), and others (listed in the "raw data" catalog); • geodata—federal geospatial data (listed in the geodata catalog); • tools such as data extraction tools, applications, and other services (listed in the apps catalog). The site provides statistics on increases in the number of datasets provided, reporting that from May 2010 to April 2011, 2,977 datasets and tools were added. According to GSA officials, during that same time period, 115,625 additional geodata datasets were added. The site facilitates collaboration and participation, as well as discovery and use of data, through "community" pages that collect information on specific topics: e.g., "Semantic Web" community pages provide demonstrations and information on this technology. Other deployed communities are RestoreTheGulf, Law, Open Data, and Health. The platform provides opportunities for collaboration and participation through discussion forums and feedback mechanisms, such as dataset rating and commenting. "Developer's corner" contains links providing access to tutorials and videos assisting users on how to develop applications using datasets within Data.gov.

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Goal	Progress
Facilitate shared services for agencies and enable the development of third party tools by using a modular architecture with APIs.	The Dataset Management System (DMS), used by agencies to submit datasets for posting, is a Data.gov module that provides a shared service for agencies.
	Data.gov's recently released Next Generation Platform enables users to search and manipulate certain datasets through a Web browser. An Open Data API is also available through a link on the site.
Provide data at the lowest analytical unit so that users can make their own analyses of the agency-provided information.	Data in the raw data catalog are provided in formats such as CSV, which enables users to make their own analyses.
Grow and improve Data.gov through user feedback in areas such as identifying high-value data sets and setting priorities for new and existing datasets, agency-provided applications, and improvements to usability of disseminated data and applications.	The site shows several mechanisms for collecting user feedback: users can rate datasets, comment on datasets, and suggest other datasets.

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Goal	Progress
Ensure agencies retain responsibility for ensuring information quality, providing context and meaning for data, protecting privacy, and assuring information security, as well as establishing effective data management.	This goal is supported through Data.gov's DMS. The workflow provides a mechanism for agency review of metadata and attestation of conformance with privacy requirements and agency data quality standards. The process also provides a step for a National Security Council liaison to review datasets for privacy and security, including risk of inadvertent disclosures as a result of combining diverse datasets ("mosaic" effect); liaison is to work with agencies to resolve issues.
Provide a vehicle to rapidly disseminate new data (in accordance with the Open Government Directive) and to improve access to and usability of currently available data.	The site is a vehicle for dissemination of new data, and discovery features provide access to available data. Time required to process datasets for publication was reportedly reduced from about 5 days to about 2 days in fiscal year 2010. DMS includes metadata template to guide agencies in including documentation. Data.gov reports user ratings of datasets overall and on data utility, usefulness, and ease of access. Users can also suggest datasets.
Implement, enhance, and propagate best practices for data and information management, sharing, and dissemination across agencies, with international, state, local, and tribal partners.	The project held a first International Open Government Data Conference in November 2010, at which Data.gov's Open Data Community was launched. The Open Data Community shares information on open data standards, best practices, and policies.

Source: GAO analysis.

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GSA has also established performance metrics in its Capital Asset Plan and Business Case Summary for the Data.gov project (table 10); GSA reported meeting the targets for all these metrics in fiscal years 2009 and 2010, except one:

- GSA reported that in 2009, it did not meet the target that visitors using the 5-star rating would rate datasets and tools at least 4 stars 75 percent of the time, having achieved this rating 50 percent of the time. In 2010, it changed the metric to ratings of at least 3 stars 75 percent of the time, and reported that this target was met.

The table shows the modifications and additions to metrics over the years, including one that was dropped:

- After 2010, GSA dropped a metric on increasing the number of participating agencies by 50 percent each fiscal year; it reported 144 agencies participating at the end of 2010. In May 2011, the Data.gov site reported 172 agencies and subagencies participating.

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Table 10: Performance Metrics Established for Data.gov, 2009–2012

Metric	Fiscal years	Relevant goals
Number of participating agencies increase by 50 percent each fiscal year, beginning with 20 by end of first fiscal year.	2009–2010	Access
Number of published datasets and tools contributed by agencies will reach 324 in fiscal year 2009 and increase by 100 a year. … by 100 a year. (2011) … by 100 a year. (2012)	2009–2012	Access; disaggregation of data
Number of suggestions received from visitors will reach 750 by end of fiscal year 2009 and grow by 100 each fiscal year.	2009–2012	Feedback
Time to process datasets and tools from POCs to the time of publication will begin with 5 business days and decrease each year.	2009–2012	Rapid dissemination; open platform (shared services)
Visitors using the 5-star rating will rate datasets and tools at least 4 stars 75 percent of the time. (2009) … at least 3 stars 75 percent of the time. (2010–2012)	2009–2012	Feedback; rapid dissemination (usability)
Data.gov system will be available 99 percent of the time.	2010–2012	Access
Sustain the number of visitor hits to Data.gov. (2010) Sustain or increase the number … (target 100 million) (2011–2012)	2010–2012	Access
Number of Chief Financial Officer Act agencies with data quality standards posted at agency Web sites will increase. (target of 15 (FY2010), then 20 (FY 2011), then 25 (FY 2012))	2010–2012	Access (authoritative sources); program responsibility (information quality)
Data.gov will result in a number of applications and research. (target of 40 per year)	2011–2012	Access (foster development)

Source: GAO analysis of GSA data.

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As the table shows, the project has added metrics over time, addressing more aspects of project goals. For example, the most recently added metric, regarding applications and research, is associated with fostering development of applications and analyses by third parties—an aspect of the overall access goal. Most of the goals can be associated with at least one metric.[70]

The Data.gov Web site also includes a "Metrics" section that includes statistics on each dataset (number of downloads and user ratings). The site posts

- aggregate information on agency participation at Data.gov (including statistics per agency on the numbers of raw datasets, tools, and geodata contributed; the number of times these agency postings were downloaded within the past week; and the date of the most recent addition to the agency's postings) and

- visitor statistics (including numbers of visitors, downloads, and hits over time; top 10 visiting countries and states; and top 10 datasets by downloads and ratings).

These metrics are primarily related to adoption and use of the site and the datasets by both agencies and users.

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[70]The exception is the goal regarding best practices, for which no metric has yet been set.

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These metrics are also indicators, though not necessarily direct measures, of the intended benefits of the site: that is, making federal data more accessible and usable; driving accountability; facilitating public education, engagement, and innovation; and improving the federal data management process. For example, providing raw data for download does make data more usable by enabling the public having the necessary expertise to use the data for analysis or other purposes.

The project has considered additional possible metrics related to the site's goals and intended benefits. For example, the Data.gov Concept of Operations interprets increasing usability as clearly and completely conveying the strengths and weaknesses of agency data through technical documentation. To assess this, the Concept of Operations proposes metrics such as the completeness of the metadata provided by agencies (that is, the absence of blank data elements); the detail of key words; proper descriptions for all relevant columns in a dataset; and user dataset scoring. The addition of such metrics as the project continues to mature would provide additional indications of the project's performance in relation to its goals and intended benefits.

With regard to Data.gov's future in light of the E-Gov Fund reduction for fiscal year 2011, GSA officials told us that they planned to fund the site at a level sufficient to keep it in operation.

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Conclusions

The fiscal year 2010 E-Gov Fund appropriation supported 16 projects aiming to improve IT and promote innovation, collaboration, public participation, and transparency. Four selected key projects have made varying progress toward their goals, and all have begun to define metrics to measure success, with less mature projects defining fewer and more basic metrics, and the more mature adding metrics over time. These projects could potentially lead to benefits including cost savings and efficiency, customer service transparency, and governmentwide collaboration and information sharing.

Currently, because of reduced funding, two of the projects supported by the fund have been terminated. For those that continue, defining performance metrics and aligning the metrics with project goals would help ensure that managers and stakeholders can assess project results and provide credible evidence of progress, which is particularly important in a resource-constrained environment.

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Recommendation

We are recommending that for any E-Gov Fund projects that continue to be supported, the Administrator of the General Services Administration ensure that performance metrics are developed that align with project goals, especially those that currently lack such metrics.

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Agency Comments

We provided a draft of this briefing for review and comment to OMB, GSA, and the Departments of the Treasury and Commerce.

- OMB provided technical comments on the draft orally, which we incorporated into the draft as appropriate, but it had no comment otherwise.

- In written comments, the GSA Administrator stated that the agency concurred with our recommendation. GSA also provided technical comments orally and in writing, which we incorporated into the draft as appropriate.

- The Departments of the Treasury and Commerce had no comment.

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Attachment 1
Objectives, Scope, and Methodology

Our objectives were to (1) identify and describe the projects supported by the Electronic Government (E-Gov) Fund, including the distribution of the funds appropriated in fiscal year 2010 among the projects, as well as their expected benefits, and (2) for selected projects, identify project progress against goals.

To identify and describe the E-Gov Fund projects, we reviewed vision statements, business cases, project plans and schedules, and other relevant project documentation from the Office of Management and Budget (OMB), the General Services Administration (GSA), the Department of the Treasury, and the Department of Commerce's National Institute of Standards and Technology (NIST). To describe the distribution of the E-Gov Fund appropriation for fiscal year 2010 among the projects, we reviewed GSA's expenditure plans and updates, agency program management briefings, and other relevant funding documentation. To describe expected benefits, we reviewed vision statements, business cases, project plans and schedules and other agency project documentation. Additionally, we reviewed information gathered from interviews with cognizant agency officials.

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Attachment 1
Objectives, Scope, and Methodology

To determine our selection for identifying project progress against goals, we made a nonprobability sample of four projects supported by the FY 2010 E-Gov Fund—Data.gov, FedSpace, Citizen Services Dashboard, and FedRAMP.[71] We selected these projects because they represent the four highest funded projects under the FY 2010 E-Gov Fund appropriation, except that we excluded a project that had already been reviewed by GAO—USAspending.gov.[72] The four projects in our nonprobability sample accounted for approximately 44 percent (or about $15 million) of the $34 million appropriated in fiscal year 2010 for the E-Gov Fund. To identify the goals of the selected projects, we reviewed information gathered from agency documentation and interviews with cognizant agency officials; we confirmed the identified goals with these officials. To identify project progress against goals, we obtained and analyzed agency documentation and interviewed program officials. Specifically, we compared the project goals with the reported status of efforts to achieve the goals, corroborating officials' statements about progress through analyses of available documentation including management review briefings, performance reports, Web site screen shots, and observations of the functionality of Web sites, both directly and through demonstrations.

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[71]Results from nonprobability samples cannot be used to make inferences about a population because in a nonprobability sample some elements of the population being studied have no chance or an unknown chance of being selected as part of the sample.
[72]GAO, *Electronic Government: Implementation of the Federal Funding Accountability and Transparency Act of 2006*, GAO-10-365 (Washington, D.C.: Mar. 12, 2010).

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Attachment 1
Objectives, Scope, and Methodology

We also reviewed agency documentation for the selected projects, including capital asset plans and business case summaries ("OMB Exhibit 300's") to determine whether the project's performance metrics measure the extent to which the identified goals are being met.

To assess the reliability of project funding and schedule data, we compared them with other available supporting documents to determine data consistency and reasonableness. In addition, we talked with agency officials about data quality control procedures and to corroborate that key dates and milestones were completed. From these efforts, we believe the information we obtained is sufficiently reliable for our purposes.

We conducted our initial performance audit from April 2010 through May 2011. In accordance with your request, following our May 2011 briefing, we conducted additional audit work; specifically, we reviewed OMB's announcement of the termination of two projects and consulted cognizant GSA officials in order to update the initial briefing. We conducted this work from June through July 2011. All audit work was conducted in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives.

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GAO on the Web

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

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Appendix II: Comments from the General Services Administration

GSA

GSA Administrator

September 21, 2011

The Honorable Gene L. Dodaro
Comptroller General of the United States
U.S. Government Accountability Office
Washington, DC 20548

Dear Mr. Dodaro:

The U.S. General Services Administration (GSA) appreciates the opportunity to review and comment on the draft report entitled "Electronic Government: Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can be Improved" (GAO 11-775). The U.S. Government Accountability Office (GAO) recommends that GSA ensure that performance metrics that align with all project goals be developed for ongoing E-Gov projects.

We concur with the recommendation. The E-Gov Fund initiatives are fast moving and leading edge that, at times, provide challenges in establishing what can be measured at various project phases. GSA will work to ensure alignment between the goals and performance measures for the initiatives that currently lack such measures.

A specific comment that clarifies statements in the draft report is enclosed. Should you have any questions, please do not hesitate to contact me. Staff inquiries may be directed to Mr. Keith Thurston, Assistant Associate Administrator for E-Government. Mr. Thurston can be reached at (202) 501-0705.

Sincerely,

Martha Johnson

Martha Johnson
Administrator

Enclosure

cc: Ms. Valerie C. Melvin
    Director
    Information Management and Human Capital Issues

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Appendix III: GAO Contact and Staff Acknowledgments

GAO Contact	Valerie C. Melvin at (202) 512-6304 or melvinv@gao.gov
Staff Acknowledgments	In addition to the individual named above, key contributions were made to this report by Mark Bird (Assistant Director), Barbara Collier, Kelly Dodson, Teresa M. Neven, Lee A. McCracken, Dana Pon, Bradley Roach, Matthew Snyder, and Daniel Swartz.