United States Government Accountability Office

GAO

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ELECTRONIC GOVERNMENT ACT

Agencies Have Implemented Most Provisions, but Key Areas of Attention Remain

G A O
Accountability ★ Integrity ★ Reliability

ELECTRONIC GOVERNMENT ACT

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Why GAO Did This Study

The E-Government Act of 2002 was enacted to promote the use of the Internet and other technologies to improve citizen access to government information and services, improve government decision making, and enhance accountability and transparency. The act established an Office of Electronic Government within OMB to oversee the act's implementation and required executive branch agencies to take a number of actions aimed at, among other things, using technology to better organize, maintain, and make information about the operations of the federal government available.

With the 10th anniversary of the act's passage approaching, GAO was asked to (1) assess OMB's and agencies' efforts to fulfill the act's requirements to establish leadership and organizational responsibilities and (2) evaluate agencies' progress in meeting the act's requirements to enhance public access to government information and services. To do this, GAO reviewed and analyzed the requirements of the act and OMB and agency reports on compliance with these requirements, administered a questionnaire to responsible officials at 24 major agencies, and interviewed agency and OMB officials.

What GAO Recommends

GAO is recommending that OMB identify in its annual report to Congress the provisions of the act that are not included and why, establish a federal research and development repository and website, and issue guidance on agency participation in this site. In reviewing a draft of the report, OMB indicated that it had no comment.

What GAO Found

The Office of Management and Budget (OMB) and other agencies have taken steps to carry out leadership and organizational responsibilities as called for by the E-Government Act. Specifically, OMB's Office of Electronic Government has issued key guidance for agencies on complying with the requirements of the act and coordinated annual reporting to Congress on agency compliance with the act. In addition, the Federal Chief Information Officers Council has taken actions, such as publicizing best practices and recommendations for more efficient use of information technology and assisting in the implementation of the act's requirements. Further, executive branch agencies have made significant progress in carrying out leadership responsibilities under the act, including designating officials with responsibility for ensuring compliance with the act, issuing internal policy and guidance, and developing performance measures. However, while OMB and agencies have reported annually on their compliance with the act as required, OMB did not always require agencies to report on all of the act's provisions and has not been explicit in communicating to Congress provisions that it is not reporting on and the reasons why. For example, from fiscal year 2006 to fiscal year 2009, OMB did not require agencies to report on how they enhanced public participation by electronic means for development and issuance of regulations. OMB officials stated that each year's reporting requirements reflected particular administration priorities and were tailored to reduce the reporting burden on agencies.

Agencies have taken numerous actions to address specific requirements for enhancing public access to government information. For example:

- The General Services Administration has established, and agencies are using, a framework for electronic signatures.
- A federal Internet portal was established to provide a consolidated point of public access to government information, although challenges remain in streamlining federal web operations.
- Agencies have taken steps to ensure the availability of government information and services to individuals with diminished access to the Internet and those with disabilities.
- A website was established to provide the public with information and the ability to comment on proposed federal regulations.
- OMB and agencies have taken steps to improve the accessibility, usability, and preservation of government information through, for example, organizing website content and electronic records management.
- OMB has issued policies on protecting the privacy of individuals' personal information on government websites.

However, OMB has yet to fully establish a repository and website for providing public access to information on government investments in research and development as required or issued guidance to agencies on participating in the site.

United States Government Accountability Office

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Abbreviations

CIO	Chief Information Officer
E-Gov Act	Electronic Government Act of 2002
FOIA	Freedom of Information Act
GSA	General Services Administration
IT	information technology
NARA	National Archives and Records Administration
OIRA	Office of Information and Regulatory Affairs
OIRM	Office of Information Resource Management
OMB	Office of Management and Budget
OSTP	Office of Science and Technology Policy
PKI	Public Key Infrastructure
R&D	research and development

United States Government Accountability Office
Washington, DC 20548

September 12, 2012

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

Almost a decade has passed since the enactment of the Electronic Government Act (E-Gov Act) of 2002.[1] The major purposes of the act include promoting the use of the Internet and emerging technologies to provide citizens with government information and services, improving decision making by policy makers, and making the government more transparent and accountable. Toward these ends, the act established the Office of Electronic Government within the Office of Management and Budget (OMB) to oversee the implementation of its provisions, and mandated specific actions for federal agencies to take, such as improving public access to agency information and allowing for electronic access to rulemaking proceedings.

With the act's 10th anniversary approaching, you requested that we review its implementation. Specifically, as agreed with your offices, for selected Title I and II sections of the act, our objectives were to (1) assess OMB's and agencies' efforts to fulfill the act's requirements to establish leadership and organizational responsibilities and (2) evaluate agencies' progress in meeting the act's requirements to enhance public access to government information and services.

To address these objectives, we identified and reviewed selected requirements of the act relevant to each objective, along with their legislative history. To determine the extent to which OMB and agencies had met these requirements, we collected and reviewed documentation on OMB actions to meet leadership responsibilities and interviewed officials from OMB's Office of Electronic Government, collected and reviewed documentation from the federal Chief Information Officers (CIO)

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

Council[2] and interviewed a council co-chair, interviewed officials from the General Services Administration (GSA) and the National Archives and Records Administration (NARA), administered a questionnaire to and conducted follow-up interviews with responsible officials at 24 executive branch agencies,[3] obtained and reviewed supporting documentation from these agencies, reviewed agencies' annual E-Gov status reports, and reviewed prior GAO reports on the E-Gov Act and related subjects.

We conducted this performance audit from October 2011 to September 2012, in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit objectives. We believe that the evidence obtained provides a reasonable basis for our findings and conclusions based on our audit objectives. A more complete description of our objectives, scope, and methodology is provided in appendix I.

Background

The E-Government Act defines "electronic government" (e-government) as the use by the government of the Internet and other information technologies, together with the processes and people needed to implement them, to enhance the delivery of information and services to the public and others to make improvements in government operations. The basic goals of the act are to use e-government to improve the effectiveness, efficiency, and quality of government service.

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[2]The federal CIO Council is comprised of the CIOs and Deputy CIOs of 28 agencies and is chaired by OMB's Deputy Director for Management. It is the principal interagency forum for improving agency practices related to the design, acquisition, development, modernization, use, sharing, and performance of federal information resources. The CIO Council is responsible for developing recommendations for overall federal information technology management policy, sharing best practices, including the development of performance measures, and identifying opportunities and sponsoring cooperation in using information resources.

[3]The 24 agencies included in our study were the Departments of Agriculture, Commerce, Defense, Education, Energy, Health and Human Services, Homeland Security, Housing and Urban Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and Veterans Affairs; the Environmental Protection Agency, General Services Administration, National Aeronautics and Space Administration, National Science Foundation, Nuclear Regulatory Commission, Office of Personnel Management, Small Business Administration, Social Security Administration, and the U.S. Agency for International Development.

Prior to the E-Gov Act, federal agencies' management of information and technology was largely governed by the Paperwork Reduction Act of 1995 and the Clinger-Cohen Act of 1996.[4] These two laws gave OMB and other federal agencies responsibility for overseeing information and information technology (IT) management in the federal government. In May 2000, the Senate Committee on Governmental Affairs established a website to gather public comments on ways to improve government through electronic means. Subsequently, in 2001, the chair of the committee introduced legislation requiring a variety of e-government initiatives, which ultimately became the E-Gov Act. In the same time period, OMB began working on an e-government strategy, primarily through its Office of Information and Regulatory Affairs (OIRA) and through the activities of the Associate Director for Information Technology and E-Government.

In February 2002, OMB issued its first E-Government Strategy[5] aimed at improving the quality of services to citizens, businesses, governments, and government employees, as well as the effectiveness and efficiency of the federal government through the use of IT. The strategy also designated 24 high-profile initiatives to lead the government's transformation to e-government in areas such as regulatory rulemaking, tax filing, disaster assistance, and recruitment. When the E-Gov Act was signed into law on December 17, 2002, it reflected the experiences of both the committee and OMB in promoting e-government.

Title I of the E-Gov Act outlined leadership and organizational responsibilities for OMB. Specifically, it expanded OMB's leadership role in the management of information and IT by establishing the Office of Electronic Government headed by a presidentially appointed Administrator (which replaced the position of Associate Director for Information Technology and E-Government). The E-Gov Administrator is responsible for assisting the Director and Deputy Director of OMB, and for working with the OIRA Administrator,[6] in setting strategic direction for e-

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[4]The Paperwork Reduction Act, 44 U.S.C. 3501, et seq., and the Clinger-Cohen Act, 40 U.S.C. 11101, et seq.

[5]OMB, *E-Government Strategy* (Washington, D.C.: Feb. 27, 2002).

[6]The OIRA Administrator also has responsibilities for overseeing federal agency management of information and information technology functions under the Paperwork Reduction Act. 44 U.S.C. 3504.

government, overseeing the implementation of e-government consistent with related laws, and performing e-government functions, including

- advising the OMB Director on the resources and strategies needed for e-government,

- providing overall leadership and direction on e-government, and

- preparing an annual E-Gov Status Report for Congress.

Title I also codified the CIO Council,[7] with the OMB Deputy Director for Management as the chair, and detailed its organizational structure and responsibilities. As required by the act, membership of the council includes CIOs from federal executive agencies, OMB's Deputy Director for Management, the E-Government Administrator, and the OIRA Administrator. The E-Government Administrator is to lead the council on behalf of OMB's Deputy Director for Management, who serves as the Council Chair. In addition, Title I established the E-Government fund for interagency projects. The fund is to be administrated by the GSA Administrator, with the assistance of the OMB E-Gov Administrator.

Title II of the act assigned responsibilities for the management and promotion of electronic government activities. These include the following responsibilities:

- OMB is to issue privacy guidelines for federal websites and conduct studies on integrated reporting and community technology centers.

- GSA is to develop a framework for the interoperable use of digital signatures.

- GSA also has the responsibility to develop and maintain an integrated federal Internet portal for public access to government information and to sponsor a study on disparities in Internet access and access to government information and services.

- OMB, NARA, and federal agencies are to ensure the accessibility, usability, and preservation of government information.

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[7]The council was established on July 16, 1996, by Executive Order 13011.

- Federal agency heads have the responsibility to lead their agencies in complying with the act, develop e-government performance measures, sponsor activities using IT, and develop an annual E-Gov status report.

- OMB is to develop a publicly accessible repository and website about research and development funded by the federal government.

GAO Has Previously Reported on Progress in Implementing the E-Gov Act

We have previously reported on various aspects of federal agencies' progress in implementing the E-Gov Act. Specifically, in December 2004, we reported that, in most cases, OMB and federal agencies had taken positive steps toward implementing selected provisions of Titles I and II of the act.[8] For example, we noted OMB's establishment of the Office of E-Government and the issuance of its first annual report to Congress on implementation of the act. Further, we noted that the federal Internet portal had been established.

We also reported actions that were in progress for other provisions of the act. Among these, we noted that GSA and other agencies were implementing requirements for using electronic signatures. Also, studies by OMB on integrated reporting and community technology centers were in progress. In addition, the federal courts and regulatory agencies were in the process of developing websites to provide information to the public.

However, even with these accomplishments, we reported that not all requirements had been fully addressed. For example, OMB had not ensured that a study on using IT to enhance crisis preparedness and response had been conducted as required by the act, or ensured development and maintenance of a required repository and website of information about research and development funded by the federal government.

Accordingly, we made recommendations to the Director of OMB to take actions to ensure that the crises preparedness report and the development and maintenance of the research and development repository and website were carried out as required by the act. We

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[8]GAO, *Electronic Government: Federal Agencies Have Made Progress Implementing the E-Government Act of 2002*, GAO-05-12 (Washington, D.C.: Dec. 10, 2004).

stressed that until these issues were addressed, the government risked not fully achieving the act's objective to promote better use of the Internet and other information technologies to improve government services and enhance opportunities for citizen participation in government. OMB generally agreed with our recommendations and took actions to implement them.

OMB and Agencies Carried Out E-Government Leadership and Organizational Responsibilities, but Reporting Area Needs Attention

OMB, the CIO Council, and federal agencies have taken actions to fulfill most of the leadership and organizational responsibilities required by the E-Gov Act. Specifically, OMB's Office of Electronic Government, which was established to provide leadership and organizational direction, has issued key guidance on implementing the act's requirements and taken other actions to provide leadership and direction. In addition, the CIO Council has provided best practices and other assistance to agencies consistent with the act's requirements, and its current initiatives are focused on developing policies regarding newer technologies, such as mobile computing. Further, agencies have taken steps to fulfill leadership and organizational responsibilities, such as issuing policies and guidance, assigning responsibilities to designated officials, and developing performance measures that demonstrate progress toward agency strategic goals. However, although OMB has generally met the annual reporting requirement, it has not always reported on all of the provisions called for in the act, and it has not been explicit in identifying and explaining these omissions in its reports to Congress.

OMB's Office of Electronic Government Has Taken Steps to Provide Leadership and Organizational Direction

Since we last reported in 2004, OMB's Office of E-Government has continued to take actions to provide leadership and organizational direction for agency e-government efforts. Specifically, the office has issued a variety of guidance for agencies aimed at assisting them in implementing provisions of the E-Gov Act and carrying out related activities. For example, each year, the office has issued implementation guidance on specific actions required under the act and responsibilities to support ongoing initiatives and new actions.

The guidance has covered specific provisions of the act, such as those related to electronic authentication, the management of agencies' websites, and the implementation of privacy provisions of the act, among others. In addition, OMB has issued guidance on activities that, while not specifically called for by the act, are closely related to the goals of e-government. These include guidance on improving public access to and dissemination of government information and using the Federal

Enterprise Architecture's data reference model; an Open Government directive calling for increased transparency, participation, and collaboration at federal agencies; and guidance on the use of social media and third-party websites and applications.

Further, the office is responsible for coordinating the annual reporting on implementation of the E-Gov Act's requirements. It does this by issuing reporting instructions to agencies and providing a summary report of the agencies' responses to Congress. In addition, the office has annually provided to Congress a report on the benefits of e-government initiatives more broadly. For example, the fiscal year 2012 report on e-government benefits[9] contains descriptions of each e-government initiative and related objectives, costs, benefits, risks, and development status, as well as sources and distribution of e-government funding.

OMB's recent efforts to promote the use of new technology to improve government information and services have focused on initiatives that go beyond the requirements of the E-Gov Act. For example, OMB has recognized that changes in technology provide opportunities but also present new challenges in making information and services accessible to the public and improving the effectiveness and efficiency of the federal government. Specifically, in December 2010, OMB issued its *25 Point Implementation Plan to Reform Federal Information Technology Management*,[10] which aimed to address some of these challenges, including leveraging the most effective and efficient available technologies.

In April 2012, we reported on the progress OMB and key federal agencies had made on selected actions items in OMB's plan.[11] We noted that OMB and key federal agencies had made progress on action items in the IT Reform Plan, but highlighted several areas where more remained to be done. We made recommendations to three agencies to complete key IT reform action items and to OMB to complete key action items, accurately

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[9]OMB, *Report to Congress on the Benefits of the President's E-Government Initiatives*, Fiscal Year 2012.

[10]OMB, *25 Point Implementation Plan to Reform Federal Information Technology Management* (Washington, D.C.: Dec. 9, 2010).

[11]GAO, *Information Technology Reform: Progress Made; More Needs to be Done to Complete Actions and Measure Results*, GAO-12-461 (Washington, D.C.: Apr. 26, 2012).

characterize the items' status, and establish measures for IT reform initiatives. The three agencies generally agreed with our recommendations. However, while OMB agreed to complete key action items, it disagreed with the latter two recommendations, noting that the agency believed it was characterizing the items' status correctly and that measures were not warranted. We maintained that these actions were necessary.

Further, in May 2012, OMB released a strategy for digital government, *Digital Government: Building a 21rst Century Platform to Better Serve the American People*, which emphasizes that emerging technologies such as cloud computing and the widespread use of mobile devices are changing expectations about how the government delivers digital information and services.[12] This strategy outlines three objectives:

- ensure access to digital government information anywhere, anytime, on any device;

- procure and manage devices, applications, and data in smart, secure, and affordable ways; and

- spur innovation and improve the quality of services by enabling the public, entrepreneurs, and government programs to better leverage federal data.

To carry out these objectives, the strategy calls for managing information as discrete pieces of open data that can be presented in useful ways for the consumer of that information; using shared platforms within and across agencies to reduce costs, streamline development, and ensure consistency; creating, managing, and presenting data in a customer-centric way; and ensuring that these services are provided safely and securely. For each of these areas, the strategy outlines milestone actions, responsible federal entities, and time frames of 1 to 12 months.

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[12]OMB, *Digital Government: Building a 21st Century Platform to Better Serve the American People* (Washington, D.C.: May 23, 2012).

Federal CIO Council Carries Out Responsibilities Identified in Law, and Agency CIOs Actively Participate in Council Activities

The E-Gov Act codified the CIO Council as the principle interagency forum for improving agency practices on matters such as the design, modernization, use, sharing, and performance of agency information resources. The council's responsibilities include developing recommendations for information and IT management policies, procedures, and standards; sharing management best practices; and working with the Office of Personnel Management to assess and address the needs of the federal government's IT workforce. In addition, the act requires the CIOs of each of the 24 agencies to participate in the functions of the council and monitor the implementation of information technology standards for the federal government developed by the National Institute of Standards and Technology and promulgated by the Secretary of Commerce, including common standards for interconnectivity and interoperability, categorization of federal government electronic information, and computer system efficiency and security.

The council helps to facilitate the exchange of IT management best practices for CIOs to effectively use IT. Through its website, http://www.cio.gov, the council provides guidance for the IT community from OMB, documents created by the council committees, and presentations given at council events. The website also includes information on e-government areas, such as citizen participation, accessibility, records management, and privacy. The council's committees help to perform its activities. For example, the Best Practices Committee has published recommendations and experiences on the CIO Council's website and contributed to the development of resources, such as guidance on establishing a federal privacy program. Further, the council's Accessibility Committee has a best practices library, allowing agencies to share their best practices concerning the organization and implementation of Section 508 policies.[13]

In addition, all of the agencies in our study reported that their CIOs participate in the functions of the federal CIO Council. This is accomplished in a variety of ways: the agencies reported that their CIOs regularly attend the monthly meetings of the council, and chair or participate in its committees, subcommittees, working groups, and other

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[13]Section 508 of the Rehabilitation Act of 1973 requires federal agencies to ensure that their development, procurement, maintenance, or use of electronic and IT equipment takes into account the needs of people with disabilities to have access to and use of information that is comparable to that of individuals without disabilities.

activities. Agency CIOs are also responsible for the approval of information security policy used to promulgate guidance, legislation, and directives from the National Institute of Standards and Technology, OMB, and Congress.

Agencies Took Actions to Carry Out Leadership Responsibilities

According to the act, agency heads are responsible for (1) complying with the requirements of the act and (2) ensuring that the information resource management policies and guidance established under the act by OMB are communicated promptly and effectively to all relevant officials within their agency.

All of the 24 agencies have taken various actions in response to the act's requirements by, for example, issuing agencywide policy and guidance that addresses compliance with the E-Gov Act. Moreover, to ensure compliance with the act, agencies reported that they are integrating e-government requirements and activities within their standard operating procedures, internal governance mechanisms (e.g., investment review boards, capital planning and investment control process, working groups, councils, and e-government project management offices), policies, and guidance. For example, one agency's Office of the CIO works with its IT governance bodies, such as the CIO Executive Board, to disseminate guidance to its component CIOs on E-Gov Act implementation. Another agency ensured compliance by establishing an E-Gov Project Management Organization to manage the agency's implementation of the act.

Further, agencies reported taking various approaches to assigning e-government responsibilities. For example, one agency reported that its E-Gov Office is located within the Office of the CIO and serves in a coordinating role to facilitate the reporting of e-government-related accomplishments and to monitor the funding of selected e-government initiatives. Another agency's e-government responsibilities are shared by its Office of Information Resource Management (OIRM), Division of Information Systems, Division of Administrative Services within OIRM, and the CIO. Further, one agency reported that its e-government responsibilities were dispersed between its Office of Environmental Information and the Office of the Chief Financial Officer. In addition, many agencies appointed their CIO as the official responsible for addressing their E-Gov Act activities.

Agencies Established Performance Measures, but Challenges Remain

According to the act, agencies are to take various actions with regard to performance measures. Specifically, agencies are to

- develop performance measures that demonstrate how electronic government enables progress toward agency objectives, strategic goals, and statutory mandates;

- consider measuring performance in customer service, agency productivity, and adoption of innovative information technology; and

- link their performance goals as appropriate to key groups, including citizens, businesses, and other governments and to internal federal government operations.

Related to the requirements, OMB has instructed agencies that performance measures that are both citizen- and productivity-related must be linked with each agency's Annual Performance Plan and its Strategic Plan, and be used to meet agency objectives, strategic goals, and statutory mandates in e-government and IT. Performance measures help agency officials to focus on mission and key activities, demonstrate the impact of their budget requests, demonstrate benefits to the public, and help to inform and support program-level management decisions.

All of the 24 agencies in our study reported developing performance measures to demonstrate how e-government initiatives enable progress toward meeting their mission (e.g., agency objectives, strategic goals, and statutory mandates). For example, agencies provided links to their enterprisewide IT goals, including e-government, within their agencywide and IT strategic plans. Specifically, one agency had performance measures for an e-government initiative that supported its goal to strengthen financial integrity and management and internal controls. This initiative is responsible for managing, reconciling, and delivering timely and accurate reporting of grant and financial accounting data for over 160 grant appropriations. Another agency's IT strategic priorities included strengthening IT management capabilities through its electronic government initiatives to provide IT tools, services, and repositories, along with worldwide access to information and systems, both internally and to external partners. Further, one agency reported that it had developed performance measures that demonstrate how e-government enables progress toward meeting its mission to expand disaster assistance resources and international trade data.

Additionally, to demonstrate how electronic government helped them to achieve agency goals, agencies were required to describe in their fiscal year 2011 E-Gov Act reports to OMB how they were reducing errors in electronic submissions through agency-sponsored e-government initiatives. For example, http://www.grants.gov is the federal government website that provides information on over 1,000 grant programs awarded by 26 grant-making agencies and other federal grant-making organizations. An agency reported that the website reduced application submission error rates by performing data validation checks, based on information in agencies' application packages, to ensure that the required field in the application forms has been appropriately populated. Further, another agency reported that, through its electronic data collection system, it had reduced respondent burden and improved internal efficiencies by reducing the cost of printing, mailing, collecting, and data conversion of paper forms.

All 24 agencies also reported that they tracked customer satisfaction in a number of ways, including through the use of agency scorecards and the American Customer Satisfaction survey index.[14] Specifically, one agency reported that it tracked measures related to customer service, including satisfaction with the quality and service of products and agency program enrollees' satisfaction compared against its industry standard.

Twenty-three agencies reported that they had developed measures of agency productivity. For example, one agency reported examples of using technology for reducing the cost of transactions, improving compliance with government requirements (e.g., public health and safety), enhancing national security by facilitating the sharing of information among authorized agencies, and providing access to more accurate, complete, and timely information.

Further, 22 agencies reported that they had developed performance measures for the adoption of innovative IT, including the appropriate use of commercial best practices. One agency's strategic plan included a goal describing technology and innovation focusing on accelerating the development and adoption of new, effective programs, processes, and strategies. Specifically, these included implementing technology to

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[14]The American Customer Satisfaction Index (ACSI) is an economic indicator that measures the satisfaction of consumers across the United States.

connect customers to data, resources, experts, and peers; supporting research and development of technology and other innovations; and supporting the development of technology to enhance accessibility for citizens with disabilities. Three agencies also had incorporated research, design, and development of emerging technologies within IT policy, while 5 others had related goals and strategy measures within their IT strategic plan.

Twenty-three agencies reported linking performance measures to key groups, including citizens, businesses, and other governments, and to internal federal government operations. Moreover, in its fiscal year 2011 E-Gov Status Report, OMB highlighted agencies' accomplishments that improve citizen engagement related to the administration's Open Government initiative.[15] The report stated that the Open Government initiative embodies the spirit of the E-Government Act by ensuring public trust and establishing a system of transparency, public participation, and collaboration.[16] OMB provided a few highlights of executive agency accomplishments regarding initiatives that provide access to the citizens. The agencies described initiatives that targeted various groups, including consumers, researchers, veterans, and students.

Eighteen agencies said they planned to continue to work on developing performance measures for e-government. For example, one agency reported that this was an ongoing process that required staying alert to changes and evolution in technology, programs, and processes. Another agency described the need for tools to provide accurate performance information in a consistent and timely manner. The agency will address this by collaborating internally and communicating with the public to improve customer service.

Although agencies have made progress in this area, in September 2011 we reported on challenges that agencies faced with establishing e-

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[15]OMB, M-10-06, *Memorandum for the Heads of Executive Departments and Agencies: Open Government Directive* (Washington, D.C.: Dec. 8, 2009).

[16]Agency Open Government initiatives include promoting increased access to and innovation in utilizing government data resources, improving responses to Freedom of Information Act requests, and promoting greater citizen participation and collaboration in mission activities through new media applications.

government initiative performance measures.[17] Specifically, we reported that four E-Gov Fund projects had defined performance metrics that aligned with many, though not all, of their major goals and intended benefits. Although the E-Government Administrator (who also serves as the Federal CIO) announced the termination of two of the projects reviewed in May 2011, the two ongoing projects did not yet have fully defined metrics that aligned with all of the major goals and intended benefits. Thus, managers and stakeholders could not effectively assess project results and provide credible evidence of progress, which is particularly important in a resource-constrained environment. We recommended that GSA ensure that performance metrics that align with all project goals be developed for ongoing e-government projects. GSA concurred with the recommendations and stated that it would work to align goals and performance measures for E-Gov Fund projects that lacked such measures.

Agencies and OMB Submitted Annual E-Gov Reports, but Reports Could Benefit from Greater Transparency

The E-Gov Act requires each agency to compile and submit to the Director of OMB an annual report on the status of its implementation of e-government initiatives, compliance with the E-Gov Act, and how e-government initiatives of the agency improve performance in delivering programs to constituencies. Furthermore, the act requires the Director of OMB to submit to Congress an annual E-Government status report. This report is required to contain (1) a summary of the information reported by agencies on the status of their implementation of the act, (2) information on the operation of the E-Gov Fund, and (3) descriptions of federal government compliance with other goals and provisions of the act. OMB has the authority to determine when and how agencies are to submit their annual reports.

All of the 24 agencies have submitted annual reports to OMB. For example, in their fiscal year 2011 reports, agencies provided information required by OMB, such as descriptions and status of their top three e-government IT accomplishments and information on their compliance with goals and certain provisions of the act. Specifically, this included information on how agencies have implemented the use of electronic signatures, utilized management tools to improve the dissemination of

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[17]GAO, *Electronic Government: Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can Be Improved*, GAO-11-775 (Washington, D.C.: Sept. 23, 2011).

and access to agency information by the public, and complied with Section 508 requirements.

Fifteen of the agencies stated that their e-government reports had value. For example, 7 agencies felt that the reports helped to highlight their annual e-government accomplishments, 3 agencies used them to evaluate how they were addressing act requirements, and 1 agency used them to cite effective e-government practices. However, the remaining 9 agencies questioned the value of preparing and submitting the annual reports to OMB. For example, 1 agency reported that it did not use the report for internal program evaluation or management. In addition, 3 of these 9 agencies noted that preparing the reports required dedicated resources and working within short time frames, and that the reports duplicated information they had already provided to OMB through other means.

For its part, OMB has submitted its reports to Congress annually, as required by the act. However, it has not consistently met all of the reporting requirements. Specifically, while its reports have included summaries of the information reported by agencies and information on the operations of the E-Gov Fund, they have not always addressed all goals and provisions of the act. For example, from fiscal year 2005 to fiscal year 2010, OMB did not report on agencies' progress in promoting the use of electronic signatures. Further, the agencies were not required by OMB to report on how they enhanced public participation by electronic means for development and issuance of regulations from fiscal year 2006 to fiscal year 2009, but were required to describe them from fiscal year 2010 to fiscal year 2011. Moreover, since 2010, OMB did not fully address the accessibility, usability, and preservation of government information, including the organization and categorization of such information.

In discussing this matter, OMB officials said their guidance does not always require agencies to include all the provisions required by the act, and, accordingly, OMB does not fully report on these areas. Further, OMB officials stated that the reporting guidance they issue each year is determined by the administration's priorities. For example, OMB has, in certain years, required the agencies to report on other accomplishments outside of the act, such as progress related to the administration's Open Government initiative.

However, with the exception of fiscal year 2005, OMB did not include in its annual report to Congress any information to explain which particular

provisions of the act were not being addressed and why. In its fiscal year 2005 E-Gov reporting instructions, OMB stated that to reduce the burden on agencies, it did not require agencies to report on certain provisions of the act related to privacy, since it could obtain the information through other means, such as agencies' annual reporting on compliance with the Federal Information Security Management Act, which includes privacy reporting. Yet, OMB did not include such an explanation of its reporting for other years. Excluding such information limits the transparency of the E-Gov reports and, consequently, their value in informing Congress about actions taken to implement the act.

Federal Agencies Implemented Most Requirements for Promoting Use of the Internet and Other Technologies, but Continue to Work to Achieve the Act's Purposes

OMB, GSA, and other federal agencies have taken numerous actions to meet the E-Gov Act's requirements for promoting the use of the Internet and other technologies for providing public access to government information and services. For example, agencies have been using GSA's framework for electronic signatures and have contributed to the development and use of the federal Internet portal, http://www.USA.gov. In addition, OMB, GSA, and agencies have established mechanisms and published reports to identify disparities in Internet access and ways to provide such access to those who lack it. Further, agencies have addressed requirements for improving the transparency of and public involvement in the regulatory process. Agencies have also taken actions to improve the organization and categorization of government information by adhering to OMB guidance, following NARA guidance relating to government information on the Internet, sponsoring activities to engage the public in the development and implementation of policies and programs, and implementing OMB requirements for protecting the privacy of personal information collected through agency websites.

However, key areas of attention remain to accomplish the act's purposes of promoting electronic government and use of other technologies. For example, while the federal government continues to take actions to improve transparency through various websites, we have reported on concerns with the accuracy and reliability of this information. Also, OMB has not met the act's requirement for establishing a website and repository that are to provide information about research and development funded by the federal government, which would assist the public in tracking the government's investment in basic research.

Agencies Are Using GSA's Framework for Electronic Signatures and Have Plans for Expanding Their Use

The Senate Committee Report accompanying the E-Gov Act stressed the use of electronic signatures (e-signatures) to help promote access to government information by achieving the interoperable implementation of secure electronic transactions within government. An e-signature is a method of signing a message that (1) identifies and authenticates a particular person as the source of the electronic message and (2) indicates that person's approval of the information contained in the electronic message. The E-Gov Act directed the GSA Administrator, supported by the Director of OMB, to establish a framework that allows for efficient interoperability among executive agencies when using e-signatures. It also authorized appropriations for GSA to ensure the development and operation of a federal bridge certification authority[18] for e-signature compatibility. Executive agencies were required to ensure that their methods for use and acceptance of e-signatures were compatible with the framework and related policies. Table 1 outlines these requirements and agency responsibilities.

Table 1: E-Signature Requirements and Agency Responsibilities

Requirement	Agency responsibility assigned
Establish a framework to allow efficient interoperability among executive agencies when using electronic signatures, including processing of digital signatures.	GSA and OMB
Ensure the development and operation of a federal bridge certification authority for digital signature compatibility.	GSA
Ensure that methods for use and acceptance of electronic signatures are compatible with the relevant policies and procedures issued by the Director of OMB.	Executive agencies

Source: GAO analysis of the E-Gov Act.

GSA, OMB, and agencies have taken actions to address the requirements of this section of the act. Specifically, according to a GSA official, the agency established the Federal Public Key Infrastructure (PKI) in September 2002,[19] which included the federal bridge certification authority and common framework for e-signature compatibility authorized

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[18]This refers to a unifying element to link otherwise unconnected agency certification authorities.

[19]Federal public key infrastructure uses a technique to authenticate users and data, protect the integrity of transmitted data, and ensure non-repudiation and confidentiality.

GAO-12-782 E-Government Act of 2002

by the act. GSA has documented its efforts at http://www.idmanagement.gov, which provides information on electronic authentication, including links to information on the Federal PKI; the identity, credentialing, and access management initiative (formerly the e-authentication initiative); and Homeland Security Presidential Directive 12.[20]

Through its fiscal year 2011 E-Gov report to Congress,[21] OMB provided examples of how agencies were using e-signatures, which included processing travel documents, securing sensitive e-mail, and verifying information on financial disclosure forms. Additionally, one agency noted that it had ongoing efforts to implement provisions of the identity, credentialing, and access management initiative by accepting e-signatures from other government agencies using the personal identity verification cards. Another agency indicated that it used an e-signature tool, developed and provided for free to the agency by GSA, in submitting comments for the *Federal Register*. Additionally, over half of the agencies in our study reported having plans to expand their use of e-signatures.

Federal Internet Portal Has Provided Benefits, but Challenges Remain

The E-Gov Act called for the establishment of a federal Internet portal to provide the public with consolidated access to government information and services from a single point, organized according to function, topic, and the needs of the public rather than agency jurisdiction. According to the act, to the extent practicable, the portal is to be designed and operated according to specific criteria. For example, the portal is to provide information and services directed to key groups (e.g., citizens, businesses, and other governments). It also is to make Internet-based services relevant to a given citizen activity available from a single point, and integrate information according to function or topic. Further, the portal is to consolidate access to federal information with Internet-based information and services provided by state, local, and tribal governments. Lastly, the act requires federal agency heads to support the efforts of GSA to develop, maintain, and promote an integrated Internet-based

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[20]This directive established a policy for a common identification standard for federal employees' and contractors' access to federal government buildings and IT systems.

[21]OMB, *FY 2011 Report to Congress on the Implementation of The E-Government Act of 2002* (Mar. 7, 2012).

system of delivering federal government information and services to the public via the federal Internet portal.

GSA and federal agencies have taken various actions to address this requirement. As we have previously reported,[22] OMB's 2003 report to Congress identified http://www.FirstGov.gov as the federal Internet portal prescribed by the act, and we noted that it generally adhered to the criteria established by the act. The portal was launched in September 2000 as an interagency initiative, managed by GSA and supported and assisted by OMB and federal agencies. With this support and assistance, GSA established the portal to provide the public with access to government information and services, and GSA has maintained and promoted it since that time. According to GSA, the portal was designed and organized according to online services rather than by agency. This allows the public to conduct business with the government via the Internet without having to know how the government is organized.

In January 2007, http://www.FirstGov.gov became http://www.USA.gov because, according to GSA, it received feedback from the public that the website should have a name that was easier to understand and remember. Since that time, GSA has continued to maintain and promote the portal, adding increased functionality and new information. For example, it has expanded the search functionality on USA.gov and added information on mobile applications available for download that provide access to information on a variety of government services. According to GSA, USA.gov received over 55 million public visits in 2011 and currently is linked to over 13 million other sites.

Almost all agencies in our review indicated that they use, maintain, and promote the use of USA.gov—a requirement of the act—primarily through links on their agency websites. GSA noted that it also works closely with staff in other agencies to push important information to the public through guest blog posts on http://www.Blog.USA.gov, targeted e-mail marketing, and the promotion of its most popular publications on http://www.Publications.USA.gov.

In addition to the effort to use and promote USA.gov, OMB has taken steps to improve transparency and participation through other federal

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[22]GAO-05-12.

websites. For example, in response to a Presidential memorandum issued on January 21, 2009, OMB issued an open government directive,[23] which, among other things, called for the transparency, participation, and collaboration of federal agencies in publishing government information online. As a result, citizens can now access consolidated government information through http://www.data.gov, http://www.itdashboard.gov, and http://www.USAspending.gov. While these websites can be accessed through USA.gov, they are not dependent on USA.gov. These websites are described in table 2.

Table 2: Websites Providing Government Information

Website	Description
USA.gov	The federal government's official website that provides a centralized point of entry where the public can locate government information, benefits, and services.
Data.gov	This website is a platform that provides access to federal datasets, such as healthcare and unemployment. With a searchable data catalog, Data.gov helps the public find, access, and download non-sensitive government data and tools in a variety of formats.
IT Dashboard	This website shows the government, the public, and other stakeholders how federal IT investments are being made by presenting information on the cost and schedule of agencies' IT investments. By offering insight into the effectiveness of government technology programs, the IT Dashboard guides budget and policy decisions governing federal IT.
USAspending.gov	This website provides information to the public largely from the Federal Procurement Data System, which contains information about federal contracts, and the Federal Assistance Award Data System, which contains information about federal financial assistance, such as grants, loans, insurance, and programs like Social Security.

Source: GAO analysis of USA.gov, Data.gov, the IT Dashboard, and USAspending.gov.

We have previously reported on federal websites and noted the benefits they provided by making additional federal government information available to the public, but also noted challenges that OMB and agencies faced related to them.[24] Specifically, in 2010 and 2011, we noted that the accuracy and reliability of data provided on www.USAspending.gov and www.itdashboard.gov needed to be improved and that OMB should

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[23]OMB, M-10-06.

[24]GAO, *Electronic Government: Implementation of the Federal Funding Accountability and Transparency Act of 2006,* GAO-10-365 (Washington, D.C.: Mar, 12, 2010); *Information Technology: OMB Has Made Improvements to its Dashboard, but Further Work is Needed by Agencies and OMB to Ensure Data Accuracy,* GAO-11-262 (Washington, D.C.: Mar. 15, 2011); and *Electronic Government: Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can Be Improved*, GAO-11-775 (Washington, D.C.: Sept. 23, 2011).

ensure complete reporting of information on these websites for a comprehensive view into the details of federal performance and spending for the public. We recommended that OMB and agencies take actions to ensure complete and accurate reporting of federal information on these websites. OMB and agencies generally concurred with our recommendations.

In addition, the federal government is facing challenges in managing federal agency websites. For example, according to a report published as part of the .gov Reform Initiative,[25] 56 agencies reported maintaining 1,489 domains and an estimated 11,013 websites. The agencies acknowledged that by having fewer .gov domains, they could improve customer experience, promote consistency in design, eliminate duplication and clutter, and improve search results, thus providing easier access to information. The .gov Reform Initiative is aimed at addressing the state of federal websites by calling for agencies to improve customer service and manage their web operations more efficiently.

The use of these websites illustrates how the Internet is allowing the public and government to access, deliver, and use services and information in ways that, while consistent with the goals of the E-Gov Act, are more varied than envisioned when the act was enacted. As the Internet evolves, individuals increasingly access information in multiple ways, such as through different search engines and links among sites. Altogether, these uses reflect a larger and more integrated network, and less reliance on a single portal for accessing government information.

Report on Integrating Federal Information and Pilot Projects Completed by Deadline

The E-Gov Act established two requirements aimed at enhancing the interoperability of information systems maintained by the federal government and reducing federal information collection burdens on the public. As a first requirement, the Director of OMB was to oversee a study and report to Congress on the integration of data elements collected electronically by agencies under federal statutes that would increase interoperability, assist the public in electronically submitting information to agencies, and enable citizens to integrate information from different agencies. The second requirement called for OMB to designate up to five

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[25]This initiative was established as part of President Obama's Campaign to Cut Waste and Executive Order 13571, *Streamlining Service Delivery and Improving Customer Service* (Washington, D.C.: Apr. 27, 2011).

pilot projects to provide input for a study on describing progress toward integrating federal information systems across agencies.

OMB has taken actions to address these requirements. Specifically, in December 2005, OMB issued the results of its study, *Report to Congress on Implementation of Section 212 of the E-Government Act of 2002*, which described how it addressed the first requirement of this section of the act. For example, the report highlighted that the development and implementation of the Federal Enterprise Architecture[26] has improved the exchange and use of data between multiple systems in order to enhance interoperability between agencies, assist the public in submitting electronic information to agencies, and enable people to integrate information from different agencies.

The report also identified five lines of business that OMB stated served as the pilot projects to address the second requirement. These initiatives reflected President Bush's goal to expand the use of electronic information in governmentwide functions: (1) case management, (2) federal health architecture, (3) grants management, (4) human resource management, and (5) financial management. The report highlighted the progress that the projects had made toward streamlining and improving data collection systems interoperability and public access to cross-agency information. Five separate agencies served as managing partners, with responsibility for providing leadership and management of the pilot projects. Other agencies served as participating members in the pilot projects and provided assistance through shared services. For example, they provided expertise in certain areas to peer agencies at rates lower than those of comparable private sector services.

OMB provided updates to the five lines of business in its fiscal year 2012 report to Congress on e-government benefits.[27] For example, it noted that the grants management line of business had resulted in http://www.grants.gov, a single portal that enables the grants community

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[26]According to OMB, the Federal Enterprise Architecture is intended to facilitate governmentwide improvement through cross-agency analysis and identification of duplicative investments, gaps, and opportunities for collaboration, interoperability, and integration within and across agency programs.

[27]OMB, *Report to Congress on the Benefits of the President's E-Government Initiatives*, Fiscal Year 2012.

to find and apply for grants, which has reduced or eliminated the need for separate systems across 26 agencies.

OMB, GSA, and Agencies Implemented Requirements to Address Access Limitations

The E-Gov Act included requirements for OMB, GSA, and agencies to make government information more accessible to persons without access to the Internet and to persons with disabilities. Further, the act required OMB and GSA to complete studies on community technology centers and disparate access to government information on the Internet. Table 3 identifies specific requirements in the act related to these areas.

Table 3: E-Gov Act Requirements Related to Disparate Access

E-Gov Act requirement	Responsible agency
To the extent practicable, agency heads must consider the impact on persons without access to the Internet, ensure that the availability of government services and information has not been diminished for individuals who lack access to the Internet, and pursue alternate modes of delivery that would make the information and services more accessible to those who lack such access.	Federal agencies
All actions taken by agencies under the act are to be in compliance with Section 508 of the Rehabilitation Act of 1973. Section 508 of the Rehabilitation Act requires federal agencies to ensure that their development, maintenance, and procurement of electronic and IT equipment takes into account the needs of people with disabilities to have access to and use of information that is comparable to that of individuals without disabilities.	Federal agencies
The Administrator of the Office of E-Government is to ensure that a study is conducted to evaluate the best practices of community technology centers, which provide Internet access to the public, and submit a report to Congress on the findings of this study.	OMB
The E-Gov Administrator, in consultation with other agencies, is to develop an online tutorial that explains how to access government information and services on the Internet.	OMB
GSA is to sponsor a study on disparities in Internet access for online government services.	GSA

Source: GAO analysis of the E-Gov Act.

Nearly all 24 agencies described actions they have taken when promulgating policies and implementing programs regarding government information and services over the Internet to (1) consider the impact on persons without access to the Internet, (2) ensure that the availability of government information and services was not diminished for individuals who lack access to the Internet, and (3) pursue alternate modes of delivery to individuals who do not own computers or lack access to the Internet. All of the agencies described actions they had taken to improve access to information, including the use of public events, television, telephone, newspapers, mail, and reading rooms for disseminating information about their programs, policy decisions, and activities. In addition, 12 agencies told us that they have plans to continue to improve access to the Internet for those who need it.

Agencies Implemented Actions to Ensure Accessibility of Information for Those with Disabilities

The E-Gov Act requires that all actions taken by agencies under the act be in compliance with Section 508 of the Rehabilitation Act of 1973. Section 508 of the Rehabilitation Act requires federal agencies to ensure that the development, procurement, maintenance, or use of electronic and IT equipment takes into account the needs of people with disabilities. It also requires that agencies ensure that federal employees and members of the public with disabilities have access to and use of information and data that is comparable to the access of those without disabilities. For example, the act requires federal agencies developing websites to ensure that citizens with disabilities have equal access to the information on those websites.

In addition, in July 2010, OMB issued a memorandum to assist federal agencies with management and implementation of Section 508.[28] The purpose of this memorandum was to make agencies aware of existing resources and direct agencies to take stronger steps toward improving the acquisition and implementation of accessible technology. The memorandum stated that to ensure that persons with disabilities have equal access to their government, agencies must buy and use accessible electronic and IT equipment.

All 24 agencies in our study provided examples of actions taken in accordance with Section 508. These include utilizing tools that improve accessibility of social media; documenting requirements for electronic documents; delivering Section-508-associated training; updating their websites; and developing agency-specific contract language to ensure accessibility is considered for IT projects. Six agencies also described having a Section 508 program office or coordinator to perform tasks, such as helping to ensure compliance with standards, exploring the implementation of technologies, and providing technical assistance to system developers. In addition, all 24 agencies reported using the standards developed by the United States Access Board for complying

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[28]OMB, *Memorandum for Chief Acquisition Officers and Chief Information Officers: Improving the Accessibility of Government Information* (Washington, D.C.: July 19, 2010).

with Section 508, and 18 responded that the standards ensured compliance and were adequate and helpful.[29]

OMB Completed Study on Community Technology Centers, and Agencies Have Taken Actions to Promote Their Use

The E-Gov Act required the Administrator of OMB's Office of E-Government to ensure that a study was conducted to evaluate the best practices of community technology centers, which provide computer and Internet access to the public, and submit a report to Congress on the findings of this study by April 2005. In addition, the act required the E-Gov Administrator, in consultation with other federal agencies, to develop an online tutorial that would explain how to access government information and services on the Internet.

To meet this requirement, OMB issued the results of its study, *Section 213 of the E-Government Act Report to Congress: Organizations Complementing Federal Agency Information Dissemination Programs*, in April 2005. The report outlined promising practices of community technology centers and described their locations around the country. For example, the report noted that a promising practice adopted by some community technology centers was the implementation of programs providing comprehensive technology training and mentoring for high school students. Specifically, the report noted that students received intensive technology training in learning labs and worked in small teams to design, research, and complete multimedia projects. The report also identified a promising practice of creating summary performance reports of community technology centers that aligned with the goals of the act in providing access to government information. The report described successes and innovative practices as well as whether the centers met their goals.

Additionally, GSA launched nine online tutorials on December 4, 2007, on USA.gov, addressing the requirement to develop online tutorials that explain how to access government information and services on the Internet. According to OMB, each tutorial was specifically designed to teach visitors to the website how to access government information and

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[29]The United States Access Board is an independent federal agency devoted to accessibility for people with disabilities. Under Section 508 of the Rehabilitation Act, the board was required to develop access standards for technology that will become part of the federal procurement regulations. In December 2000, the board issued these standards, which include standards for making web pages accessible for persons with disabilities.

services on the Internet. Examples of the tutorials that were launched include

- Get It Done Online with Government—provides instruction on how to complete government tasks online;

- Shop Government Auctions and Sales—gives directions on shopping for real estate, cars, gifts, and other items available from government auctions or stores;

- Find Government Benefits and Grants—offers information on finding government money available through benefits, grants, loans, and financial aid; and

- Locate In-Person Government Services Near You—provides instructions on finding contact information for local government offices.

GSA Completed Study on Disparate Access

The E-Gov Act required GSA to sponsor a study on disparities in Internet access for online government services. The study was to focus on the increase in online government services, and on whether the increase raised particular questions or concerns with respect to citizens who rely on government programs, but lack Internet access. GSA was to submit a report to Congress on the findings, conclusions, and recommendations of the study by December 2004.

Toward this end, GSA issued its report, *Improving Access to the Internet: A Report to the Congress as required by the E-Government Act of 2002 Section 215*, in January 2005. The report discussed differences in Internet access and how these differences influenced the effectiveness of online government services. The report also provided recommendations focused on ensuring citizens' access to government services and information, while supporting the benefits of online access to these resources. According to GSA, after the report was issued, the Federal Communications Commission took over responsibility for this section of the act.

Agencies Implemented Requirements to Improve Public Access to and Participation in the Development of Regulations

The E-Gov Act requires federal agencies, to the extent practicable, to electronically accept submissions of comments on proposed rules, among other things, and to make electronic dockets publicly available online.[30] Overall, this requirement is aimed at improving performance in the development of agency regulations by increasing access, accountability, and transparency, and enhancing public participation in the regulatory process.

All of the agencies in our study have taken actions to address the requirements of this section by participating in http://www.regulations.gov. This website allows the public to search for and submit comments on proposed regulations and provides the public access to electronic dockets.[31] In its fiscal year 2011 E-Gov Report, the Environmental Protection Agency, as the managing partner for this initiative, stated that the public had submitted 505,000 comments through www.regulations.gov.

In addition to using this federal governmentwide docket management system, OMB and certain agencies have taken other actions to improve the development and issuance of agency regulations and public participation in this process. For example,

- In April 2010, OMB issued a memorandum, *Increasing Openness in the Rulemaking Process—Use of Regulation Identification Number*, requiring agencies to use an identification number on all relevant documents throughout the entire life cycle of a rulemaking to make it easier for the public to find and view all online information relevant to the regulatory docket.

- In May 2010, OMB issued another memorandum, *Increasing Openness in the Rulemaking Process—Improving Electronic Dockets*,

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[30]The "regulatory" or "rulemaking" process refers to the procedures federal agencies follow under the Administrative Procedure Act (5 U.S.C. 551 et seq.) to develop, issue, and amend regulations (also called rules). Regulations are used to provide more details to implement statutory requirements. They generally are published as proposed rules for public notice and comment in the *Federal Register*, and when issued as final rules, have the force and effect of law.

[31]A docket is a collection or repository of documents related to a rulemaking or other action.

providing guidance to agencies for compiling and maintaining comprehensive electronic regulatory dockets on www.regulations.gov.

- In November 2010, the eRulemaking Program[32] issued a best practices document for federal agencies. This best practices document is intended to improve public access to regulatory information and encourage public participation through www.regulations.gov.

Lastly, the Department of Labor reported in its fiscal year 2011 E-Gov report that it has developed a new website that provides the public a central point to learn more about the regulatory process and specific Department of Labor regulatory activities and facilitates access to regulatory material.

OMB Has Issued Policies on the Organization and Categorization of Government Information

The E-Gov Act requires the Director of OMB to issue policies directing agencies to use standards to enable the organization and categorization of government information; define categories of government information; and determine priorities and develop schedules for the initial implementation of the standards by agencies. Agencies are required to report to the Director of OMB on their compliance with these policies through their annual E-Gov reports.

To assist in the implementation of this requirement, OMB issued memorandum M-06-02 on December 16, 2005,[33] which, among other things, required agencies to organize and categorize their information intended for public access, make it searchable across agencies, and describe how they use formal information models to assist with their dissemination activities. Accordingly, all of the agencies in our study provided examples of how they fulfilled the requirements of OMB's memorandum in their 2006 annual E-Gov reports.[34] For example, one

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[32]The eRulemaking Program is an interagency project based in the Environmental Protection Agency. The development and implementation of https://www.regulations.gov is also the responsibility of the Environmental Protection Agency.

[33]OMB, M-06-02, *Improving Public Access to and Dissemination of Government Information in Using the Federal Enterprise Architecture Data Reference Model* (Washington, D.C.: December 16, 2005).

[34]Three out of the 24 agencies' fiscal year 2006 annual E-Gov Act reports were not available.

agency reported that it redesigned its website to provide the public with better access to information. Another agency reported that it organized available information in certain categories on its website and analyzed website usage and feedback to ensure the public is obtaining access to the information on the website in an efficient manner.

NARA and Agencies Have Implemented Requirements to Preserve Electronic Records

The act requires NARA to issue policies that call for agencies to apply the Federal Records Act[35] to government information on the Internet and to other electronic records. Additionally, agencies are required to report annually to OMB on compliance with the policies issued by NARA.

Toward this end, NARA and all 24 agencies have taken actions to address these requirements. For example, NARA issued Bulletin 2006-02[36] on December 15, 2005, which provided agencies an approach for improving the management of electronic records. According to the bulletin, agencies are to, among other things, identify and schedule[37] all electronic records, and agencies must have NARA-approved records schedules for all records in their existing information systems.[38]

All of the 24 agencies have reported on their compliance with Bulletin 2006-02 by describing NARA-approved records schedules, and providing a brief explanation of their progress implementing the bulletin. For example, one agency noted in its fiscal year 2011 E-Gov Act report that it had reported 85 electronic systems to NARA and that 9 of the systems were scheduled, while 2 had pending schedules.

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[35]The Federal Records Act, largely codified in 44 U.S.C. Chapters 21, 29, 31, and 33, requires federal agencies to ensure the management and preservation of records needed to document their organization, operations, and other activities. NARA oversees agency compliance with the act, including by reviewing agency plans and schedules for preserving temporary and permanent records.

[36]NARA Bulletin 2006-02: *NARA Guidance for Implementing Section 207(e) of the E-Government Act of 2002* (Washington, D.C.: Dec. 15, 2005).

[37]Scheduling is the process by which an agency obtains NARA approval for the disposition of agency records when agency business need for the records ceases.

[38]An electronic information system is a system that contains and provides access to computerized federal records and other information.

However, as we have previously reported,[39] electronic records from social media can create challenges in determining who has control over the information and how and when content should be captured for record-keeping. We noted that NARA had not yet developed guidance on effectively capturing records from social media sites and recommended that NARA develop such guidance. The agency agreed with the recommendation.

OMB and Agencies Implemented Requirements for Agency-Specific Information on Websites

The act requires the Director of OMB to promulgate guidance for agency websites to include direct links to descriptions of the mission and statutory authority of the agency; certain information made available to the public under the Freedom of Information Act (FOIA); information about the organizational structure of the agency; and the strategic plan of the agency. This also requires agencies to establish a process for determining which government information they intend to make publicly available through the Internet and by other means. Agencies were to, among other things, develop priorities and schedules for making government information available and accessible to the public. Further, the Director of OMB, working with agencies, is required to establish a public domain directory of federal government websites and post the directory on the Internet with a link to the federal Internet portal.

OMB and all of the agencies in our study have taken actions to address these requirements. For example, OMB issued memorandum M-05-04 on December 17, 2004,[40] providing guidance for federal agency public websites. Among other guidance in this memorandum, OMB called for agencies to establish and maintain information dissemination product inventories, priorities, and schedules; ensure information quality; and establish and enforce agencywide linking policies describing management controls for linking to information within and beyond the agency. All 24 agencies complied with this requirement and provided links

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[39]GAO, *Social Media: Federal Agencies Need Policies and Procedures for Managing and Protecting Information They Access and Disseminate*, GAO-11-605 (Washington, D.C.: June 28, 2011).

[40]OMB, M-05-04: *Policies for Federal Agency Public Websites* (Washington, D.C.: Dec. 17, 2004).

to where this information could be found.[41] In addition, in their 2006 E-Gov reports to OMB, one agency explained that it prioritized items to be published on its website based on the time sensitivity of the information and another agency formed a work group to help develop a standardized information architecture to support and enable the most effective and efficient delivery of agency information on the website.

Lastly, through www.USA.gov, GSA established a directory of public federal government websites. Specifically, the directory is organized alphabetically by each federal agency's name, and the directory contains contact information for each agency, such as a link to the agency's website, the agency's phone number, and the agency's physical address. OMB, GSA, and agency actions to fulfill these requirements have enhanced the public's ability to find information about specific agencies' mission and activities.

Agencies Sponsored Activities Using IT to Engage the Public in the Development and Implementation of Policies and Programs

The act requires agencies to sponsor activities that use IT to engage the public in the development and implementation of policies and programs. Accordingly, all 24 agencies in our review reported sponsoring such activities. For example, 13 agencies reported expanding their use of social media to promote more dialogue with the public and to reach a larger audience of stakeholders. These included the use of external blogs with comments and other feedback tools that allow the public to provide input on agency policies and programs, Twitter accounts, or YouTube channels. Six agencies also used the GSA-sponsored IdeaScale[42] website to solicit the public's opinions on what information the government should make more publicly accessible as part of the President's Open Government initiative.

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[41]Examples of this information can be found at http://portal.hud.gov/portal/page/portal/HUD/about/inventory or http://www.nasa.gov/about/contact/information_inventories_schedules.html.

[42]IdeaScale is a social dialogue tool used to gather public responses for various electronic forums across the federal government.

OMB Has Issued Guidance on Privacy Notices for Agency Websites

The act required the Director of OMB to develop guidance for privacy notices on agency websites used by the public and to issue guidance for agencies to translate privacy policies into a standardized machine-readable format.[43]

OMB has taken actions to meet these requirements. Specifically, in September 2003, it issued memorandum M-03-22 regarding the implementation of the act's privacy provisions, which included privacy policies for agency websites.[44] Among the requirements outlined in this memorandum, OMB required agencies to inform website visitors whenever providing information is voluntary; how to grant consent for use of voluntary information; and how to grant consent to use mandatory information for purposes other than statutorily mandated uses. This memorandum also required agencies to use machine-readable technology that alerts website users automatically about whether the website privacy practices match the user's personal privacy preferences.

All of the 24 agencies in our study have posted privacy notices on their websites. For example, according to GSA, one agency has a comprehensive privacy policy that clearly explains how that agency will handle personal information collected over the Internet. Another agency has developed a web standards handbook that requires all of the agency's websites, including those of components, to comply with laws and directives that require protection of the privacy of the agency's website visitors.

OMB Has Not Fully Established a Required Research and Development Website

The act required the Director of OMB, in consultation with the President's Office of Science and Technology Policy (OSTP) and other relevant agencies, to ensure the development and maintenance of a repository that fully integrates, to the maximum extent feasible, information about research and development (R&D) funded by the federal government. It also calls for the development and maintenance of one or more websites upon which all or part of that repository is to be made available to and

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[43]Privacy policies in machine-readable formats are designed to be a simple, automated way for users to gain more control over the use of their personal information on websites they visit.

[44]OMB, M-03-22, *OMB Guidance for Implementing the Privacy Sections of the E-Government Act of 2002* (Washington, D.C.: Sept. 26, 2003).

searchable by federal agencies and the public. In addition, OMB is to issue guidance necessary to ensure that agencies provide all information for the repository.

However, OMB has not fully established the website for providing information on R&D funded by the government. In its fiscal year 2004 annual E-Gov report, OMB reported that the federal government had funded two primary repositories for research and development information: RaDiUS and http://www.Science.gov. RaDiUS was intended to provide the public and agencies with information about federally funded R&D activities. Science.gov was to provide information on federal research through links to science websites and scientific databases. However, as we previously reported, RaDiUS and Science.gov were incomplete and not fully populated, in part, because OMB had not issued guidance to ensure that agencies had provided all information required for the repositories.[45]

In 2008, RaDiUS was decommissioned because, according to a senior official at the National Science Foundation, the data were incomplete, users had difficulty using it, and the database was built with antiquated technology. With regard to Science.gov, only 11 of the 24 agencies in our study[46] reported providing research information to this site. Moreover, 2 agencies in our study reported not being aware of any R&D repository.

In March 2012, OMB officials pointed to an R&D dashboard website being developed by OSTP as the site that is now expected to meet the act's requirements. According to the OSTP Open Government Plan, the R&D dashboard website is expected to make it possible for anyone to track the government's investment in basic research. Currently, the website provides information on federal investments in research and development from 2000 to 2009 for only two agencies.[47] According to OMB, a timeline

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[45]GAO, *Information Security: Coordination of Federal Cyber Security Research and Development*, GAO-06-811 (Washington, D.C.: Sept. 29, 2006).

[46]The Department of State, Department of the Treasury, General Services Administration, Office of Personnel Management, and the U.S. Agency for International Development reported that they do not fund research and development activities.

[47]The R&D dashboard currently provides information on federal investments in research and development from the National Institutes of Health and the National Science Foundation from 2000 to 2009.

has not yet been developed for when all agencies are to provide information for the R&D dashboard being developed, and guidance has not been issued for agencies to upload their information into the website.

In the absence of an integrated website for providing the public with centralized access to the government's investment in basic research and guidance to inform agencies about the website, the public does not have access to a fully integrated website with information on R&D investment funding, as intended by the act.

Conclusions

In the 10 years since enactment of the E-Gov Act, OMB, GSA, NARA, and federal agencies have taken many actions to implement its requirements to promote the use of the Internet and other information technologies to improve government service delivery and operations, and public participation in government. OMB and the federal CIO Council have provided leadership in implementing the act, such as issuing guidance, providing coordination, and disseminating knowledge. In addition, federal agencies have made organizational changes such as establishing e-government offices or positions, disseminating internal policy and guidance, and developing performance measures. In these respects, e-government activities have become integrated to a significant degree into agency business processes.

Nonetheless, while agencies and OMB have reported annually on implementation of the act's requirements, these reports have not always included information on each provision of the act, and have sometimes included information on other, related initiatives, such as Open Government, that were higher administration priorities. While OMB's actions reflect reasonable steps to help reduce the burden on agencies and highlight administration priorities, it has not been explicit in communicating to Congress about such changes in priorities and provisions that it is not reporting on and the reasons why, resulting in reduced transparency.

OMB, GSA, and agencies have also taken actions to implement most of the specific requirements of the act for promoting the use of the Internet and other information technologies, such as implementing the use of electronic signatures, maintaining and promoting USA.gov, implementing policies for improving the accessibility and usability of government electronic information, and facilitating public participation in the rulemaking process. As a result, the act has contributed to increased public access to government information and services, although

challenges remain in providing consolidated access to government information and services, which the .gov Reform Initiative is aiming to address. Finally, because OMB has not established a timeline or provided guidance for reestablishing the required repository to integrate information on agency investments in research and development, the public's access to centralized information about the government's investment in it is not provided as called for by the act.

Recommendations for Executive Action

To further progress toward the E-Government Act's goal of promoting better use of the Internet and other information technologies to improve government services to citizens, internal government operations, and opportunities for citizens' participation in government, we recommend that the Director of OMB direct the Administrator of the Office of E-Government to take the following three actions:

- identify in its annual E-Gov reports to Congress the provisions of the act that are not discussed in the report, and the reasons why, including when certain activities may no longer be a priority;

- develop a timeline for reestablishing the research and development repository and website; and

- provide guidance to agencies on their participation in the research and development repository.

Agency Comments and Our Evaluation

We provided copies of the draft report for review and comment by OMB, NARA, and the 24 executive branch agencies in our study. A paralegal specialist in OMB's Office of General Counsel, responding via e-mail on behalf of the Office of E-Government and Information Technology, stated that the office had no comment regarding the draft report. Also, in a written response (reprinted in appendix II), the Archivist of the United States said that NARA had no comments on the draft report. Among the other agencies, 19 responded via e-mail that they had no comments regarding the draft report. One agency—the Department of Interior—provided technical comments, which we incorporated as appropriate. Three of the agencies—the Departments of Commerce, the Treasury, and Housing and Urban Development—provided written comments on the report, while one agency—the Department of Agriculture—provided comments via e-mail. These comments are summarized below.

- The Acting Secretary of Commerce stated that the department concurred with our findings as they apply to the requirements of the E-Gov Act and achievements of the department in meeting those requirements. Commerce's comments are reproduced in appendix III.

- Treasury's Deputy Assistant Secretary for Information Systems and Chief Information Officer stated that the department had no comments on the report, but that it appreciated GAO's efforts in its development. Treasury's comments are reproduced in appendix IV.

- HUD's Chief Information Officer said that the department reviewed the draft report and had no comment. The official added that the department remains committed to the standards established by the E-Gov Act of 2002. HUD's comments are reproduced in appendix V.

- A management analyst in the Office of the Chief Information Officer wrote, on behalf of Agriculture, that the department concurred with the report's findings. The department included examples of actions it is taking to implement the administration's digital strategy through a cross-functional team representing not only traditional IT lines of business but also web managers and digital communications personnel. To successfully meet the requirements, the department stated that it recognizes the importance of working not only with enterprise technology, architecture, and security, but with communications personnel who understand customer preferences and needs.

As agreed with your offices, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the report date. At that time, we will send copies to interested congressional committees, the Director of OMB, the Archivist of the United States, and the heads of the 24 executive branch agencies in our review. In addition, the report will be available at no charge on the GAO website at http://www.gao.gov.

If you or your staff have any questions concerning this report, please contact me at (202) 512-6304 or by e-mail at melvinv@gao.gov. Contact points for our Offices of Congressional Relations and Public Affairs are on the last page of this report. Key contributors to this report are listed in appendix VI.

Valerie C. Melvin

Valerie C. Melvin
Director
Information Management and Technology Resources Issues

Appendix I: Objectives, Scope, and Methodology

Our objectives were to (1) assess the Office of Management and Budget's (OMB) and agencies' efforts to fulfill the requirements of the E-Government Act of 2002 (E-Gov Act) to establish leadership and organizational responsibilities and (2) evaluate agencies' progress in meeting the act's requirements to enhance public access to government information and services.

To address these objectives, we identified and reviewed selected requirements of the act relevant to each objective, along with their legislative history. Specifically, for our first objective, we identified requirements from Titles I and II of the act that address leadership and organizational responsibilities assigned to OMB, the federal Chief Information Officers (CIO) Council, and executive branch agencies. These requirements were found in sections 101 (Office of Electronic Government, CIO Council, and E-Government Report) and section 202 (general responsibilities, performance integration, CIOs, and e-government status reports) of the act. For our second objective, we identified selected sections of the act containing requirements aimed at enhancing public access to government information and services and the federal organizations responsible for meeting them. These requirements were found in Sections 202 (avoiding diminished access, accessibility to people with disabilities, and sponsored activities), 203 (electronic signatures), 204 (federal Internet portal), 206 (regulatory agencies), 207 (accessibility, usability, and preservation of government information including categorizing of information, public access to electronic information, agency websites, and access to federally funded research and development), 208 (privacy protections on agency websites), 212 (integrated reporting and pilot projects), 213 (community technology centers), and 215 (disparities in access to the Internet). We did not include certain provisions in our study, either because we had conducted relevant previous work, such as on the E-Gov Fund,[1] or because the provision warranted a separate or more detailed analysis than could be included in this study, such as Section 205 on the federal courts.

To determine the extent to which OMB and agencies had met these requirements, we did the following:

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[1]GAO, *Electronic Government: Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can Be Improved*, GAO-11-775 (Washington, D.C.: Sept. 23, 2011).

- Collected and reviewed documentation on OMB actions to meet
  leadership responsibilities, such as OMB's E-Gov implementation
  plan, policies and guidance, and annual OMB E-Gov reports
  submitted to Congress, and met with officials from OMB's Office of
  Electronic Government to discuss actions the office has taken.

- Collected and reviewed documentation on federal CIO Council actions
  taken to meet its responsibilities, such as issuance of best practices
  and guidance to agencies on meeting requirements of the act, and
  met with the Co-Chair of the federal CIO Council to discuss actions
  that council has taken to meet its responsibilities.

- Interviewed the General Services Administration's (GSA) Associate
  Administrator of E-Government to discuss specific E-Gov Act
  responsibilities of GSA, such as establishing a framework for the use
  of electronic signatures.

- Administered a questionnaire to officials tasked with E-Gov
  responsibilities at 24 major executive branch agencies,[2] requesting
  information and supporting documentation on actions taken to meet
  requirements of the act, including, among other requirements,
  developing e-government performance measures, avoiding
  diminished access, supporting the federal Internet portal, and
  developing and utilizing electronic signatures. We reviewed the
  documentation received. We also asked agencies to provide input and
  feedback on the support received from OMB, GSA, the National
  Archives and Records Administration (NARA), and the CIO council in
  carrying out e-government activities.

- Conducted semi-structured interviews with officials from the 24
  agencies to confirm responses to the questionnaire and obtain
  additional supporting documentation and information and analyzed
  officials' responses to determine the agencies' current status in
  implementing the requirements of the act.

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[2]These agencies were the Departments of Agriculture, Commerce, Defense, Education,
Energy, Health and Human Services, Homeland Security, Housing and Urban
Development, the Interior, Justice, Labor, State, Transportation, the Treasury, and
Veterans Affairs; the Environmental Protection Agency; General Services Administration;
National Aeronautics and Space Administration; National Science Foundation; Nuclear
Regulatory Commission; Office of Personnel Management; Small Business
Administration; Social Security Administration; and the U.S. Agency for International
Development.

- Collected and analyzed the contents of available annual E-Gov status reports for each of the 24 agencies.

- Reviewed our 2004 report on the implementation of the act to obtain information on the status at that time of certain provisions included in the study.[3] We also reviewed other relevant GAO reports related to e-government, social media, and information technology management reform.[4]

- Interviewed officials from NARA's records management office regarding actions taken to implement provisions of the act dealing with electronic records management.

Our study was aimed at determining whether the agencies in our review had complied with requirements of the act, and did not include a comprehensive assessment of all actions agencies may have taken to carry out e-government responsibilities.

We conducted our work from October 2011 to September 2012 in accordance with generally accepted government auditing standards. Those standards require that we plan and perform the audit to obtain sufficient, appropriate evidence to provide a reasonable basis for our findings and conclusions based on our audit 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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[3]*GAO, Federal Agencies Have Made Progress Implementing the E-Government Act of 2002*, GAO-05-12 (Washington, D.C.: Dec. 10, 2004).

[4]GAO, *Electronic Government: Implementation of the Federal Funding Accountability and Transparency Act of 2006*, GAO-10-365 (Washington, D.C.: Mar. 12, 2010); *Information Technology: OMB Has Made Improvements to its Dashboard, but Further Work is Needed by Agencies and OMB to Ensure Data Accuracy*, GAO-11-262 (Washington, D.C.: Mar. 15, 2011); *Social Media: Federal Agencies Need Policies and Procedures for Managing and Protecting Information They Access and Disseminate*, GAO-11-605 (Washington, D.C.: June 28, 2011); and *Electronic Government: Performance Measures for Projects Aimed at Promoting Innovation and Transparency Can Be Improved*, GAO-11-775 (Washington, D.C.: Sept. 23, 2011).

Appendix II: Comments from the National Archives and Records Administration

NATIONAL
ARCHIVES

Via email

AUG 1 3 2012

Valerie C. Melvin
Director, Information Management and Technology Resources Issues
United States Government Accountability Office
44 G Street, NW
Washington, DC 20548

Dear Ms. Melvin,

Thank you for the opportunity to review the draft report GAO-12-782, *ELECTRONIC GOVERNMENT ACT: Agencies Have Implemented Most Provisions, But Key Areas of Attention Remain.* We have no comments on the draft report.

If you have questions regarding this information, please contact Mary Drak by email at mary.drak@nara.gov or by phone at 301-837-1668.

David S. Ferriero
Archivist of the United States

NATIONAL ARCHIVES and
RECORDS ADMINISTRATION
8601 ADELPHI ROAD
COLLEGE PARK, MD 20740-6001
www.archives.gov

Appendix III: Comments from the Department of Commerce

UNITED STATES DEPARTMENT OF COMMERCE
The Secretary of Commerce
Washington, D.C. 20230

August 13, 2012

Ms. Valerie C. Melvin
Director, Information Management and
  Technology Resource Issues
U.S. Government Accountability Office
Washington, DC 20548

Dear Ms. Melvin:

Thank you for the opportunity to comment on the draft report from the U.S. Government Accountability Office (GAO) entitled *Agencies Have Implemented Most Provisions, But Key Areas of Attention Remain* (GAO-12-782).

We concur with the findings as they apply to the requirements of the Electronic Government Act and the achievements of the Department of Commerce in meeting those requirements.

If you have questions regarding this response, please contact Jerry Harper in the office of the Chief Information Officer at (202) 482-0222.

Sincerely,

Rebecca M. Blank
Acting Secretary of Commerce

Appendix IV: Comments from the Department of the Treasury

DEPARTMENT OF THE TREASURY
WASHINGTON, D.C. 20220

AUG - 7 2012

Cynthia Scott
Assistant Director
Information Management and Technology Resource Issues
U.S. Government Accountability Office
441 G Street, NW
Washington, DC 20548

Dear Ms. Scott,

Thank you for the opportunity to provide comments on GAO's Draft Report, *"Electronic Government: Agencies Have Implemented Most Provisions, But Key Areas of Attention Remain."* The Department of Treasury has no comments on the Report and appreciates GAO's efforts in its development.

Please contact me at 202-622-1200 if you need anything further.

Sincerely,

Robyn East
Deputy Assistant Secretary for Information Systems
and Chief Information Officer

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

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

CHIEF INFORMATION OFFICER

AUG 1 5 2012

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

Dear Ms. Melvin:

Thank you for the opportunity to comment on the Government Accountability Office (GAO) draft report entitled, *ELECTRONIC GOVERNMENT ACT: Agencies Have Implemented Most Provisions, But Key Areas of Attention Remain* (GAO-12-782). The Department of Housing and Urban Development reviewed the draft report and has no comment.

The Department remains committed to the standards established by the E-Government Act of 2002. The Department will continue to work with the Office of Management and Budget and other executive agencies to achieve the requirements of the Act.

If you have any questions, please contact Joyce M. Little, Director, Office of Investment Strategies Policy and Management, at (Joyce.M.Little@hud.gov), or 202-402-7404.

Sincerely,
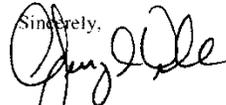
Jerry E. Williams
Chief Information Officer

GAO Contact

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

Staff Acknowledgments

In addition to the contact named above, key contributions were made to this report by Cynthia J. Scott (assistant director), Virginia Chanley, James Crimmer, Jr., Nancy Glover, Ashfaq Huda, Lee McCracken, David Plocher, Eric Trout, and Christy Tyson