

GAO

Report to the Chairmen, Committee on
Appropriations and Committee on
Governmental Affairs, U.S. Senate

June 1997

**INTERNET AND
ELECTRONIC DIAL-UP
BULLETIN BOARDS**

**Information Reported by
Federal Organizations**



General Government Division

B-272843

June 16, 1997

The Honorable Ted Stevens, Chairman
Committee on Appropriations
United States Senate

The Honorable Fred Thompson, Chairman
Committee on Governmental Affairs
United States Senate

This report responds to your request for information on Internet and electronic dial-up bulletin board system (BBS) activities in the executive branch of the federal government.

The Internet is a global information system comprising a world-wide network of networks. Users are able to access and transmit data across this global network in many different ways, including using electronic mail (e-mail) and the World-Wide Web (www). E-mail allows users to easily send primarily text-based messages between computers. The www employs a "point and click" technology, which allows users to easily access information on other computers as well as establish www sites that incorporate graphics and other multimedia features. Electronic dial-up BBSs, on the other hand, do not require use of the Internet. A BBS typically consists of a personal computer, modem(s), and BBS communications software that allows users to send and receive messages and files and is based on direct dial-up computer-to-computer connections.

Specifically, for executive branch agencies, you requested information on (1) fiscal year 1994 through 1996 expenditures for Internet and BBS activities, (2) the number of www sites and electronic dial-up BBSs, and (3) the number of employees with government-provided Internet e-mail and www access. In addition, this report provides information on benefits agencies associate with these activities and on guidance for Internet activities; and it discusses the issue of employee misuse of government-provided Internet resources at a few agencies.

To respond to your request, we sent a data collection form to 43 federal organizations—14 Cabinet-level departments and 29 independent agencies. Appendix II lists the 43 federal organizations. As agreed, because of the broad scope and relatively short time frame for completing this request, we did not independently verify the accuracy of the information provided. We did, however, perform additional work at three judgmentally selected agencies to gain a better understanding of federal Internet and BBS

activities. These three agencies included the National Oceanic and Atmospheric Administration (NOAA), within the Department of Commerce; the Fish and Wildlife Service (FWS), within the Department of the Interior; and the Social Security Administration (SSA). It should be noted that on occasion, concerns over privacy and security issues relating to federal www sites have been raised in the media and elsewhere. Assessment of these issues was beyond the scope of this review.

We conducted our work from May 1996 through May 1997 in accordance with generally accepted government auditing standards. See appendix I for a more detailed discussion of our scope and methodology. We requested comments on a draft of this report from the Director of the Office of Management and Budget (OMB) and on excerpts of this report from the heads of the three agencies at which we performed additional work. The agencies' comments are addressed at the end of this letter.

Results in Brief

Although the federal organizations provided us with expenditure data for their Internet and BBS activities, it should be emphasized that these data are based largely on estimates. Some reporting officials told us that they relied on estimates because they do not typically account for Internet and BBS expenditures separately from other information technology expenditures.

Of the 43 federal organizations to which we sent data collection forms, 42 responded¹ and estimated spending a total of about \$349 million on Internet and BBS activities in fiscal years 1994 through 1996. In all, they estimated spending about \$59 million in fiscal year 1994, about \$100 million in fiscal year 1995, and about \$190 million in fiscal year 1996. The bulk of these estimated expenditures—about \$325 million—were for Internet activities to provide employees access to the Internet and to establish and maintain www sites. The remainder of the estimated expenditures—about \$23 million for the 3-year period—were for establishing and maintaining electronic dial-up BBSS.

The 42 federal organizations reported having a total of about 4,300 www sites and about 215 electronic dial-up BBSS. Because of your interest in identifying the number of distinct www sites and to encourage consistent reporting, we provided the federal organizations with a definition of a www site. All 42 organizations reported having at least one www site, but some reported that they did not use our definition or did not list all sites

¹As of May 30, 1997, the Department of State had not responded to our data collection form.

generally because they do not track this information, and it was not readily available.

The 42 federal organizations estimated that they provided Internet e-mail access to about 1.7 million, or about 50 percent, of their civilian and military employees and www access to about 1 million, or about 31 percent, of their employees.

The Internet has become a valuable and widely used means of communicating and sharing information. Federal organizations associated numerous benefits with their Internet and BBS activities, including communicating more effectively with colleagues and with the public; easily accessing professional, scientific, or technical information; disseminating information quicker and more cost effectively; and reducing paperwork by conducting the work of the organization electronically.

While there is no governmentwide policy or regulations that specifically govern employee use of the Internet, most federal organizations that had guidance for their employees' use of the Internet prohibit any use of government-provided Internet resources for nonofficial uses. A few organizations allow limited personal use. Although OMB is working on governmentwide guidance on establishing and maintaining www sites, half the federal organizations reported having developed their own guidance for employees to use to establish and maintain www sites.

The potential for misuse of government-provided Internet resources exists—as it does for other types of government-provided resources, such as telephones and copying machines. Although we did not assess the appropriateness of employee use of government-provided resources during this review, some of the federal organizations reported instances of what they considered to be employee misuse of us. These included accessing what the agencies considered to be inappropriate material on the Internet and establishing www sites without approval.

Background

The Internet's origins can be traced to communications technology research sponsored by the federal government as early as the 1960s. Since then, collaboration between government, educational, and commercial interests has led to the present day Internet infrastructure.

Users access the Internet infrastructure in a variety of ways. E-mail, one of the earliest ways to access the Internet, allows people to easily send and

receive text messages between computers. Another more recent way for users to access the Internet is through use of the www, which is credited with the explosion of Internet usage in recent years because of its “user friendly” aspect. Using software, referred to as server software, the www allows users to organize computer files into www sites consisting of “web pages.” Using other software, referred to as web browser software, users can view web pages displaying text and graphics and other multimedia elements such as sound and video. A defining feature of the www is its use of hyper text transfer protocol (http), which allows text or images to be defined as pointers or “links.” Within www pages, a user can select “links” that quickly and easily take the user to other pages within that site or to other sites located on computers throughout the world. Each page of a www site may also be accessed by its unique Internet address.

In setting up a www site, an organization can employ an Internet service provider for space on a computer and for the connections, which can be used to host the www site. Or, an organization can set up its own www site using its own hardware and software. In general, costs involved for setting up a site could include connections, hardware, software, personnel, training, and contractor support.

Electronic dial-up BBSS use communications software that typically allows users to send and receive text-based messages and data or program files. BBS technology was originally developed on the basis of a direct dial-up computer-to-computer connection, which does not require use of the Internet. Currently, however, many computers running BBS software—while still accessible through dial-up (non-Internet) means—can also be linked to the Internet providing an additional means of access.

OMB has responsibility for oversight of executive branch information collection and dissemination as well as information technology, which would generally include Internet-related activities. A number of laws and guidance, such as the Paperwork Reduction Act of 1995,² the Electronic Freedom of Information Act Amendments of 1996,³ and OMB Circular A-130,⁴ require agency information to be made available to the public electronically. In addition, the National Performance Review (NPR) sets a

²Public Law 104-13, 109 Stat. 163 (1995).

³Public Law 104-231, 110 Stat. 3048 (1996).

⁴OMB Circular A-130, Management of Federal Information Resources, 61 FR 6428 (Feb. 20, 1996).

clear expectation that government should take advantage of information technology to quickly deliver services to the public.⁵

Estimated Expenditures for Internet Increased Significantly While BBS Expenditures Remained Relatively Constant

Federal organizations responding to our data collection efforts estimated spending about \$349 million during fiscal years 1994 through 1996 for Internet and BBS activities. Of this amount an estimated \$325 million was for Internet activities, and an estimated \$23 million was for BBS activities. As shown in table 1, expenditures for Internet activities increased significantly over this period, while BBS expenditures remained relatively constant. Appendixes III and IV provide estimated Internet and BBS expenditures for each of the 42 federal organizations.

Table 1: Total Estimated Expenditures for Internet and BBS Activities for 42 Federal Organizations, Fiscal Years 1994-1996

Dollars in millions

Activity	Estimated expenditures ^a			Total
	FY 1994	FY 1995	FY 1996	
Internet ^b	\$50.9	\$92.2	\$182.3	\$325.4
Electronic dial-up BBS	7.8	8.0	7.3	23.1
Total	\$58.7	\$100.2	\$189.6	\$348.5

^aEstimated expenditures include both capital and operating expenditures. Capital expenditures are for items that are generally depreciated or amortized over more than one accounting period. We did not ask organizations to depreciate or amortize the capital expenditures, but to report the expenditure in the year it was made. Operating expenditures are expensed in the year in which they were made.

^bIncludes expenditures for providing Internet access to employees and for establishing and maintaining WWW sites.

Source: GAO analysis of data provided by 42 federal organizations.

All 42 federal organizations reported increases in Internet expenditures from fiscal year 1994 to fiscal year 1996. Within federal organizations, Internet expenditures of some major components increased while those of others decreased.

BBS expenditures, however, showed more variations. Of the 29 federal organizations that reported BBS expenditures, 15 estimated spending less

⁵The NPR, under the direction of the Vice President, was a major management reform initiative by the administration and was intended to identify ways to make the government work better and cost less. The NPR's report, From Red Tape to Results: Creating a Government That Works Better and Costs Less, was issued in September 1993.

in fiscal year 1996 than in fiscal year 1994, and 14 estimated spending more. For example, SSA reported that BBS expenditures increased primarily as a result of system improvements to its Online Wage Reporting BBS. In contrast, the Environmental Protection Agency reported that BBS expenditures were decreasing because of increased use of the WWW as a means of disseminating information.

The expenditure data provided by federal organizations were largely based on estimates. Some reporting officials told us that they do not typically account for Internet and BBS expenditures separately from other information technology expenditures, and they had difficulty making reasonable estimates. For example, expenditures for the portion of personnel time and for connections associated with the Internet were difficult to estimate.

Furthermore, some federal organizations told us that they did not report all expenditures. For example, the information reported by the Executive Office of the President did not include personnel expenditures for White House and OMB Internet activities. The organization reported that personnel expenditures for Internet activities were not tracked, and there was no reasonable basis upon which to make an estimate. Furthermore, the Department of Health and Human Services (HHS) did not provide information for three of its components—the Administration for Children and Families, the Agency for Health Care Policy and Research, and the Health Research and Services Administration.

Federal Organizations Maintain Many WWW Sites and Fewer BBSs

All 42 federal organizations reported having established a WWW presence on the Internet, with the number of WWW sites totaling about 4,300 at the time of our review. Not all components within a federal organization had their own WWW sites. Twenty-nine federal organizations reported having 215 electronic dial-up BBSs.

The definition of a WWW site can vary. Because of your interest in identifying the number of distinct WWW sites and to encourage consistent reporting, we defined a WWW site as a file or group of files organized under a homepage, that is accessible on the Internet with web browser software. A WWW site's homepage is typically the index, welcome, or menu page for a distinct WWW activity or service. As expected, federal organizations reported a large number of WWW sites that reflect the large number of activities within the federal government.

A www site can also be broadly defined as the entire www presence for an organization. Under this definition, for example, NOAA would have one www site at Internet address “<http://www.noaa.gov>.” Furthermore, a www site can be defined as the distinct computer that hosts the www pages. Using this definition, NOAA would have 85 www sites because 85 different computers actually host its www presence. Using our definition, NOAA reported having 383 www sites, that is, 383 distinct activities or services on the www being maintained within NOAA.

Although we contacted federal organizations where we had questions concerning whether they understood our definition of a www site, due to the large number of reported www sites, we could not verify that all federal organizations used our definition. Furthermore, some federal organizations reported that the list they provided of their www sites was not in accordance with our definition or was not complete. Some reported that they do not centrally track this type of information and to obtain these data would have involved a major data collection effort.

A supplement to this report entitled World Wide Web Sites Reported by Federal Organizations ([GAO/GGD-97-86S](#), June 1997), which is available electronically on the Internet at “<http://www.gao.gov/cgi/bin/getrpt?GGD-97-86s>”, presents the approximately 4,300 www sites federal organizations reported to us. It should be noted that www sites change rapidly. Organizations can easily create or eliminate www sites. As a result, the approximately 4,300 www sites are current only as of the date that the federal organizations provided us with the information.

Of the 42 federal organizations, 29 reported having a total of 215 electronic dial-up BBSS. The remaining 13 federal organizations reported having no BBSS at the time of our review. Appendix V presents the electronic dial-up BBSS reported to us.

Employee Internet Access Varied Significantly Among Federal Organizations

The 42 federal organizations reported having about 3.4 million civilian and military employees, to which they provided e-mail access to about 1.7 million employees, or about 50 percent. Furthermore, they provided about 1 million employees, or about 31 percent, with www access. It should be noted that more employees may have access to the www through their organization’s library or common workstations, but we sought information only on those having access at their workstations.

When viewed organization by organization, the extent that federal organizations provided e-mail access to their employees varied widely. For example, the Department of Justice reported providing about 8 percent of its approximately 102,000 employees with e-mail access, while the Departments of Education and Housing and Urban Development (HUD) reported providing e-mail access to 100 percent of their approximately 5,000 and 11,000 employees, respectively. All 42 federal organizations reported providing at least a portion of their employees with Internet e-mail access.

Similarly, www access varied significantly. The Departments of Justice and the Treasury reported providing about 8 percent of their approximately 102,000 and 144,000 employees with www access, while HUD reported providing 100 percent of its 11,000 employees with www access. All but one federal organization reported providing at least a portion of their employees with www access at their workstations.⁶ Appendix VI provides the information reported to us on the number of employees having Internet e-mail and www access in each federal organization.

Federal Organizations Reported Benefits of Internet and BBSs

Based on its rapidly growing usage throughout the world, it is evident that the Internet has provided many benefits to individuals and organizations. Benefits of electronic dial-up BBSs, while much less publicized, are also generally accepted, particularly by those who do not have Internet access. Federal organizations also associated numerous benefits with their Internet and BBS activities.

Although we have previously reported on the technological challenges of the “information superhighway,” we also recognize its potential.⁷ Our literature search indicated that the www is accelerating international cultural interaction. But perhaps more importantly, the www is changing the way private and public organizations do business. The Internet provides employees with tools they can use to increase their performance levels, to interact, and to gather knowledge. Organizations believe that the Internet offers the ability to continuously update and disseminate information. Corporations are increasingly using the Internet for such things as web-based conferencing and on-demand training for employees.

⁶The Corporation for National Service reported providing WWW access to its employees only through common workstations, not at individual employees' desktop workstations.

⁷See *Information Superhighway: An Overview of Technology Challenges*, (GAO/AIMD-95-23, Jan. 23, 1995) and *Managing Technology: Best Practices Can Improve Performance and Produce Results* (GAO/T-AIMD-97-38, Jan. 31, 1997).

The benefits that federal organizations associated with their Internet and BBS activities included being able to communicate better within their organizations and with the public, disseminate information about their organization and mission to a larger audience than ever before, and conduct their business quickly and efficiently. A few specific examples of reported benefits include

- The Nuclear Regulatory Commission reported that the agency's use of the www and BBS has facilitated the rulemaking process by providing the public with electronic access to the text of proposed rules and a means by which the public may comment.
- The National Institutes of Health within HHS reported that the Internet has allowed it to share a wealth of medical information with the public. For example, its www site includes the Combined Health Information Database, which contains over 70,000 medical references, allowing users to identify medical publications, books, and pamphlets on a variety of topics and indicating where a user may obtain the item.
- The Federal Communications Commission reported that it has implemented electronic filing on a limited basis, which gives businesses the opportunity to file required forms.
- The Executive Office of the President reported that the White House www site provides the public interactive access to commonly requested federal services, press releases, speeches, and public documents. Users may also provide feedback to the President and Vice President through e-mail.
- The National Science Foundation reported benefits associated with one of its grants projects. It said, internally, the use of the www has reduced the number of status inquiry phone calls, reduced staff time in performing data entry, and has allowed for timely and accurate transfer of data. It said, externally, benefits have included more timely notification of National Science Foundation funding decisions and real-time acknowledgement of valid proposal, review, and report submissions.
- The Commodity Futures Trading Commission reported that the Internet allows staff to monitor the activities related to commodity trading, which has resulted in action against individuals who were illegally soliciting customers over the Internet.

Benefits reported to us by NOAA, FWS, and SSA, the three agencies at which we performed additional work, are included in appendix VII.

Federal Organizations Reported Developing Guidance for Their Internet Activities

Many federal organizations reported having developed guidance related to their Internet activities. Of the 42 federal organizations responding, 28 reported having organizationwide guidance for their employees' use of Internet resources, covering activities such as sending and receiving e-mail and accessing or "surfing" www sites on the Internet. Twenty-one federal organizations also reported having developed guidance on establishing and maintaining www sites.

Most Internal Guidance States That Government-Provided Internet Resources Are for Official Purposes Only

There is no governmentwide policy or regulations that specifically govern employee use of the Internet. While most federal organizations that have guidelines prohibit any use of government-provided Internet resources for nonofficial purposes, a few organizations allow limited personal use. It was beyond the scope of our review to assess the appropriateness of these guidelines.

Twenty-eight federal organizations reported having organizationwide guidance for their employees' use of government-provided Internet resources, and five additional federal organizations reported that they were drafting guidance. Our review of this guidance showed that it varied greatly. Some organizations had a notice displayed on their employees' computer screens reminding employees that the Internet resources were for official use only. Other federal organizations had issued several pages of guidance detailing appropriate use, inappropriate use, and penalties for inappropriate use. Although we summarized only the organizationwide guidance of the federal organizations, we noted that major components of those organizations frequently had also developed guidance specifically addressing employees' use of government-provided Internet resources.

Our review showed that for 25, or 89 percent, of the 28 federal organizations having guidance, the guidance specifically stated that the government-provided Internet resources were for official use only and/or prohibited specific activities. Some of the agencies' guidance referred to 5 C.F.R. 2635.704,⁸ which states that employees shall protect and conserve federal property and shall not use it for other than authorized activities, as the basis for their guidelines. Examples of nonofficial or prohibited activities stated in the guidance of the various federal organizations included playing computer games; gambling; using abusive language in either public or private messages; displaying and printing material or images that are sexually explicit, discriminatory, or intended for

⁸This provision is included within the standards of ethical conduct for employees of the executive branch issued by the Office of Government Ethics. See 5 C.F.R. Part 2635.

harassment purposes; pursuing personal interests, such as hobbies, avocations, or alternative lifestyles; and pursuing private commercial activities, among other actions.

In contrast, the guidance of three federal organizations permitted employees to use their government-provided Internet resources for incidental personal use. While these organizations allow personal use, the guidance still identified certain activities that are prohibited.

While it was beyond the scope of our review to contrast federal practices with the private sector, we noted a recent study conducted by the Bureau of National Affairs, Inc., which concluded that formal, written Internet policies were rare among U.S. employers it surveyed.⁹ It reported that just 10 percent of the companies surveyed that used the Internet had developed written policies that govern employees' Internet activities. The study noted, however, that many respondents reported plans to develop formal policies in the near future.

Half of Federal Organizations Have Guidance for Establishing and Maintaining WWW Sites

Twenty-one, or 50 percent, of the 42 federal organizations reported having developed organizationwide guidance for establishing and maintaining www sites, and three additional federal organizations reported that they were drafting guidance. Again, this guidance varied widely among the federal organizations. In some cases, the guidance was a "how to" manual on the design of pages for a www site. In other cases, the guidance was an expression of basic policy covering issues such as security, which sites are inappropriate for the organization to "link to," and who within the organization can establish or approve establishing www sites.

We limited our review of this guidance to determining whether the guidance stated who within a federal organization could approve content being placed on the www. Our review showed that the guidance of 18 federal organizations stated who within an organization could approve www page content.

In July 1996, OMB informally circulated preliminary draft guidance to a limited number of agencies on many of the issues surrounding the use of the www. OMB officials told us that the agencies raised a number of issues and concerns about the draft guidance, and it had not yet been issued as of May 20, 1997. Among the issues raised by OMB in its draft guidance was how federal organizations' www sites complied with provisions of the

⁹Special Survey Report: Employers on the Internet, Bureau of National Affairs, Inc., Jan. 2, 1997.

Privacy Act, Paperwork Reduction Act, Federal Records Act, and Freedom of Information Act. It was beyond the scope of our review to evaluate the guidance of federal organizations with regard to these issues.

Potential for Employee Misuse of Internet Resources Exists

The potential for misuse of government-provided Internet access exists—just as it does for other types of government-provided resources. During our work, we became aware of reported instances of employee misuse of government-provided resources. However, our review was not intended to specifically identify or define employee misuse of Internet resources.

- Department of Energy (DOE) guidance on appropriate use stated that nearly 100 employees of a national laboratory were disciplined for inappropriately using computers to access adult-oriented Internet sites. The guidance also stated that in another instance, nearly 30 percent of the activity on one particular Internet site included personal listings from DOE employees dealing with subjects such as scuba diving and boat racing. As a result of this use, DOE issued a memorandum to all DOE employees and contractors, which stated that use of government equipment and official duty time for nonwork-related activities is a violation of law and the standards of conduct. The DOE memo stated that several employees had been counseled, officially reprimanded, or had their employment terminated and that in one instance DOE had filed criminal charges against an employee.
- The Air Force Audit Agency recently reported www site and BBS control problems. Specific problems included site operating procedures and approvals, making available inappropriate or unapproved information, and inadequate user access controls. As a result, the Air Force released additional guidance on establishing www sites and BBSs and set standards for the information that is made available through them.
- An investigation by the Department of the Interior's Office of Inspector General (OIG) revealed that a Department employee provided private citizens with free access to Internet services through Department-operated networks. A personnel action was initiated against the employee that resulted in a letter of counseling. After the investigation, the OIG issued a memorandum to the heads of all components in the Department, which discussed the potential for abuse of Internet resources and cited the employee's use as an example. The OIG stated that abuse problems could be addressed by establishing and disseminating departmentwide policies. A Department official told us that a policy on the use of Internet resources

by employees has been drafted and was undergoing management review and clearance.

- NOAA reported that two employees were given 14-day suspensions for downloading sexually explicit material, and dismissal proceedings were initiated against one employee for sending threatening e-mail.

Officials at the three federal organizations at which we performed additional work told us that the detection of misuse of Internet access is primarily a supervisory responsibility. They told us that other than supervisory monitoring, they do not routinely or systematically monitor employee use of the Internet. Our review of the 28 federal organizations having guidance showed that at least 16 stated that employees' use of government-provided Internet resources may be monitored.


Agency Comments

On April 18, 1997, we requested comments on a draft of this report from the Director of OMB. We also requested comments on excerpts of this report from the Secretary, Department of Commerce; the Secretary, Department of the Interior; and the Acting Commissioner, SSA, where we performed additional work.

The Branch Chief of OMB's Office of Information Policy and Technology provided oral comments, which consisted of technical corrections that we incorporated into the report where appropriate. He also stated that the report provides a valuable benchmark on the executive branch's Internet and dial-up BBS activities. The Secretary of Commerce provided written comments that said the excerpts of the draft report conformed to input provided by NOAA representatives during our review and that the Department found the excerpts to be very helpful and informative. The Department of the Interior's Acting Director, Office of Information Resources Management provided technical comments, which we incorporated into the report where appropriate. An official from SSA's Audit Liaison office said the agency had no comments.

We are sending copies of this report to the Director of OMB, the Secretaries of each executive department, the head of each independent agency, the Ranking Minority Members of your Committees, and the Chairmen and Ranking Minority Members of other interested congressional committees. We will make copies available to others upon request.

Please contact me at (202) 512-4232 or James H. Burow, Assistant Director, on (202) 512-3941 if you or your staff have any questions. Major contributors to this report are listed in appendix VIII.



Bernard L. Ungar
Associate Director, Federal Management
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Abbreviations

BBS	Bulletin Board System
DOE	Department of Energy
FWS	Fish and Wildlife Service
HHS	Health and Human Services
HUD	Housing and Urban Development
http	hyper text transfer protocol
NOAA	National Oceanic and Atmospheric Administration
NPR	National Performance Review
OIG	Office of Inspector General
OMB	Office of Management and Budget
PEBES	Personal Earnings and Benefit Estimate Statement
SSA	Social Security Administration
WWW	World-Wide Web

Scope and Methodology

We developed a data collection form to accomplish the objectives of providing information for executive branch agencies on (1) fiscal year 1994 through 1996 expenditures for Internet and BBS activities, (2) the number of www sites and electronic dial-up BBSS, and (3) the number of employees with government-provided Internet e-mail and www access. The data collection form also requested information on benefits that federal organizations associate with Internet and BBS activities and guidance that federal organizations had developed on Internet activities.

To ensure that our data collection form was as comprehensive and complete as possible, we researched Internet materials and discussed the types of Internet and BBS related expenditures with knowledgeable persons both inside and outside the federal government. We pretested the data collection form with seven major components within three federal organizations. Comments obtained during the pretests were used to further refine the form's content and format to help ensure its effectiveness as a tool for identifying Internet and BBS information.

We asked federal organizations to report fiscal year 1994 through 1996 expenditures for providing employees with Internet access and establishing and maintaining www sites and electronic dial-up BBSS. Because, during our pretest, federal organizations told us that they were not generally required to budget separately for the Internet and BBS activities, we indicated in our final data collection form that estimates were acceptable. To guide federal organizations on the types of expenditures that were to be included for these activities, we requested that respondents report both capital and operating expenditures for connection, hardware, software, personnel, training, and other expenditures for each of the three years. We did not ask the organizations to depreciate or amortize capital expenditures but to report the expenditures in the year they were made. We asked federal organizations to exclude expenditures for www sites accessible only internally (commonly referred to as InTRANets).

To determine the number of www sites and BBSS, we asked the federal organizations to report the names and Internet addresses of their www sites and the names and telephone numbers of their electronic dial-up BBSS. Because of your interest in identifying the number of distinct www sites and to encourage consistent reporting, we provided the federal organizations with a definition of a www site. We defined a www site as a file or group of files organized under a homepage, accessible on the

Internet with web browser software. A www site's homepage is typically the index, welcome, or menu page for a distinct www activity or service.

To determine the number of federal employees with government-provided Internet access, we asked each federal organization to report the total number of employees in its organization and the numbers of employees with government-provided Internet e-mail and www access. For www access, we sought information only for employees having access at their workstations rather than those who have access through their organization's library or common workstations.

To address benefits that federal organizations associate with Internet and BBS activities, we requested they describe, and quantify if possible, any benefits related to these activities.

To obtain information on guidance that federal organizations had developed for their Internet activities, we asked federal organizations to provide us with copies of guidance. We reviewed the guidance to enable us to summarize the contents, but we did not determine the appropriateness of the guidance. We also discussed the status of draft governmentwide guidance on establishing and maintaining www sites with OMB officials.

To better understand federal Internet and BBS activities, we judgmentally selected three federal organizations—the National Oceanic and Atmospheric Administration (NOAA), within the Department of Commerce; the Fish and Wildlife Service (FWS), within the Department of the Interior; and the Social Security Administration (SSA) at which we performed additional work. We selected these three federal organizations on the basis of the wide diversity of their activities and missions.

To address the issue of misuse of government-provided Internet resources by employees, we discussed this issue with officials from the three judgmentally selected organizations and reviewed any information regarding this subject, which some federal organizations provided during the course of our data collection effort.

As agreed with the requestors, we sent the data collection form to 43 federal organizations—all 14 departments and 29 independent agencies, asking each department to also provide information for major component organizations. As agreed, we included only independent agencies with 500 or more employees. We received responses from 13 departments, which included responses for their major components and from 29 independent

agencies. As of May 30, 1997, the Department of State did not provide a response to our request for information. The Department of Health and Human Services did not provide information for three of its components—(1) the Administration for Children and Families, (2) the Agency for Health Care Policy and Research, and (3) the Health Research and Services Administration. We asked the Executive Office of the President only to provide information for OMB and the White House.

We did not independently verify the accuracy of the information provided by the federal organizations, as agreed with our requestors. As previously discussed, much of the expenditure information is based on estimates, and the basis for federal organizations' estimates could vary significantly. We did, however, discuss responses with officials at each organization to confirm that our report presented the information accurately.

Our work was done by staff in our headquarters office in Washington, D.C. and our Dallas, Texas, field office, from May 1996 through May 1997 in accordance with generally accepted government auditing standards. We requested comments on a draft of this report from the Director of the Office of Management and Budget (OMB) and on excerpts of the report from the Secretary, Department of Commerce; the Secretary, Department of the Interior; and the Acting Commissioner, Social Security Administration, where we performed more detailed work.

Appendix II includes a list of the federal organizations to which we sent our data collection form. Appendixes III through VI present the information reported to us by the federal organizations in response to our data collection form. Appendix VII contains a description of the Internet and BBS activities at the three federal organizations at which we performed additional work.

Federal Organizations Surveyed by GAO

The following is a list of the 43 federal organizations to which we sent our data collection form.

Agency for International Development
Armed Forces Retirement Home Board
Commodity Futures Trading Commission
Corporation for National Service
Department of Agriculture
Department of Commerce
Department of Defense
Department of Education
Department of Energy
Department of Health and Human Services^a
Department of Housing and Urban Development
Department of the Interior
Department of Justice
Department of Labor
Department of State^b
Department of Transportation
Department of the Treasury
Department of Veterans Affairs
Environmental Protection Agency
Equal Employment Opportunity Commission
Executive Office of the President^c
Federal Communications Commission
Federal Deposit Insurance Corporation
Federal Emergency Management Agency
Federal Reserve System Board of Governors
Federal Trade Commission
General Services Administration
National Aeronautics and Space Administration
National Archives and Records Administration
National Credit Union Administration
National Labor Relations Board
National Science Foundation
Nuclear Regulatory Commission
Office of Personnel Management
Peace Corps
Pension Benefit Guaranty Corporation
Railroad Retirement Board
Securities and Exchange Commission
Small Business Administration

Appendix II
Federal Organizations Surveyed by GAO

Smithsonian Institution
Social Security Administration
Tennessee Valley Authority
U.S. Information Agency

^aThe Department of Health and Human Services did not provide information for three of its components—(1) the Administration for Children and Families, (2) the Agency for Health Care Policy and Research, and (3) the Health Research and Services Administration.

^bAs of May 30, 1997, the Department of State did not provide us with the information we requested.

^cWe asked the Executive Office of the President to provide information only for the Office of Management and Budget and the White House.

Federal Internet Expenditures

Table III.1: Estimated Expenditures to Provide Internet Access to Employees and to Establish and Maintain WWW Sites, by Federal Organization, Fiscal Years 1994-1996

Dollars in thousands

Federal organization	Expenditures ^a			Total ^b
	FY 1994	FY 1995	FY 1996	
Agency for International Development	\$298	\$313	\$432	\$1,043
Armed Forces Retirement Home Board	0	0	3	3
Commodity Futures Trading Commission	10	26	124	160
Corporation for National Service	0	0	103	103
Department of Agriculture	1,849	4,963	7,812	14,623
Department of Commerce	4,196	6,883	14,079	25,158
Department of Defense	23,061	36,366	86,178	145,604
Department of Education	553	1,798	1,759	4,110
Department of Energy	2,051	4,443	5,138	11,632
Department of Health and Human Services ^c	1,326	2,032	3,895	7,253
Department of Housing and Urban Development	82	1,191	3,621	4,894
Department of the Interior	1,259	4,800	6,423	12,482
Department of Justice	0	834	1,488	2,322
Department of Labor	695	2,136	2,650	5,481
Department of State	^d	^d	^d	^d
Department of Transportation	662	1,106	3,939	5,707
Department of the Treasury	386	823	4,053	5,262
Department of Veterans Affairs	213	511	815	1,538
Environmental Protection Agency	3,436	5,174	9,622	18,232
Equal Employment Opportunity Commission	14	32	54	100
Executive Office of the President ^e	38	238	443	718
Federal Communications Commission	0	390	642	1,032
Federal Deposit Insurance Corporation	437	503	616	1,557
Federal Emergency Management Agency	370	1,088	1,027	2,486
Federal Reserve System Board of Governors	219	597	951	1,767
Federal Trade Commission	36	120	215	371
General Services Administration	94	918	3,810	4,822
National Aeronautics and Space Administration	7,382	9,139	13,532	30,053
National Archives and Records Administration	51	519	403	973
National Credit Union Administration	0	37	227	264
National Labor Relations Board	0	17	28	44
National Science Foundation	255	1,317	1,776	3,348
Nuclear Regulatory Commission	827	965	1,315	3,107
Office of Personnel Management	14	54	418	486

(continued)

**Appendix III
Federal Internet Expenditures**

Dollars in thousands

Federal organization	Expenditures^a			Total^b
	FY 1994	FY 1995	FY 1996	
Peace Corps	0	194	169	363
Pension Benefit Guaranty Corporation	10	10	252	272
Railroad Retirement Board	2	34	66	102
Securities and Exchange Commission	4	475	687	1,165
Small Business Administration	403	468	459	1,330
Smithsonian Institution	325	657	614	1,596
Social Security Administration	86	576	910	1,572
Tennessee Valley Authority	137	122	824	1,084
U.S. Information Agency	164	295	686	1,145
Total	\$50,944	\$92,162	\$182,259	\$325,364

^aExpenditures include both capital and operating expenditures. Capital expenditures are for items that are generally depreciated or amortized over more than one accounting period. We did not ask organizations to depreciate or amortize the capital expenditures but merely to report the expenditure in the year it was made.

^bNumbers may not add to totals due to rounding.

^cThe Department of Health and Human Services did not provide information for three of its components—(1) the Administration for Children and Families, (2) the Agency for Health Care Policy and Research, and (3) the Health Research and Services Administration.

^dThe Department of State did not provide information.

^eWe asked the Executive Office of the President only to provide information for OMB and the White House.

Source: GAO analysis of data provided by federal organizations.

Federal Electronic Dial-Up BBS Expenditures

Table IV.1: Estimated Expenditures to Establish and Maintain Electronic Dial-Up BBSs, by Federal Organization, Fiscal Years 1994-1996

Dollars in thousands

Federal organization	Expenditures ^a			Total ^b
	FY 1994	FY 1995	FY 1996	
Agency for International Development	\$0	\$0	\$0	\$0
Armed Forces Retirement Home Board	0	0	0	0
Commodity Futures Trading Commission	0	0	0	0
Corporation for National Service	0	0	0	0
Department of Agriculture	146	396	322	864
Department of Commerce	929	589	485	2,002
Department of Defense	666	748	792	2,206
Department of Education	365	950	661	1,976
Department of Energy	311	82	61	454
Department of Health and Human Services ^c	712	549	287	1,548
Department of Housing and Urban Development	575	270	195	1,040
Department of the Interior	3	2	2	7
Department of Justice	25	46	17	87
Department of Labor	90	72	53	216
Department of State	^d	^d	^d	^d
Department of Transportation	305	325	180	810
Department of the Treasury	178	285	375	837
Department of Veterans Affairs	4	189	151	343
Environmental Protection Agency	1,912	1,865	1,759	5,537
Equal Employment Opportunity Commission	0	0	0	0
Executive Office of the President ^e	0	0	0	0
Federal Communications Commission	0	55	66	121
Federal Deposit Insurance Corporation	30	33	31	94
Federal Emergency Management Agency	102	103	103	308
Federal Reserve System Board of Governors	0	0	0	0
Federal Trade Commission	0	0	0	0
General Services Administration	300	20	25	345
National Aeronautics and Space Administration	245	237	233	715
National Archives and Records Administration	10	4	4	18
National Credit Union Administration	10	2	2	14
National Labor Relations Board	0	0	0	0
National Science Foundation	0	0	0	0
Nuclear Regulatory Commission	261	601	506	1,367
Office of Personnel Management	305	308	333	946

(continued)

**Appendix IV
Federal Electronic Dial-Up BBS
Expenditures**

Dollars in thousands

Federal organization	Expenditures ^a			Total ^b
	FY 1994	FY 1995	FY 1996	
Peace Corps	0	0	0	0
Pension Benefit Guaranty Corporation	0	0	0	0
Railroad Retirement Board	4	3	2	8
Securities and Exchange Commission	5	25	28	58
Small Business Administration	148	37	42	228
Smithsonian Institution	0	0	0	0
Social Security Administration	72	130	455	657
Tennessee Valley Authority	68	70	72	211
U.S. Information Agency	14	15	15	44
Total	\$7,795	\$8,009	\$7,256	\$23,060

^aExpenditures include both capital and operating expenditures. Capital expenditures are for items that are generally depreciated or amortized over more than one accounting period. We did not ask organizations to depreciate or amortize the capital expenditures but merely to report the expenditure in the year it was made.

^bNumbers may not add to totals due to rounding.

^cThe Department of Health and Human Services did not provide information for three of its components—(1) the Administration for Children and Families, (2) the Agency for Health Care Policy and Research, and (3) the Health Research and Services Administration.

^dThe Department of State did not provide information.

^eWe asked the Executive Office of the President only to provide information for OMB and the White House.

Source: GAO analysis of data provided by federal organizations.

Electronic Dial-Up Bulletin Board Systems Reported by Federal Organizations

Table V.1: Electronic Dial-Up Bulletin Board Systems Reported by Federal Organizations

Federal organization/ Major component	Name of BBS	BBS telephone number
Department of Agriculture:		
Agricultural Marketing Service	AMS Market News	(202) 690-4126
	Greeley CO Livestock & Grain	(970) 353-8642
	Madison, WI Livestock, Grain & Dairy	(608) 224-5090
Agricultural Research Service	Hank Davis	(970) 220-5512
	GRIN	(301) 504-6227
Economic Research Service	Call ERS/NASS	(202) 219-0377
Farm Service Agency	FSA-BBS	(816) 823-1521
	CORP-BBS	(800) 246-3877
Food Safety Inspection Service	Export Library	(202) 501-7608
Forest Service	FS-R02F06a	a
	FS-R03F05a	a
	FS-R04F03a	a
	FS-R04F07a	a
	FS-R04F12a	a
	FS-R05K	a
	FS-R05F10	a
	FS-R05F13a	a
	FS-R05F0?a	a
	FS-R06C	a
	FS-R06F21a	a
	FS/BLM	a
	FS-R08F06A	a
	FS-R09F19A	a
	Department of Commerce:	
Bureau of the Census	Census/BEA Electronic Forum	(301) 457-2310
	Office of Economic Conversion Information	(800) 352-2949
Economic Development Administration	Economic Bulletin Board	(202) 482-2167
Economics and Statistics Administration	NMNS Federal Register BBS	(301) 713-4200
	NMFS Alaska Region BBS	(907) 586-7259
	National Ocean Service BBS	(301) 713-4181
		(301) 713-4182
	Boise BBS	a
	National Climatic Data Center BBS	(704)271-4286
	NMFS NW Region BBS	(206)526-6405
	Marine Data Computer BBS	(301)713-4573

(continued)

**Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations**

Federal organization/ Major component	Name of BBS	BBS telephone number
	Space Environment Laboratory BBS	(301)497-7788
National Technical Information Service	Fedworld BBS	(703) 321-3539
Office of the Secretary	Office of Computer Services	(703) 487-4166
Patent and Trademark Office	Patent and Trademark Office BBS	(703) 305-8950
Department of Defense:		
Ballistic Missile Defense Organization	BMDO Acquisition Reporting Bulletin Board	(703) 769-8394
	Small Business Innovative Research/DOD Small Business Technology Transfer Program	(800) 946-2636
Defense Contract Audit Agency	DCAA Information Server	(901) 452-2093
Defense Finance and Accounting Service	DFAS Enterprise BBS	(800) 290-8674
	HRD BBS	(317) 542-6384
Defense Investigative Service	DISLINK	(800) 572-9055
Defense Logistics Agency	DISC EBB	(215) 697-0717
	DSCR-EBB	(804) 279-1301
	DNABBS	(800) 305-8203 (616) 961-5193
	Item Name	(800) 841-4431
	DSCC-EBB	(614) 692-1394 (614) 692-6841
	DoD-Demil/TSC BBS	(703) 767-1541
	Medical BBS	(800) 360-6945
	DLABBS (http://131.78.201.501)	(800) 458-7904
Defense Security Assistance Agency	EDA Bulletin Board	(703) 604-6470 (703) 604-6471
Defense Technology Security Administration	ELISA	(703) 602-4740
Department of the Air Force	AFOSC Bulletin Board	(703) 693-1045 DSN 223-1045
	AFMEA Bulletin Board	DSN 487-5823
Department of the Navy	SPAWAR BBS	(703) 602-9494
	BUPERS Access	(800) 346-3217
	Pers-84 BBS	(703) 695-3398
	Nav Mil Pers BBS	(757) 464-7792
	SDS User Assistance BBS	(757) 523-8207
	EPMAC BBS	(504) 678-3090
	NEOCS/NOCCS BBS	(901) 874-7111
	Public Works Remote BBS	(800) 228-6375
	Micro-EAR	(805) 982-5300
	Judge Advocate General's Info Net	(703) 325-0748

(continued)

**Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations**

Federal organization/ Major component	Name of BBS	BBS telephone number
	Naval Justice School BBS	(501) 841-3990 (501) 841-4134
On-Site Inspection Agency	DTIRP	(703) 810-4741
Department of Education:		
Office of Chief Financial Officer	ED Board BBS	(202) 260-9950
Office of Educational Research and Improvement	OERI Toll-Free BBS	(800) 222-4922
Office of Postsecondary Education	SFA - BBS	(800) 429-9933
Office of Special Education Research	RSA BBS	(202) 205-5574
Department of Energy:		
Energy Efficiency and Renewable Energy	Energy Efficiency and Renewable Energy Clearinghouse	(800) 273-2955
Energy Information Administration	EPUB	(202) 586-2557
Pittsburgh Energy Technology Center	PETC Internal BBS	a
Department of Health and Human Services :		
Centers for Disease Control and Prevention	CDC Wonder	(800) 232-4636
Food and Drug Administration	FDA BBS	(800) 222-0185
	LOS-DO Broker Information System	(310) 831-5825
	NY Import BBS	(718) 965-5096 (718) 965-5097
	Buffalo Import BBS	(716) 551-3815
	FDA CDRH ED BBS	(800) 252-1366
Health Care Financing Administration	HCFA BBS	(410) 786-2202
Indian Health Service	HIS Mailman System	(505) 248-8311
National Institutes of Health	ENTER BBS	b
	AIG (NIH Apoptosis Interest Group)	(301) 402-2221
	ANIMAL (guides, publications, legislation)	(301) 402-2221
	CERTAN (reprocurement)	(301) 402-2221
	DCGINFO (Office of Contracts Management Info)	(301) 402-2221
	DRGLINE (Grant Line for PHS Program Information)	(301) 402-2221
	EEO-OFFR (EEO)	(301) 402-2221
	INTERFAC (Index & article summaries)	(301) 402-2221
	MANUALS (manual chapter information)	(301) 402-2221
	MOD-TIPS (Information for BBS moderators)	(301) 402-2221
	NIDA (National Institute on Drug Abuse)	(301) 402-2221
	NIHEDNET (NIH Office of Education)	(301) 402-2221

(continued)

**Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations**

Federal organization/ Major component	Name of BBS	BBS telephone number
	NIHLIBR (Library tutorials & classes)	(301) 402-2221
	NUPUD (Users of public use data)	(301) 402-2221
	OPHTHNET (National Eye Institute/AFIP Ocular Registry)	(301) 402-2221
	PEF (Pediatric Exercise Forum)	(301) 402-2221
	PHSOTTO (Technology transfer opportunities)	(301) 402-2221
	PLASMIDS (DNA sequences of available plasmids)	(301) 402-2221
	RADSAFE (Radiation Safety Branch Information)	^a
	SAFETY37 (Safety & security issues in NIH Bldg 37)	(301) 402-2221
	SANCTION (ORI Sanctioned Individuals)	(301) 402-2221
	SAS (Statistical Applications System News)	(301) 402-2221
	STUDPROG (NINDS Minority and Student Programs)	(301) 402-2221
	TRY-IT (Try out "ENTER BBS" just for fun)	(301) 402-2221
Substance Abuse and Mental Health Services Administration	SAMHSA BBS	(800) 424-2294
	PREVLine	(800) 773-8546
	KEN	(800) 790-2647
Department of Housing and Urban Development	HUD Online	(800) 546-2500
	Public Affairs	(202) 708-3563
Department of the Interior: Office of the Secretary	Office of Environmental Policy & Compliance BBS	(202) 208-7119 (202) 501-6946
U.S. Geological Survey	Minerals Information BBS	(703) 648-7799
Department of Justice: Executive Office for U.S. Attorneys	EOUSA News BBS	^a
	EOUSA BBS	^a
Federal Bureau of Prisons	BOP.BBS	(202) 307-6203
Department of Labor: Employment and Training Administration Office of the Solicitor	Foreign Labor Certification Disclosure BBS	(202) 219-3375
	SOL BBS	(202) 219-9374 (202) 219-8918 (202) 219-9256 (202) 219-9257 (202) 219-9258 (202) 219-9363
Department of Transportation:		

(continued)

**Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations**

Federal organization/ Major component	Name of BBS	BBS telephone number
Bureau of Transportation Statistics	BTS BBS	(800) 493-4287
Federal Aviation Administration	Master Minimum Equipment List	(202) 267-5231
	Aviation Rule Making Advisory Committee	(202) 267-9548 (800) 322-2722
	AEE BBS	(202) 267-9647
	Airports BBS	(202) 267-5205
	FAA Corp. BBS	(800) 224-6287
	FAA New England	(207) 780-3297
	FAA Pilot Examiner Section BBS	(405) 954-4530 (800) 858-2107
	Pilot Examiner BBS	(888) 750-8324
Federal Highway Administration	FHWA Electronic Bulletin Board System (FEBBS)	(800) 337-3492 (202) 366-3764 (202) 366-3175
Federal Railroad Administration	RISPC	(888) 372-7477
Federal Transit Administration	FTA Safety Bulletin Board	(800) 231-2061
Maritime Administration	Marlinspike	(202) 366-8505
Office of the Secretary and the Administrative Support Center	TABBy BBS	(202) 493-2359
	DOT HRM BBS	(405) 954-3660
Research and Special Programs	HMIX/Hazardous Materials Information Exchange	(630) 252-3275
U.S. Coast Guard	NIS Bulletin Board	(703) 313-5910
Department of the Treasury: Financial Management Service	FMS Inside Line	(202) 874-6817
	FMS Fax on Call	(202) 874-8616
	FMS Voice Info System	(202) 874-6995
Internal Revenue Service	IRIS	(703) 321-8020
	AFS	(301) 492-5400
	Electronic Filing	(606) 292-4137
	Procurement	(202) 799-0943
	Information Returns Program	(304) 264-7070
	IRS Statistics of Income Bulletin Board	(202) 874-9574
	Little Rock PAO Practitioner	(501) 324-7118
U.S. Customs Service	Customs Electronic Bulletin Board	(703) 440-6155
Department of Veterans Affairs: Office of Management	VA Vendor Bulletin Board System (VAGBBS)	(800) 735-5282
Veterans Health Administration	VA Online	(800) 871-8387
	VA World	(304) 264-4993

(continued)

Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations

Federal organization/ Major component	Name of BBS	BBS telephone number	
	SLC BBS	a	
Environmental Protection Agency	ATTIC	(513) 569-7272 (513) 569-7610	
	CEAM	(706) 355-8328	
	TTN	(919) 541-5742	
	Cleanup Information	(301) 589-8366	
	REGION10	(800) 781-2241	
	Region5 Wtr	a	
	NPS	(301) 589-0205	
	EFIN	(919) 549-0720 (800) 291-0349	
	NSFC	(800) 624-8301	
	ORD BBS/CERI	(513) 569-7610	
	Pesticide Information Network	(703) 305-7499	
	PIPES	(703) 749-9216	
	Wastewater Treatment Information Exchange	(800) 544-1936	
	REIS (R7)	(703) 551-7715	
	PSR&RIS	(703) 308-7224	
	CSO	(800) 700-7837 (703) 790-0825	
	AMRB	(919) 541-1325	
	DWIE	(800) 932-7459 (304) 293-7108	
	Equal Employment Opportunity Commission	EEOC Bulletin Board System	a
	Federal Communications Commission	FCC State Link (CCB)	(202) 418-0241
Public Access Link (OET)		(301) 725-1072	
Federal Deposit Insurance Corporation	FDIC Fax/Bulletin Board System	(804) 642-0003	
Federal Emergency Management Agency	Emergency Management Institute	(301) 447-1259	
	Hazardous Materials Information Exchange	(800) 874-2884	
	State and Local Emergency Management Data Users Group	(800) 538-4408 (630) 739-1312	
General Services Administration	Multi-Use File for Interagency News (MUFFIN)	(202) 205-3890	
	GSBCA BBS	(202) 501-1981 (202) 501-2982 (202) 501-2308	
	Federal Real Estate Bulletin Board	(800) 776-7872 (202) 501-6510	
	Great Lakes FEB BBS	(312) 353-3798	

(continued)

**Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations**

Federal organization/ Major component	Name of BBS	BBS telephone number	
	Consumer Information Center BBS	(202) 208-7679	
	TeleConX BBS	(202) 501-7741	
National Aeronautics and Space Administration	NASA Spacelink	(205) 895-0028	
	Network News	(202) 358-4488	
	E-Mail	(800) 380-0674	
	SBIR/STTR	(301) 918-8177	
	Earth Science Branch Photo Data Base	(713) 483-2500	
	JPL Info	(818) 354-1333	
	NODIS	(301) 286-4000	
	Planetary Data System	(818-306-6914)	
	National Archives and Records Administration	FRIEND (Federal Register Electronic News Delivery)	(202) 275-0860 (202) 275-0898 (202) 275-1538 (202) 275-0920
Atlanta FRC		(404) 763-7474	
National Credit Union Administration		NCUA BBS	(703) 518-6480
		Nuclear Regulatory Commission	NRC Online (FedWorld)
Tech Spec Plus	(800) 679-5784		
Public Meeting Notice System	(800) 952-9676		
Decommissioning Rule	(800) 880-6096		
Bibliographic Retrieval	(800) 270-2787		
Office of Personnel Management	OPM Mainstreet		(202) 606-4800
	PayPerNet		(202) 606-2675
	Federal Job Opportunities Board	(912) 757-3100	
Railroad Retirement Board	Field BBS	(312) 751-4722	
	Quality Reporting Service Center BBS	(312) 751-7122	
Small Business Administration	SBA Online	(800) 697-4636	
	SBA Software Clearinghouse	(202) 205-6269	
Social Security Administration	Chicago Region	^a	
	KaCee (Kansas City)	^a	
	Online Wage Reporting	(410) 966-8450	
	DCO Village	^a	
	Region 1 BBS	^a	
	San Francisco BBS	^a	
	Employer Information	(410) 965-1133	
	Information Center BBS	^a	
Tennessee Valley Authority	Lake Information Line	(800) 238-2264	

(continued)

**Appendix V
Electronic Dial-Up Bulletin Board Systems
Reported by Federal Organizations**

Federal organization/ Major component	Name of BBS	BBS telephone number
United States Information Agency	Lake Information Bulletin Board	(423) 632-4721
	USIABBS	(202) 619-4710
		(202) 619-4711
		(202) 619-4712
		(202) 619-4713
		(202) 619-4714
	I BUREAU BBS	(202) 554-6320
		(202) 554-6321
		(202) 619-5952

Note: Of the 42 federal organizations, 29 reported having a total of 215 electronic dial-up BBSs.

^aThe federal organization reported that the BBS is either for internal use only, restricted, or not available for the general public.

^bThe National Institutes of Health reported 23 BBSs within "Enter BBS."

Source: Information provided by federal organizations responding to GAO survey data collection form.

Number of Federal Employees With Internet Access

Table VI.1: Number of Federal Civilian and Military Employees With Government-Provided E-Mail and WWW Access, by Federal Organization

Federal organization	Employees with E-mail addresses		Employees with WWW access		Total number of employees
	Number	Percentage of total employees ^a	Number	Percentage of total employees ^a	
Agency for International Development	2,000	66.7	1,500	50.0	3,000
Armed Forces Retirement Home Board	23	2.6	23	2.6	896
Commodity Futures Trading Commission	600	100.0	200	33.3	600
Corporation for National Service	518	100.0	0 ^b	0.0	518
Department of Agriculture	55,882	50.8	26,066	23.7	110,115
Department of Commerce	27,635	75.9	16,086	44.2	36,418
Department of Defense	1,113,485	49.5	771,593	34.3	2,250,192
Department of Education	4,694	100.0	3,348	71.3	4,694
Department of Energy	15,500	87.3	13,389	75.4	17,763
Department of Health and Human Services ^c	42,061	80.6	35,207	67.5	52,161
Department of Housing and Urban Development	11,000	100.0	11,000	100.0	11,000
Department of the Interior	59,340	83.4	25,830	36.3	71,158
Department of Justice	8,039	7.9	8,126	8.0	101,977
Department of Labor	13,127	80.2	7,813	47.7	16,372
Department of State	^d	^d	^d	^d	^d
Department of Transportation	61,989	62.6	16,299	16.5	99,054
Department of the Treasury	78,605	54.6	11,090	7.7	144,053
Department of Veterans Affairs	65,000	26.0	10,000	4.0	250,000
Environmental Protection Agency	17,177	100.0	7,000	40.8	17,177
Equal Employment Opportunity Commission	18	0.7	24	0.9	2,676
Executive Office of the President ^e	922	100.0	922	100.0	922
Federal Communications Commission	2,100	100.0	2,100	100.0	2,100
Federal Deposit Insurance Corporation	9,800	100.0	9,800	100.0	9,800
Federal Emergency Management Agency	2,400	100.0	2,400	100.0	2,400
Federal Reserve System Board of Governors	1,200	69.3	1,000	57.7	1,732
Federal Trade Commission	1,000	100.0	1,000	100.0	1,000
General Services Administration	12,500	80.7	11,000	71.0	15,500

(continued)

**Appendix VI
Number of Federal Employees With Internet
Access**

Federal organization	Employees with E-mail addresses		Employees with WWW access		Total number of employees
	Number	Percentage of total employees ^a	Number	Percentage of total employees ^a	
National Aeronautics and Space Administration	25,489	99.3	25,539	99.5	25,680
National Archives and Records Administration	2,500	83.3	2,500	83.3	3,000
National Credit Union Administration	950	100.0	200	21.1	950
National Labor Relations Board	1,900	95.0	750	37.5	2,000
National Science Foundation	1,200	100.0	1,200	100.0	1,200
Nuclear Regulatory Commission	3,200	100.0	1,700	53.1	3,200
Office of Personnel Management	2,600	66.7	250	6.4	3,900
Peace Corps	714	79.3	714	79.3	901
Pension Benefit Guaranty Corporation	764	100.0	100	13.1	764
Railroad Retirement Board	19	1.4	21	1.5	1,412
Securities and Exchange Commission	2,503	89.8	180	6.5	2,788
Small Business Administration	3,500	100.0	3,250	92.9	3,500
Smithsonian Institution	4,200	64.7	4,200	64.7	6,496
Social Security Administration	26,000	40.0	5,000	7.7	65,000
Tennessee Valley Authority	8,131	51.9	7,000	44.7	15,659
U.S. Information Agency	5,405	78.9	2,900	42.3	6,850
Total	1,695,690	50.4	1,048,320	31.1	3,366,578

Note: We asked federal organizations to report the number of employees with WWW access at their desktop workstations.

^aPercentages calculated by GAO based on data provided by organizations.

^bThe Corporation for National Service provides WWW access to its employees through four common workstations, not to employees' individual desktop workstations.

^cThe Department of Health and Human Services did not provide information for three of its components—(1) the Administration for Children and Families, (2) the Agency for Health Care Policy and Research, and (3) the Health Research and Services Administration.

^dThe Department of State did not provide information.

^eWe asked the Executive Office of the President only to provide information for OMB and the White House.

Source: GAO analysis of data provided by federal organizations.

Internet and BBS Activities at Three Selected Agencies

We performed work at three judgmentally selected agencies to gain a better understanding of federal Internet and BBS activities. These agencies were (1) National Oceanic and Atmospheric Administration (NOAA), within the Department of Commerce; (2) Fish and Wildlife Service (FWS), within the Department of the Interior; and (3) Social Security Administration (SSA). The following summaries provide a more in-depth look at Internet and BBS activities at these agencies than can be obtained from presentation of only the expenditure and other information provided earlier in this report. We did not verify the accuracy of the information contained in these summaries. We did, however, provide the agencies with a draft of the summaries to ensure that we had accurately represented the information they reported to us.

National Oceanic and Atmospheric Administration

NOAA has approximately 13,500 employees nationwide. The principal mission of NOAA is to describe and predict changes in the earth's environment and conserve and manage coastal and marine resources to ensure sustainable economic opportunity. NOAA is responsible for providing a variety of environmental data and information services, such as meteorological, oceanographic, geodetic, and seismological data. Agencies within NOAA include (1) National Environmental Satellite, Data and Information Service; (2) National Marine Fisheries Service; (3) National Ocean Service; the (4) Office of Oceanic and Atmospheric Research; and (5) National Weather Service.

Agency Internet Policy

NOAA has a written telecommunications policy covering areas such as planning, management, security, and employee use of Internet resources. The policy's stated purpose is to facilitate use of Internet products and services in management and decisionmaking processes, ensure compliance with federal laws and regulations, reinforce security safeguards, and increase user confidence in NOAA's Internet products.

Benefits

NOAA policy states that use of the Internet greatly facilitates user access to NOAA data and information services and, thus, furthers NOAA's mission of disseminating its data and information to the public, scientific community, and other government agencies. For example, electronic data transfer reduces NOAA employee paperwork as well as time spent on data entry. Further, the public benefits by being able to access NOAA information in a timely manner.

Oversight

While NOAA has issued guidance on the use of the Internet, this guidance does not specifically address whether employees are authorized to use Internet resources for other than official government business. NOAA oversight of employee Internet activities is primarily the responsibility of supervisors within NOAA program and staff offices. NOAA has taken disciplinary actions against three employees for improper use of their Internet access.

Internet and BBS Activity

NOAA reported maintaining about 383 distinct WWW sites on about 85 computers, providing access to about 95 databases of various NOAA Earth system information, all linked through the NOAA homepage (<http://www.noaa.gov>). The NOAA WWW presence includes meteorological data and satellite images of the earth's geography and weather. In a recent report to the Congress, NOAA described the information it provides through the Internet.¹⁰ For example, in 1995 NOAA provided information, such as National Weather Service surface and upper air observation data from its system of satellites, aircraft, and buoys, to about 15,000 users per month. Internet users are able to search for, view, and obtain satellite data and images. Other examples of NOAA WWW data include (1) changes in land cover for the Chesapeake Bay region, (2) historical daily maximum and minimum temperature and precipitation data and climatological summaries for 2,200 locations worldwide, and (3) sea-level data for selected areas of the Pacific, Atlantic, and Indian Oceans.

NOAA estimates that user demand for its data will approach a half million inquiries each month by the beginning of the 21st century. NOAA reported that, from 1991 to 1995, requests for digital data increased a hundredfold and online inquiries grew to over 200,000 per month.

According to NOAA, about 95 percent of its employees have Internet e-mail access, and about 44 percent have access to the WWW at their workstations. As an example, NOAA said its employees use their WWW access to connect with 13 separate NOAA offices through the Campus Connectivity Demonstration project. This Internet project allows employees to freely share databases and information of differing formats, procedures, and protocols over a common information infrastructure.

NOAA reported maintaining nine electronic dial-up BBSS during fiscal years 1994 through 1996, one of which was discontinued at the end of fiscal year 1996. BBSS do not play a significant role in NOAA's information

¹⁰Progress and Challenges: A Report to Congress on NOAA Data Management, August 1996.

dissemination strategy and are maintained to provide a low-end access method. These BBS provide information such as geodetic and global positioning data, local forecasts and warnings, and climate data for building and road designs.

Internet and BBS Expenditures

NOAA estimated Internet expenditures of about \$6.5 million for fiscal years 1994 through 1996—\$1.3 million for 1994, \$2.0 million for 1995, and \$3.2 million for 1996—for providing Internet access to employees and establishing and maintaining WWW sites. NOAA estimated BBS expenditures of approximately \$29,000 for the 3-year period.

Fish and Wildlife Service

The mission of the FWS is to conserve, protect, and enhance fish and wildlife and their habitats for the continuing benefit of the American people. FWS activities include biological monitoring, pollution surveillance, fish and wildlife population studies, and environmental impact assessment, among others. The Service is responsible for leadership in identifying, protecting, and restoring endangered species of fish, wildlife, and plants. FWS has approximately 7,000 employees in over 400 different locations nationwide.

Agency Internet Policy

FWS Internet guidance covers a variety of information management issues, including issues such as copyright protections, WWW publishing, appropriate use, and security. Regarding employees' use of the Internet, the guidance describes it as another tool available for employees to do their jobs and encourages employees to use the Internet to do work-related tasks more effectively.

Benefits

FWS cited a number of examples to illustrate the range of benefits to the agency that the Internet provides. For example, distribution of FWS National Wetlands Inventory maps tripled at a time when its support staff was being reduced. Also, it said posting new publications on the WWW and implementing an automated e-mail service has been very beneficial. E-mail service provides news releases, bulletins, and other information to about 1,800 subscribers. The service reported that it has increased public access to new publications, saved on printing costs, and reached a variety of interest groups without increasing the public affairs staff or manually maintaining large mailing lists.

Oversight

On April 5, 1996, FWS issued a memorandum on use of the Internet to all its employees. The FWS memorandum, issued in response to a Department of the Interior Inspector General's review, reminded managers that they have considerable latitude in deciding how the Internet should be used; but it also emphasized that FWS computers, networks, e-mail services, and telephone facilities are for government business and are not for personal use. The memorandum also provided several examples of prohibited activities. According to FWS, it has taken no disciplinary actions against FWS employees for inappropriate use of Internet access.

Internet and BBS Activity

FWS said it maintained 52 Internet www sites at the time of our review. FWS reported eight computers nationwide, which host the www sites. Each of the www sites is linked to the main FWS homepage (<http://www.fws.gov>). According to FWS each of its seven regions also has www sites, each with numerous links to other FWS sites as well as news and information about the wildlife refuges, hunting and fishing permits, and other programs managed by the region. Examples of other FWS sites include the Endangered Species Program www site and the National Wetlands Inventory office, which has three sites—its homepage, the Wetland Values Database, and the Maps Database. The Endangered Species site provides information such as lists of endangered species, the full text of the Endangered Species Act, regional news, maps, photographs, and regulatory information for private landowners.

FWS estimated that approximately 5,000 employees, or 71 percent, have Internet e-mail access and that about 2,500 employees, or 36 percent, have access to the www from their desktop workstations.

Internet and BBS Expenditures

For fiscal years 1994 through 1996, FWS estimated spending \$929,000 for providing Internet access to employees and for establishing and maintaining www sites. FWS estimated that its expenditures for each of the fiscal years were \$252,000 for 1994, \$329,000 for 1995, and \$348,000 for 1996. FWS did not maintain any dial-up BBSS.

Social Security Administration

SSA, an independent agency, administers various federal programs for retirees, the disabled, and their survivors. SSA also assigns social security numbers to citizens and maintains records of reported earnings for individuals assigned a social security number. SSA currently pays benefits to over 48 million people, annually processes 235 million earnings reports

from 6.5 million employers, and issues 17 million Social Security cards. Headquartered in Baltimore, Maryland, SSA operates 10 regional offices, 6 program service centers, 1,300 field offices, and 140 hearings offices, with a total workforce of about 65,000 employees.

Agency Internet Policy

The Administration has issued guidance that addresses management of and employees' use of SSA's Internet services. The policy states that SSA will "promote Internet access for SSA employees who have a business-related need as determined by their respective components." The policy also addresses www and Internet matters such as appropriate www site content and maintenance and Internet security. The policy addresses compliance with federal laws such as the Privacy Act and Computer Fraud and Abuse Act as well as OMB guidance. The policy clearly states that Internet access is only for official SSA business and that employee usage "may be monitored for traffic, statistical and security purposes."

Benefits

SSA's Internet policy states that the www and related Internet technologies hold great potential for providing information to the public more quickly, extensively, and efficiently than ever before. The recent growth of the www and its use by the public, the policy states, make it an increasingly attractive and effective dissemination channel for SSA. SSA reported a variety of Internet benefits to both SSA employees and the general public. These benefits included being able to (1) quickly access technical tools and resources, including software, that are essential to employees' jobs and SSA's mission; (2) search vendor resources and make online purchases for supplies at the lowest possible cost; (3) provide increased public access to over 300 SSA information publications in English and Spanish; and (4) provide information on assistance available from local SSA offices.

SSA also reported similar benefits from its BBSS. Through regional BBSS, managers have access to historical agency reports without having to call the regional office or maintaining cabinets full of paper reports. It said the Online Wage Reporting BBS, currently in the pilot testing stage, enables it to process wage reports electronically, and SSA believes that when fully implemented, the BBS could provide savings as companies file forms online rather than by paper or on disk.

Oversight

Other than supervisory monitoring, SSA system managers currently do not monitor employee Internet use. SSA does maintain documentation of the

resources accessed through the Internet, however, and is examining software that could be used to limit access to appropriate Internet sites. Officials from SSA's personnel and OIG offices told us that they were not aware of any disciplinary actions for employees' improper use of Internet resources.

Internet and BBS Activity

SSA has been a participant on the Internet since 1989, providing statistical data to educational facilities and other researchers. In May 1994, SSA began providing public access to "Social Security Online"—SSA's main Internet WWW site (<http://www.ssa.gov>). At the time of our review, SSA reported having a total of 22 Internet WWW sites. These sites included those for regional and program offices as well as specific SSA programs, such as SSA's Quick Reference Guide for Employers, benefit information publications, and Social Security welfare reform information sites. In accordance with SSA policy, all sites are to be maintained on one central computer and linked to Social Security Online.

SSA also said it recently began experimenting with online personal earnings statements and benefits applications. In April 1996, SSA introduced a service to allow the public to make an online request for a Personal Earnings and Benefit Estimate Statement (PEBES). Through the WWW, a person was able to complete the form, send it to SSA via the Internet, and receive a PEBES statement in the mail within about 2 weeks. In March 1997, SSA began providing the PEBES results online, but suspended the service in April 1997 in response to public concerns raised about the authentication elements used and the potential for fraud. To address these concerns, SSA said it is seeking expert and public input through a series of national forums. SSA's goal remains to provide the PEBES results online in a real-time, secure, interactive environment, provided the full range of privacy and disclosure issues have been addressed. SSA reported that more than 1.2 million people have accessed Social Security Online, 102,372 in the month of March 1997 alone. More than 100,000 people have requested their PEBES by mail since the program began. During the 1-month period that the PEBES results were available online, more than 71,000 people requested and received their PEBES results instantly.

SSA reported that about 26,000 employees, or 40 percent, have access to Internet e-mail and approximately 5,000 employees, or 8 percent, have access to the WWW at their desktop workstations.

**Appendix VII
Internet and BBS Activities at Three
Selected Agencies**

SSA also said it provides public and employee access to its information using eight BBSS. SSA is currently pilot testing its Online Wage Reporting BBS. Other BBSS provide employers with information such as changes in Social Security reporting procedures and forms, or they provide SSA employees access to SSA policies and reports.

**Internet and BBS
Expenditures**

SSA reported significant increases in expenditures for providing Internet access to employees and for establishing and maintaining a WWW presence. During fiscal years 1994 through 1996, SSA estimated spending about \$86,000, \$576,000 and \$910,000, respectively.

SSA also reported significant increases in estimated expenditures for its BBSS over the last 3 fiscal years—\$72,000 in 1994, \$130,000 in 1995, and \$455,000 in 1996. SSA reported that the increase in BBS expenditures was due to costs associated with its Online Wage Reporting BBS for system improvements such as increasing the number of telephone lines, modems, computers, and printers, and to provide additional training to BBS personnel.

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