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SOCIAL SECURITY ADMINISTRATION

Technical and Performance Challenges Threaten Progress of Modernization

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The Honorable Jim Bunning
Chairman, Subcommittee on Social Security
Committee on Ways and Means
House of Representatives

Dear Mr. Chairman:

This report responds to your request concerning the Social Security Administration's (SSA) ongoing efforts to implement its Intelligent Workstation/Local Area Network (IWS/LAN) project.[1] As you know, SSA is in the process of redesigning its work processes and modernizing its computer systems to better serve an increasing beneficiary population and achieve improvements in productivity. IWS/LAN is expected to play a major role in this modernization effort by providing SSA with the basic automation infrastructure to achieve increased processing capabilities that will be essential to its major service delivery and process redesign initiatives. The first phase of the planned project is a 7-year, approximately $1 billion effort to acquire more than 56,000 intelligent workstations and 1,700 local area networks.

Because of the cost and resources that SSA plans to invest in acquiring IWS/LAN and the project's potential impact on public service, you requested that we provide information on this initiative. Specifically, you asked us to (1) determine the status of SSA's implementation of IWS/LAN, (2) assess whether SSA and state DDS operations have been disrupted by the installations of IWS/LAN equipment, and (3) assess SSA's practices for managing its investment in IWS/LAN.

During testimony before the House Ways and Means Subcommittees on Human Resources and Social Security in March 1998, we discussed generally the challenges that SSA faces in implementing IWS/LAN and other information technology initiatives.[2] This report provides additional and more specific information on the issues identified during our review.

[1]In June 1996, SSA awarded a national IWS/LAN contract to modernize and standardize the distributed processing environment in its headquarters and field components and in state Disability Determination Services (DDS). This initiative is intended to provide a distributed processing platform comprised of intelligent workstations (i.e., personal computers) on employee desktops, connected to each other and to SSA's mainframe computers by local and wide area networks.

[2]Social Security Administration: Information Technology Challenges Facing the Commissioner (GAO/T-AIMD-98-109, March 12, 1998).

Results in Brief

SSA has moved aggressively in installing intelligent workstations and local area networks (LAN) since initiating IWS/LAN acquisitions in December 1996. As of mid-March 1998, it had completed the installation of about 31,000 workstations and 850 LANs, generally meeting its implementation schedule for phase I of the initiative. However, the contractor that is installing IWS/LAN has expressed concerns about the future availability of the intelligent workstations that SSA is acquiring—noting that the 100-megahertz workstations specified in the contract are increasingly difficult to obtain. In addition, problems encountered in developing software intended to operate on IWS/LAN could affect SSA's planned schedule for proceeding with phase II of this initiative—an effort to provide additional hardware and software to the computer infrastructure created in phase I.

Staff in SSA offices generally reported no significant disruptions in their ability to serve the public during the installation and operation of their IWS/LAN equipment. However, some state DDSs reported that SSA's decision to manage and control DDS networks remotely and the IWS/LAN contractor's inadequate responses to DDS' service calls have led to disruptions in some of their operations. At least one state DDS deferred its installations of IWS/LAN because of its concerns about the lack of network control in the IWS/LAN environment. Because IWS/LAN is expected to correct Year 2000 deficiencies in some states' hardware, delaying the installation of IWS/LAN could affect these states' progress in becoming Year 2000 compliant.

Consistent with the Clinger-Cohen Act of 1996 and Office of Management and Budget (OMB) guidance, SSA has followed some of the essential practices required to effectively manage its IWS/LAN investment. This includes assessing costs, benefits, and risks to justify the agency's investment in IWS/LAN and monitoring the progress of the project against competing priorities, projected costs, schedules, and resource availability. However, SSA has not established essential practices for measuring IWS/LAN's contribution to improving the agency's mission performance.

Although the agency has developed baseline data and performance measures that could be used to assess the project's impact on mission performance, it has not defined target performance goals or instituted a process for using the measures to assess the impact of IWS/LAN on mission performance. Further, although the Clinger-Cohen Act and OMB requirements call for agencies to perform evaluations after completing information technology projects, SSA does not plan to conduct a post-implementation review of IWS/LAN once it is fully implemented.

Without targeted goals and a defined process for measuring performance both during and after the implementation of IWS/LAN, SSA cannot be assured of the extent to which this project is improving service to the public or that it is actually yielding the savings anticipated from this investment.

Background

Handling increasing service workloads is a critical challenge facing SSA. The agency is processing a growing number of claims for Social Security benefits.[3] SSA estimates that it will face continued growth in beneficiaries over the next few decades as the population ages and life expectancies increase. The number of OASI and DI beneficiaries is estimated to increase substantially between calendar years 1997 and 2010—from approximately 44 million to over 54 million.

Recognizing constraints on its staff and resources, SSA has moved to better serve its increasing beneficiary population and improve its productivity by redesigning its work processes and modernizing the computer systems used to support these processes. A key aspect of the modernization effort is the agency's transition from its current centralized mainframe-based computer processing environment to a highly distributed client/server processing environment.[4]

IWS/LAN is expected to play a critical role in the modernization by providing the basic automation infrastructure for using client/server technology to support the redesigned work processes and improve the availability and timeliness of information to employees and appropriate users. Under this initiative, SSA plans to replace approximately 40,000 "dumb" terminals and other computer equipment used in over 2,000 SSA and state DDS sites with an infrastructure consisting of networks of intelligent workstations connected to each other and to SSA's mainframe computers.[5]

[3]The Old Age and Survivors Insurance (OASI) and the Disability Insurance (DI) programs, together commonly known as Social Security, provide benefits to retired and disabled workers and their dependents and survivors.

[4]In a client/server environment, servers and individual workstations are all capable of performing tasks that previously only the mainframe computer could accomplish. This can sometimes result in improvements over mainframe performance.

[5]SSA's "dumb" terminals are connected to its mainframe computers through its data network and are controlled by software executed on the mainframes. Its personal computers, called intelligent workstations, have their own data storage and processing capabilities.

The national IWS/LAN initiative consists of two phases. During phase I, SSA plans to acquire 56,500 workstations,[6] 1,742 LANs, 2,567 notebook computers, systems furniture, and other peripheral devices. Implementation of this platform is intended to provide employees in the sites with office automation and programmatic functionality from one terminal. It also aims to provide the basic, standardized infrastructure to which additional applications and functionality can later be added. The projected 7-year life-cycle cost of phase I is $1.046 billion, covering the acquisition, installation, and maintenance of the IWS/LAN equipment. Under a contract with Unisys Corporation, SSA began installing equipment for this phase in December 1996; it anticipates completing these installations in June 1999. Through fiscal year 1997, SSA had reported spending approximately $565 million on acquiring workstations, LANs, and other services.[7]

Phase II is intended to build upon the IWS/LAN infrastructure provided through the phase I effort. Specifically, during this phase, SSA plans to acquire additional hardware and software, such as database engines, scanners, bar code readers, and facsimile and imaging servers, needed to support future process redesign initiatives and client/server applications. SSA plans to award a series of phase II contracts in fiscal year 1999 and to carry out actual installations under these contracts during fiscal years 1999 through 2001.

Currently, SSA is developing the first major programmatic software application to operate on IWS/LAN. This software—the Reengineered Disability System (RDS)—is intended to support SSA's modernized disability claims process in the new client/server environment. Specifically, RDS is intended to automate and improve the Title II and Title XVI[8] disability claims processes from the initial claims-taking in the field office, to the gathering and evaluation of medical evidence in state DDSs, to payment execution in the field office or processing center and the handling of appeals in hearing offices. In August 1997, SSA began pilot testing RDS for the specific purposes of (1) assessing the performance, cost, and benefits

[6]At the conclusion of our review, SSA officials were considering options for acquiring additional workstations under the national initiative, which, if exercised, could result in the installation of as many as 70,000 workstations.

[7]The other services include site preparation, support services and training, and telecommunications and maintenance.

[8]Titles II and XVI of the Social Security Act authorize SSA's Old Age, Survivors, and Disability Insurance and Supplemental Security Income programs, respectively.

of this software and (2) determining supporting IWS/LAN phase II equipment requirements.

Agencies, in undertaking systems modernization efforts, are required by the Clinger-Cohen Act of 1996 to ensure that their information technology investments are effectively managed and significantly contribute to improvements in mission performance. The Government Performance and Results Act of 1993 requires agencies to set goals, measure performance, and report on their accomplishments. One of the challenges that SSA faces in implementing IWS/LAN is ensuring that the planned systems and other resources are focused on helping its staff process all future workloads and deliver improved service to the public. In a letter and a report to SSA in 1993 and 1994, respectively, we expressed concerns about SSA's ability to measure the progress of IWS/LAN because it had not established measurable cost and performance goals for this initiative.[9]

In addition, SSA faces the critical challenge of ensuring that all of its information systems are Year 2000 compliant. By the end of this century, SSA must review all of its computer software and make the changes needed to ensure that its systems can correctly process information relating to dates. These changes affect not only SSA's new network but computer programs operating on both its mainframe and personal computers. In October 1997, we reported that while SSA had made significant progress in its Year 2000 efforts, it faced the risk that not all of its mission-critical systems will be corrected by the turn of the century.[10] At particular risk were the systems used by state DDSs to help SSA process disability claims.

Objectives, Scope, and Methodology

Our objectives were to (1) determine the status of SSA's implementation of IWS/LAN, (2) assess whether SSA and state DDS operations have been disrupted by the installations of IWS/LAN equipment, and (3) assess SSA's practices for managing its investment in the IWS/LAN initiative.

To determine the status of SSA's implementation of IWS/LAN, we analyzed key project documentation, including the IWS/LAN contract, project plans, and implementation schedules. We observed implementation activities at select SSA field offices in Alabama, Florida, Georgia, Minnesota, South

[9]Letter from the Director, Human Resources Information Systems, Information Management and Technology Division, GAO, to the Acting Commissioner of SSA, March 30, 1994; and Social Security Administration: Risks Associated With Information Technology Investment Continue (GAO/AIMD-94-143, September 30, 1994).

[10]Social Security Administration: Significant Progress Made in Year 2000 Effort, But Key Risks Remain (GAO/AIMD-98-6, October 22, 1997).

Carolina, Texas, and Virginia; at program service centers in Birmingham, Alabama, and Philadelphia, Pennsylvania; and at teleservice centers in Minneapolis, Minnesota, and Fort Lauderdale, Florida. In addition, we reviewed IWS/LAN plans and observed activities being undertaken by state DDS officials in Alabama, Georgia, and Minnesota. We also interviewed representatives of the IWS/LAN contractor—Unisys Corporation—to discuss the status of the implementation activities.

To assess whether SSA and state DDS operations have been disrupted by the installations of IWS/LAN equipment, we reviewed planning guidance supporting the implementation process, such as the IWS/LAN Project Plan, and analyzed reports summarizing implementation activities and performance results identified during pilot efforts. We also interviewed SSA site managers, contractor representatives, and IWS/LAN users to identify installation and/or performance issues, and observed operations in select SSA offices where IWS/LAN equipment installations had been completed. In addition, we discussed IWS/LAN problems and concerns with DDS officials in 10 states: Alabama, Arkansas, Arizona, Delaware, Florida, Louisiana, New York, Virginia, Washington, and Wisconsin, and with the president of the National Council of Disability Determination Directors, which is a representative body for all state DDSs.

To assess SSA's management of the IWS/LAN investment, we applied our guide for evaluating and assessing how well federal agencies select and manage their investments in information technology resources.[11] We evaluated SSA's responses to detailed questions about its investment review process that were generated from the evaluation guide and compared the responses to key agency documents generated to satisfy SSA's process requirements. We also reviewed IWS/LAN cost, benefit, and risk analyses to assess their compliance with OMB guidance. We did not, however, validate the data contained in SSA's documentation.

We performed our work from July 1997 through March 1998 in accordance with generally accepted government auditing standards. We requested comments on a draft of this report from the Commissioner of Social Security or his designee. The Commissioner provided us with written comments, which are discussed in the "Agency Comments and Our Evaluation" section and are reprinted in appendix I.

[11]Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making, Version 1 (GAO/AIMD-10.1.13, February 1997).

SSA Met Its IWS/LAN Milestones Through March 1998, but Future Milestones May Be Missed

Using a strategy that includes installing workstations and LANs in up to 20 sites per weekend, SSA, through mid-March 1998, had generally met its phase I schedule for implementing IWS/LAN. However, the contractor installing IWS/LAN has expressed concerns about the availability of the workstations specified in the contract, raising questions as to whether they can continue to be acquired. In addition, the pilot effort that SSA began in August 1997 to assess the performance, cost, and benefits of RDS and identify IWS/LAN phase II requirements has experienced delays that could affect the schedule for implementing phase II of this initiative.

IWS/LAN Phase I Implemented on Schedule Through March 1998

Under the phase I schedule, 56,500 intelligent workstations and 1,742 LANs are to be installed in approximately 2,000 SSA and state DDS sites between December 1996 and June 1999. The schedule called for approximately 30,500 workstations and about 850 LANs to be installed by mid-March 1998. According to SSA records, the agency generally met this schedule with the actual installation of 31,261 workstations and 850 LANs by March 15, 1998. These installations occurred at 753 SSA sites and 20 DDS sites[12] (covering 12 states and the federal DDS).[13] SSA reported in its fiscal year 1997 accountability report that the number of front-line employees using IWS/LAN increased to 50.2 percent—exceeding by 2.2 percent the fiscal year 1997 Results Act goal.[14]

The standard intelligent workstation configuration includes a 100-megahertz Pentium personal computer with 32 megabytes of random access memory, the Windows NT 4.0 operating system, a 1.2-gigabyte hard (fixed) disk drive, 15-inch color display monitor, and 16-bit network card with adaptation cable. Last year the contractor, Unisys, submitted a proposal to upgrade the intelligent workstation by substituting a higher speed processor at additional cost. Unisys noted that it was having difficulty obtaining 100-megahertz workstations. However, SSA did not accept Unisys' upgrade proposal. Further, the Deputy Commissioner for Systems stated that SSA did not believe it was necessary to upgrade to a faster processor because the 100-megahertz workstation meets its current needs.

[12]Some of these DDS sites had received only partial installations of IWS/LAN.

[13]The federal DDS provides back-up services to state DDSs when the state offices cannot process their workloads and serves as a model office for testing new technologies and work processes.

[14]Social Security Administration Accountability Report for Fiscal Year 1997.

For its modernization efforts to succeed, SSA must have the necessary workstations to support its processing needs. This is particularly important given the agency's expressed intent to operate future client/server software applications on IWS/LAN to support redesigned work processes. Adding database engines, facsimile, imaging, and other features like those planned by SSA during phase II of the IWS/LAN initiative could demand a workstation with more memory, larger disk storage, and a processing speed higher than 100 megahertz. Personal computers available in today's market operate at about three times this speed.

Preliminary testing of the RDS software has already shown the need for SSA to upgrade the workstation's random access memory from 32 megabytes to 64 megabytes. However, systems officials told us that their tests have not demonstrated a need for a faster workstation. As discussed in the following section, SSA is encountering problems and delays in completing its tests of the RDS software. In addition, at the conclusion of our review, SSA had begun holding discussions with Unisys regarding the availability of the 100-megahertz workstations.

Problems in RDS Pilot Could Delay IWS/LAN Phase II Implementation

SSA has experienced problems and delays in the pilot effort that it initiated in August 1997 to assess the performance, cost, and benefits of RDS and identify IWS/LAN phase II requirements. Under the pilot, an early release of the software is being tested in one SSA field office and the federal DDS to acquire feedback from end users regarding its performance. SSA planned to make improvements to the software based on these pilot results and then expand its testing of the software to all SSA and DDS components in the state of Virginia. The results of the pilot testing in Virginia were to be used in determining hardware and software requirements to support IWS/LAN phase II acquisitions, beginning in fiscal year 1999.

SSA encountered problems with RDS during its initial pilot testing. For example, systems officials stated that, using RDS, the reported productivity of claims representatives in the SSA field office dropped. Specifically, the officials stated that before the installation of RDS, each field office claims representative processed approximately five case interviews per day. After RDS was installed, each claims representative could process only about three cases per day.

At the conclusion of our review, systems officials stated that because the RDS software has not performed as anticipated, SSA has entered into a contract with Booz-Allen and Hamilton to independently evaluate and

recommend options for proceeding with the development of RDS. In addition, SSA has delayed expanding the pilot by 9 months—from October 1997 to July 1998. This is expected to further delay SSA's national roll-out and implementation of RDS.[15] Moreover, because RDS is essential to identifying IWS/LAN phase II requirements, the Deputy Commissioner for Systems has stated that delaying the pilot will likely result in slippages in SSA's schedule for acquiring and implementing phase II equipment.

SSA Offices Reported Smooth Transition to IWS/LAN, but Network Management Concerns in State Offices Could Affect Service to the Public

Nationwide implementation of IWS/LAN is a complex logistical task for SSA, requiring coordination of site preparation (such as electrical wiring and cabling) in over 2,000 remote locations, contractor-supplied and installed furniture and intelligent workstation components, and training of over 70,000 employees in SSA and DDS locations. Moreover, once installed, these systems must be managed and maintained in a manner that ensures consistent and quality service to the public.

During our review, staff in the 11 SSA offices that we visited generally stated that they had not experienced any significant disruptions in their ability to serve the public during the installation and operation of IWS/LAN. They attributed the smooth transition to SSA's implementation of a well-defined strategy for conducting site preparations, equipment installations, and employee training. Part of that strategy required equipment installation and testing to be performed on weekends so that the IWS/LAN equipment would be operational by the start of business on Monday. In addition, staff were rotated through training and client service positions and augmented with staff borrowed from other field offices to maintain service to the public during the post-installation training period. Further, because the new workstations provide access to the same SSA mainframe software applications as did the old terminals and LAN equipment, staff were able to process their workloads in a similar manner as with the previous environment.

State DDSs generally were less satisfied with the installation and operation of IWS/LAN in their offices. Administrators and systems staff in the 10 DDS sites that we visited expressed concerns about the loss of network management and control over IWS/LAN operations in their offices and dissatisfaction with the service and technical support received from the contractor following the installation of IWS/LAN equipment.

[15]In September 1996, we reported that software development problems had delayed the scheduled implementation of RDS by more than 2 years. See Social Security Administration: Effective Leadership Needed to Meet Daunting Challenges (GAO/HEHS-96-196, September 12, 1996).

In particular, SSA initially planned to centrally manage the operation and maintenance of IWS/LAN equipment. However, DDS officials in 7 of the 10 offices expressed concern that with SSA managing their networks and operations, DDSs can no longer make changes or fixes to their equipment locally and instead, must rely on SSA for system changes or network maintenance. Eight of the 10 DDSs reported that under this arrangement, the IWS/LAN contractor had been untimely in responding to certain of their requests for service, resulting in disruptions to their operations. For example, a DDS official in one state told us that at the time of our discussion, she had been waiting for approximately 2 weeks for the IWS/LAN contractor to repair a hard disk drive in one of the office's workstations.

In January 1998, the National Council of Disability Determination Directors (NCDDD), which represents the state DDSs, wrote to SSA to express the collective concerns of the DDSs regarding SSA's plan to manage and control their IWS/LAN networks. NCDDD recommended that SSA pilot the IWS/LAN equipment in one or more DDS office to evaluate options for allowing the states more flexibility in managing their networks. It further proposed that IWS/LAN installations be delayed for states whose operations would be adversely affected by the loss of network control. At least one state DDS—Florida—refused to continue with the roll-out of IWS/LAN in its offices until this issue is resolved. Because IWS/LAN is expected to correct Year 2000 deficiencies in some states' hardware, however, NCDDD cautioned that delaying the installation of IWS/LAN could affect the states' progress in becoming Year 2000 compliant. At the conclusion of our review, the Deputy Commissioner for Systems told us that SSA had begun holding discussions with state officials in early March 1998 to identify options for addressing the states' concerns about the management of their networks under the IWS/LAN environment.

SSA Will Not Measure Benefits Derived From IWS/LAN

Federal legislation and OMB directives require agencies to manage major information technology acquisitions as investments. In implementing IWS/LAN, SSA has followed a number of practices that are consistent with these requirements, such as involving executive staff in the selection and management of the initiative and assessing the cost, benefits, and risks of the project to justify its acquisition. However, SSA's practices have fallen short of ensuring full and effective management of the investment in IWS/LAN because it did not include plans for measuring the project's actual contributions to improved mission performance.

Management Oversight and Analysis Supported IWS/LAN Implementation

According to the Clinger-Cohen Act and OMB guidance,[16] effective technology investment decision-making requires that processes be implemented and data collected to ensure that (1) project proposals are funded on the basis of management evaluations of costs, risks, and expected benefits to mission performance and (2) once funded, projects are controlled by examining costs, the development schedule, and actual versus expected results. These goals are accomplished by considering viable alternatives, preparing valid cost-benefit analyses, and having senior management consistently make data-driven decisions on major projects.

SSA followed an established process for acquiring IWS/LAN that met a number of these requirements. For example, senior management reviewed and approved the project's acquisition and has regularly monitored the progress of the initiative against competing priorities, projected costs, schedules, and resource availability.

SSA also conducted a cost-benefit analysis to justify its implementation of IWS/LAN. This analysis was based on comparisons of the time required to perform certain work tasks before and after the installation of IWS/LAN equipment in 10 SSA offices selected for a pilot study during January through June 1992. For example, the pilot tested the time savings attributed to SSA employees not having to walk from their desks or wait in line to use a shared personal computer. Based on the before and after time savings identified for each work task, SSA projected annual savings from IWS/LAN of 2,160 workyears that could be used to process growing workloads and improve service. In a review of the IWS/LAN initiative in 1994, the Office of Technology Assessment (OTA)[17] found SSA's cost-benefit analysis to be sufficient for justifying the acquisition of IWS/LAN.

SSA Is Not Using Key Performance Measures to Assess the Impact of IWS/LAN on Mission Performance

Although SSA followed certain essential practices for acquiring IWS/LAN, it has not yet implemented performance goals and measures to assess the impact of this investment on productivity and mission performance. Under the Clinger-Cohen Act, agencies are to establish performance measures to gauge how well their information technology supports program efforts and better link their information technology plans and usage to program missions and goals. Successful organizations rely heavily upon

[16]OMB Circular A-11 requires that planned information technology acquisitions be based on a cost-benefit analysis. Similarly, OMB Circular A-94 requires that decisions to initiate government projects be based on an analysis of expected life-cycle costs and benefits, and that alternative means of achieving program objectives be considered.

[17]The Social Security Administration's Decentralized Computer Strategy: Issues and Options (OTA-TCT-592, April 1994).

performance measures to operationalize mission goals and objectives, quantify problems, evaluate alternatives, allocate resources, track progress, and learn from mistakes.[18] Performance measures also help organizations determine whether their information systems projects are really making a difference, and whether that difference is worth the cost. The Clinger-Cohen Act also requires that large information technology projects be implemented incrementally and that each phase should be cost effective and provide mission-related benefits. It further requires that performance measures be established for each phase to determine whether expected benefits were actually achieved.

In our September 1994 report,[19] we noted that as part of an effort with the General Services Administration (GSA) to develop a "yardstick" to measure the benefits that IWS/LAN will provide the public,[20] SSA had initiated actions aimed at identifying cost and performance goals for IWS/LAN. SSA identified six categories of performance measures that could be used to determine the impact of IWS/LAN technology on service delivery goals and reengineering efforts.[21] It had planned to establish target productivity gains for each measure upon award of the IWS/LAN contract. GSA was to then use these measures to assess IWS/LAN's success.

As of March 1998, however, SSA had established neither the target goals to help link the performance measures to the agency's strategic objectives nor a process for using the measures to assess IWS/LAN's impact on agency productivity and mission performance. In addition, although the Clinger-Cohen Act and OMB guidance[22] state that agencies should perform retrospective evaluations after completing an information technology project, SSA officials told us that they do not plan to conduct a post-implementation review of the IWS/LAN project once it is fully

[18]Executive Guide: Improving Mission Performance Through Strategic Information Management and Technology (GAO/AIMD-94-115, May 1994).

[19]GAO/AIMD-94-143, September 19, 1994.

[20]This effort resulted from the National Performance Review, which required agencies to include performance measures on all information technology purchases of $100 million or more.

[21]These measures were (1) productivity benefits of baseline automation with IWS/LAN in the state DDSs (a computation of the DDS productivity gain by comparing pre-IWS/LAN baseline data with post-IWS/LAN implementation data), (2) SSA baseline automation savings generated by the implementation of IWS/LAN in SSA and Office of Hearing and Appeal field office components, (3) improvements in payment and service delivery accuracy resulting from use of the 800 Number Expert System and dial-in remote access via IWS/LAN, (4) number of IWS/LANs installed per month as compared to the IWS/LAN implementation schedule, (5) existing terminal redeployment and phase-out, and (6) contract cost and pricing.

[22]OMB Circular A-130, Section 8b(1).

implemented. According to the Director of the Information Technology Systems Review Staff,[23] SSA currently does not plan to use any of the measures to assess the project's impact on agency productivity and mission performance because (1) the measures had been developed to fulfill a specific GSA procurement requirement that no longer exists and (2) it believes the results of the pilots conducted in 1992 sufficiently demonstrated the savings that will be achieved with each IWS/LAN installation.

It is essential that SSA follow through with the implementation of a performance measurement process for each phase of the IWS/LAN effort. Measuring performance is necessary to show how this investment is contributing to the agency's goal of improving productivity. Among leading organizations that we have observed, managers use performance information to continuously improve organizational processes, identify performance gaps, and set improvement goals.[24] The performance problems that SSA has already encountered in piloting software on IWS/LAN make it even more critical for SSA to implement performance measures and conduct post-implementation reviews for each phase of this initiative.

SSA believes that the results of its pilot effort undertaken in 1992 to justify the acquisition of IWS/LAN sufficiently demonstrate that it will achieve its estimated workyear savings. However, the pilot results are not an acceptable substitute for determining the actual contribution of IWS/LAN to improved productivity. In particular, although the pilots assessed task savings for specific functions performed in each office, they did not demonstrate IWS/LAN's actual contribution to improved services gained through improvements in the accuracy of processing or improvements in processing times. In addition, OTA noted in its 1994 review[25] that the relatively small number of pilots may not have adequately tested all the potential problems that could arise when the equipment is deployed at all of SSA's sites.

[23]The Information Technology Systems Review Staff, within the Office of Finance, Assessment, and Management, performs independent reviews of proposed information technology projects for the Chief Information Officer. Its oversight objectives include ensuring that initiatives (1) are appropriately prioritized, priced, and timed, and are supportable and affordable, and (2) progress within the approved cost and schedule and result in systems that meet mission needs and provide anticipated benefits.

[24]Executive Guide: Effectively Implementing the Government Performance and Results Act (GAO/GGD-96-118, June 1996).

[25]OTA-TCT-592, April 1994.

Further, information gained from post-implementation reviews is critical for improving how the organization selects, manages, and uses its investment resources. Without a post-implementation review of each phase of the IWS/LAN project, SSA cannot validate projected savings, identify needed changes in systems development practices, and ascertain the overall effectiveness of each phase of this project in serving the public. Post-implementation reviews also serve as the basis for improving management practices and avoiding past mistakes.

Conclusions

SSA is relying on IWS/LAN to play a vital role in efforts to modernize its work processes and improve service delivery, and it has made good progress in implementing workstations and LANs that are a part of this effort. However, equipment availability and capability issues, problems in developing software that is to operate on the IWS/LAN workstations, and concerns among state DDSs that their equipment will not be adequately managed and serviced by SSA, threaten the continued progress and success of this initiative. Moreover, absent target goals and a defined process for measuring performance, SSA will not be able to determine whether its investment in each phase of IWS/LAN is yielding expected improvements in service to the public.

Recommendations

To strengthen SSA's management of its IWS/LAN investment, we recommend that the Commissioner of Social Security direct the Deputy Commissioner for Systems to

- immediately assess the adequacy of workstations specified in the IWS/LAN contract, and based on this assessment, determine (1) the number and capacity of workstations required to support the IWS/LAN initiative and (2) its impact on the IWS/LAN implementation schedule;
- work closely with state DDSs to promptly identify and resolve network management concerns and establish a strategy for ensuring the compliance of those states relying on IWS/LAN hardware for Year 2000 corrections;
- establish a formal oversight process for measuring the actual performance of each phase of IWS/LAN, including identifying the impact that each IWS/LAN phase has on mission performance and conducting post-implementation reviews of the IWS/LAN project once it is fully implemented.

Agency Comments and Our Evaluation

In commenting on a draft of this report, SSA generally agreed with the issues we identified and described actions that it is taking in response to our recommendations to resolve them. These actions include (1) determining remaining IWS/LAN workstation needs, (2) addressing state DDS network management concerns and related Year 2000 compliance issues, and (3) implementing a performance measurement strategy for the IWS/LAN initiative. These actions are important to the continued progress and success of the IWS/LAN initiative, and SSA must be diligent in ensuring that they are fully implemented.

In responding to our first recommendation to assess the adequacy of workstations specified in the IWS/LAN contract, SSA stated that it had determined the number of workstations required to complete the IWS/LAN implementation and was working on a procurement strategy and schedule for this effort. SSA also stated that its current tests do not show a need for workstations with a processing speed higher than 100 megahertz. The agency further noted that terms and conditions in the IWS/LAN contract will enable it to acquire a higher powered computer or other technology upgrades when the need arises.

As discussed earlier in our report, it is important that SSA have the necessary workstations to support its processing needs in the redesigned work environment. Therefore, as SSA continues its aggressive pace in implementing IWS/LAN, it should take all necessary steps to ensure that it has fully considered its functional requirements over the life of these workstations. Doing so is especially important since SSA has encountered problems and delays in completing tests of the RDS software that are vital to determining future IWS/LAN requirements.

Our second recommendation concerned SSA's working closely with state DDSs to identify and resolve network management concerns and establish a strategy for ensuring the compliance of those states relying on IWS/LAN hardware for Year 2000 corrections. SSA identified various actions, which if successfully implemented, could help resolve DDS concerns regarding network management and the maintenance of IWS/LAN equipment, and facilitate its efforts in becoming Year 2000 compliant.

In responding to our final recommendation that it establish a formal oversight process for measuring the actual performance of each phase of IWS/LAN, SSA agreed that performance goals and measures should be prescribed to determine how well information technology investments support its programs and provide expected results. SSA stated that it is

determining whether expected benefits are being realized from IWS/LAN installations through in-process and postimplementation assessments. SSA further noted that its planning and budgeting process ensures that it regularly assesses the impact of IWS/LAN on agency productivity and mission performance.

However, during the course of our review, SSA could not provide specific information to show how its planning and budgeting process and data on workyear savings resulting from IWS/LAN installations were being used to assess the project's actual contributions to improved productivity and mission performance. In addition, two of the three measures that SSA identified in its response—the number of IWS/LANs installed per month and existing terminal redeployment and phase-out—provide information that is more useful for assessing the progress of SSA's IWS/LAN installations and existing terminal redeployment efforts.

To ensure that its investments are sound, it is crucial that SSA develop measures to assess mission-related benefits, and use them in making project decisions. We will continue to monitor SSA's efforts in assessing the benefits of IWS/LAN installations through its in-process and postimplementation assessments and its planning and budgeting process.

We are sending copies of this report to the Commissioner of Social Security; the Director of the Office of Management and Budget; appropriate congressional committees; and other interested parties. Copies will also be made available to others upon request.

Please contact me at (202) 512-6253 or by e-mail at *willemssenj.aimd@gao.gov* if you have any questions concerning this report. Major contributors to this report are listed in appendix II.

Sincerely yours,

Joel C. Willemssen
Director, Civil Agencies Information Systems

Contents

Abbreviations

DDS	Disability Determination Service
GAO	General Accounting Office
GSA	General Services Administration
IWS/LAN	Intelligent Workstation/Local Area Network
LAN	Local Area Network
NCDDD	National Council of Disability Determination Directors
OMB	Office of Management and Budget
OTA	Office of Technology Assessment
RDS	Reengineered Disability System
SSA	Social Security Administration

Comments From the Social Security Administration

SOCIAL SECURITY
Office of the Commissioner

June 1, 1998

Mr. Gene L. Dodaro
Assistant Comptroller General
Accounting and Information
  Management Division
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Dodaro:

Thank you for the opportunity to review the draft report, "Social Security Administration: Technical and Performance Challenges Threaten Progress of Modernization" (GAO/AIMD-98-136). Our comments on your report are enclosed. If you have any questions, please call me or have you staff contact Mark Welch at (410) 965-0374.

Sincerely,

Kenneth S. Apfel

Kenneth S. Apfel
Commissioner
  of Social Security

Enclosure

SOCIAL SECURITY ADMINISTRATION BALTIMORE MD 21235-0001

COMMENTS OF THE SOCIAL SECURITY ADMINISTRATION (SSA) ON THE GENERAL ACCOUNTING OFFICE (GAO) DRAFT REPORT, "SOCIAL SECURITY ADMINISTRATION: TECHNICAL AND PERFORMANCE CHALLENGES THREATEN PROGRESS OF MODERNIZATION" (GAO/AIMD-98-136)

Thank you for the opportunity to comment on your draft report. We appreciate that the information reflects favorably on SSA's implementation of intelligent work station/local area network (IWS/LAN) infrastructure. SSA has met its implementation schedule through March 1998, offices are making a smooth transition to IWS/LAN and the decision to invest in IWS/LAN has been supported by cost/benefit analysis and project piloting.

We acknowledge that issues remain to be resolved, and GAO has generally identified these issues in the report; i.e., the Disability Determination Services' (DDS) concerns and continuing technology assessment. We do not consider these issues insurmountable.

Our comments on the specific GAO recommendations follow.

GAO Recommendation

Immediately assess the future availability and adequacy of workstations specified in the IWS/LAN contract, and based on this assessment, determine (1) the number and capacity of workstations required to support the IWS/LAN initiative and (2) its impact on the IWS/LAN implementation schedule.

SSA Comment

Our Office of Systems, the Office of Telecommunications and Systems Operations (OTSO) has determined the number of workstations required to complete the IWS/LAN implementations across SSA. OTSO is also working with the Office of Acquisition and Grants (Office of Finance, Assessment and Management) on the procurement strategy and schedule, including the preparation of contingency plans.

SSA's National IWS/LAN contract incorporates a technology substitution clause in lieu of a technology refreshment clause, allowing the contractor to substitute products when such products "may have become unavailable due to the Government's requirement for equipment and software deliveries to extend over several

years, perhaps exceeding the technological life of the products provided." Two important provisions of SSA's technology substitution clause are as follows:

- The clause requires that the product substituted shall meet or exceed the specifications of the product previously supplied or the mandatory technical requirements of the contract, whichever is greater; and

- The clause requires that the cost of the product substituted shall be equal to or lower than the cost of the originally proposed product that is incorporated in the contract.

SSA's technology acquisition strategy is driven by an analysis of business processes that must be automated rather than the technology that happens to be available. SSA's IWS/LAN computing network architecture provides the flexibility to selectively enhance its technical capabilities to meet new requirements. SSA has the contractual ability to "refresh" technology in the event that current contract deliverables do not satisfy an associated need.

SSA continually evaluates the performance of workstations and servers that support redesigned work processes and other client/server applications being developed. At this time, tests performed in SSA's Network Engineering and Test Facility do not show that the 100 MHZ Central Processing Unit (CPU) in the workstation is a limiting factor in the performance of applications under development. SSA officials are aware of the terms and conditions of the IWS/LAN contract and understand that, if and when a business need arises, a higher powered computer can be acquired (or other technology upgraded) under the scope of the contract.

GAO Recommendation

Work closely with state DDSs to promptly identify and resolve network management concerns and establish a strategy for ensuring the compliance of those states relying on IWS/LAN hardware for Year 2000 corrections.

SSA Comment

The Associate Commissioner for OTSO and his staff have been working with the DDS Infrastructure Committee to identify and resolve network management concerns. A conference was held in

March 1998 in Austin, Texas, to address DDS automation issues, and a followup meeting was held in early May 1998. In addition, the Office of Systems Requirements' DDS Year 2000 Team (Office of Systems) has identified the equipment that is not Year 2000 compliant in each DDS and is working with OTSO, the Office of Automation Support (Office of Operations) and the Office of Disability (Office of Disability and Security Income Programs) to develop a strategy that effectively utilizes existing procurement vehicles, such as the IWS/LAN contract and the Open Systems Sciences Blanket Purchase Agreement to address these needs in a timely manner.

As we have reported to the Office of Management and Budget and the House Subcommittee on Government Management, Information and Technology, SSA is making good progress with regard to the Year 2000 problem. We are on schedule to meet our commitment to make all mission-critical systems Year 2000 compliant by the end of the calendar year.

GAO Recommendation

Establish a formal oversight process for measuring the actual performance of each phase of IWS/LAN, including identifying the impact that each IWS/LAN phase has on mission performance and conducting postimplementation reviews of the IWS/LAN project once it is fully implemented.

SSA Comment

SSA has had key elements of the Clinger-Cohen Act's provisions for information technology management in operation for many years. Under the direction of the Agency's Principal Deputy Commissioner/Chief Information Officer, SSA is more fully implementing a formal oversight process for the full life cycle of information technology investments, including post-implementation reviews, with its Target Investment Review Process.

We agree that performance goals and measures should be prescribed to determine how well information technology investments support the programs we administer and that SSA should determine whether investments provide the expected results. The strategy that we are following for the IWS/LAN initiative fulfills these objectives.

The Agency's investment decision for IWS/LAN Phase I was based on the ability of this computing network to (1) replace obsolete terminal equipment critical for service delivery, (2) provide productivity improvements with basic, immediately available office automation capabilities that more than pay for the IWS/LANs, and (3) establish a technology infrastructure that facilitates additional business process improvements to further reduce costs and improve service. The IWS/LAN Phase I investment establishes a technology infrastructure that is needed to support basic service delivery for all of the programs that SSA administers. Performance goals and measures have been established for the IWS/LAN Phase I initiative and the Agency is determining whether expected benefits are realized through in-process and postimplementation assessments.

These performance goals and measures address items such as the number of IWS/LANs installed per month, existing terminal redeployment and phase-out, and workyear savings resulting from IWS/LAN installations. Through the Agency's planning and budgeting process, the workyear savings resulting from IWS/LAN Phase I will be used to meet the Agency's mission priorities, performance objectives and staffing requirements.

In addition, SSA's planning and budgeting process ensures that the Agency regularly assesses the impact of IWS/LAN and other initiatives on the Agency's productivity and mission performance. SSA's planning and budgeting process establishes the Agency's goals and objectives and defines the resources needed for their attainment. As part of this process, assessments of changes in Agency productivity, service delivery and workloads as well as the impact of automation, policy and process changes are made. This process identifies the integrated impact of the Agency's improvement initiatives, reveals problems with the performance of improvement initiatives and ensures that productivity savings from initiatives such as IWS/LAN Phase I are applied to the Agency's mission priorities, performance objectives and staffing requirements. IWS/LAN Phase I is expected to provide savings of about 2,400 Federal and State workyears annually by FY 2000. These productivity savings are reflected in SSA's budget.

Major Contributors to This Report

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