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STATEMENT OF
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BEFORE THE
SUBCOMMITTEE ON LEGISLATION AND NATIONAL SECURITY
COMMITTEE ON GOVERNMENT OPERATIONS
HOUSE OF REPRESENTATIVES
ON
AUTOMATIC DATA PROCESSING PROBLEMS AT
THE SOCIAL SECURITY ADMINISTRATION

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Mr. Chairman and Members of the Subcommittee, we are here today to discuss our audit work directed at evaluating automatic data processing (ADP) activities at the Social Security Administration (SSA).

SSA's primary responsibility in administering its benefit programs is providing prompt and meaningful service—including timely and accurate benefit payments—to the public. In fiscal year 1982 SSA is expected to pay more than \$170 billion in program benefits to more than 50 million beneficiaries. These benefit programs generate a huge automated record-keeping workload, much of which is processed on 16 large-scale ADP systems and a number of medium-to-small-scale special-purpose computers centrally located at agency headquarters.

SSA uses these systems to carry out most of its basic responsibilities and program functions—such as maintaining hundreds of millions of Social Security records including social security numbers, master payment records, and life-time earnings records. The agency also maintains a nationwide telecommunications network to permit rapid data exchange between field offices, program service centers, and headquarters, thereby speeding claims processing and benefit records updating. SSA employs about 2,000 personnel to maintain and operate these systems and spends substantial additional sums—more than \$123 million budgeted for fiscal year 1982—for ADP and telecommunications equipment acquisitions, supplies, and contractual services.

We in GAO have had a long and continuing interest in SSA's ADP activities because of the importance these activities play in SSA's ability to provide timely and accurate service to the American public. Over the past 8 years we have undertaken major efforts to identify

weaknesses in SSA's systems and point out improvements needed in the agency's ADP planning and management. Our testimony today draws heavily on the results of this past work at SSA in these areas as well as our more recent work performed at your request. I might add, Mr. Chairman, that our report to you summarizing this work will be issued shortly.

Since 1974, we have identified four general categories of long-standing ADP system weaknesses at SSA: (1) inadequate ADP-related planning, (2) deficiencies in system development and software which result in erroneous processing, (3) problems in acquiring and effectively using computer hardware, and (4) difficulties in providing adequate privacy protection and security for systems components and personal beneficiary records. We believe these weaknesses are largely responsible for the very serious ADP problems SSA is currently experiencing. Thus, our testimony will focus on these ADP systems weaknesses and what needs to be done to address them. First, however, we would like to briefly present our perspective of the ADP problems at SSA.

CURRENT ADP PROBLEMS AT SSA

SSA's ADP systems are generally inefficient and ineffective. Further, SSA has limited resources (in terms of efficient software, hardware capacity, and competent systems personnel) available to maintain current systems and bring about needed improvements. How it allocates these limited resources places the agency on the horns of a dilemma. Should it continue to allocate most of these resources toward making patchwork changes to maintain its existing systems or should it allocate these same limited resources toward achieving a much-needed complete overhaul of its ADP systems? The dilemma is further complicated by recently-enacted legislation

that SSA considers to be of the highest priority. This legislation requires immediate and extensive use of systems resources.

For example, one provision of the Omnibus Reconciliation Act of 1981 eliminates the minimum Social Security benefit for all current and future beneficiaries. SSA estimates that this change will not only cost about \$150 million for manual implementation, but also consume about 1,200 hours of computer time. These computer requirements will severely restrict SSA's ability to carry out (1) basic program requirements, such as posting of earnings to individual wage earners' accounts—which is already far behind schedule and (2) major efforts to improve system operations and computer security, such as relocating its central computer facility to its new computer building.

If SSA continues to use patchwork solutions to respond to program changes, then computer processing problems will continue to grow and no long-term solution will be achieved. Failure to overhaul its systems will result in continued and ever-increasing systems problems—both automated and manual—which will further decrease SSA's ability to provide timely and accurate service to the American public.

How successful SSA is in addressing these problems will depend on the practicality of the solutions it develops, its success in implementing them quickly and effectively, and, to a large measure, the support it receives from the Executive and Legislative branches of government.

INADEQUATE PLANNING AT SSA IS
A MAJOR CAUSE OF ADP PROBLEMS

In September 1979, we reported that SSA's 1979 structural reorganization did not provide for the continuation of comprehensive long-range planning—

a prerequisite to effective strategic ADP planning. Such planning in SSA is essential because the agency needs to establish long-range goals and objectives to respond to future program needs and service level requirements and to help design ADP systems that can support future as well as present agency operations. Prior to the 1979 reorganization such long-range planning had been performed by a component SSA had established in response to a report we issued in 1974. In our 1979 report we again recommended that SSA assign this planning responsibility to a separate component reporting directly to the Commissioner. The Department of Health and Human Services (HHS) and SSA acknowledged the need for continuing long-range planning, but indicated that the agency would accomplish such continuation through the planning efforts of various existing functional components, possibly supplemented by a strategic planning group composed of key top-level agency managers.

We subsequently learned that SSA's current Commissioner was about to decide how the agency's planning process should be structured. He was considering approval of a proposal to place primary planning responsibility within an existing agency component also responsible for other activities. Because we believed the planning function should be structurally located at a higher level and separated from other daily agency operations, we issued a report to the Commissioner in early July 1981 recommending changes to that proposed process in line with our earlier recommendations and those of a planning consultant SSA had hired. To date, SSA has not made a decision on how to structure its planning process, and a comprehensive long-range agency plan upon which to base SSA's strategic ADP planning efforts has still to be developed.

SSA has also failed to properly plan specific ADP and telecommunications projects. For example, we reviewed SSA's plan to upgrade its telecommunications system, as you specifically requested, Mr. Chairman. This plan called for SSA to acquire non-programmable terminals, an action which would have constrained the telecommunications system to its current archaic method of operation, with processing improvements possible only by hardware expansion at intermediary concentrator sites or at the central computer facility. Thus, SSA would not have met one of its major upgrade goals—future system flexibility. We recommended that SSA revise its plan and acquire programmable terminals. This added flexibility, which SSA has now provided for by revising its plan, should enable the agency to save millions in field office staff costs and provide better service to the public by automating certain manual operations in field offices. For example, since revising its plan, SSA has identified 10 proposed applications which could be processed locally by programmable terminals. Initial SSA estimates for automating four of these applications have identified a tangible reduction in field office personnel costs equalling 1123 workyears per year beginning in fiscal year 1984—representing over \$133 million in savings over the system life. These savings would not have been attainable under SSA's original upgrade plan, and could have subsequently been achieved only through further equipment acquisitions requiring substantial additional expenditures of time and money.

SYSTEM DEVELOPMENT AND
SOFTWARE DEFICIENCIES

Our numerous reviews of the Supplemental Security Income (SSI) program over the last several years—aimed at reducing erroneous SSI payments as

well as simplifying program administration—have concentrated on the automated SSI system. During these reviews we have identified deficiencies in system development and software which have caused substantial erroneous SSI payments. We have subsequently identified similar problems in the other major automated payment system maintained by the agency—the Retirement, Survivors, and Disability Insurance (RSDI) system—which resulted in many social security beneficiaries receiving incorrect benefit payments and confusing payment notices. We have made numerous recommendations for reducing these deficiencies in SSA's automated systems, but the agency has generally been slow to implement them.

Regarding system development deficiencies common to both the SSI and RSDI computerized systems, we noted that:

- SSA had not established a system development life cycle methodology for designing, developing, and modifying its computer systems.
- Validations of new systems and modifications to existing systems were not made prior to implementation.
- Program and system modifications were not controlled so that adequate validations could be performed.
- Field office users' needs were not solicited as the basis for new systems or modifications to existing systems.
- HHS auditors had neither participated in nor reviewed system design, development, and modification processes at SSA, and had not reviewed automated controls in existing SSA computerized systems.

Regarding software deficiencies, our work has shown that SSA needs to be more conscious of the need to establish effective automated controls in its ADP systems. In August 1979 we reported that internal control weaknesses over the SSI computerized system had resulted in

over \$25 million in erroneous benefit payments to SSI recipients. We estimated that about \$20 million of the erroneous payments occurred because of inadequate controls in the automated data exchange between the RSDI and SSI computerized systems. We also estimated that over \$5 million of the erroneous payments occurred because of inadequate controls over the process by which field office personnel manually calculate benefit payment amounts and use system overrides to bypass automated controls and payment calculations.

In October 1979 we reported that SSA had not properly developed and maintained computer program and system documentation for the SSI computerized system, and we recommended that SSA use existing program and system documentation standards and procedures developed by the National Bureau of Standards to guide documentation efforts. Since 1971, at least five other organizations have reported to agency management on the lack of adequate program and system documentation at SSA. Current, accurate documentation of all SSA programs and systems should be an integral part of the system design, development, and modification process. Good documentation is critical because it

- provides the primary communications channels among programmers and analysts, system validators, users, auditors, and other management;
- increases the ease and accuracy of computer program maintenance; and
- provides for a continuity of programming/analysis support in the event of personnel turnover.

Without proper documentation, it is difficult to understand how the system is actually operating and how the system will react to program modifications. Thus, modifying existing SSA systems, already a problem

because of these documentation deficiencies, becomes even more difficult in view of the serious shortages of experienced systems personnel, as recently described by SSA. Consequently, it will probably be many months before SSA can make program modifications quickly, effectively, and economically.

PROBLEMS IN ACQUIRING AND EFFECTIVELY
USING COMPUTER HARDWARE

As just described, Mr. Chairman, our work has identified serious weaknesses at SSA in agency planning and in system and software development. SSA has employed a crisis management approach to deal with these weaknesses. One element of this approach, in our view, has been the use of sole-source and limited competition equipment acquisitions to speed up the ADP procurement process.

Although Federal procurement regulations require agencies to use competitive procurement procedures in acquiring ADP resources, SSA has a history of acquiring large-scale computer systems through sole-source (make and model number) or limited competition (brand name or equal) acquisitions. In this regard, SSA's practice has been to acquire IBM computer systems and to express requirements in terms that limit competition to IBM or IBM-compatible equipment. As it turns out, 22 of SSA's 25 large-scale computers are IBM equipment. The reason SSA has cited for continuing IBM-compatible acquisitions has been that acquiring non-compatible computers would require large software conversion costs and application system redesigns. It appears, however, that SSA has used the conversion cost issue in the past to avoid pursuing competitive equipment acquisitions. In our view, proper planning and software development could have helped

provide for systems redesigns that would minimize conversion costs, thus making competitive equipment acquisitions more attractive to SSA.

We believe that determining how to increase SSA's existing computer capacity depends to a great extent on how efficiently SSA uses its existing equipment. This question has been the subject of long and continuous debate. In 1976, for example, we found strong indications that certain agency computer systems were significantly underused, and we noted that poor operating practices and procedures were causing this apparent underuse. As a result, SSA hired the MITRE Corporation to study agency computer usage patterns and practices in detail so that actual agency computer needs could be determined. MITRE made a number of recommendations, some of which dealt with ways to improve the use of existing equipment. SSA has recently indicated that our work and MITRE's was useful when originally performed, but that it has very little relevancy to the agency's current ADP capacity problems. While we have not performed additional detailed analyses of SSA's use of its existing equipment since our work in 1976, we have noted that during a much more recent computer performance review of one of SSA's large-scale computer systems, the Federal Computer Performance Evaluation and Simulation Center identified equipment configuration problems which were causing substantial amounts of ADP capacity to be wasted. It is currently unclear whether the agency's other large-scale systems may similarly have such problems, but we believe that, when considering alternatives for increasing total computer capacity, SSA should closely examine the potential for reconfiguring existing equipment to recover such wasted capacity.

DIFFICULTIES IN PROVIDING ADEQUATE
PRIVACY PROTECTION AND SECURITY

Our reviews of SSA's records and systems security procedures indicate that better controls—both manual and automated—are needed to prevent program abuse and malicious acts of violence resulting from unauthorized access to agency facilities, records, and payment systems. Since 1976 we have periodically reviewed the procedures and practices SSA uses to protect its records and systems.

During our 1976 review of SSA's central computer facility needs, we identified significant physical security weaknesses within the agency's central computer complex in Baltimore, Maryland, and we reported these deficiencies in May 1976. We recommended that SSA perform a security risk analysis for the facility, and pointed out past inconsistencies in the agency's view towards security.

In February 1978 we again reported on security problems at SSA's central computer facility. We found that although the agency had spent about \$500,000 to install a new security system, the central computer facility was still not secure. Unauthorized personnel could have access to the computer room and tape vault. Magnetic tapes, disk packs, and other property could be removed without proper authorization, and blank and valid Social Security cards could be easily taken from the computer facility. Adequate security procedures had not been established, and SSA had not made an in-depth study of its computer security needs with respect to the central facility, as we had previously recommended.

In June 1978 we reported the results of our review of security procedures used to protect beneficiary records at SSA field offices.

We found that better controls—both manual and automated—were needed within these offices to prevent unauthorized access to SSA's telecommunications system. Specifically, we found that records maintained in automated data banks and files were not properly safeguarded against alteration, destruction, abuse, or misuse, and that SSA did not have an ongoing centrally directed program to protect its records. We noted that there was unlimited and unrestricted access to telecommunications terminals and that users could create as well as query beneficiary files from most terminals. We further found that SSA failed to (1) use audit trail features within the system, (2) incorporate user identification control techniques within the system, and (3) always lock terminals during non-working hours. As a result of these security deficiencies SSA had experienced instances of employee fraud and abuse.

SSA systems operations continue to be subjected to privacy protection and security weaknesses. For example, during the past year the Department's Audit Agency has issued four reports on privacy protection and security problems at SSA. In addition, SSA has recently been processing backlogged production work—including beneficiary earnings data—in its new computer center. The automated security system for the new building, however, is not yet operational, and actual construction—including completion of the lobby, which is very important to overall security of the new building—is still underway, rendering the new computer center less secure at this point than the current facility, in the opinion of an SSA systems security official.

SSA has continued to emphasize improved physical security as one of the primary benefits associated with relocating agency computer operations

to the new building. The agency expects the new computer center to provide a more secure ADP environment primarily because of its automated security system. However, as we noted in one of our 1976 reports, the competency and reliability of personnel working in an ADP installation is the key to effective security, and personnel incompetency and carelessness cannot be eliminated at SSA simply by relocating the entire computer operation to the secure environment of the new building. For example, during tours of the new center in June and August 1981 we observed indications of inadequate security awareness in certain personnel already working there. Such awareness should have been especially keen since SSA was conducting ADP operations in the new center even though the automated security system was not operational.

WHAT MUST BE DONE TO SOLVE
SSA'S ADP PROBLEMS AND
PREVENT THEIR RECURRENCE?

Our work has shown that the magnitude, complexity, and recurring nature of SSA's ADP systems weaknesses have culminated in the agency's current systems problems. Solving these problems will require implementation of a comprehensive corrective action plan, and SSA has begun working on one. This plan, as described by the Commissioner during his May 1981 testimony before the House Ways and Means Subcommittees on Oversight and Social Security, includes a number of short-term agency actions designed to help lessen the software, hardware, and personnel problems currently plaguing SSA's ADP systems and operations. Among these actions are:

- Undertaking a more disciplined, structured approach to documenting computer software.
- Proceeding with the nationwide telecommunications network upgrade.

- Continuing the purchase of more computer memory capacity.
- Exploring innovative but acceptable ways of further augmenting computer capacity to process current as well as future workloads. Among the alternatives under consideration by SSA were (1) acquisition of additional computers; (2) leasing of computer time from commercial sources or other Government computer centers; and (3) adopting a plan under which SSA would release its older, less efficient large-scale computers and retain the three IBM 370/168 computer systems acquired specifically for relocating the agency's ADP operations to its new computer center building.
- Conducting computer programmer training classes for selected agency employees and stepping up efforts to recruit critically needed systems personnel.
- Proceeding with the relocation of SSA ADP operations to the new computer building.

In addition, the Commissioner indicated SSA's intent to develop a longer-term strategy for solving its hardware capacity and software design problems. This effort is to include

- a reassessment of SSA's current procurement strategy to ensure that the approach ultimately adopted by the agency (1) will promote cost-effective solutions to long-term systems problems, (2) takes maximum advantage of technological advances, (3) permits adequate time for redesigning the agency's software to attain a more efficient software and hardware design, and (4) encourages competition;
- identification of the resources required to maintain SSA's current systems as well as those needed to redesign them, with the purpose of making definitive resource allocations to each of these two activities; and
- a reexamination of SSA's total planning process.

At the time of his testimony the Commissioner hoped to have this plan completed within 6 months. As of early September the agency had almost completed the initial draft of a general plan, according to systems personnel. This plan, which apparently will address many of the

weaknesses we have identified in our prior reports, is to serve as the basis for a number of more detailed sub-plans directed at specific problem areas. In our view, these sub-plans should provide for prompt and full implementation of all applicable recommendations for improving SSA's systems, as presented in our prior reports and numerous studies by other organizations. If properly developed and implemented, this course of action should go a long way toward putting SSA's systems on the road to recovery. Developing effective plans and then making them work, however, is a monumental task which will require considerably better overall ADP planning and management than SSA has demonstrated in the past. To succeed SSA will need support and assistance from Executive agencies—such as OMB, HHS, GSA, and OPM—as well as the Congress. To ensure the assistance and support of the Congress, we believe periodic congressional oversight of SSA's efforts to develop and implement its corrective action plan would enhance the likelihood of the agency's success.

Mr. Chairman, this concludes our statement. We would be happy to answer any questions you or other Members may have.