

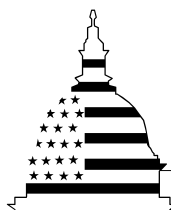
GAO

Report to the Chairman, Subcommittee
on Social Security, Committee on Ways
and Means, House of Representatives

August 2001

INFORMATION
TECHNOLOGY
MANAGEMENT

Social Security
Administration
Practices Can Be
Improved



G A O

Accountability * Integrity * Reliability



United States General Accounting Office
Washington, D.C. 20548

August 21, 2001

The Honorable Clay Shaw
Chairman, Subcommittee on Social Security
Committee on Ways and Means
House of Representatives

Dear Mr. Chairman:

As the Social Security Administration (SSA) strives to meet its future challenge of delivering high-quality customer service in the face of increases in both workloads and in the number of retirements of its experienced workforce, it needs to identify strengths and weaknesses with its agencywide operational and managerial capabilities. Evaluating SSA's management of information technology (IT) is a critical part of efforts to assess whether the agency is adequately addressing these capabilities. As you requested, our objective was to evaluate SSA's IT policies, procedures, and practices in the areas of investment management, enterprise architecture, software acquisition and development, information security, and human capital. These five areas encompass major IT management functions and are recognized by the industry as having substantial influence over the effectiveness of an organization's operations.

To address this objective, we reviewed SSA's policies and procedures in each of the five key areas and compared them against applicable laws, federal guidelines, and industry standards. We also reviewed selected IT projects and activities to help determine if SSA's practices were consistent with its own policies and procedures, as well as with federal and industry standards. For each IT area we reviewed, we depicted our evaluation results and judgments on the current state of SSA's policies, procedures, and practices by using three broad indicators. We performed our work from January through June 2001, in accordance with generally accepted government auditing standards.

On July 9, 2001, we provided a detailed briefing to your office on the results of this work. The briefing slides are included as appendix I. The purpose of this letter is to provide the published briefing slides to you and to officially transmit our recommendations to the Acting Commissioner of Social Security.

In brief, we reported that SSA had many important IT management policies and procedures in place in each of the five areas, but did not always

implement them consistently. In some areas, SSA had not established certain key policies, procedures, or practices, essential to ensuring that its IT is effectively managed. We noted weaknesses in all of the five key areas of IT management—particularly in investment management and human capital management—and are making numerous recommendations to the Acting Commissioner of Social Security to address these weaknesses. The Acting Commissioner has agreed with our recommendations.

Recommendations for Executive Action

To improve SSA's IT management practices, we recommend that the Acting Commissioner of Social Security direct the Chief Information Officer and the Deputy Commissioner for Systems to complete the following actions:

In the investment management area,

- develop and implement a process guide that establishes the policies, procedures, and key criteria for conducting the IT investment management process and guiding executive staff operations;
- develop and maintain selection criteria that include explicit cost, benefit, schedule, and risk criteria to facilitate the objective analysis, comparison, prioritization, and selection of IT investments;
- analyze and prioritize all IT investments based on the predefined selection criteria and make selection decisions according to the established process;
- establish and annually review cost, benefit, schedule, and risk life-cycle expectations for each selected investment;
- revise the IT oversight process so that the executive staff oversees the comparison of actual cost, benefit, schedule, and risk data with original estimates for all investments to determine whether they are proceeding as expected and, if not, to take corrective actions as appropriate;
- regularly perform post-implementation reviews of IT investments and develop lessons learned from the process;
- develop, manage, and regularly evaluate the performance of a comprehensive IT investment portfolio containing detailed and summary information (including data on costs, benefits, schedules, and risks) for all IT investments; and
- implement investment process benchmarking so that measurable improvements may be made to agency IT investment management processes based on those used by best-in-class organizations.

In the enterprise architecture area,

- establish milestones for and complete key elements of SSA's enterprisewide architecture, including (1) finalizing its framework, (2) updating and organizing its architectures and architecture definitions under the framework, and (3) reflecting its future service delivery vision and e-business goals; and
- effectively implement change management and legacy system integration policies, procedures, and processes across the agency, and set target dates for full implementation of these maintenance processes.

In the area of software development,

- consistently apply the requirements management, project planning, project tracking and oversight, quality assurance, and configuration management policies and procedures developed by the software process improvement program across all software development efforts; and
- develop and implement a procedure to grant waivers to software development projects when deviations from policies and procedures occur.

In the information security area,

- strengthen the entitywide security framework by completing policy/risk models and technical system standards (security settings) for SSA's major systems platforms;
- develop monitoring techniques and corrective actions for noncompliance for the major systems platforms; and
- use the platform security settings to strengthen security for each application utilizing these platforms.

In the human capital area,

- complete an assessment of the Office of Systems' current and future IT knowledge and skill needs;
- develop and maintain an inventory of the Office of Systems' current IT staff's knowledge and skills;
- determine whether a gap exists between current and future IT staff requirements and current staffing;
- implement workforce strategies that support the results of this gap analysis; and

-
- analyze and document the effectiveness of its strategies for recruiting, training, and retaining IT personnel, and use these results to continuously improve its IT human capital strategies.

Agency Comments and Our Evaluation

In providing written comments on a draft of our briefing, the Acting Commissioner agreed with all of our recommendations and identified various actions that SSA has planned or undertaken to address them. SSA also offered updated information and suggestions for revising several specific areas of our briefing, which we have incorporated where appropriate.

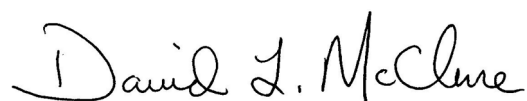
Concerning our evaluation of its information security performance, SSA stated that it has now completed the development of policy/risk models and technical system standards for its major system platforms and suggested that we change our assessment of its performance in five information security areas. We are encouraged that SSA has reported completing its policy/risk models and technical system standards; adherence to sound models and standards should strengthen the security of its major platforms and information systems environment. However, because these models and standards were finalized after the completion of our review, we have not had an opportunity to verify their implementation and cannot, therefore, change our assessment at this time. Appendix II contains the full text of SSA's comments and suggested revisions.

As agreed with your office, unless you publicly announce the contents of this report earlier, we plan no further distribution until 30 days from the date of this letter. At that time, we will provide copies to the Acting Commissioner of Social Security and to the Director, Office of Management and Budget, as well as to other interested parties. Copies will also be available at our Web site at www.gao.gov.

Should you or your office have any questions concerning this report, please contact me at (202) 512-6257, or Valerie Melvin, Assistant Director, at (202) 512-6304. We can also be reached by e-mail at mcclured@gao.gov and melvinv@gao.gov, respectively. Individuals making key contributions to the

briefing and this report were Michael Alexander, Yvette R. Banks, Nabajyoti Barkakati, John Christian, Lester Diamond, Thomas F. Noone, Madhav Panwar, Elizabeth Roach, and Marcia Washington.

Sincerely yours,

A handwritten signature in black ink that reads "David L. McClure". The signature is written in a cursive style with a large, prominent 'D' at the beginning.

David L. McClure
Director, Information Technology Management Issues

GAO's July 9, 2001, Briefing



Social Security Administration's Management of Information Technology

**Briefing for the Subcommittee on Social Security,
Committee on Ways and Means, House of Representatives**

July 9, 2001



Purpose and Outline

Briefing purpose:

To present the results of our review and analysis of the Social Security Administration's (SSA) management of information technology (IT)

Briefing outline:

Slide:

Objective, Scope, and Methodology	3
SSA's IT Profile	4
SSA's IT Policies, Procedures, and Practices	12
• Investment Management	16
• Enterprise Architecture	36
• Software Acquisition and Development	46
• Information Security	55
• Human Capital	66



Objective, Scope, and Methodology

Objective

- To evaluate SSA's information technology policies, procedures, and practices in the areas of investment management, enterprise architecture, software acquisition and development, information security, and human capital.

Scope and Methodology

- We reviewed SSA's IT policies and procedures for investment management, architecture, software acquisition and development, information security, and human capital, and compared them with applicable laws and regulations, federal guidelines, and industry standards.
- We reviewed selected IT projects and activities to determine if practices complied with SSA's policies and procedures and industry standards, and sought work products documenting these practices, where applicable. The selected projects represent a mix of IT projects of various costs and durations. We also reviewed activities related to SSA's current investments.
- Information on SSA's IT profile is as reported by the agency; we have not independently validated the accuracy of this information.
- We conducted the review at SSA headquarters in Baltimore, MD. We conducted our work from January through June 2001, in accordance with generally accepted government auditing standards.
- We obtained comments from SSA on a draft of this briefing.



IT Profile SSA Mission and Programs

SSA's mission is to promote the economic security of our nation's people through compassionate and vigilant leadership in shaping and managing America's Social Security programs. SSA administers three major federal programs:

- Old Age and Survivors Insurance (OASI) and Disability Insurance (DI) - together commonly known as Social Security, these programs provide benefits to retired and disabled workers and their dependents and survivors.
 - About 45 million people receive Social Security benefits
 - Benefits under these programs total about \$33 billion each month
- Supplemental Security Income (SSI) - a means-tested program that pays monthly checks to people who have limited assets and income, and who are 65 or older, blind, or disabled.
 - About 6.6 million people receive SSI benefits
 - Benefits under the program total about \$2.7 billion each month



IT Profile IT Environment

For FY 2001, SSA estimates that it will spend about \$741 million on IT systems and projects

- 548 operational systems and projects, totaling about \$517 million (70 percent of the IT budget)
- 265 system acquisition or development projects, totaling about \$224 million (30 percent of the IT budget)
 - SSA identified 10 major IT initiatives in its Capital Asset Plan and Justification for the FY 2001 budget--representing about 16.2 percent of the FY 2001 IT budget (including workyears).



IT Profile
IT Environment (continued)

Estimated costs for major IT initiatives for FY 2001 (dollars in millions)

MAJOR IT INITIATIVES	Estimated FY 2001 Budget	Estimated Total Life Cycle Costs¹
Financial Accounting System (FACTS)	\$19.0	\$107.0
Managerial Cost Accounting System (MCAS)	\$2.0	\$8.0
National 800 Number Call Center Solution	\$10.0	\$74.0
Talking and Listening to Customers	\$1.0	\$7.0
Title II System Redesign	\$25.0	\$201.0
Electronic Service Delivery (ESD) Internet Customer Services	\$40.0	\$157.0
Paperless Program Service Centers	\$8.0	\$64.0
Electronic Wage Reporting System	\$9.0	\$62.0
Integrated Human Resource System ²	\$3.0	\$25.0
Security Infrastructure and Operations Support	\$3.0	\$40.0
TOTAL	\$120.0	\$745.0

¹Life-cycle costs consist of both information technology and SSA workyear costs and include actuals and estimates through fiscal year 2006 (consistent with Office of Management and Budget Exhibits 300B). Estimates for fiscal year 2003 and beyond are being reformulated as part of the fiscal year 2003 budget process.

²In its agency comments, SSA stated that this project has been terminated.



IT Profile IT Environment (continued)

Overview of selected systems initiatives:

• **Financial Accounting System (FACTS)**

- Planned to provide a comprehensive financial accounting system to replace accounts payable, accounts receivable, core accounting and reporting systems currently in use
- Part of a larger initiative to modernize SSA's financial and administrative processes and systems
- Supports compliance with new regulatory and federal financial accounting standards
- Expected to be implemented in October 2002

• **Integrated Human Resources System (IHRS)**

- Planned to provide integrated, automated support for all human resource workloads, including timely and accurate human resource information
- Project recently placed on hold due to higher than estimated costs and pilot studies showing users' dissatisfaction with the software
- SSA is currently evaluating IHRS to determine whether to continue the project



IT Profile IT Environment (continued)

Overview of selected systems initiatives (continued):

• **Electronic Disability System (eDIB)**

- Planned to provide SSA with a fully electronic, reengineered disability claims process that eliminates the use of paper files
- Part of a larger, ongoing effort to improve SSA's administration of the disability program
- Consists of four strategic system objectives
 - Develop an electronic folder
 - Leverage legacy system investments
 - Automate the claims intake process
 - Automate the hearings and appeals process
- Expected to be completed by the end of 2005



IT Profile IT Roles and Responsibilities

SSA's Chief Information Officer (CIO) is responsible for ensuring that IT is acquired and managed in accordance with agency priorities and the Clinger-Cohen Act and makes final selection and funding decisions on IT projects.

SSA's Deputy Commissioner for Systems (DCS) has overall responsibility for all aspects of the agency's systems activities, including planning, configuration management, database management, data administration, software and hardware acquisition and development, and software and hardware acquisition policies, procedures, and activities.

- Four Associate Commissioners and an Office Director support the DCS:
 - Associate Commissioner, Office of Telecommunications and Systems Operations,
 - Associate Commissioner, Office of Systems Design and Development,
 - Associate Commissioner, Office of Systems Requirements,
 - Associate Commissioner, Office of Information Management, and
 - Director, Office of Systems Planning and Integration.

- On February 16, 2001, SSA established the Office of Systems Electronic Services, under the DCS, to direct the development of agencywide mission-critical software applications that support electronic service delivery initiatives.



IT Profile IT Roles and Responsibilities (continued)

SSA's Deputy Commissioner for Finance, Assessment, and Management (DCFAM) directs

- management programs including budget, acquisition and grants, facilities management, publications and logistics, and financial management systems
- oversight of automation strategies and plans, IT capital planning and investment control, and IT budget formulation and execution
- systems procurement review functions
- quality assurance, management integrity, and systems security programs

Six Associate Commissioners and three senior executives support the DCFAM

- Associate Commissioner, Office of Acquisitions and Grants
- Associate Commissioner, Office of Budget
- Associate Commissioner, Office of Facilities Management
- Associate Commissioner, Office of Financial Policy and Operations
- Associate Commissioner, Office of Publications and Logistics Management
- Associate Commissioner, Office of Quality Assurance and Performance Assessment
- Executive Officer, Management Analysis and Audit Program Support Staff Director
- Director, Information Technology Systems Review Staff
- Senior Financial Executive



IT Profile IT Staffing

In early 2001, SSA reported

- 2,813 positions in DCS's workforce:
 - 2,027 Computer Specialists
 - 2 Computer Scientists
 - 784 other IT and non-IT staff (e.g., Computer Clerk Assistants and Social Insurance Administrators)

- 2,306 positions in DCFAM's workforce:
 - 86 Computer Specialists
 - 2,220 non-IT staff (e.g., Social Insurance Specialists and Management Analysts)



IT Policies, Procedures, and Practices IT Areas Evaluated

To evaluate IT management, we focused on five key areas that encompass major IT functions and are recognized by the industry as having substantial influence over the effectiveness of operations:

- **IT investment management** has three essential phases--project selection, control, and evaluation--each supported by critical organizational processes. We recently issued a common framework for assessing federal agencies' IT investment management practices.³ This framework takes the organizational processes supporting selection, control, and evaluation efforts, and extends them into a growth and maturity framework. The framework's five maturity stages represent steps toward achieving a stable and mature IT investment process. By determining the current stage of maturity of an organization, managers are better able to identify specific steps that would contribute to improving IT management performance.
- **Enterprise architecture** helps align the requirements for agency-sponsored information systems with the processes that support the agency's mission and goals, achieve interoperability and security of information systems, and promote the application and maintenance of standards by which the agency evaluates and acquires systems. The information architecture has operational, systems, and technical components that delineate the business processes, information flows and relationships, systems, technology infrastructure, and standards. To implement and maintain the architecture, an agency should have processes for change management and legacy systems integration.

³*Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*, Exposure Draft (GAO/AIMD-10.1.23, May 2000). This guide builds upon the investment management guidance provided in our prior guide, *Assessing Risks and Returns: A Guide for Evaluating Federal Agencies' IT Investment Decision-making* (GAO/AIMD-10.1.13, February 1997).



IT Policies, Procedures, and Practices IT Areas Evaluated (continued)

- **Software acquisition and development** activities help produce information systems within the cost, budget, and schedule goals set by the investment management process, while complying with the guidance and standards of the information architecture. Key processes for software acquisition are acquisition planning, solicitation, contract tracking and oversight, evaluation, transition to support, and acquisition risk management. Key processes for software development include requirements management, project planning, project tracking and oversight, quality assurance, and configuration management.
- **Information security** helps protect the integrity, confidentiality, and availability of the agency's data and systems it relies on by reducing the risks of tampering, unauthorized intrusions and disclosures, and serious disruptions of operations. Information security activities include conducting risk assessments, promoting awareness, implementing controls, performing evaluations, and providing centralized coordination and oversight of all security activities.
- **IT human capital management** helps provide employees with the appropriate knowledge and skills to effectively execute critical IT functions. Key processes for human capital management involve assessing IT knowledge and skills requirements, inventorying existing staff's knowledge and skills and assessing them against requirements, developing strategies and plans to fill the gap between requirements and existing staffing, and evaluating and reporting on progress in filling the gap in knowledge and skills.



IT Policies, Procedures, and Practices Evaluation Indicators

In evaluating the five key IT areas at SSA, we assessed applicable policies, procedures, and practices. We use three broad indicators to depict our results:



Blank circle indicates that policies and procedures do not exist or are substantially obsolete or incomplete; and practices are not performed or are predominantly ad hoc.



Grid circle indicates that policies or procedures facilitate key functions; and selected key practices have been implemented.



Solid circle indicates that policies and procedures are current and comprehensive for key functions; and practices adhere to policies, procedures, and generally accepted standards.

For each of the five key IT areas reviewed, we selected indicators based on our judgment on the current state of SSA policies, procedures, and practices. There is no basis to judge how SSA is performing in relation to other agencies because we have evaluated only two other agencies using this approach, and we continue to refine our approach and the elements we assess.



IT Policies, Procedures, and Practices Evaluation Summary

Investment Management	IT investment board operation	⊗
	IT project oversight	⊗
	IT asset tracking	⊗
	Business needs identification for IT projects	●
	IT proposal selection	⊗
	Portfolio selection criteria definition	⊗
	Investment analysis	⊗
	Portfolio development	⊗
	Portfolio performance oversight	⊗
	Post-implementation reviews and feedback	○
	Portfolio performance evaluation and improvement	⊗
	Systems and technology succession management	⊗
	Investment process benchmarking	○
	IT-driven strategic business change	⊗

Enterprise Architecture	Operational component	●
	Systems component	⊗
	Technical component	⊗
	Change management	⊗
	Legacy systems integration	⊗
Software Development	Requirements management	⊗
	Software project planning	⊗
	Software project tracking and oversight	⊗
	Software quality assurance	⊗
	Software configuration management	⊗

Security	Risk assessment	⊗
	Awareness	●
	Information system controls	⊗
	Physical security controls	●
	Network access controls	⊗
	Evaluation	⊗
Human Capital	Central management	⊗
	Requirements	⊗
	Inventory	○
	Workforce strategies and plans	⊗
	Progress evaluation	⊗

○ Incomplete or obsolete policies and procedures; ad-hoc practices

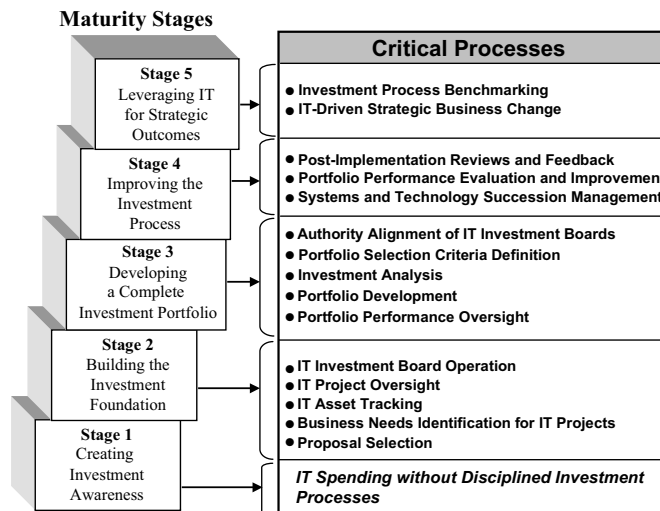
⊗ Policies or procedures for key functions; selected key practices

● Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices IT Investment Management -- Overview

IT investment management provides a framework for implementing the processes that are critical to the effective selection, control, and evaluation of a portfolio of IT investments. The maturity stages, listed below, represent steps toward achieving a stable and mature IT investment management process.



Source: Information Technology Investment Management, GAO/AIMD-10.1.23.



IT Policies, Procedures, and Practices IT Investment Management -- Overview (continued)

Descriptions of Critical Processes:

STAGE 1

- **IT Spending without Disciplined Investment Processes**--there are no critical processes associated with this stage

STAGE 2

- **IT Investment Board Operation**--creates and defines one or more IT investment boards within the organization, and operates these boards according to written policies and procedures.
- **IT Project Oversight**--the organization monitors all projects relative to cost and schedule expectations, and takes corrective action when milestones are not achieved.
- **IT Asset Tracking**--creates and maintains an IT inventory according to written procedures, in order to assist in managerial decisionmaking.
- **Business Needs Identification for IT Projects**--ensures that each IT project supports the organization's business needs and meets users' needs. It involves identifying business needs and users for each IT project and having users participate in project management throughout the project's life cycle.
- **Proposal Selection**--ensures that a predefined, structured process is used to select new IT proposals.



IT Policies, Procedures, and Practices IT Investment Management -- Overview (continued)

Descriptions of Critical Processes (continued)

STAGE 3

- **Authority Alignment of IT Investment Boards**--coordinates the responsibilities and activities of the IT investment boards when an organization uses multiple boards.
- **Portfolio Selection Criteria Definition**--creates and communicates the criteria used by decisionmakers to select and fund IT investments to the organization.
- **Investment Analysis**--examines the fundamental cost, benefit, schedule, and risk characteristics of each IT investment before it is funded and combined with other investments into a portfolio. It involves validating data associated with individual investments, then assessing and prioritizing these investments within the complete portfolio.
- **Portfolio Development**--compares worthwhile investments and then combines selected investments into a funded portfolio. It involves examining all investments and making selections for funding and then establishing expectations for each investment.
- **Portfolio Performance Oversight**--involves monitoring the performance of each investment in the portfolio. This process builds upon the Stage 2 IT project oversight process by adding the elements of investment benefit and risk management to the control process activities.



IT Policies, Procedures, and Practices IT Investment Management -- Overview (continued)

Descriptions of Critical Processes (continued)

STAGE 4

- **Post-Implementation Reviews and Feedback**--learns from past investments and initiatives by comparing actual results with estimates.
- **Portfolio Performance Evaluation and Improvement**--evaluates portfolio performance and uses this information to improve both current IT investment processes and future investment portfolio performance.
- **Systems and Technology Succession Management**--analyzes and manages the succession of identified IT investments and assets to their higher-value successors.

STAGE 5

- **Investment Process Benchmarking**--identifies and implements measurable improvements in IT investment management processes so that the processes meet or exceed those used by best-in-class organizations.
- **IT-Driven Strategic Business Change**--uses information technology to strategically renovate and transform work processes and push the organization to explore new and better ways to execute its mission.



IT Policies, Procedures, and Practices IT Investment Management -- Review

We evaluated SSA IT investment management using the Clinger-Cohen Act, OMB's Capital Programming Guide, and GAO's guide, *Information Technology Investment Management: A Framework for Assessing and Improving Process Maturity*.

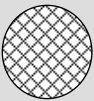
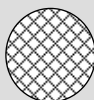
We reviewed IT investment management practices for the current SSA investment portfolio. We also evaluated the investment processes used on the Integrated Human Resources System project and the Financial Accounting System Replacement project, each classified as Customer Targeted Work, the agency's highest priority category of projects in development.


We assessed applicable SSA investment processes at maturity stages 2 through 5.⁴ We did not evaluate maturity stage 1 because it is categorized by a lack of processes.


⁴Because SSA has only one investment board, the Stage 3 critical process involving authority alignment of IT investment boards was not applicable, and thus, was not assessed.




IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation

Activity (Critical process)	Assessment	Comments
IT investment board operation		SSA's Executive Staff (Deputy Commissioners and above) serves as the Investment Board. Membership incorporates both IT and business knowledge. The Staff meets at least annually to provide input to the CIO on selection decisions and quarterly to provide oversight on Customer Targeted Work (CTW) projects, SSA's highest-priority projects. However, there are no written procedures outlining key criteria used by the Executive Staff to ensure consistent investment management and decision-making practices.
IT project oversight		The Executive Staff oversees CTW projects through quarterly meetings where project status is reviewed. In addition, the CIO conducts 1) periodic investment reviews of selected higher-risk projects where up-to-date cost information is presented and 2) special reviews of under-performing projects. Although non-CTW projects (that is, lower priority projects) are overseen by senior staff at the Associate Commissioner level, they receive no regular oversight by the Executive Staff.



 Incomplete or obsolete policies and procedures; ad-hoc practices

 Policies or procedures for key functions; selected key practices

 Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation (continued)

Activity (Critical process)	Assessment	Comments
IT asset tracking		A number of organizations within SSA capture and maintain a variety of IT asset information (including hardware, software, personnel, and resources expended) in various databases and locations. Although IT asset information can be compiled from various sources, the agency does not have a comprehensive and consistent inventory of IT asset information that is readily available to assist senior managers in making more informed investment management decisions. Comprehensive IT asset information is useful in avoiding duplication of effort and understanding the cost effectiveness, benefits, and risks of different investments.
Business needs identification for IT projects		Business needs and users are clearly identified for IT projects. Projects supporting key initiatives can be traced to strategic objectives. Identified users participate in project management during projects' life cycles.



Incomplete or obsolete policies and procedures; ad-hoc practices





Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation (continued)

Activity (Critical process)	Assessment	Comments
Proposal selection		SSA uses a structured process to solicit new IT proposals. Resource proposals are prioritized into several tiers by the Office of Systems during the annual budget development process, reviewed by the Information Technology Systems Review Staff (ITSRS), and presented to the CIO with funding recommendations. The CIO makes funding decisions based on ITSRS recommendations and input from the Executive Staff. Although SSA reports that the prioritization and selection of proposals are based on agency priorities, no explicit, established cost, schedule, benefit, or risk criteria exist or are used for these decisions. In addition, development projects which expend only in-house salary funds are not reviewed by ITSRS.
Portfolio selection criteria definition		The Executive Staff develops high-level criteria that are used for selecting IT investments. Criteria include the Agency Strategic Plan, the Performance Plan, programs for objective achievement, key initiatives, and the 5-Year Systems Plan. Criteria are regularly modified, updated, and distributed. However, these high-level selection criteria do not include explicit cost, schedule, benefit, or risk criteria--considerations that would be helpful in making tradeoffs among investments competing for limited resources.



Incomplete or obsolete policies and procedures; ad-hoc practices





Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation (continued)

Activity (Critical process)	Assessment	Comments
Investment analysis		IT investments in all life-cycle phases are prioritized into three tiers by the Office of Systems. ITSRS conducts annual reviews of these investments and makes funding recommendations to the CIO. However, the lack of explicit, established cost, schedule, benefit, and especially risk criteria hinders the agency's ability to consistently and objectively analyze and prioritize its investments. In addition, developmental projects that expend only in-house salary funds are not reviewed by ITSRS.
Portfolio development		The CIO, with input from the Executive Staff, examines and makes funding decisions on IT investments. These investments are categorized into three tiers in the annual IT budget and documented in the 5-Year Systems Plan for each of SSA's major work areas. SSA reported that the 5-Year Systems Plan is periodically reviewed to ensure the appropriate allocation of IT resources. Cost and schedule expectations are set annually for higher-priority investments. However, SSA does not have a comprehensive IT investment portfolio that includes all IT investments (including developmental and operational projects and systems) regardless of the funding source. In addition, annual benefit and risk expectations are not set or approved by the CIO or Executive Staff.



Incomplete or obsolete policies and procedures; ad-hoc practices





Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation (continued)

Activity (Critical process)	Assessment	Comments
Portfolio performance oversight		The Executive Staff oversees CTW projects through quarterly meetings where project status is reviewed. In addition, the CIO conducts 1) periodic investment reviews of selected higher-risk projects where up-to-date cost information is presented and 2) special reviews of under-performing projects. However, annual benefit expectations are neither set nor tracked to determine whether expected benefits have been realized or acceptable progress achieved. Although projects below the CTW level are overseen by senior staff at the Associate Commissioner level, they receive no regular oversight by the Executive Staff.
Post-implementation reviews and feedback		According to SSA policy, the CIO designates in advance which projects will receive a post-implementation review (PIR) upon completion. To date, SSA has completed one PIR and another is underway. Of over 30 CTW projects in development, only one has been designated to receive a PIR. In addition, there are no criteria for designating projects for PIRs or written procedures for conducting PIRs.



Incomplete or obsolete policies and procedures; ad-hoc practices



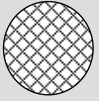
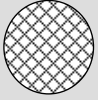
Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation (continued)

Activity (Critical process)	Assessment	Comments
Portfolio performance evaluation and improvement		SSA has various efforts underway to develop and improve both its IT portfolio and investment processes. These include efforts to estimate return-on-investment, define life cycles, prioritize investments, establish measurable goals, and better manage projects. However, overall IT portfolio performance is not evaluated. The absence of aggregate investment portfolio performance measures (for example, a balanced scorecard that measures strategic achievement, customer satisfaction, business performance, and IT innovation) hinders SSA's ability to evaluate and improve its IT portfolio to better serve the needs of the entire organization.
Systems and technology succession management		SSA reported that succession management processes are performed as part of various IT management processes. These include the monitoring of investments for cost effectiveness, utilization, capacity, and other performance factors, as well as periodic review and update of the 5-Year Systems Plan. However, no procedures or criteria were developed for identifying succession candidates and periodically evaluating the viability of ongoing investments.



Incomplete or obsolete policies and procedures; ad-hoc practices





Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Investment Management -- Evaluation (continued)

Activity (Critical process)	Assessment	Comments
Investment process benchmarking		SSA reported that it reviews other agencies' and organizations' investment processes and management tools to identify and implement improvements to its own processes. However, SSA has no benchmarking policy or procedures and has not conducted process benchmarking activities that would include measuring internal process baselines, benchmarking the processes of best-in-class organizations, and making improvements based on the analyses.
IT-driven strategic business change		In December 2000, SSA opened the Electronic Technology Center to research, test, evaluate, and implement new technologies that will strategically enhance the agency's ability to conduct business. Other groups within SSA forecast future technologies and explore potential applications. Although the Electronic Technology Center is evaluating a number of business-enhancing technologies, these have not yet been implemented for strategic changes to business processes or captured in a knowledge base.



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices Impact of IT Investment Management Weaknesses

- **IT Investment Board Operation:**

Without written procedures for IT investment management, SSA lacks assurance that the Executive Staff is providing investment management oversight and decisionmaking in a repeatable and consistent manner.

- **IT Project Oversight:**

Without Executive Staff oversight of non-CTW projects' progress toward meeting cost and schedule expectations, SSA management lacks assurance that these projects are under control and being developed on time, within budget, and according to requirements.

- **IT Asset Tracking:**

Without up-to-date information on a comprehensive inventory of IT assets, SSA lacks assurance that decisionmakers have the information they need to effectively manage IT investments. An IT asset inventory--including projects and systems, associated hardware, software, licenses, location, ownership, personnel, costs, and schedule data--provides fundamental information that executives should have at their disposal when making investment decisions. This information enables executives to better manage the allocation of resources among systems and programs.



IT Policies, Procedures, and Practices Impact of IT Investment Management Weaknesses (continued)

- **Proposal Selection:**

Without predefined, explicit selection criteria, SSA lacks assurance that proposals are objectively assessed and prioritized, informed proposal tradeoffs are made, and the appropriate projects are selected.

- **Portfolio Selection Criteria Definition:**

Without portfolio selection criteria that explicitly address costs, benefits, schedule, and risks, SSA lacks assurance that decisionmakers have the necessary tools for selecting an IT investment portfolio that optimally supports the agency's mission and strategic goals. Although appropriate investments may be selected based on individual merit, without predefined selection criteria, the cumulative effect of the selection decisions may result in an investment portfolio that provides less-than-optimal support of the agency mission.

- **Investment Analysis:**

Without analyzing and validating the costs, benefits, schedules, and risks of all developmental and operational IT investments, SSA cannot be certain that it is selecting and funding the IT investments that will best result in cost-effective solutions that are focused on measurable and specific program- or mission-related benefits (time, cost, performance, quality, customer satisfaction, etc.).



IT Policies, Procedures, and Practices Impact of IT Investment Management Weaknesses (continued)

- **Portfolio Development:**

Without a comprehensive IT investment portfolio that contains detailed and summary information on all IT investments--including cost, benefit, schedule, and risk data--SSA lacks assurance that an optimal investment portfolio with manageable risks and returns is being selected.

- **Portfolio Performance Oversight:**

Because the Executive Staff does not oversee the performance of all IT investments, SSA lacks assurance that its portfolio is achieving cost, benefit, schedule, and risk expectations.

- **Post-Implementation Reviews and Feedback**

Without evaluating IT investments after they have been implemented and without written policies and procedures for performing the reviews, SSA lacks information on whether investments have met intended objectives--e.g., costs, benefits, customer satisfaction, mission impact, and technical capability--and whether improvements are needed in the investment management process.



IT Policies, Procedures, and Practices Impact of IT Investment Management Weaknesses (continued)

- **Portfolio Performance Evaluation and Improvement:**

Without collecting and analyzing aggregate portfolio performance data, SSA lacks the ability to evaluate the portfolio's performance and make recommendations to improve the portfolio and the investment management process.

- **Systems and Technology Succession Management:**

Without policies and procedures for uniformly evaluating IT investments in operation, SSA may not be adequately planning and managing the migration of high-cost, low-value investments to appropriate successors.

- **Investment Process Benchmarking:**

Without benchmarking the investment management processes of best-in-class organizations, SSA lacks the ability to identify and implement measurable improvements to its own processes to meet or exceed those used by best-in-class organizations.

- **IT-Driven Strategic Business Change:**

Until SSA begins to implement business-enhancing technologies in a proactive and continuous manner, the agency may fall short of its potential to dramatically improve business processes and outcomes.



IT Investment Management Suggested Areas for Improvement

SSA should:

- Develop and implement a process guide that establishes the policies, procedures, and key criteria for conducting the IT investment management process and guiding Executive Staff operations.
- Develop and maintain selection criteria that include explicit cost, benefit, schedule, and risk criteria to facilitate the objective analysis, comparison, prioritization, and selection of IT investments.
- Analyze and prioritize all IT investments based on the predefined selection criteria and make selection decisions according to the established process.
- Establish and annually review cost, benefit, schedule, and risk life cycle expectations for each selected investment.



IT Investment Management Suggested Areas for Improvement (continued)

- Revise the IT oversight process so that the Executive Staff oversees the comparison of actual cost, benefit, schedule, and risk data to original estimates for all investments to determine whether they are proceeding as expected and to take corrective actions as appropriate.
- Regularly perform post-implementation reviews of IT investments and develop lessons learned from the process.
- Develop, manage, and regularly evaluate the performance of a comprehensive IT investment portfolio containing detailed and summary information (including data on costs, benefits, schedules, and risks) for all IT investments.
- Implement investment process benchmarking so that measurable improvements may be made to agency IT investment management processes based on those used by best-in-class organizations.



IT Investment Management Plans to Address IT Investment Management Weaknesses

Following our assessment, SSA officials stated that, during the upcoming fiscal year, the agency will

- explore risk modeling procedures for proposed IT projects to eventually develop a comprehensive risk assessment and management strategy,
- adopt management and decision support tools for the agency's capital planning and investment control process,
- document post-implementation review policies and procedures and select additional projects for post-implementation reviews,
- continue return-on-investment training and estimation on IT projects to provide better information for investment decisions,
- refine the capital planning and investment control process based on the experiences and practices of other agencies,



IT Investment Management
Plans to Address IT Investment Management Weaknesses (continued)

- assess the capital planning and investment control process for possible changes based on input from the new administration, and
- review significant deviations in non-CTW projects.



IT Policies, Procedures, and Practices Enterprise Architecture -- Overview

An enterprise architecture serves as a blueprint to guide and constrain the development and evolution of a collection of related information systems.

Three typical components of an enterprise architecture are:

- **Operational component**--describes the operational elements (business functions), assigned tasks and activities, and information flows required to support an operation
- **Systems component**--describes and graphically depicts how multiple systems link and interoperate to support an operation, and may describe the internal construction and operation of individual systems within the architecture
- **Technical component**--provides the technical system implementation guidelines upon which engineering specifications are based and common building blocks are established, and provides a set of tools that facilitate integration of legacy and new systems



IT Policies, Procedures, and Practices Enterprise Architecture -- Overview (continued)

OMB guidelines require agencies to include certain key elements in their enterprise architectures. These elements can be generally grouped into the three component categories as follows:

Operational component

- Business or operational processes
- Information flows and relationships in those processes

Systems component

- Activities or systems that capture, manipulate, and manage the information to support operations
- Data descriptions and relationships and how data are maintained, accessed, and used

Technical component

- Technology standards, services, and infrastructure



IT Policies, Procedures, and Practices Enterprise Architecture -- Overview (continued)

OMB guidelines also require agencies to establish two key processes to maintain and implement the architecture:

Change management

- Manages and documents changes to the architecture that are needed as business functions evolve

Legacy systems integration


- Develops and implements a strategy for integrating existing and new systems that will permit them to interoperate cost effectively

We evaluated SSA's architecture using the Clinger-Cohen Act and guidance issued by OMB, ourselves, and the CIO Council.⁵ We also reviewed SSA's actions to develop an enterprisewide architecture.

⁵A *Practical Guide to Federal Enterprise Architecture*, Chief Information Officer Council, version 1.0, February 2001.



IT Policies, Procedures, and Practices
Enterprise Architecture -- Evaluation

Activity	Assessment	Comments
Operational /business component		SSA's architecture documentation describes the agency's business functions, including enumeration, earnings, claims, postentitlement, and informing the public. In addition, the architecture documentation describes the agency's key processes that support the business functions, including its administrative and management systems. It also describes related information flows.



Incomplete or obsolete policies and procedures; ad-hoc practices




Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
Enterprise Architecture -- Evaluation (continued)

Activity	Assessment	Comments
<p>Systems component</p>		<p>SSA's architecture documentation describes and provides diagrams showing the boundaries and interfaces of its application software systems, which are categorized as programmatic, administrative, management information, and quality assurance. This documentation defines the agency's programmatic software architecture, including its interfaces, and identifies software common to multiple systems. It also shows the relationship between its business critical data, key business applications, and support applications. However, existing architectures and architecture definitions have not been completely updated, organized, and brought together under an enterprisewide framework. In addition, SSA has not completed efforts to define its targeted architecture to reflect its future service delivery vision (Social Security 2010 Vision) and e-business goals.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices



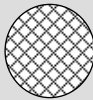
Policies or procedures for key functions; selected key practices



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IT Policies, Procedures, and Practices
Enterprise Architecture -- Evaluation (continued)

Activity	Assessment	Comments
<p>Technical component</p>		<p>SSA's documentation provides strategic guidance for the development of new business solutions and technologies and the enhancement or maintenance of current systems. SSA's Systems Enterprise Architecture System provides technology standards, tools, and services to support the agency's local, network, and mainframe infrastructures. SSA has established standards for new IT technologies, such as the Internet and Web development. SSA also has established an Architecture Review Board which reviews projects to ensure that they are compliant with existing architecture policies and support the agency's business and strategic plans. However, existing architectures and architecture definitions have not been completely updated, organized, and brought together in an enterprisewide framework. In addition, SSA has not completed efforts to define its targeted architecture to reflect its future service delivery vision (Social Security 2010 Vision) and e-business goals.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
Enterprise Architecture-- Evaluation (continued)

Activity	Assessment	Comments
Change management		SSA's Systems Enterprise Architecture System provides principles and guidance for implementing systems to help ensure compliance with the agency's strategic plans. SSA's Architecture Review Board reviews projects to support change management decisions. SSA also has configuration management and change management guidance and processes at the IT project level. However, SSA has not completed efforts to establish an enterprise architecture maintenance process, including an enterprisewide architecture change management process.
Legacy systems integration		SSA's Systems Enterprise Architecture System provides principles, guidance, and tools for supporting legacy systems integration. SSA's systems planning process provides support for legacy systems integration. In addition, SSA's Architecture Review Board reviews projects to support effective system design and integration planning decisions. However, SSA has not completed efforts to establish an enterprise architecture maintenance process, including a formal enterprisewide architecture legacy systems integration. In addition, SSA has not completed efforts to define its targeted architecture to reflect its future service delivery vision (Social Security Vision 2010) and e-business goals.



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



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IT Policies, Procedures, and Practices Impact of Enterprise Architecture Weaknesses

- Until SSA completes its enterprisewide architecture, including (1) updating and organizing its architectures under an enterprisewide framework, and (2) defining its targeted architecture to reflect its future service delivery vision and e-business goals, SSA lacks assurance that its architecture adequately supports the agency's current and future information processing needs.
- Without an effective enterprisewide architecture change management process, SSA lacks assurance that it can effectively manage and document changes to its architecture as business functions evolve and new technologies are acquired.
- Without an effective enterprisewide legacy system integration process, SSA lacks assurance that new software and hardware technologies will interoperate with existing systems in a cost-effective manner.



Enterprise Architecture Suggested Areas for Improvement

SSA should:

- Complete key elements of its enterprisewide architecture including (1) finalizing its enterprisewide architecture framework, (2) updating and organizing its architectures and architecture definitions under the framework, and (3) reflecting its future service delivery vision and e-business goals. In addition, it should set target milestones for completing these architecture components.
- Ensure that change management and legacy system integration policies, procedures, and processes are effectively implemented across the agency. SSA should also set target dates for full implementation of these maintenance processes.



Enterprise Architecture Plans To Address Enterprise Architecture Weaknesses

- SSA recognizes the need to strengthen its enterprise architecture to ensure interoperability and minimize cost, and reported that it has taken the following actions.
 - In April 2001, SSA established the Office of Information Technology Architecture. This office is responsible for directing an enterprisewide architecture program to modernize the agency's infrastructure by establishing and implementing standards for common hardware, software, and processes.
 - SSA has developed a proposed architecture framework that provides an overarching guide for defining its existing and planned architectures. It also will be used to update and organize its architectures and related products under this proposed framework. SSA stated that it expects to complete the existing and target architectures for its IT infrastructure by the end of September 2001.
 - SSA has drafted an IT Infrastructure Target Architecture Strategic Planning Model. This model is based on SSA's future service delivery vision and e-business goals.
 - SSA stated that it is establishing the foundations for its change management and legacy system integration processes.



IT Policies, Procedures, and Practices Software Acquisition and Development -- Overview

Many organizations rely on software-intensive systems to perform their missions. The quality of these systems' software is governed largely by the quality of the processes involved in acquiring or developing the software, and in maintaining it. Carnegie Mellon University's Software Engineering Institute (SEI), recognized for its expertise in software processes, has developed models and methods for determining an organization's software process maturity.

SEI's Capability Maturity ModelSM (CMM®)⁶ provides a framework of five maturity levels that can be used to identify an organization's current process strengths and weaknesses, and to develop a structured plan for incremental process improvement. The five maturity levels are:

1. **Initial:** the software process is characterized as ad hoc and few processes are defined.
2. **Repeatable:** basic project management processes are established; the necessary process discipline is in place to repeat earlier successes.
3. **Defined:** software processes are documented and standardized; all projects use an approved, tailored version of the organization's standard software processes for acquiring or developing software products and services.
4. **Managed/Quantitative:** detailed measures of the software processes, products, and services are collected; the software processes and products are quantitatively understood and controlled.
5. **Optimizing:** continuous process improvement is enabled by quantitative feedback from the process and from piloting innovative ideas and technologies.

⁶Capability Maturity ModelSM is the service mark of Carnegie Mellon University, and CMM® is registered in the U.S. Patent and Trademark Office.



IT Policies, Procedures, and Practices

Software Acquisition and Development -- Overview (continued)

The CMM's maturity levels 2 through 5 require the verifiable existence and use of certain software processes, known as key process areas (KPA).

SEI has developed separate maturity models, with supporting KPAs, for both software acquisition and software development.

In 1997, SSA's Office of Systems established the Software Process Improvement (SPI) initiative to help the organization meet its objective to improve the predictability of systems delivery, increase productivity, and improve the quality of software products. The SPI program has been instrumental in developing new software development policies and procedures and an Intranet web-based guide to aid project managers and team members in planning and executing project-related activities. The SPI program has also participated in developing project management training that has been attended by 47 project managers across the Office of Systems. SSA reported that about 60 projects have implemented the new software development policies and processes and each project has a designated SPI representative to consult with managers and teams on the software improvement process.



IT Policies, Procedures, and Practices

Software Acquisition and Development -- Overview (continued)

We evaluated SSA's policies and procedures on software development against SEI's Software Development CMM. While we evaluated SSA's software development processes against selected components in all applicable level 2 KPAs, our review was limited and does not constitute a software capability maturity evaluation. Our evaluation team was led by, and staffed with, SEI-trained software specialists.

We reviewed two software development projects--the Electronic Disability System (eDIB) and the Earnings Management Information Operational Data Store (EMODS)--at SSA's headquarters. We chose these projects after consulting with SSA officials. The selected projects include an ongoing effort that is to support a key agency initiative, but has a history of software development and project management problems, and a completed software development effort that supports a key initiative.

We did not evaluate SSA's software acquisition policies or processes because the agency reported that it develops most of its software applications in-house.



IT Policies, Procedures, and Practices Software Acquisition and Development -- Overview (continued)

Applicable software development KPAs:

- **Requirements management**--establishes and documents common understandings of the customer's requirements between the customer and the software project team.
- **Software project planning**--identifies and organizes the work elements for performing the software engineering and managing the project.
- **Software project tracking and oversight**--measures and controls the performance, cost, and schedule objectives of the project throughout its life. It provides visibility into actual progress so that management can act effectively when the software project's performance deviates significantly from plans.
- **Software quality assurance**--determines if the process being used by the project and the resulting products comply with the organization's policies and procedures.
- **Software configuration management**--establishes and maintains the integrity of the products throughout the project's software life cycle, through a structured process for documenting proposed and approved changes in requirements and plans.



IT Policies, Procedures, and Practices
Software Development -- Evaluation

Activity (Key process area)	Assessment	Comments
Requirements management		SSA has a policy for requirements management. Systems had documented requirements for both of the projects we reviewed. However, one of the projects did not provide evidence that senior management is briefed on requirements management activities.
Software project planning		SSA has a policy and procedures for software project planning that provide guidance for estimating a software project's effort and schedule. However, SSA's practices for the projects we reviewed were not consistent. For instance, only one of the project managers had a documented software development plan to manage the software effort. The other project team participated in some project planning activities, but the team did not have a documented software development plan to manage its latest software effort.



Incomplete or obsolete policies and procedures; ad-hoc practices






Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
Software Development -- Evaluation (continued)

Activity (Key process area)	Assessment	Comments
Software project tracking and oversight		SSA has a policy and procedures for project tracking and oversight. While some tracking and oversight activities were performed, we found that a documented software development plan did not exist to track software activities for one of the projects.
Software quality assurance		SSA has a policy and draft procedures for quality assurance. One project had a documented quality assurance plan and results of quality assurance reviews. However, SSA lacked quality assurance practices for the other project we reviewed.
Software configuration management		SSA has a policy and procedures for configuration management. While one project had a documented configuration management plan and results of configuration management audits, SSA provided no evidence that configuration management practices were being performed for the other project.



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



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IT Policies, Procedures, and Practices

Impact of Software Development Weaknesses

- While SSA's SPI program has been committed to introducing sound software development policies and procedures within Systems, without consistently applying the processes, SSA lacks assurance that it will develop and deliver quality software on schedule and at a reasonable cost.
- Given that SSA develops most of its software applications, the lack of sound management and technical practices puts the agency at risk that it will not meet its goals of developing a technological infrastructure to support its service vision.



Software Development Suggested Areas for Improvement

SSA should:

- Ensure that the requirements management, project planning, project tracking and oversight, quality assurance, and configuration management policies and procedures developed by the SPI program be consistently applied across all software development efforts.
- Develop and implement a procedure to grant waivers to software development projects when deviations from policies and procedures occur. This waiver should include documenting the reason(s) for the deviation, along with official approval from the Deputy Commissioner for Systems and the respective Associate Commissioner who has the lead for the software project.



Software Development Plans to Address Software Development Weaknesses

SSA stated that it is taking the following actions:

- The Office of Systems senior executives hold bi-weekly meetings with the Associate Commissioner for each Systems component to monitor projects' adherence to SSA's software development policies and procedures.
- The Office of Systems reorganized the management of one of the projects reviewed to ensure consistent application of its software development policies and procedures. Further, the SPI office is holding separate meetings with the project manager and team to provide them additional guidance on implementing software development policies and procedures. SSA recently reported that the project is undergoing an in-process review to update requirements and assess the impact of changing technology.
- The Office of Systems developed a draft waiver request procedure for software development projects when deviations from policies and procedures are necessary.



IT Policies, Procedures, and Practices Information Security -- Overview

Information security protects an organization's computer-supported resources and assets. Such protection ensures the integrity, appropriate confidentiality, and availability of an organization's data and systems. **Integrity** means that data have not been altered or destroyed in an unauthorized manner. **Confidentiality** means that information is not made available or disclosed to unauthorized individuals, entities, or processes. **Availability** means that data will be accessible or usable upon demand by an authorized entity.

Key activities for managing information security risks include:

- **Risk assessment** -- identifying security threats and vulnerabilities to information assets and operational capabilities, ranking risk exposures, and identifying cost-effective controls
- **Awareness** -- promoting awareness concerning security risks and educating users about security policies and procedures
- **Controls** -- implementing controls necessary to deal with identified risks to information systems, physical facilities, and networks in order to protect them



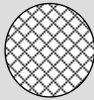
IT Policies, Procedures, and Practices Information Security -- Overview (continued)

- **Evaluation** -- monitoring effectiveness of controls and awareness activities through periodic evaluation
- **Central management** -- coordinating security activities through a centralized group

We evaluated SSA's policies and procedures on information security using the Clinger-Cohen Act, the Computer Security Act, and guidelines issued by OMB, ourselves, and the National Institute of Standards and Technology. We reviewed agency security plans, sensitive system plans, security evaluation reports, and system risk assessment documentation. We also reviewed the *Social Security Performance and Accountability Report for Fiscal Year 2000*. We reviewed PricewaterhouseCoopers' management letters regarding SSA's fiscal year 2000 financial statement audit and the related SSA management responses involving information security. We did not assess the scope and adequacy of penetration tests performed by PricewaterhouseCoopers and Janus Associates on SSA's networks.



IT Policies, Procedures, and Practices
Information Security -- Evaluation

Activity	Assessment	Comments
<p>Risk assessment</p>		<p>SSA has an ongoing risk management program and has developed a plan for protecting its critical assets. SSA recently included risk assessments as part of its Management Control Review Program, which includes reviews of the agency's key assets and each financial management system over a five-year cycle. SSA is undertaking a risk assessment of its National Computer Center. However, SSA has not completed documentation on technical system standards (security settings) and policy/risk models for its major platforms (e.g., UNIX, Windows NT, etc.). This documentation is to describe risks, underlying policy, and recommended standard settings for its major platforms. SSA reports that these standard settings will mitigate the identified risks for the platforms.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



**IT Policies, Procedures, and Practices
 Information Security -- Evaluation (continued)**

Activity	Assessment	Comments
Awareness	●	SSA's security plan has a requirement for security awareness and training. SSA provides various methods of security awareness and training, including seminars, a security-based Intranet Web site, Intranet-based security self-assessment modules, and annual security conferences. SSA recently began providing awareness briefings to executive-level officials. SSA also provides security training to all new system personnel who work with sensitive systems. Further, SSA recently drafted comprehensive information security guidance for state Disability Determination Services, which conveys the agency's expectations for information security.

Incomplete or obsolete policies and procedures; ad-hoc practices





Policies or procedures for key functions; selected key practices



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IT Policies, Procedures, and Practices
Information Security -- Evaluation (continued)

Activity	Assessment	Comments
Information system controls		SSA issued a security plan for general support systems. SSA has finalized accreditation of its systems and certified each of its 16 sensitive systems, in accordance with OMB Circular A-130. SSA also is improving its change control process by implementing an automated system release process. However, SSA has not completed technical standards and policy/risk models for its major platforms. When completed, SSA expects these standards and models to strengthen information system controls by forming the basis for developing an individual security matrix for each application utilizing the platform security standards (settings).
Physical security controls		SSA has a policy to improve systems security through physical security enhancements. SSA has conducted vulnerability reviews of key agency assets, including its headquarters and central operations facilities. While SSA maintains appropriate access controls over its National Computer Center (NCC) building, an independent auditor identified a lack of appropriate physical and logical security at the NCC 4th floor console area. SSA reported that it has implemented a short-term solution to this weakness by providing automatic log-offs for the workstations in this area. SSA's long-range solution calls for moving the console area equipment to a more secure area.



Incomplete or obsolete policies and procedures; ad-hoc practices



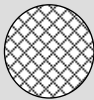
Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
Information Security -- Evaluation

Activity	Assessment	Comments
<p>Network access controls</p>		<p>SSA's security program provides general guidance, goals, and objectives for the agency's networks and systems. SSA reported that it recently finalized its firewall security policy. To improve its network security, SSA reported that it plans to hire three full-time staff and three contractor staff to perform intrusion and penetration testing activities. In addition, a contractor and an independent auditor have conducted penetration tests of the agency's network. These tests were unable to penetrate SSA's network from the outside. However, SSA has not yet completed documenting its technical system standards and risk/models for its major platforms. SSA reports that this documentation will describe risks, and identify standard minimal security settings for SSA's major platforms.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices



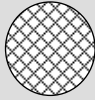
Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



**IT Policies, Procedures, and Practices
 Information Security -- Evaluation**

Activity	Assessment	Comments
<p>Evaluation</p>		<p>SSA has programs and procedures for evaluating its facilities and systems security. For instance, SSA's Financial Management Review Program is responsible for reviewing each financial management system over a 5-year period. However, SSA has not conducted consistent monitoring of state Disability Determination Services' information security activities. In addition, SSA has not yet completed detailed technical standards and policy/risk models for its major platforms. This documentation would support the agency's evaluation capability by identifying standard minimal security settings for these platforms, monitoring techniques, and corrective actions for noncompliance.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices




Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
Information Security -- Evaluation (continued)

Activity	Assessment	Comments
<p>Central management</p>		<p>SSA has an office that oversees all of the agency's information systems security and management control processes. SSA has improved its information security over the past 4 years. For example, over this period, SSA has corrected weaknesses related to 4 of 5 previously reported serious weaknesses (i.e., reportable conditions) involving internal controls. However, SSA's office responsible for agencywide information security has not ensured the development of policy/risk models and technical system standards for its major platforms. Such documentation would facilitate improvement of SSA's entitywide security framework by strengthening the agency's capability to manage, monitor, and enforce its policies related to these platforms.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices Impact of Information Security Weaknesses

- Without technical system standards (settings) and policy/risk models for its major platforms, SSA lacks detailed guidance for managing the security of its major platforms and associated networks and systems. This lack of guidance also impairs SSA's ability to provide effective central oversight and evaluation of information security related to these platforms and associated networks and systems.



IT Information Security Suggested Areas for Improvement

SSA should:

- Strengthen its entitywide security framework by completing policy/risk models and technical system standard settings for its major systems platforms.
- Develop monitoring techniques and corrective actions for noncompliance for its major systems platforms.
- Use the platform security settings to strengthen security for each application utilizing these platforms.



IT Information Security Plans To Address IT Information Security Weaknesses

SSA has established management responses and corrective actions for addressing weaknesses identified by the agency's Office of Inspector General as part of the financial statement audit. These actions include:

- plans to complete the development of policy/risk models and technical standards for all SSA platforms by September 2001.
- completion of a firewall security policy.
- hiring additional staff and contract support to strengthen the agency's network security activities.



IT Policies, Procedures, and Practices IT Human Capital -- Overview

Human capital centers on viewing people as assets whose value to an organization can be enhanced through investment. As the value of people increases, so does the performance capacity of the organization, and therefore its value to clients and other stakeholders.

To maintain and enhance the capabilities of IT staff, the organization should conduct four basic activities:

- **Requirements**--assess the knowledge and skills needed to effectively perform IT operations to support an agency's mission and goals
- **Inventory**--determine the knowledge and skills of current IT staff to identify gaps in needed capabilities
- **Workforce strategies and plans**--develop strategies and implement plans for hiring, training, and professional development to fill the gap between requirements and current staffing
- **Progress evaluation**--evaluate progress made in improving IT human capital capability, and use the results of these evaluations to continuously improve the organization's human capital strategies




IT Policies, Procedures, and Practices
IT Human Capital -- Overview (continued)

We evaluated SSA's policies and procedures on IT human capital using the Clinger-Cohen Act and our guide, *Human Capital: A Self-Assessment Checklist for Agency Leaders*.⁷

⁷GAO/OCG-00-14G, version 1, September 2000.



IT Policies, Procedures, and Practices
IT Human Capital -- Evaluation

Activity	Assessment	Comments
Requirements		<p>SSA's Office of Systems is responsible for identifying, evaluating, and analyzing all of Systems' IT personnel requirements and ensuring that performance qualifications meet mission needs. Systems identified the number of IT staff needed now and in the future and also identified the competencies required. However, the number of IT staff needed are not explicitly linked to the competencies. This information is necessary to project Systems' workforce needs far enough in advance to allow adequate time for recruiting, training, or outsourcing.</p>



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Human Capital -- Evaluation (continued)

Activity	Assessment	Comments
Inventory	○	SSA does not have an inventory of the knowledge and skills of current IT staff. The Office of Systems stated that it is generally aware of the skills that its staff currently has because the office is organized along functional lines and certain components are responsible for specific IT functions. For instance, SSA reported that the Office of Telecommunications and Systems Operations has staff with network and telecommunications skills. Systems also uses two information systems that include data on time charged to assignments and training received, to match individuals to new assignments. Nonetheless, without a knowledge and skills inventory, SSA cannot perform an analysis to determine whether a gap exists between current and future IT staff requirements and existing staffing.



Incomplete or obsolete policies and procedures; ad-hoc practices





Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices
IT Human Capital-- Evaluation (continued)

Activity	Assessment	Comments
Workforce strategies and plans		SSA has procedures to hire, train, and professionally develop IT staff. In practice, Systems usually offsets losses due to attrition by hiring recent college graduates and experienced professionals from the private sector and other federal agencies. Systems also utilizes retention bonuses, training and professional development programs, and contractor support to maintain a cadre of technical staff. However, there is no assurance that these workforce strategies and plans will be effective because they are not linked to or supported by a gap analysis detailing current and future needed IT capabilities.
Progress evaluation		SSA's Office of Systems is responsible for evaluating its progress in improving IT human capital capabilities. The Deputy Commissioner holds bi-weekly meetings to discuss reports showing Systems' progress in filling IT positions and identify actions needed to improve the recruitment strategy. Further, training courses are evaluated to assess their effectiveness. However, the office has not fully analyzed or reported on the effectiveness of its workforce strategies and plans.



Incomplete or obsolete policies and procedures; ad-hoc practices



Policies or procedures for key functions; selected key practices



Comprehensive, current policies and procedures; practices adhere to policies, procedures, and generally accepted standards



IT Policies, Procedures, and Practices Impact of IT Human Capital Weaknesses

- Without a complete needs assessment, SSA lacks assurance that it has effectively identified the number of staff it will require with the specific knowledge and skills needed to sustain its current and future operations and develop strategies to fill these needs. This is especially critical given that SSA projects that the Office of Systems could lose approximately 1,339, or about 43 percent, of its current staff between the years 2000 and 2010, of which 767 are computer specialists.
- Without an inventory of IT knowledge and skills, SSA lacks assurance that it is optimizing the use of its current IT workforce. Also, SSA will not have data on the extent of its IT skill gaps. This information is necessary to develop effective workforce strategies and plans.
- Without analyzing and documenting the effectiveness of its workforce strategies and plans, senior decisionmakers lack assurance that they are effectively addressing IT knowledge and skill gaps.



IT Human Capital Suggested Areas for Improvement

The Office of Systems should:

- complete an assessment of its current and future IT knowledge and skill needs
- develop and maintain an inventory of its current IT staff's knowledge and skills
- perform an analysis to determine whether a gap exists between current and future IT staff requirements and current staffing
- ensure that its workforce strategies support the results of its gap analysis
- analyze and document the effectiveness of its strategies for recruiting, training, and retaining IT personnel, and use the results to continuously improve its IT human capital strategies



IT Human Capital Plans to Address IT Human Capital Weaknesses

Office of Systems officials reported that they are:

- looking at private sector organizations with large systems divisions and other federal agencies to determine how they have implemented a skills inventory database
- benchmarking industry best practices and cost-benefit analyses to assess whether this investment would add value. If SSA determines that value is added, it will seek funding approval to purchase an inventory system.
- establishing a systems recruitment team that will report directly to the Deputy Commissioner for Systems and will conduct comprehensive studies and evaluations on the effectiveness of Systems' recruitment and retention programs.



Agency Comments

In commenting on a draft of this briefing, SSA officials

- agreed with all of our recommendations
- outlined many actions that it has planned or taken in response to our recommendations
- offered suggested revisions, which have been incorporated in this briefing as appropriate

Comments From the Social Security Administration



SOCIAL SECURITY

Office of the Commissioner

July 31, 2001

Mr. Joel C. Willemsen
Managing Director, Information Technology Issues
U.S. General Accounting Office
Washington, D.C. 20548

Dear Mr. Willemsen:

Thank you for the opportunity to review the draft report, "Information Technology Management: Social Security Administration Practices Can Be Improved" (GAO-01-961). Our comments on the report are enclosed. If you have any questions, please have your staff contact Mark Welch at (410) 965-0374.

Sincerely,

A handwritten signature in black ink, appearing to read 'Larry G. Massanari'.

Larry G. Massanari
Acting Commissioner
of Social Security

Enclosure

SOCIAL SECURITY ADMINISTRATION BALTIMORE MD 21235-0001

Appendix II
Comments From the Social Security
Administration

COMMENTS OF THE SOCIAL SECURITY ADMINISTRATION (SSA) ON THE
GENERAL ACCOUNTING OFFICE (GAO) DRAFT REPORT, "INFORMATION
TECHNOLOGY MANAGEMENT: SOCIAL SECURITY ADMINISTRATION
PRACTICES CAN BE IMPROVED"(GAO-01-961)

Thank you for the opportunity to provide comments on this GAO report. We believe the many SSA actions taken, underway, and planned that are outlined below demonstrate our continuing commitment to improving SSA information technology (IT) management.

1. IT Investment Management

Recommendation 1

Develop and implement a process guide that establishes the policies, procedures, and key criteria for conducting the IT investment management process and guiding executive staff operations.

SSA Comment

We agree. The Agency is identifying gaps in its current Target Capital Planning and Investment Control (CPIC) process. A draft enhanced CPIC document will be available by the end of September 2001. The final process guide will be available after the document has been approved by the new Administration.

Recommendation 2

Develop and maintain selection criteria that include explicit cost, benefit, schedule, and risk criteria to facilitate the objective analysis, comparison, prioritization, and selection of IT investments.

SSA Comment

We agree. Selection criteria that include cost, benefit, schedule and risk criteria to facilitate objective analysis, comparison, prioritization and selection of IT investments have been defined and will be included in SSA's revised CPIC document.

GAO Recommendation 3

Analyze and prioritize all IT investments based on the predefined selection criteria and make selection decisions according to the established process.

SSA Comment

We agree and have already begun to apply the new selection criteria to our software development projects. We are expanding this use to all of our projects as we enter fiscal year (FY) 2002.

**Appendix II
Comments From the Social Security
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Recommendation 4

Establish and annually review cost, benefit, schedule, and risk life-cycle expectations for each selected investment.

SSA Comment

We agree and will strengthen this in the Agency's enhanced CPIC.

Recommendation 5

Revise the IT oversight process so that the executive staff oversees the comparison of actual cost, benefit, schedule, and risk data with original estimates for all investments to determine whether they are proceeding as expected and, if not, to take corrective actions as appropriate.

SSA Comment

We agree. The Federal Acquisition Streamlining Act of 1994 requires this for both major and non-major acquisition programs of the agency. This too is being strengthened in SSA's enhanced CPIC.

Recommendation 6

Regularly perform post-implementation reviews of IT investments and develop lessons learned from the process.

SSA Comment

We agree. This issue is being addressed in our enhanced CPIC.

Recommendation 7

Develop, manage, and regularly evaluate the performance of a comprehensive IT investment portfolio containing detailed and summary information (including data on costs, benefits, schedules, and risks) for all IT investments.

SSA Comment

We agree. This is being addressed in our enhanced CPIC. We will acquire both the Information Technology Investment Portfolio System (I-TIPS) and Expert Choice software packages by the end of summer 2001, and implementation will be subsequently staged.

Recommendation 8

Implement investment process benchmarking so that measurable improvements may be made to agency IT investment management processes based on those used by best-in-class organizations.

SSA Comment

We agree. This will be addressed in our enhanced CPIC.

2. Enterprise Architecture

Recommendation 9

Establish milestones for and complete key elements of SSA's enterprise-wide architecture, including (1) finalizing its framework, (2) updating and organizing its architectures and architecture definitions under the framework, and (3) reflecting its future service delivery vision and e-business goals.

SSA Comment

We agree with the elements of this recommendation. Our plans for completing the SSA Enterprise Information Technology Architecture (EITA) are as follows:

1. Actions are underway to finalize the EITA Framework by the end of FY 2001.
2. Work is underway to update and organize architecture definitions under the EITA Framework. Current emphasis is on the documentation of the SSA IT infrastructure. Our target is to complete the existing and target architectures for SSA IT infrastructure by the end of FY 2001. Planning will soon begin for the documentation of existing and target SSA data and application architectures.
3. Target architecture definitions for SSA data, applications and infrastructure will be based on SSA's future service delivery vision and e-business goals, as suggested in the GAO recommendation.
4. By the end of calendar year (CY) 2001, we expect to set target milestones for the completion of all architectural products defined by the EITA Framework. This includes existing and target architecture definitions for SSA business processes, data and software applications. Progress against these milestones will be tracked within the SSA Office of Systems (OS) and by the SSA Chief Information Officer.

Recommendation 10

Effectively implement change management and legacy system integration policies, procedures, and processes across the agency, and set target dates for full implementation of these maintenance processes.

**Appendix II
Comments From the Social Security
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SSA Comment

We agree. While we have established system change control processes, these processes are not as well documented as they should be and, as GAO has noted, they are not founded on the use of enterprise architecture definitions. Similarly, SSA has a well-developed system integration process; however, the process is not based on the use of architectural models to ensure effective integration of new and legacy technologies.

As we further develop plans for completing the architectural products defined by the EITA Framework, we will address the need to document policies and procedures that use enterprise architectures for change management and system integration. We expect to set milestones for the development and institutionalization of such procedures by the end of CY 2001.

3. Software Acquisition and Development

Recommendation 11

Consistently apply the requirements management, project planning, project tracking and oversight, quality assurance, and configuration management policies and procedures developed by the software process improvement program across all software development activities.

SSA Comment

We concur, and have taken steps to ensure consistency. Quality Assurance representatives are now assigned to each Customer Targeted Work project. Their role, among other things, is to ensure that a software development plan is prepared, or that a waiver is appropriate and requested. A process exists to record, control, and track resolution of noncompliance.

Recommendation 12

Develop and implement a procedure to grant waivers to software development projects when deviations from policies and procedures occur.

SSA Comment

We concur. A draft procedure for granting such waivers was developed in the first quarter of FY 2001, and the final procedure was made available to users via our intranet-based Project Resource Guide in early July 2001.

**Appendix II
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4. Information Security

Recommendation 13

Strengthen the entity-wide security framework by completing policy/risk models and technical system standards (security settings) for SSA's major systems platforms.

SSA Comment

We agree. On July 9, 2001, we completed development of technical system standards and risk policy models for our major platforms.

Recommendation 14

Develop monitoring techniques and corrective actions for noncompliance for the major systems platforms.

SSA Comment

We concur. We continue to make substantial investments in software and hardware products for monitoring security preparedness, and in penetration testing services to discover any security vulnerabilities.

Recommendation 15

Use the platform security settings to strengthen security for each application utilizing these platforms.

SSA Comment

We agree. The completion of the technical systems standards and risk policy models for our major platforms noted above will facilitate enhanced security for applications using these platforms.

5. Human Capital

Recommendations 16 through 20

Complete an assessment of the Office of Systems' (OS) current and future IT knowledge and skill needs.

Develop and maintain an inventory of the OS current IT staff's knowledge and skills.

Determine whether a gap exists between current and future IT staff requirements and current staffing.

Implement workforce strategies that support the results of this gap analysis.

**Appendix II
Comments From the Social Security
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Analyze and document the effectiveness of IT strategies for recruiting, training, and retaining IT personnel, and use the results to continuously improve its IT human capital strategies.

SSA Comment

We concur that IT human capital planning needs to be reviewed and evaluated, and are pursuing the following:

- We are working with GAO to develop strong and appropriate IT human capital inventory assessment and management capabilities.
- In addition to examining private sector organizations with large systems divisions and other federal agencies to determine how they have implemented a skills inventory database, OS is working with the SSA Office of Human Resources to evaluate various competency-based human resource tools.
- Based on information gathered above, we will benchmark industry best practices and cost-benefit analyses to determine whether such an investment would add value. If determined that one of the existing systems has value, we will seek funding approval to purchase an inventory system, and establish appropriate implementation dates.
- In January 2001, OS established a recruitment team that reports directly to the Deputy Commissioner for Systems (DCS). The staff is conducting comprehensive studies and evaluations on the effectiveness of OS recruitment and retention programs and will report findings/recommendations to the DCS in late fall 2001.

Other Matters

Attached are suggested revisions to the table on page 6 of the GAO report concerning estimated costs for major SSA IT acquisitions for fiscal year 2001. The most significant changes to the table involve the Financial Accounting System (FACTS) and the Integrated Human Resources System (IHRS). The Budget Exhibits 300B included all FACTS information technology systems (ITS) budget and limitation on administrative expenses (LAE) workyear costs and did not focus only on the FACTS replacement effort. The cost estimates now shown for FACTS include only the ITS budget costs for the FACTS replacement through FY 2006 and are taken from the systems procurement request documentation. IHRS is shown as terminated.

We also note that the collection of projects should be called major IT "initiatives" rather than major IT "acquisitions," since the projects include in-house IT development efforts (Title II Redesign) as well as IT procurements.

In the section of the report including the GAO evaluation of SSA information security performance (pages 57-62), there are five "grid circle" assessments, and comments noting that SSA has not completed development of policy/risk models and technical

6

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systems standards for its major platforms. Since SSA has completed development of these models and standards (see above comments on recommendation number 13), we suggest that SSA performance for these five areas be changed to a "solid circle" assessment.

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The following is a proposed revision to the table on page 6 of the exit conference briefing package for the "Social Security Administration's Management of Information Technology" audit. Several of the projects have revised cost estimates based on more recent information than that in the documents reviewed. Further revisions may occur during the current budget cycle.

Estimated costs for major IT initiatives for FY 2001 (dollars in millions)

MAJOR IT INITIATIVES ^{1/}	Estimated FY 2001 Budget	Estimated Costs (FYs 1999-2006)
Financial Accounting System (FACTS) Replacement	2	30
Managerial Cost Accounting System (MCAS)	1	10
National 800 Number Call Center Solution	10	81
Talking and Listening to Customers	1	7
Title II System Redesign	25	201
Electronic Service Delivery (ESD) Internet Customer Services	41	157
Paperless Processing Centers	8	64
Electronic Wage Reporting System	9	62
Integrated Human Resources System (IHRS)	(The IHRS Project Has Been Terminated)	
Security Infrastructure and Operations Support	3	40
TOTAL	100	652

^{1/} These projects include in-house IT development events as well as IT procurements. Therefore, it is more accurate to refer to these projects as IT initiatives rather than IT acquisitions.

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