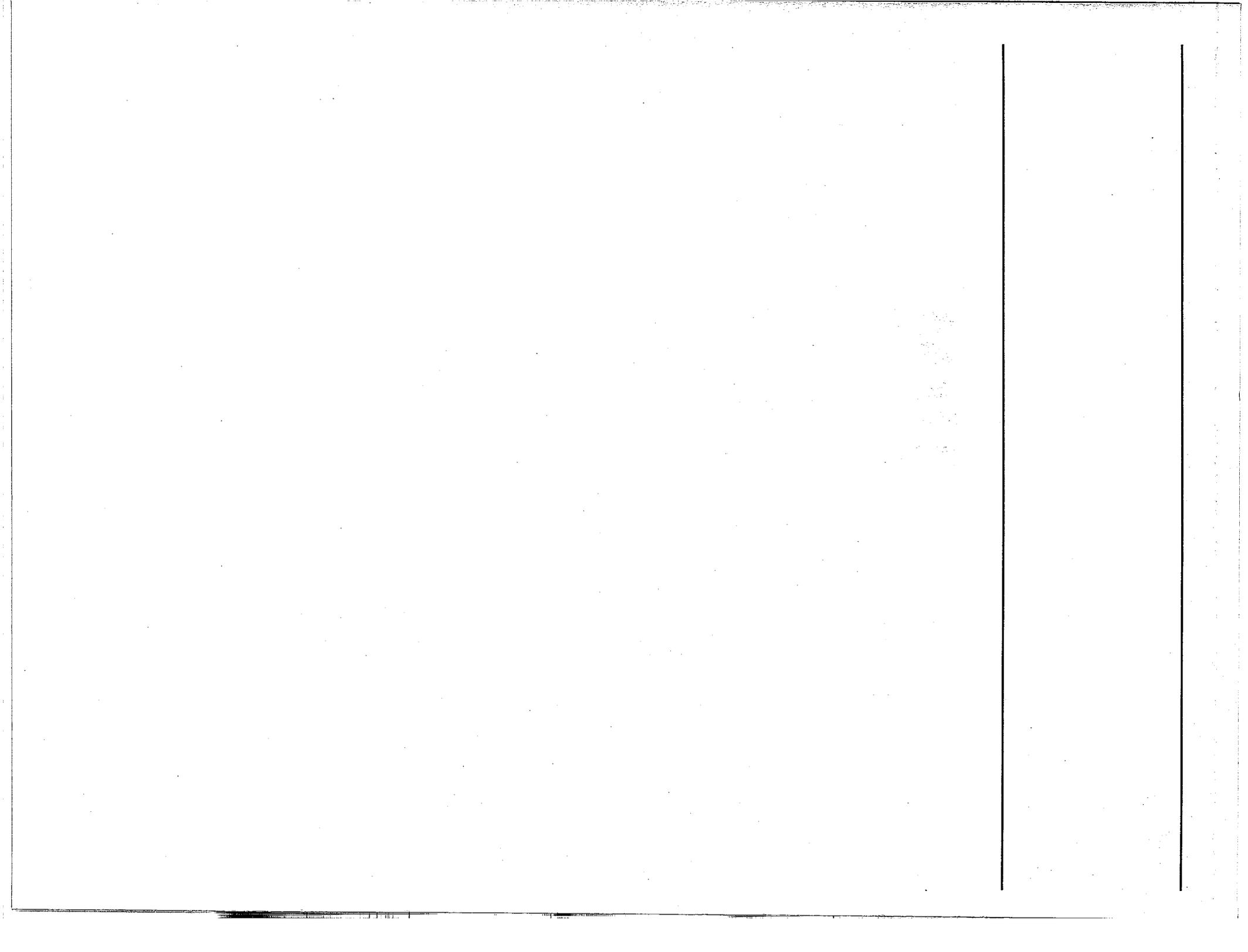


IRM
Strategic
Plan
Fiscal Years 1998-2002

March 1998





**Comptroller General
of the United States**

Washington, D.C. 20548

March 1998

To: All GAO Staff

Here is the new GAO information resources management (IRM) strategic plan. It describes major IRM initiatives and investments planned during fiscal years 1998 through 2002, and reflects the agency's priorities in meeting the mission needs of its staff and its principal external customer—the Congress. The plan emphasizes tools and systems that increase productivity and ensure economy, efficiency, effectiveness in performing GAO's work and also addresses initiatives to enhance internal IRM management processes. Most importantly, it establishes as GAO's top IRM priorities the need to ensure that the agency's information technology systems are year 2000 compliant and its technology base is kept viable.

I encourage all GAO staff to read the plan so that they may have a clear understanding of efforts both underway and planned. I also wish to thank all staff who contributed to the development of this plan.

A handwritten signature in cursive script that reads "James F. Hinchman".

**James F. Hinchman
Acting Comptroller General
of the United States.**

Message From Assistant Comptroller General for Information Management and Communications

This information resources management (IRM) strategic plan updates the September 1994 plan and translates GAO's IRM vision into action. That vision is to use modern technology solutions and implement information management process improvements so that GAO staff can do their work more quickly, efficiently, and effectively.

The requirements addressed in this plan were defined by GAO's customers—internal and external. The internal customers are GAO employees who rely on IRM tools and technology to do their job. The external customer is principally the Congress, who expects GAO to respond to its requests on time, with high quality products.

Recognizing a climate of limited resources, the plan identifies four broad initiatives that build on GAO's technology infrastructure and maximize its investments to best support users' needs. Given budget constraints, the first priority is to keep current systems operational and ensure that all agency information technology systems are year 2000 compliant.

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Abbreviations

ADSS	Audit and Decision Support System
AM	Acquisition Management
CFO	Chief Financial Officer
CIO	Chief Information Officer
DCA	Data Collection and Analysis
DMIS	Director Management Information System
FMS	Financial Management System
GAO	General Accounting Office
HRIS	Human Resources Information System
IHSF	Information Handling and Support Facility
IRM	information resources management
IT	information technology
ITIC	Information Technology Investment Committee
JIS	Job Information System
MATS	Mission Assignment and Tracking System
MS	Microsoft
OCR	Office of Congressional Relations
OGC	Office of the General Counsel
OIMC	Office of Information Management and Communications
PDF	portable document format
SF	standard form
SIM	strategic information management
T&A	time and attendance

Information Resources Management Strategic Plan Fiscal Years 1998-2002

Introduction

This IRM—information resources management¹—strategic plan lays the foundation for major initiatives and investments in support of GAO's mission and priorities through the year 2002. The plan is customer-driven. It reflects requirements defined by GAO's internal customers—the GAO user community—which are, in turn, driven by GAO's external customer—principally, the Congress.

The plan is a follow-on to the September 1994 GAO IRM Strategic Plan (OIMC-94-12) which provided a blueprint for implementing a comprehensive information and communications infrastructure involving voice, video, and data. The specific efforts outlined in that plan—complete network development, increase access to information, enhance electronic communications, publish and distribute information and products electronically, and support administrative and mission applications—have largely been accomplished. This plan builds on those initiatives and an earlier document, the GAO Data Network Architecture, October 1991, which delineated the technical architecture for GAO's existing communications infrastructure. Recognizing the current climate of limited resources, this strategic plan emphasizes IRM tools and systems that increase productivity and ensure economy, efficiency, and effectiveness in performing GAO's work. It also addresses initiatives to enhance internal IRM management processes, by taking into account governmentwide efforts to improve management practices and ensure that moneys spent on IRM activities are done so wisely and with the best possible return on investment. And, it identifies the agency's top priorities, particularly during the first half of the planning period: ensuring that GAO's information technology systems are year 2000 compliant and its technology base is kept viable.

GAO's Mission and IRM Vision

GAO's mission is to serve the public interest by providing Members of Congress and others who make policy with accurate information, unbiased analyses, and objective recommendations on the use of public resources. GAO's primary work comprises audits, investigations, and legal opinions and/or decisions, while the results of that work—GAO's principal product—is information, in the form of reports, testimonies, and decisions that are designed to improve the efficiency and effectiveness of the federal government. To develop these products, GAO gathers information from a wide variety of sources, including government agencies, the business community, and academia, as well as GAO's internal sources, created as

¹GAO's IRM resources cover a wide range of activities: end-user and administrative computing; library and data access services; local and long-distance voice services; publishing, distribution, and mail; video production and video conferencing; and retention of records and databases.

part of previous investigations. GAO analyzes the information, prepares products based on its analyses, and then publishes and distributes the products to its customers in the Congress and the general public.

The past several years have been a time of tremendous change for GAO. Despite significant budget and staffing reductions, GAO has reduced the average duration and cost of jobs, increased the percentage of external products delivered on time, and increased the measurable financial benefits resulting from GAO's recommendations and audit findings. These achievements would not have been possible without the use of information technology—together with reengineered work processes—which have enabled a smaller GAO to increase its productivity and fulfill its mission.

When GAO redesigned its job processes in 1995 and 1996, it built in links to its new data network and to the automated tools designed to improve assignment phases, from receipt of a congressional request to the distribution of the final product. In addition, as GAO has continued to enhance its information tools and systems, it has linked them directly to meeting the work needs of its staff—the user community—and to improving agencywide performance as measured by GAO's Key Performance Indicators.²

GAO's IRM vision is to use modern technology solutions and make information process improvements so that GAO employees—who have defined the requirements—can do their work more efficiently and effectively, despite the challenges of reduced funding and staff resources. This technology will enable GAO employees to

- collect, store, search, and retrieve the information they need with a minimum of effort;
- identify and collaborate with coworkers;
- communicate easily with one another, customers, and other sources of information whenever and wherever needed; and
- draw on a rich set of personal productivity tools to analyze, format, and present their information to a variety of customers.

Currently, the agency has a comprehensive communications infrastructure for voice, video, and data, which was developed based on well-defined

²These indicators reflect performance in two key areas: (1) service to the Congress and results of GAO's work and (2) efficiency and effectiveness of GAO's work processes in terms of job duration, job cost, and timeliness.

technical and marketplace standards (i.e., technical architecture). Specifically, this infrastructure includes

- a comprehensive data network with high-speed fiber optic backbone supporting local and wide area networks;
- on-line access to the GAO library as well as government and commercial research databases;
- a fully digital telecommunications system providing voice mail and messaging in all locations and a video conferencing system linking headquarters and all field offices,
- a publishing system capable of taking a product from an electronic file and distributing it electronically over the Internet without ever being printed on paper; and
- electronic support for mission functions, including data collection, analysis, and document management, and certain administrative systems.

The infrastructure is both robust and flexible enough to grow along with GAO's evolving user requirements and future technologies and stable enough to be a long-term platform upon which applications can be developed.

This IRM strategic plan—which translates GAO's IRM vision into actions—builds on the agency's existing infrastructure and is aimed at maximizing GAO's investments in technology to best support its users' requirements. To achieve this vision, GAO has defined the following four broad initiatives for this planning period:

- enhance GAO's mission processes with automated tools;
- redesign, enhance, and integrate administrative systems and applications, including reengineering GAO's printing and distribution processes;
- upgrade voice and video communications capacity, assess evolving user needs, and investigate new technologies; and
- improve the processes and practices for managing GAO's IRM resources.

Each of these initiatives is discussed below and summarized in appendix I.

IRM Initiatives

Enhance Mission Processes With Automated Support Tools

Enhancing GAO's IRM capacity demands an in-depth understanding of the agency's business processes and requirements, a viable and year 2000 compliant technology base upon which to build new applications, and an ongoing commitment to funding the inevitable costs involved in operating and maintaining the technology. It also requires that the costs and benefits of technological solutions be defined to ensure that the selected solution is properly developed and employs a disciplined process that includes a high level of user involvement. Because technology is changing so rapidly, complex projects must be attacked by using a modular strategy, that breaks large projects into separate developmental segments that can stand on their own, and by achieving success in each segment before starting the next.

GAO's goal in this initiative is to create an information environment that allows employees to easily develop, access, and share the specific information relevant to their assignments. This should enhance their capability to more quickly identify the databases and data available to them; extract and analyze the data they require; choose presentation strategies appropriate to their data, their message, and their audience; and communicate the results clearly. Completing this initiative should contribute to achieving GAO's goals of improving quality and reducing cycle time.

A key aspect in achieving these goals involves providing employees with enhanced capabilities to draw on a rich base of information resources, including information from the Internet, Intranet, GAO's professional research capabilities, and, perhaps most importantly, the past work that GAO has done. To provide these capabilities, GAO will develop a methodology for identifying, categorizing and storing information that has a both long-term and enterprise-wide value to GAO. GAO has laid the foundation for this process—more commonly referred to as knowledge management—with the implementation of document management capabilities and the creation of a knowledge collection database on the network. Knowledge management offers a means to capture assignment-specific information and the expertise (i.e., methodologies) of the people who carry out the assignments. The goal is to manage this knowledge as a valuable agency resource and through the use of technology make it easily available. Technology has also affected the

relative roles of evaluators and library researchers in carrying out research on assignments and how records management responsibilities in an electronic age should be satisfied. These functions will be examined for process reengineering opportunities.

Finally, GAO has emphasized to other federal agencies the absolute necessity of securing the information on their systems. Although security studies of GAO's network have been done by outside consultants, the network has not been subjected to prearranged testing to assess its vulnerability to intrusion. Such a test will be done to ensure that GAO's information and systems are secure and that GAO fully complies with the Computer Security Act of 1987.

Objectives

1. Keep GAO's technology base viable and ensure year 2000 compliance with timely upgrades and selective replacements to extend capabilities and meet business needs.
2. Enhance employees' ability to create, manipulate, analyze and share information.
3. Enhance knowledge management capabilities to maximize access to information resources, modernize the records management system, and leverage the research capabilities of evaluator and library research staff.
4. Ensure that GAO's information is protected at an appropriate level of security.

To achieve these objectives, GAO will

- Upgrade Novell Netware to release 4.11. This upgrade will bring the network operating system up-to-date and will make document-sharing over the network much more efficient. It will enable each user to access any network library without being a permanent member on it, making the network appear to be operating on one large server instead of many smaller and separate servers. In addition, it will significantly reduce the effort required to maintain network server directories. (Spring 1998)
- Upgrade DOCS Open version to release 3.5. This upgrade will enhance GAO's key document management tool by providing such features as an advanced search and retrieval function that is more suited to GAO needs, the integration of image files to a portable document format (PDF)—which

is GAO's electronic publishing and storage format—and full integration of GAO's project planning software—Microsoft (MS) Project. (Spring 1998)

- Expand Internet/Intranet-related development. This effort will provide a web browser that links DOCS files to GAO's internal and external web sites and ability to prepare compound/complex documents with electronic links from a master document to specific sections of supporting documents thereby affording indexing and referencing capabilities. (Spring 1999)
- Upgrade Windows 3.1 to Windows 95 and replace the currently deployed personal productivity tools that are independent of one another—i.e., word processing, spreadsheet, graphics applications—with an integrated set of applications that link to one another. The upgrade will provide GAO with the industry standard for desktop workstations. The current Windows 3.1 and word processing software are no longer commercially supported by hardware or software vendors and are becoming increasingly difficult to maintain. The upgrade gives GAO an integrated set of applications including document management, word processing, spreadsheet, graphics, and project management. This “suite of software” will provide far greater capabilities for reducing document creation time, streamlining document production, and generally improving the stability of these tools. (Pilot—summer/fall 1998; implementation—winter 1998/1999)
- Upgrade servers, backbone, and desktop workstations. This upgrade will modernize GAO's servers and workstations and increase the speed of data transmissions to employees' desktops. These improvements will increase the capacity for processing resource intensive commercial applications that require the simultaneous use of several applications such as document management and spreadsheet software. This upgrade will be made in concert with the agency-wide upgrade to Windows 95 and the software suite. (Fall 1998)
- Provide the appropriate level of security to GAO information, including classified information. With more of GAO's information residing on the network in electronic formats, the agency must continue its efforts to ensure that information is protected at the appropriate level of security and against intrusion from outside sources. GAO will follow the lead of the Department of Defense, the National Security Agency, and the National Institute of Standards and Technology and extend security to higher levels as the technology to do so becomes available and cost-effective. A pilot test is scheduled for fiscal year 1998 to test the encryption of sensitive

information by using a combination of hardware and software certified by the National Security Agency. (Pilot—fall 1998; Implementation—summer 1999)

- Test network vulnerability to intrusion. GAO will contract with a security expert to attempt to breach network security. (Fall 1998 and every 6 months thereafter)
- Assess GAO's requirements for knowledge management and determine the appropriate management and technical infrastructure to support those requirements. Knowledge management refers to an integrated approach for identifying, managing, and sharing an organization's information assets. At GAO, those assets include internal databases, reports, documents, policies, and procedures, as well as information developed by staff that represents expertise in a subject area or organization. Recognizing that much of GAO's knowledge management assets can be stored and reached by users through network technology, the agency will also analyze its research processes and tools and determine the "best practices" in these areas. (Fall 1998)
- Develop a comprehensive program for managing electronic records. GAO's official records have always been on paper. As more of GAO's work, including the publication and distribution of its products, is done in an electronic format, its records management policies, procedures, and practices must be revised to preserve its corporate memory; to facilitate the review, retrieval, and reuse of information from past jobs in support of knowledge management; and to meet the requirements of the National Archives and Records Administration. (Summer 2000)

Redesign, Enhance, and Integrate Administrative Systems and Applications

With its information infrastructure in place and supporting a variety of mission-related applications, GAO plans to turn its attention to extending client/server technology to its administrative systems. Currently, the agency's administrative systems, also known as legacy systems, are based on an older technology: principally, stand-alone mainframe systems that provide standard reports to managers on the status of various functions. These systems are either not integrated or integrated to a very limited extent and are both inflexible and costly. They do not generally allow users to customize the information to meet unique organizational needs, and their required input and reporting cycles often do not coincide with the cadence of individual jobs, thereby affecting the timeliness and accuracy of the information. Moreover, because these systems do not pass

information between them, users are required to enter the same information multiple times, creating multiple opportunities for data entry errors. The systems are also costly as they reside on mainframe computer systems located outside GAO, under a variety of contractual arrangements.

These systems fall into two general categories:

- Systems that directly support jobs or the assignment process, including systems that control such processes as congressional correspondence tracking and control, management and assignment information, publishing and distribution, and audit and decision support carried out by the Office of the General Counsel (OGC).
- Systems that support more indirect, traditional administrative processes, such as travel, human resources information, and procurement.

GAO's goal here is twofold: (1) to reduce the costs of running administrative systems by moving from costly mainframe systems to a more cost-effective client/server environment and (2) to use the existing network infrastructure to update its administrative systems and provide seamless integration through single keystroke data entry, thereby eliminating such staff "pain points" as rekeying the same information multiple times. Simply stated, staff will need to enter information only once into an administrative system, and the information will automatically link to other administrative/management information systems. In addition to moving these systems from one platform to another, we will also be reengineering these systems to help ensure that they meet GAO user requirements and add value to how GAO manages its work. As these systems are reengineered and redesigned, they will evolve into user-defined, integrated management systems to help managers plan, staff, execute, and evaluate assignments, thus enabling GAO to provide the Congress with the information it needs, when it is needed, and at the lowest possible cost.

The top priority for GAO in addressing administrative systems is ensuring that any system that is redesigned, as well as existing systems that will continue into the year 2000, are year 2000 compliant. GAO will ensure that all of its systems, including all related hardware and software, are year 2000 compliant.

The order in which individual systems will be redesigned is based upon the identified opportunity for cost savings and any sequencing that is

required to accomplish the effort (i.e., one effort must be completed before another can begin, as the latter effort builds on the earlier effort). For the most part, systems that directly support the job process and offer the most potential for cost savings and efficiency improvements will receive the highest priority. The speed at which these systems can be developed is limited primarily by funding considerations. The schedule also assumes that network support costs can be reduced by implementing standard hardware and software platforms and that these cost savings will be made available for developing administrative systems.

Objectives

1. Ensure that all GAO administrative systems are year 2000 compliant.
2. Begin integrating GAO's administrative systems into a common client/server architecture to reduce operating costs, break down stovepipes that currently occur between systems, enable better operational performance, and ease the administrative burden for staff that use the systems.

To achieve these objectives, GAO will

- Assess, repair and/or replace all administrative systems' hardware and software as necessary to ensure year 2000 compliance and ensure that any changes are adequately tested. Hardware or software, whether on the network or on mainframes supporting GAO's pay system, in particular, must account for the change to the year 2000 to avoid potential processing errors or system failure. (Spring 1999)
- Begin redesigning GAO's administrative systems using (1) agency-sanctioned development methodology and standards that adhere to a structured, yet flexible process of planning, user involvement, and evaluation and (2) modular system modeling and database design, by which each system will be segmented into separate modules for development and implementation, and each completed module then builds on another to form a complete system. When completed, the result will be reengineered administrative systems that are linked to one another so information and data pass effortlessly between the systems and appear to the user as one single system where data is entered only once. The priority for implementing the separate systems' modules within each general category and their estimated completion dates are listed below.

Systems Supporting GAO's Job Management Process

- **Job Information System (JIS)**—This system, implemented in spring 1997, replaced the job starts system and the job assessment tool and mitigation plan introduced as part of GAO's reengineered job management process. JIS allows the electronic transmission of job acceptance and commitment information within GAO as well as updates to the research notification system maintained by the Congressional Research Service. It also produces information for entering new jobs into the Mission Assignment and Tracking System (MATS) and prepares and distributes reports and forms for managing, monitoring, and coordinating audit assignments. (Updates ongoing)
- **Information Handling Support Facility (IHSF)**—IHSF refers to the systems operated and maintained by Lockheed Martin, a GAO contractor. The systems include the GAO Documents Database—GAO's corporate memory, containing bibliographic information on over 80,000 GAO documents dating as far back as 1921—and a variety of unit-specific systems for GAO divisions and offices, including the Fraud Hotline, the Automated Procurement Documentation System, the Policy Guidance System, the Index Entry and Thesaurus Maintenance System, the GAO Employee Locator System, and an online derestriction program. In addition, IHSF supports all aspects of GAO product distribution (planned and demand, including operation of Room 1100), inventory control (archived records and workpapers), and customer databases. All these systems are being redesigned to move the databases to a client/server environment, with a link to MATS. (Fall 1998)
- **PCTrack**—This system is the Office of Information Management and Communications' (OIMC) publishing unit's internal tracking and reporting system for all work and services provided by the unit, including print jobs and graphics work. This system will be redesigned, linking it with MATS and with the projects database, formerly in IHSF, to support the revised publishing and distribution process and the conversion to Windows 95/MS Office 97. (Fall 1998)
- **Office of Congressional Relations (OCR) Electronic Records System**—This system will automate a manual process used by OCR for routing congressional requests to appropriate action units by providing for the scanning of the incoming requests and electronically routing them to the units through DOCS Open as they are processed. It will also include, as a separate effort, a reengineering of GAO's various correspondence distribution and control systems. (Request routing—winter 1998-1999; correspondence control—spring 1999)

- **Time and Attendance (T&A)/PC-TARE**—This system, which is GAO's time and attendance reporting interface with the National Finance Center, captures staff time and leave charges by job code and is used to input that data to the GAO payroll and MATS systems. It will be redesigned as an on-line, network-based replacement of GAO's manual paper-based T&A system, replacing PC-TARE and breaking out job-related time charges. This effort must be completed prior to redesigning MATS as a client/server application. (Fall 2000)
- **Mission Assignment and Tracking System (MATS)**—MATS maintains records on all GAO audit assignments and congressional requests. The system comprises four subsystems: (1) Jobs Management Subsystem, which tracks audits, audit-related assignments, and costs; (2) Congressional Request Subsystem, which tracks congressional requests and mandates in terms of receipt, acknowledgement, assignment, and status; (3) Issue Area Reporting Subsystem, which captures issue area staff year budgets and tracks expenditures; and (4) Staff Year Projection Subsystem, which tracks staff year allocations and expenditures and provides modeling of attrition and accession rates by pay period. This mainframe MATS system will be replaced by a network-based, client-server system providing the same basic, but enhanced functionality. (Winter 2001/2002)
- **Director Management Information System (DMIS)**—DMIS provides timely on-screen reporting of job status by issue area director from MATS data downloaded daily. The functionality of this system will be integrated into the network-based redesigned MATS system. (Winter 2001/2002)
- **Audit and Decision Support System (ADSS)**—ADSS is OGC's automated case-tracking system for work performed by OGC. The system will be enhanced and integrated with MATS so (1) MATS data is imported into ADSS and (2) the status of legal review in GAO's audit assignments is available within MATS. (Summer 2002)

Systems Providing Indirect Support to GAO's Job Management Process

- **Travel Management System**—The Travel Management System, custom-designed by one of GAO's divisions, provides for the generation of travel orders and vouchers and the allocation and tracking of travel budgets and expenditures on a real-time basis. This system will be replaced by an off-the-shelf, client/server software package that will facilitate data entry and the reporting of travel orders and vouchers and

will be linked to GAO's Financial Management System (FMS). This replacement travel system will be an interim measure until a full review can be undertaken of GAO's requirements for a financial management system. The current FMS system has served GAO well but is becoming outdated and needs to be integrated with the financial systems of other legislative branch agencies. This full review of GAO's financial management requirements will be carried out jointly with these agencies. (Spring 2001)

- Human Resources Information System (HRIS)—HRIS is a unit-based human resources system, comprising five subsystems: (1) Personnel Subsystem, which facilitates the creation and tracking of requests for personnel action (SF 52s) and provides reports from links with the payroll and personnel system; (2) Training Subsystem, which tracks an individual employee's training and compliance with continuing professional education requirements, tracks the unit's training budget, and links to GAO's internal training registration system known as Registrar; (3) Appraisal Subsystem, which captures appraisal information for each employee in a unit; (4) Awards Subsystem, which tracks awards and decisions on merit pay increases for unit staff; and (5) Staffing Subsystem, which facilitates decisions on assigning staff to audit work, using MATS staff assignment data and division and core group profile information. The entire HRIS system will be replaced by a commercial off-the-shelf, client/server software package meeting the basic requirements served by HRIS. (Summer 2002)
- Acquisition Management (AM) Procurement Support System—AM uses the Automated Procurement Documentation System, maintained under the IHSF contract, for tracking GAO's procurement activity. The system uses outdated technology that needs to be replaced. The proposed system, using off-the-shelf software, will allow the tracking of procurement actions from requisition through award and contract administration. (Summer 2002)

Upgrade Voice and Video Communications Capacity, Assess Evolving User Needs, and Investigate New Technologies

GAO has built a quality voice and video communications infrastructure. During this strategic planning period, the agency will continue to maintain these systems while upgrading the quality and reducing the cost of communications whenever possible. GAO also recognizes that new applications for these basic technologies, including the possibility of using the system to support OIMC's customer service functions, are emerging that can, in turn, leverage the current infrastructure and improve performance and/or productivity. These applications include voice call processing, on-demand video training, desktop video conferencing, and cable network

broadcasts to the desktop workstation. GAO's goal in this area is to work with the user community to develop requirements for advanced voice and video applications and begin the analysis, testing, and implementation as resources become available.

As in the case of administrative systems, a top agency priority is ensuring that GAO's communications systems are year 2000 compliant. To this end, GAO will upgrade aging voice mail systems to be year 2000 compliant.

Objectives

1. Ensure that GAO's communications systems are year 2000 compliant.
2. Document user requirements and the feasibility for advanced voice and video applications in GAO.

To achieve these objectives, GAO will

- Upgrade/replace aging voice mail systems as necessary to ensure year 2000 compliance. (Summer 1998)
- Prepare a report delineating an overall approach for assessing advanced video applications for the GAO user community. The report will include target areas for study and an approach for conducting the technical and cost/benefit analyses. (Fall 1998)
- Evaluate and implement voice call processing for major GAO IT customer service functions using the current voice communications infrastructure, thereby replacing multiple customer service telephone numbers with just one. (Summer 1999)

Improve Processes and Practices for Managing IRM Resources

Spurred on in part by the work of GAO, recent legislation has focused attention on how agencies plan, manage, and acquire information resources and technology. These include, among others, the Clinger-Cohen Act of 1996, the Paperwork Reduction Act of 1995, and the Government Performance and Results Act of 1993. The requirements set forth in these legislative initiatives are directed at ensuring that IRM investments are justified, address business needs, and achieve anticipated benefits and maximum returns on investment.

Given this legislative direction, as well as the burgeoning importance of technology in promoting the achievement of mission goals and improving agency performance, GAO performed a self-assessment of its IRM processes and practices in late 1996 and early 1997. The assessment, known as a strategic information management (SIM) assessment, helped GAO compare its information management practices to the best practices of leading organizations. The assessment highlighted successes and identified ways the agency could improve the use and management of its information and supporting technology resources and provided a baseline for judging progress in making these improvements. From this assessment, GAO has identified initiatives to institutionalize processes that will make its IRM management practices among the best. The objectives of these initiatives are focused on six best practices defined by the SIM assessment methodology.

Objectives

1. Foster and maintain an environment where management and staff recognize the importance of IRM to GAO's mission.
2. Develop and implement management processes that integrate strategic planning, budgeting, and evaluation.
3. Define and apply indicators that measure IRM performance in terms of GAO's goals.
4. Determine GAO's IRM requirements by mapping its hardware, software, and data and communications architectures to its business processes.
5. Build GAO-wide IRM capabilities to satisfy these requirements.
6. Manage IRM projects as investments.

To achieve these objectives, GAO will

- Link GAO's performance appraisal and rewards system to proficiency in using technology to improve business outcomes (e.g., reduced cycle time, improved quality of products). GAO has modified existing performance appraisal and rewards systems to establish direct links between staff's use of technology and these systems. The linkage was put in place for the fiscal year 1998 appraisal cycle. (Fall 1998)
- Involve GAO's Information Technology Investment Committee (ITIC)³ in all key IRM decisions. The ITIC was established to oversee technology spending, work with OIMC to develop the IRM strategic plan, and review all future spending to implement the strategy. The committee reviews all information technology investments proposed by OIMC, provides advice to the Budget Committee on those investments that best support GAO's strategic goals and business plans, and prioritizes those investments. To be effective, the ITIC must be well informed about the current condition of GAO's information technology and systems, technology trends, anticipated development costs and time frames, and the factors influencing the priority and the potential sequencing of individual initiatives. OIMC will work closely with the ITIC to help ensure that the committee has all the information it needs to make informed IRM decisions to meet the mission needs of the agency and ensure the most effective use of IRM dollars. OIMC will also work with the committee and GAO's Training Institute to develop an Information Technology Executive Education Program to familiarize GAO executives with technology and IRM issues and practices. (Fall 1998)
- Link IRM strategic planning, financial management, capital investment planning, and project management. GAO has begun initiatives that will integrate all five elements of the strategic planning cycle—long-term strategic and information planning, systems life cycle and project level planning, budget review, performance assessment, and architecture management—so the output of one process becomes the input of the next. Although these links are not nearly as strong as they should be, GAO has made progress by involving business units in IRM strategic planning and budget creation and by implementing a financial management process where individual project costs are tied to the budget. GAO has also forged a closer relationship between the business units and OIMC through the use of user feedback groups and steering committees. GAO expects that a report documenting these links will be produced, and a unified system

³The Information Technology Investment Committee, established on September 20, 1996, is chaired by the Acting Comptroller General and includes all agency Assistant Comptrollers General, the Chief Financial Officer (CFO), the Chief Information Officer (CIO), the Director of Public Affairs, the General Counsel, the Deputy Assistant Comptroller General for Operations, and the Manager of the Dallas Field Office as the field office representative.

implemented, for the fiscal year 1999 budget process. (Summer 1998)

- Ensure that all new software and systems contribute to business outcomes and meet the needs of end users by applying a standard methodology and documentation process. The methodology requires a structured (but flexible) approach for planning, multiple evaluation and decision points, and a significant level of participation of end users—both managers and staff—during various phases, including requirements definition, design, and evaluation. This methodology was successfully used in the development of the data collection and analysis (DCA) application and JIS and will be used in all major system development efforts. The methodology has been codified as GAO IRM policy and standards and was issued in November 1997. (Implementation—winter 1997/1998)
- Link IRM performance indicators to GAO's mission accomplishments. OIMC is developing performance measures for its services and IRM projects, linking them wherever possible to GAO's mission performance measures, especially in areas of process efficiency. This effort also involves creating service-level agreements with each business unit, where the services and support provided by OIMC—the performance and service expectations—are clearly specified. (Spring 1998)
- Define GAO's IRM requirements by mapping its hardware, software, and data and communications architectures to its business processes and targeting its IRM development efforts at core mission delivery processes. "Core" processes are those whose cost and/or importance to customers and their potential for return on investment are significant. All new projects, as part of their justification, must include an analysis of how they help meet the requirements for core business processes. A high-level description of the relationships between levels of architecture will be developed and published as IRM policy and standards. (Winter 1998/1999)
- Assess GAO's capability and resources to develop and support IRM systems and initiatives. This assessment will include both monetary and human resources requirements and capabilities. GAO has developed baseline cost information and using a cost model from Gartner Group's GartnerMeasurement (formerly Real Decisions) has compared itself with similar organizations. The results of this analysis are being used to identify opportunities for reducing costs. GAO is undertaking the following four-pronged approach to address human resources issues related to ensuring effective customer support, high quality development initiatives,

and appropriately trained staff who can efficiently use the technology.
(Fall 1998)

(1) Centralize computer support and transfer resources previously located in the business units to OIMC.

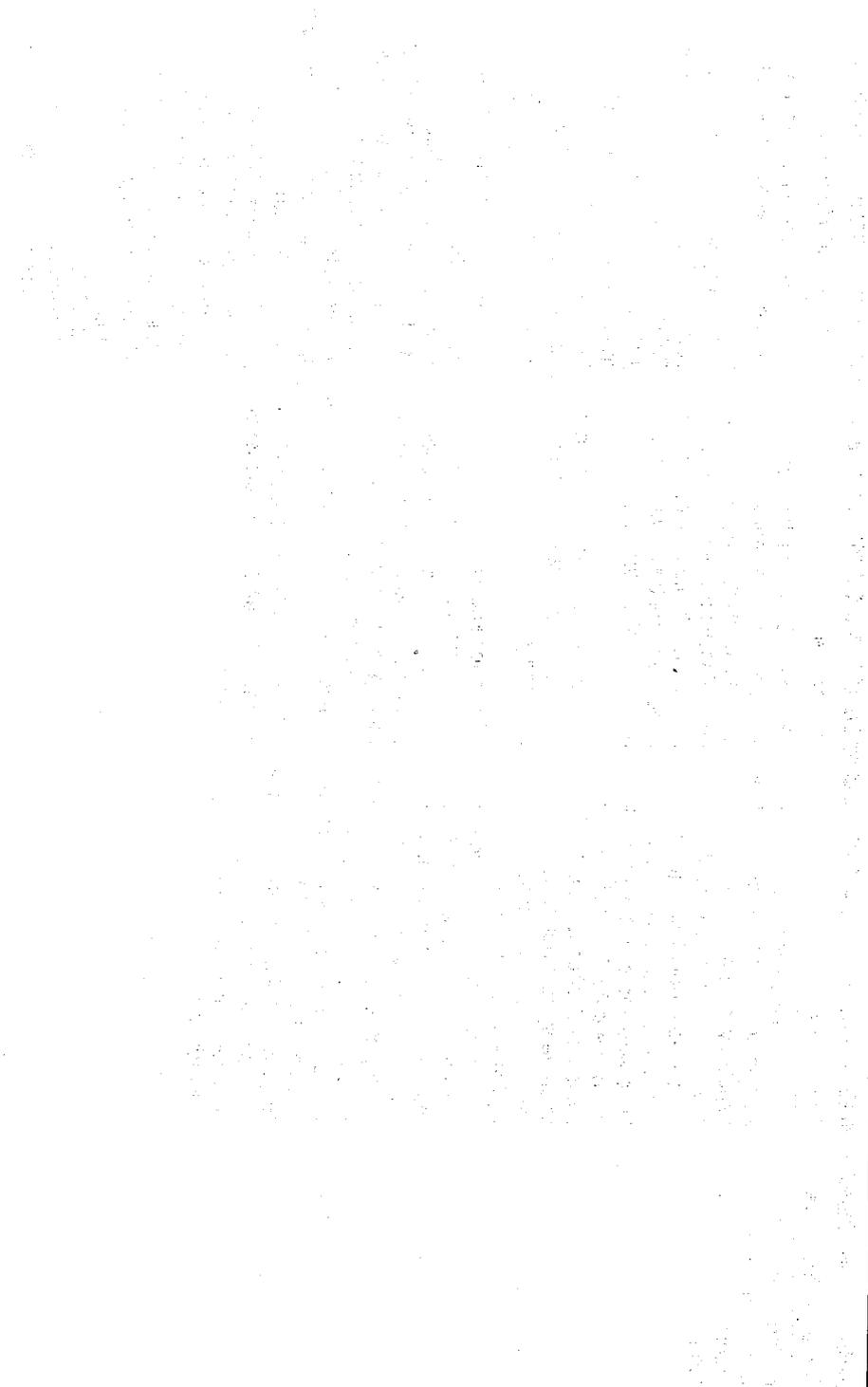
(2) Designate technical representatives for each unit who will gain expert knowledge of that unit's functions and requirements and who will serve as OIMC's agent in the unit. These individuals will be supported by unit focal points. With unit management, GAO will provide skill assessments and ensure consistent training of these focal points. A model of this process will be included in the Windows 95/MS Office 97 operational test.

(3) Identify the skills required to carry out IRM operations and development functions, assess the capabilities that currently exist in both GAO and contractor staff to successfully carry out those functions, determine the shortcomings that exist, and develop a plan to overcome them.

(4) Explore a variety of new/evolving training approaches, such as network-based training and video-based training to provide cost-effective technology skills enhancement for staff. This will include developing a skills inventory of user knowledge, a proficiency test and post-training assessment tool, and a mandatory training program for all new hires.

Funding Challenges

Because of budget constraints, completing these initiatives within their time frames is dependent on obtaining funding levels that may exceed what is available. In that event, OIMC, as the lead organization, will work closely with the ITC to reevaluate GAO's priorities. These priorities will be based on decisions about investments required to keep the current network operating and the agency's systems year 2000 compliant; funding commitments that have already been made and must be met, such as the Novell Netware 4.11 network operating system and the Windows 95/MS Office upgrade; and the extent to which a project reduces budget costs and/or enables staff to improve efficiency and productivity.



GAO/OIMC-98-3

IRM Initiatives

Strategic Initiative	Significance	Objectives	Projects and Time Frame
Enhance mission processes with automated support tools	<p>Enhancing the effectiveness and efficiency of staff by improving their capability to develop, access, and share information will result in increased productivity, quality, and/or reduced cycle times. Hardware and software upgrades will be year 2000 compliant and avoid obsolescence, substantially improve system performance, reduce document creation time, and streamline document production. Providing improved access to the Internet and GAO's Intranet, professional researchers, and past work will improve the quality of GAO's work and reduce time frames. Security checks and improvements will ensure system and information reliability. Enhancing GAO's ability to comply with records management requirements in an electronic age will reduce costs.</p>	<ul style="list-style-type: none"> • Keep GAO's technology base viable and ensure year 2000 compliance with timely upgrades and selective replacements to extend capabilities, meet mission needs, and better serve internal and external customers. • Enhance staff's ability to create, manipulate, analyze, and share information. • Enhance knowledge management capabilities to maximize access to information resources, modernize the records management system, and expand the research capabilities of evaluator and library research staff. • Ensure that GAO's information is protected at an appropriate level of security. 	<ul style="list-style-type: none"> • Upgrade network operating system to Novell Netware 4.11 (spring 1998). • Upgrade document management software (DOCS Open) to release 3.5 (spring 98). • Link DOCS files to Internet/Intranet and enhance indexing and referencing capabilities (spring 1999). • Upgrade desktop operating system to Windows 95 and replace personal productivity tools (winter 1998/1999). • Upgrade servers, backbone, and desktop workstations (fall 1998). • Upgrade security capabilities to higher levels (summer 1999). • Test system vulnerability to intrusion (late fall 1998 and every 6 months thereafter). • Assess requirements for knowledge management; determine management and technical infrastructure to support these requirements; and analyze GAO's research processes and tools to determine best practices. (fall 1998). • Develop program for managing electronic records (summer 2000).

(continued)

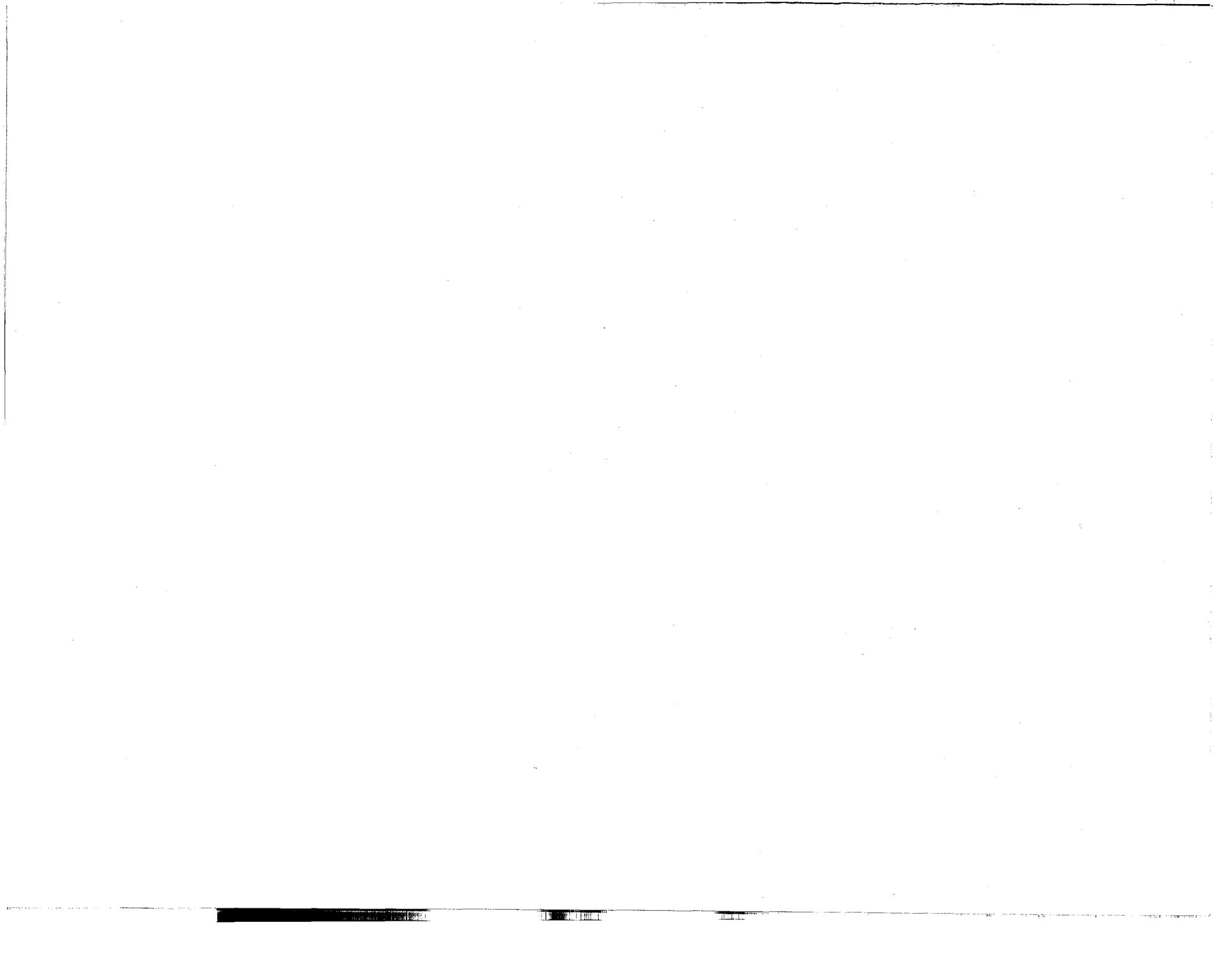
**Appendix I
IRM Initiatives**

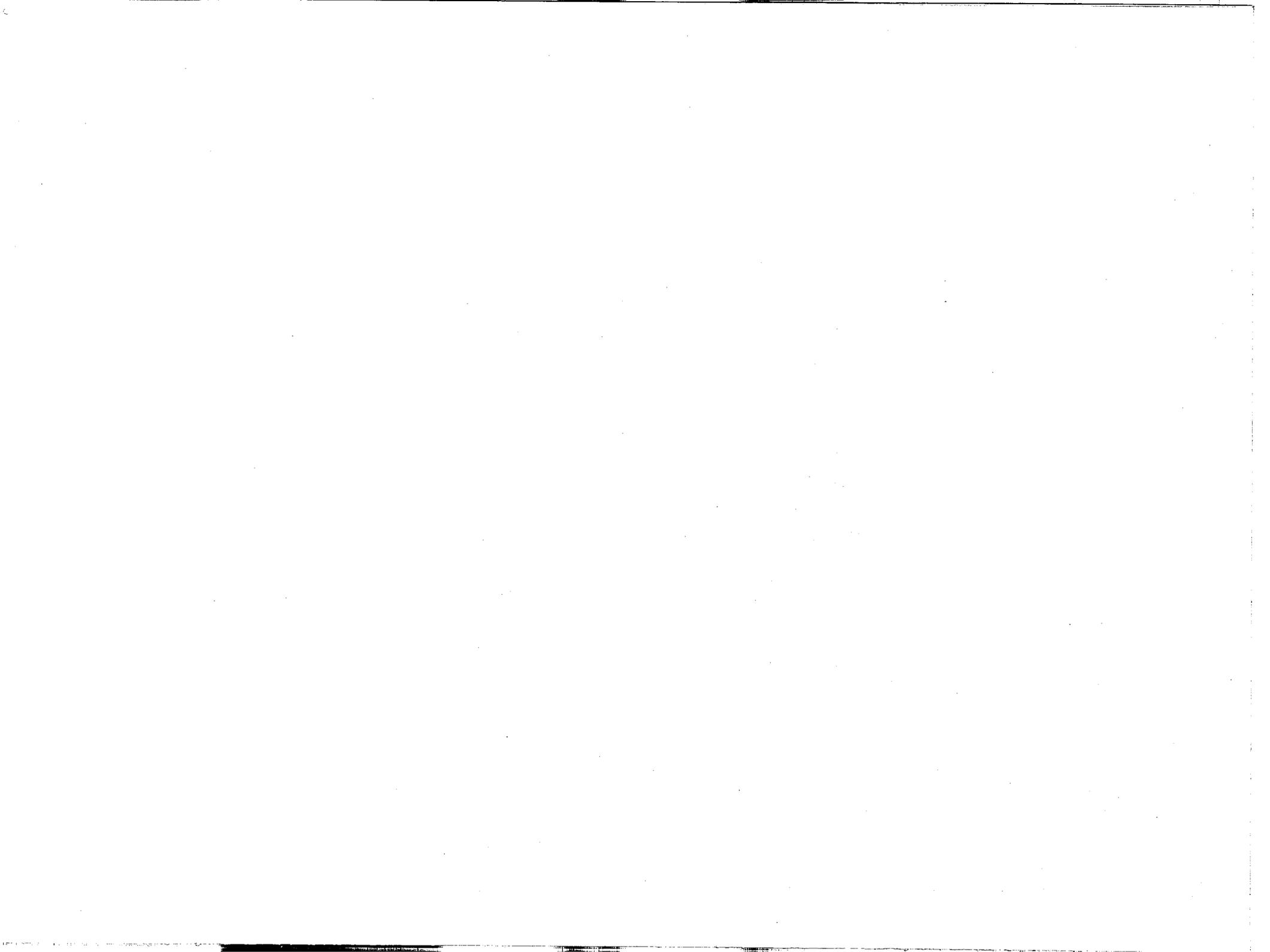
Strategic Initiative	Significance	Objectives	Projects and Time Frame
Redesign, enhance, and integrate administrative systems and applications	<p>Current systems are based on older, more costly mainframe technology that is either not integrated or integrated to a limited extent among the systems. These systems tend to be inflexible and costly and do not allow customization of reports and/or information. In addition, reporting cycles do not always coincide with needs affecting the timeliness and accuracy of information. Users are required to enter the same information multiple times, increasing the risk of data entry errors and reducing productivity. Opportunities exist for substantial cost savings. A top priority is ensuring year 2000 compliance.</p>	<ul style="list-style-type: none"> • Ensure that all GAO systems (hardware and software) are year 2000 compliant. • Integrate GAO's administrative systems into a common client/server architecture to reduce operating costs, break down stovepipes, improve operational performance, and ease staff's burden in using the systems. 	<ul style="list-style-type: none"> • Assess, renovate, and/or replace GAO's systems (hardware and software) as needed to make them year 2000 compliant (spring 1999). • Redesign the following administrative systems by using GAO's information technology (IT) development methodology and standards and a modular approach: <ul style="list-style-type: none"> Systems supporting job process <ul style="list-style-type: none"> • Job Information System (JIS) (updates ongoing) • Information Handling and Support Facility (IHSF) (fall 1998) • PCTrack (fall 1998) • Office of Congressional Relations (OCR) Electronic Records System (spring 1999) • Time and Attendance (T&A)/PC-TARE (fall 2000) • Mission Assignment and Tracking System (MATS) (winter 2001/2002) • Director Management Information System (DMIS) (winter 2001/2002) • Audit and Decision Support System (ADSS) (summer 2002) Indirect support systems <ul style="list-style-type: none"> • Travel Management System (spring 2001) • Human Resources Information System (HRIS) (summer 2002) • Acquisition Management (AM) Procurement Support System (summer 2002)

(continued)

**Appendix I
IRM Initiatives**

Strategic Initiative	Significance	Objectives	Projects and Time Frame
Upgrade voice and video communications capacity, assess evolving user needs, and investigate new technologies	New applications—such as voice processing for major customer service functions, on-demand video training, desktop video conferencing, and cable network broadcasts to the desktop—offer the potential for improved performance and/or productivity. Ensuring that GAO's voice mail system is year 2000 compliant is a top priority.	<ul style="list-style-type: none"> • Ensure that GAO's communications systems are year 2000 compliant. • Document user requirements and feasibility for advanced voice and video applications in GAO. 	<ul style="list-style-type: none"> • Upgrade/replace voice mail systems to ensure year 2000 compliance (summer 1998). • Prepare a report defining an approach for assessing advanced video applications (fall 1998). • Acquire expertise to evaluate and implement voice call processing for GAO customer service functions (summer 1999).
Improve processes and practices for managing IRM resources	Recent legislation, addressing IT management issues, has set forth requirements to help ensure that IRM investments are justified, address business needs, and achieve anticipated benefits and maximum return on investment. GAO's strategic information management (SIM) assessment helped the agency to compare its information management practices to the best practices of leading organizations. From this assessment, GAO has identified initiatives to institutionalize processes that will make its IRM management practices among the best.	<ul style="list-style-type: none"> • Foster and maintain an environment where management and staff recognize the importance of IRM to GAO's mission. • Develop and implement management processes that integrate strategic planning, budgeting, and evaluation. • Define and apply indicators that measure IRM performance in terms of GAO's goals. • Determine GAO's IRM requirements by mapping its hardware, software, and data and communications architectures to its business processes. • Build GAO-wide IRM capabilities to satisfy these requirements. • Manage IRM projects as investments. 	<ul style="list-style-type: none"> • Link GAO's performance appraisal and rewards system to proficiency in using advanced technology (fall 1998). • Involve GAO's Information Technology Investment Committee (ITIC) in all key IRM decisions (ongoing) and develop IT Executive Education Program (fall 1998). • Link IRM strategic planning, financial management, capital investment planning, and project management (summer 1998). • Ensure that all new software and systems contribute to business outcomes and meet the needs of end users by applying a structured methodology and documentation process (implementation—winter 1997/1998). • Link IRM performance indicators to GAO mission accomplishments (spring 1998). • Map hardware, software, and data and communications architectures to business processes, target IRM development efforts at core mission delivery processes, and publish architecture (winter 1998/1999). • Assess GAO's capability and resources to develop and support IRM systems and initiatives and reduce costs (fall 1998).





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