

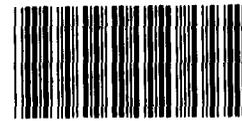
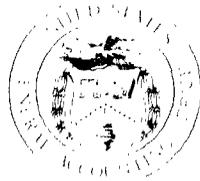
GAO

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

February 1990

TAX SYSTEM MODERNIZATION

IRS' Challenge for the 21st Century



140932

RESTRICTED—Not to be released outside the
General Accounting Office unless specifically
approved by the Office of Congressional
Relations

547686

RELEASED

Information Management and
Technology Division

B-227683

February 8, 1990

The Honorable J. J. Pickle
Chairman, Subcommittee on Oversight
Committee on Ways and Means
House of Representatives

Dear Mr. Chairman:

In response to your September 29, 1989, request, this report discusses the progress of the Internal Revenue Service's (IRS) Tax System Modernization (TSM) program in achieving a fully automated and modernized tax processing system. Specifically, you requested that we assess (1) the extent to which the program will meet its overall goal of improved service to taxpayers, and (2) whether individual components are guided by a strategic plan and have discrete, measurable deliverables.

Synopsis

The modernization program is characterized by high expectations and unanswered questions. IRS has spent about \$120 million on TSM since its inception in 1986 and expects to spend several billion dollars more to complete it. Although the program has made significant progress since 1986, the extent of this progress is difficult to measure because the nature and scope of the program has not been clearly articulated. At present, the program is a collection of independent modernization projects, most of which are intended to upgrade existing systems or provide additional computer capacity to meet near-term requirements. While many of these projects should yield badly needed improvements to IRS' tax processing capability, the Service needs to clarify how they will fit together into an integrated system that will meet the agency's needs into the next century. This uncertainty stems in large part from the fact that IRS does not expect to complete its Master Plan for TSM until the Fall of 1990. Without the road map that this plan is intended to provide, it has been difficult for IRS to articulate to the Congress what projects will comprise TSM and how these projects will come together to meet IRS' stated long-range goals for modernization.

The Commissioner has recently demonstrated his commitment to effective management of information technology by creating the position of Chief Information Officer. This presents an opportunity for IRS management to take a fresh look at the status and future of the modernization program. To his credit, the Commissioner is exercising leadership in

refining IRS' vision of the modernization. In the process, he is also seeking to address many of the unanswered questions that have surrounded TSM.

To help in these efforts, this report provides our views on TSM and offers a framework for reducing the risks inherent in this critical and costly undertaking. This framework was reinforced at a recent GAO-sponsored symposium involving leaders from private industry, the executive agencies, and the Congress. IRS participated in the symposium and has enthusiastically supported the management framework. In general, this framework emphasizes the significance of committed leadership, a clearly articulated vision of how technology can be used to enable the agency to achieve its objectives, a concrete plan for implementing this vision that transcends changes in leadership and management, milestones that establish accountability while providing a clear means of measuring progress, and the right people to make the vision a reality.

IRS generally agreed with the accuracy of this report and highlighted its progress in implementing the management framework that resulted from the symposium. IRS also noted four challenges to the modernization beyond those discussed in this report. We recognize these issues as being endemic to most major government modernization efforts and believe that the management framework offered in this report can help IRS overcome these challenges to a successful modernization.

TSM: An Historical Perspective

The IRS tax processing system has remained virtually unchanged since it was automated in the early 1960s. This system processes tax returns using design concepts from the 1950s, such as batch processing and magnetic tape storage on reels. As a result, taxpayers and IRS employees alike have to deal with a tax processing system that relies heavily on paper-driven, labor-intensive processes. Specifically, (1) employees do not have direct access to its master files but must request paper documents, (2) cross-country shipments of magnetic tapes are used to transmit information between computers instead of modern telecommunications, and (3) systems are not integrated to share information. Consequently, data input and retrieval often take several weeks, making service to taxpayers slow and unreliable. IRS expects the volume of tax returns to increase through the 1990s, from 208 million in 1990 to 230 million by 1995; modernizing its tax processing system is critical if IRS is to operate in a world of increasing workloads and limited resources.

Recognizing the limitations of the tax processing system, IRS set out in 1968 to redesign the entire system to take advantage of more advanced technology. This redesign effort was abandoned in 1978 because IRS was unable to resolve congressional concerns about the cost of the redesign and the security of taxpayer information. Another modernization program was initiated in 1982. From 1982 through 1986, IRS pursued three approaches to this modernization, yet none of these progressed beyond the planning stage. These failures resulted in part from repeated changes in leadership at IRS and Treasury, a lack of clear management responsibility for the program, and the need for enhanced technical and managerial expertise within the agency's executive ranks.

Late in 1986, IRS began its third major modernization effort. By March 1988, IRS had approved a management plan that was intended as a basis for modernization. The plan was updated in March 1989. In this update, IRS outlined a modernized environment in which its employees could access all needed taxpayer information directly from computer terminals, thereby providing faster, less costly resolution of taxpayer questions and problems. The agency has indicated to the Congress that the modernization effort, known as TSM, could cost several billion dollars and take another 10 years to complete.

TSM Today: High Expectations and Unanswered Questions

IRS' current modernization approach is surrounded by uncertainty. Making the transition from a tax processing environment based on 1950s design concepts to a state-of-the-art processing environment is neither simple nor rapid. For modernization efforts of this sort to be successful, they must be based upon and directed by a clearly marked road map detailing how the ultimate vision can be achieved. To date, IRS still needs to (1) complete its analyses of how it wants to do business in the future, (2) resolve system integration issues, and (3) identify a clear and consistent set of projects that will comprise TSM. In addition, IRS needs to clearly distinguish between those projects that are primarily intended as near-term improvements to keep the current system operating and those that are designed to meet the modernization's goals. IRS acknowledges that resolving these issues is important to provide the Congress, the Service, and the oversight agencies the information they need to effectively guide the modernization effort.

TSM Will Not Be Fully Defined Until Late in 1990

The status of TSM is difficult to assess in large part because the modernization has not been fully defined. While IRS' 1989 modernization management plan generally describes the objectives for modernizing IRS and

outlines its planning process, the detailed analysis required to implement the modernization will not be available until completion of the TSM Master Plan, currently scheduled for September 1990.

The Master Plan, as currently conceived, will identify the specific IRS functions to be performed, define the automated systems required to perform these functions, describe how these systems will share data, and outline the specific projects needed to implement the modernization. All of these components are necessary to fully define TSM. IRS is currently assessing whether the Master Plan can be completed before September 1990.

**TSM Business Assessment
Unfinished**

An essential step in completing the Master Plan is assessing the business needs of IRS. In other words, before heavily investing in modernization projects, IRS should determine precisely how it will provide taxpayer services and what organizational structure and systems will be needed to deliver these services.

IRS has undertaken a series of business area analyses that are intended to examine the business functions, information requirements, and data structures for each IRS business area. According to IRS' Strategic Data Plan, these analyses are necessary to complete the definition of IRS' business requirements for automated information systems support. The business areas under review include functions such as processing tax returns, reviewing tax returns, and collecting outstanding taxes.

The results of these studies, if adopted, could change the way IRS chooses to conduct business in the future. The agency, for example, may decide to change its organization, or realign the responsibilities of its current organizational units. It is important, therefore, that these studies be completed and considered in planning TSM. The most urgent of these studies are currently scheduled to be conducted while the TSM Master Plan is being developed and may not be completed before the Master Plan is finished in 1990.

In commenting on this report, IRS said that the business area analyses are not critical to the completion of the Master Plan. According to IRS, its Global Baseline User Requirements analysis, Strategic Data Plan, and systems architecture analysis are an adequate foundation for developing systems specifications for the Master Plan. IRS intends to use the business area analyses as a second step, to define detailed requirements for

software specifications. IRS believes that there is risk involved in delaying the Master Plan until the business area analyses have been completed.

While we agree that the business area analyses will be useful in developing systems specifications, we continue to believe that they should also be considered in planning TSM. The three studies IRS cites may not be adequate for TSM planning. First, the Global Baseline User Requirements is an inventory of the information needs of parties inside and outside IRS—ranging from oversight agencies to IRS program offices—that will rely on TSM for analysis, information, and processing functions. This study does not analyze the business functions and data needs of IRS, a necessary step in designing the modernized architecture. Second, the Strategic Data Plan is a high-level document identifying IRS' general business functions and information requirements. It lacks the detail needed to provide a clear picture of how IRS carries out its mission. In fact, the plan highlights the necessity of completing the business area analyses for this purpose. Third, the systems architecture analysis identifies, describes, and evaluates (1) alternate ways that IRS could operate within TSM and (2) the hardware and software architecture needed to support these alternatives. However, it is based upon IRS' existing organization and systems, which may not be structured to take full advantage of the potential efficiencies of modern technology.

In light of the limitations of these studies, it is important that the business area analyses be used in planning TSM. If IRS uses the business area analyses only for defining software specifications, it is foregoing an opportunity to take a fresh look at how it does business and, according to the Strategic Data Plan, risks developing systems that lock IRS into its current way of doing business. Accordingly, IRS should consider their results as early as possible in TSM planning.

System Integration Issues Unresolved

As part of the Master Plan, IRS intends to identify the projects that comprise TSM and describe how the individual projects will be integrated. However, IRS is currently proceeding with several independent projects before demonstrating how they will be connected into an integrated system that will enable IRS employees to share data electronically.

IRS believes that the independent projects now underway will bring sufficient benefits to justify developing them before the integration plans

have been completed. We agree that many of these projects should provide badly needed improvements to IRS' tax processing operations. However, by developing these projects without a clear plan for their integration, IRS risks having to make potentially difficult and costly systems modifications to allow data to be easily exchanged. IRS is working on plans for connecting and integrating the projects that will comprise TSM and will include these plans in the Master Plan.

TSM Projects in Flux

Because IRS has not finished the road map—the TSM Master Plan—the automation projects comprising TSM have been in a state of flux for the last few years. For example, in fiscal year 1990, the modernization program was composed of 17 projects, as compared to 5 projects in fiscal year 1989. In addition, one of the projects that had been identified as part of TSM in 1989 was dropped in 1990. As we testified in April 1989,¹ the renaming, consolidating, splitting, and unclear identification of projects prevented us from tracing projects over previous years.

Plans for fiscal year 1991 reflect further project shuffling. Although fiscal year 1991 information was not officially available from IRS, as of December 31, 1989, agency officials have said that there will be eight projects. Seven projects that were classified as TSM in 1990 will be dropped from the 1991 program, and two new projects will be added. One project appearing among the 1991 projects was excluded from the 1990 projects, but it had been included for 1989. Table 1 shows the shifts in the TSM projects that have occurred from fiscal years 1989 through 1991. Descriptions of these projects are contained in appendix I.

According to IRS, these shifts reflect the needed refinements that are occurring in the Service's definition of modernization as planning progresses. The projects identified for fiscal year 1991, according to IRS, focus on such activities as automating paper tax returns and are activities that would need to be done under TSM regardless of the final design. Unfortunately, the lack of a master plan has made it difficult for IRS to provide a clear and consistent explanation of the relationship between these projects and the goals of the modernization.

¹Budgetary Implications of IRS' Tax System Modernization and Automated Examination System Efforts (GAO/T-IMTEC-89-4, Apr. 4, 1989).

Table 1: Annual Changes in Designation of TSM Projects

| Project ^a | Fiscal Year | | |
|---|-------------|------|--------------|
| | 1989 | 1990 | 1991 |
| Auto Pipeline | | x | ^b |
| Automated Underreporter Project | x | | ^c |
| Automation of Non-Master File | | x | |
| Check Handling Enhancements and Expert Systems | | x | ^b |
| Corporate Files On-Line | | x | x |
| Corporate Systems/Mirror Imaging Acquisition | | | x |
| Digital Imaging/Optical Disk Storage System | x | x | ^b |
| Electronic Federal Tax Deposit System | | x | ^b |
| Electronic Filing Project | x | x | x |
| Information Systems Development Mission Support | x | x | x |
| Integrated Input Processing System | | x | x |
| Integrated Telecommunications Network | | x | |
| Local Automation Support | | x | |
| Migration to State-of-the-Art Tape Drives | | x | |
| NCC IBM Interactive Programming/ Remote Job Entry | | x | |
| Optical Character Recognition Replacement System | | x | |
| Service Center Departmental Applications | | | x |
| Service Center Systems Acquisition | | x | x |
| Servicewide Citator System | | x | |
| System Integration and Long Term Design | x | x | x |

^aThis table is based on budget information that was in effect as of Feb 1988 (fiscal year 1989), Feb. 1989 (fiscal year 1990), and Dec. 1989 (fiscal year 1991). We generally used the most recent project titles and did not show changes in project titles or scope from year to year.

^bThese projects were included in Integrated Input Processing project for fiscal year 1991.

^cAutomated Underreporter was included in the Service Center Departmental Applications project for fiscal year 1991.

TSM Projects Need Re-evaluation

As the above discussion of unresolved TSM issues suggests, IRS is facing a difficult dilemma. On the one hand, the agency must solve near-term problems such as the need to acquire additional computer capacity to support its current tax processing systems. On the other hand, IRS needs to create a fully automated, modernized tax processing system that can take the agency into the 21st century.

The current modernization projects reflect this dilemma. In essence, most of these projects are primarily designed to provide near-term improvements to current operations. For example, one TSM project, the Service Center Systems Acquisition, is designed, in part, to upgrade the computers in the service centers in order to add computer capacity that

IRS considers to be an immediate need; however, this project is also being justified on the basis of its potential function as an integral part of the modernization. Projects such as this may well be worth pursuing, but since TSM will not be fully defined until late 1990, planning and justifying them on the basis of their projected value to the modernization is difficult and risky.

The risks inherent in IRS' approach to TSM are two-fold. First, IRS risks basing a project's justification in part on future benefits that may or may not materialize depending on the final modernization design. Second, if current hardware acquisitions are justified in terms of their possible future role as part of TSM, then IRS risks creating a design to fit the newly-purchased hardware rather than allowing long-range business goals to drive the design. In other words, IRS could be limiting its future options in order to meet near-term needs. The net result of these risks is that IRS may increase its overall costs by making investments before planning is complete, lock itself into a way of doing business that does not fully meet the needs of government and its taxpayers, increase the time required to complete the modernization due to the need for corrective action, and limit competition among vendors to implement the modernization.

IRS needs to determine the extent to which each of the projects currently included in TSM should be justified as modernization investments and the extent to which each should be justified solely on its own merits as meeting critical near-term needs. IRS officials believe that the projects they are currently pursuing are flexible enough to be adapted to the final design. However, IRS has not described the required flexibility or how the projects will be adapted to TSM. In fact, it is difficult to fully assess the risks in IRS' approach until the Master Plan is completed in late 1990. In the interim, because Congressional decision makers must allocate funds based on the expected benefits of projects, it is important that they understand the distinction between those projects that are primarily designed as near-term improvements and those that are designed to achieve the goals of TSM.

Charting the Course: a Framework for Decisionmaking

The federal government has repeatedly found that major modernization efforts such as TSM are extremely difficult and complex undertakings, and fraught with high risks. Many, including IRS' past efforts, have floundered and failed. This costly cycle of failure to meet the needs of our government and our nation's people must be broken.

To explore new ways of meeting the federal government's technology challenge, we sponsored a symposium in October 1989 that brought together concerned leaders from industry, the Executive Branch, and the Congress. These discussions addressed the need for reducing the risk of major modernization efforts and confirmed our views in several key areas. IRS participated in the symposium and has been meeting with us to reconsider TSM in light of these perspectives.

As confirmed by symposium speakers and participants, solutions to modernization problems start at the top. Since the position of Chief Information Officer was recently established in October 1989, this is an opportune time for IRS leadership to reevaluate its modernization activities to ensure that each element of the framework is effectively implemented.

The key to successfully integrating information technology into any agency is the commitment and vision of its leadership. Agency leaders must clearly define their agencies' fundamental missions, understand the needs of the public they serve, and firmly link their information systems plans to these missions and needs. Instead of simply automating old ways of doing business, agencies need to take a fresh look at how technology can best help them accomplish their mission. It is important, therefore, that IRS complete its business assessments, obtain taxpayers' views on how IRS can better serve them, and use the results as the basis for modernization planning. As a general rule, modernization investments should be justified only on the basis of how well they contribute toward achieving IRS' vision of improving taxpayer services and reducing operating costs.

In order to translate the results of its business assessments into a technical "platform" that defines the essential characteristics of the required hardware, software, telecommunications, and information repositories, IRS must forge a partnership between its business and technical managers. These groups must work together to ensure that the platform incorporates the best business thinking with the best technical thinking. The resulting platform should be an integral part of the Master Plan, along with specific milestones that establish accountability for implementation.

It is also critically important that the Commissioner and his top staff surround themselves with the best talent available from government, industry, and academia, and form alliances with these groups to obtain the best possible advice on major modernization decisions. It is also

important that IRS have the right people with relevant experience and accomplishments directing the modernization at all organizational levels.

The lack of continuity at key leadership and project management levels has been a problem in IRS' past modernization efforts. IRS Commissioners seldom serve for more than 2 to 4 years; even career project managers often do not serve for the duration of a project's development. In light of the likelihood of such disruptions, IRS needs to focus on creating a detailed long-range strategy that can transcend changes in leadership or management.

IRS must involve the Congress as an active partner in the modernization effort. As a step in this direction, IRS must clearly articulate to the Congress the business goals to be achieved by TSM and how each project will help achieve those goals. In this respect, IRS must separate the near-term projects needed to continue current operations from those that are more appropriate to the modernization's goals. This will enable the Congress to better evaluate the progress on the modernization and make informed funding decisions. While near-term projects may be appropriate and even critical to IRS' current operations, Congress should understand that they are not part of TSM.

Fully automating and modernizing IRS' tax processing system will result in changes in the way IRS does business—how it is organized, how it uses people, and how it interacts with taxpayers. It is important, therefore, that IRS develop a strategy not only for the modernization, but also for the organizational and personnel changes that modernization will surely bring. It is crucial that the Congress be involved in deciding how best to effect these changes.

TSM may prove to be the largest and most costly civilian modernization effort the government has undertaken. Because this challenge is so enormous, every avenue should be explored to maximize the prospects of its success. One such avenue is phased development whereby each phase produces incremental results that are tangible and build credibility. The increments should fit together as well conceived building blocks, each contributing to the ultimate modernization objective of faster taxpayer service at lower costs. The phased approach also reinforces the partnership with Congress because it provides intermediate checkpoints for assessing TSM's progress and benefits.

The issues discussed in this report illustrate the magnitude of the challenge faced by IRS. It is essential, therefore, that IRS devote full attention

to setting a clear course toward achieving an automated tax processing system that can serve the nation's needs into the next century.

Agency Comments and Our Evaluation

IRS generally agreed with the accuracy of this report, highlighting its participation in the GAO symposium and stressing its commitment to the resulting management framework. IRS believes it is making significant progress in integrating the framework into its management strategy for the modernization. IRS underscored, in particular, (1) the commitment of the Commissioner and top management to the modernization, (2) the recent establishment of a new organizational structure for technology management, (3) the creation of programs to provide training to its executives and to recruit seasoned information systems managers, and (4) concerted efforts to involve interested parties outside IRS in modernization decisionmaking and to forge a partnership between its business and technical units. IRS also stated that it believed the three completed planning analyses constituted an adequate foundation for the Master Plan. (This issue is discussed in the section entitled TSM Business Assessment Unfinished.)

We agree that IRS has demonstrated progress in each of these important areas. However, as IRS acknowledges, the agency will have to show continued progress to ensure a successful modernization. In this regard, IRS should emphasize the issues discussed in this report—completing the business analyses, resolving system integration issues, identifying a clear and consistent set of TSM projects based on the Master Plan, and determining the extent to which each of the projects currently included in TSM should be justified as modernization investments and the extent to which each should be justified solely on its own merits to meet critical near-term needs.

IRS also noted four additional challenges that it believes increase the difficulty of successfully completing TSM:

- the constraints inherent in federal procurement regulations and the contract appeals process;
- the absence of multiyear capital budgeting to ensure commitment of resources over long timeframes;
- the need to resolve issues resulting from the impact of automation on the workforce; and
- the constraints posed by federal personnel and pay regulations in hiring and retaining technically proficient information systems professionals.

We recognize that the additional challenges IRS has pointed out must be met in completing TSM; most major government modernizations face them. The management framework espoused in our recent symposium can be applied by IRS to help meet these challenges, particularly those dealing with mitigating the impact of automation on the workforce and hiring and retaining skilled professionals. Working closely with the Congress to address issues such as these should be part of IRS' strategy for completing a successful modernization.

We are sending copies of this report to the Chairmen, House and Senate Committees on Appropriations; Chairman, House Committee on Government Operations; Chairman, Senate Committee on Governmental Affairs; Chairman, Senate Subcommittee on Private Retirement Plans and Oversight of the Internal Revenue Service; the Secretary of the Treasury; and the Commissioner of Internal Revenue.

This report was prepared under the direction of Howard G. Rhile, Director, General Government Information Systems, who can be reached at (202) 275-3455. Other major contributors are listed in appendix II.

Sincerely yours,



Ralph V. Carlone
Assistant Comptroller General

Tax System Modernization Projects Fiscal Years 1989-1991

This appendix contains descriptions of IRS information systems projects that have at one time been identified as part of Tax System Modernization. We used a number of IRS sources in compiling the descriptions, life cycle costs, and implementation dates. Life cycle costs refer to the total costs of developing and operating a system over the entire time it will be used. This period can extend from 5 to 10 years beyond the implementation date—the earliest date the system is used to process taxpayer information. To avoid including the same information twice in this appendix, we have not provided life cycle costs and implementation dates for those projects that were later merged with other projects.

Auto Pipeline

Automation of the initial processing and transcription of tax returns received in paper form. Merged with the Integrated Input Processing System for fiscal year 1991.

Automated Underreporter Project

Automation of the service center research and analysis efforts to resolve cases in which a taxpayer's reported income does not match information returns filed with IRS. Merged with the larger Service Center Departmental Applications project for fiscal year 1991.

Automation of Non-Master File

Automates subsidiary tax forms and tax information files. Merged with the Manual Accounting Replacement System for fiscal year 1991.

Life cycle cost: Not currently available.
Implementation date: 1990.

Check Handling Enhancements and Expert Systems

Pilot testing of image technology to combine remittance processing and cash management functions into a single system. Merged with the Integrated Input Processing System for fiscal year 1991.

Corporate Files On-Line

A multiphased project to create and provide access to on-line data bases of taxpayer and tax-related information received from individuals and businesses.

Life cycle cost: \$250.9 Million.
Implementation date: 1990 (Phase I).

**Appendix I
Tax System Modernization Projects Fiscal
Years 1989-1991**

**Corporate Systems/Mirror
Imaging Acquisition**

Replacement of mainframe computers at the Martinsburg Computing Center and Detroit Computing Center and subsequent acquisition of computers for the Corporate Files On-Line project.

Life cycle cost: Not currently available.
Implementation date: 1991.

**Digital Imaging/Optical
Disk Storage System**

Development of a data base for the storage and retrieval of tax returns and tax information documents in image form. Merged with the Integrated Input Processing System project for fiscal year 1991.

**Electronic Federal Tax
Deposit System**

Automated processing of federal tax deposits submitted by employers. Merged with the Integrated Input Processing System for fiscal year 1991.

Electronic Filing Project

Automates the receipt and transcription of individual tax returns filed electronically by tax return preparers.

Life cycle cost: \$189 Million.
Implementation date: 1989.

**Information Systems
Development Mission
Support**

Annual staffing costs for the Office of the Assistant Commissioner for Information Systems Development. Since this is a recurring budget item, life cycle costs and completion dates are not applicable.

**Integrated Input
Processing System**

A series of systems, incorporating image technology, for remittance processing, and receiving, processing, and storing tax administration data.

Life cycle cost: \$1.4 Billion.
Implementation date: 1993.

**Integrated
Telecommunications
Network**

Renamed Integrated Telecommunications Services for fiscal year 1991. Provides nationwide intercity and local area communications networks.

Life cycle cost: \$1.8 Billion.
Implementation date: 1990.

Local Automation Support

Renamed Field Automation Support for fiscal year 1991. Provides single and multiuser microcomputer and minicomputer systems in regional and district offices, and service centers.

Life cycle cost: \$418.1 Million.
Implementation date: 1990.

**Migration to State-Of-The-
Art Tape Drives**

Replacement of tape drives at the Martinsburg Computing Center with state-of-the-art tape cartridge systems.

Life cycle cost: \$29 Million.
Implementation date: 1990.

**NCC IBM Interactive
Programming/Remote Job
Entry**

Renamed Support of Master File Processing for fiscal year 1991. Computer system enhancements at the Martinsburg Computing Center (formerly the National Computing Center—NCC) to provide capacity for all aspects of processing taxpayer account files.

Life cycle cost: \$40 Million.
Implementation date: 1992.

**Optical Character
Recognition Replacement
System**

Replacement of the equipment used to optically process paper tax documents filed at IRS service centers.

Life cycle cost: \$88.1 Million.
Implementation date: 1991 (Phase I).

Appendix I
Tax System Modernization Projects Fiscal
Years 1989-1991

**Service Center
Departmental Applications**

A series of software development and conversion projects for tax administration functions performed in IRS service centers. These include the Automated Underreporter Project, Automated Inventory Control System, and Accounts Maintenance Automation.

Life cycle cost: \$271.8 Million.
Implementation date: 1990 (First project).

**Service Center Systems
Acquisition**

Multiphased computer and local area network acquisition project to support service center automation.

Life cycle cost: \$2.2 Billion.
Implementation date: 1991 (Phase I).

**Servicewide Citator
System**

Provide on-line tax, legal, and procedural reference data base for access by all tax administration employees. Removed from the active project list effective fiscal year 1991.

**System Integration and
Long Term Design**

Contractual assistance in managing the overall design and development of the Modernization effort.

Life cycle cost: \$485.1 Million.
Implementation date: 1997.

Major Contributors to This Report

**Information
Management and
Technology Division,
Washington, D.C.**

Timothy P. Bowling, Senior Assistant Director
Hazel E. Edwards, Assistant Director
William D. Hadesty, Technical Adviser
Charles D. Hughes, Evaluator-in-Charge
Tamara J. Ealey, Evaluator
Norman F. Heyl, Evaluator
Daniel T. Mullaney, Evaluator

Boston Regional Office

Pamela Lynn Milligan, Evaluator

Requests for copies of GAO reports should be sent to:

**U.S. General Accounting Office
Post Office Box 6015
Gaithersburg, Maryland 20877**

Telephone 202-275-6241

The first five copies of each report are free. Additional copies are \$2.00 each.

There is a 25% discount on orders for 100 or more copies mailed to a single address.

Orders must be prepaid by cash or by check or money order made out to the Superintendent of Documents.

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

**Official Business
Penalty for Private Use \$300**

**First-Class Mail
Postage & Fees Paid
GAO
Permit No. G100**
