# 3. INTRODUCTION

COMMITTEE REQUEST

The Internal Revenue Service Seeking authorization from congress to procure a new automated data processing system to replace all of its existing data Processing equipment used in the administration and collection of Internal Revenue taxes, with the exception of one system, which would be replaced later.

The Chairman of the House Ways and Means Committee and the chairman of the Subcommittee on Oversight of that Committee have requested the office of Technology Assessment to make a review of the new Tax Administration System and its proposed regulations regarding its use and implications as it may relative to privacy of individuals and nondisclosure and possible improper use of income tax returns. The Chairman of the oversight Subcommittee expressed concern that "without safeguards, t0e new TAS System could become a system of harassment, surveillance and political manipulation. " He stated: I believe that the public's concern about government agencies, such as the IRS, requires that we take every step to ensue that in the future its files can never be used for political or unconstitutional purposes . . . . . Once installed in 1981 it will probably be the world's largest and most sophisticated computer System. Authorized IRS employees will be able to scan the tax return of a taxpayer in a region within Seconds. In addition, other authorized employees will be able to receive tax returns of citizens from throughout the country within seconds." He indicated the possible need for legislation on the system.

A number of other committees and Subcommittees have info~ally indicated through staff members an interest in also receiving information developed about issues which may be raised by the new system. These include Staffs Of the House Government operations Committee Subcommittee on Government Information and Individual Rights (Whose cha.i~an also sent OTA an official request), the Senate committee On Governmental Affairs the Senate Appropriations Subcommittee, the Senate Judiciary Committee Subcommittee on Administrative Practice and Procedure, the Senate Constitutional Rights Subcommittee, and several individual members of Congress.

To determine how best to proceed with the Committee's request, the Office of Technology Assessment decided to convene a panel of experts in law, sociology, computer science, management, civil liberties, and other areas. They included people with experience in evaluating information systems for concerns expressed by the committee on Ways and Means. They also included former officials of the Internal Revenue Service and former staff members of two Senate Committees who had responsibility for investigations and legislation of privacy, security, information practices, and government computers.

The panel met in Washington to discuss possible issues which might be raised by the proposed new Tax Administration System in light of the public documents, Congressional testimony and available information on TAS. Panel members were invited to submit their further observations in either written or oral form. Background information for reaching a decision for action on the Committee's request was also sought from the Internal Revenue Service, public interest groups, and others knowledgeable or concerned with questions which TAS might raise.

Documents, reports, and other relevant materials were reviewed pertaining to the proposed TAS technology, to the current issues bearing on the effective administration of the tax laws, and to principal current concerns about adequati protection for the privacy, due process, property and other constitutional rights of taxpayers as citizens.

OTA reviewed the TAS proposal in light of (1) recent heightened public concern for the privacy and confidentiality afforded personal financial activities, (2) perceived threats from past and present problems in the operations and management of similar large computerized systems, (3) perceived threats from past abuses in IRS information practices and due process guarantees, and (4) the current debates over the proper statutory, administrative and technical means of revealing misuse and abuses of information in the future and of lessening the chances of their reoccurrence.

It was concluded that some serious questions may be raised about the scope and application of the proposed Tax Administration System, as described to Congress, and about the opportunities for oversight of the system as it affects due process, privacy, confidentiality and security. The questions are of such a nature that answers to them, when related to other facts and trends, would provide a basis for judgments about principal advantages or disadvantages of the system and its proposed safeguards. These questions are discussed in this report to the Board.

The information supplied to Congress in public documents and testimony about TAS is often vague or technical, or is simply inadequate on matters which ***may be*** of vital importance to the taxpayer, the Congress, and to IRS management. The dearth of information prevents the full and careful public identification of any policy issues which might be raised if the new Tax Adminktration System is installed.

OTA therefore recommends that hearings be conducted before the Subcommittee on Oversight of the Ways and Means Committee in order to acquire the background information needed for defining issues.

This report, which is an OTA report, and not the responsibility of the advisory panel members, therefore identifies some pertinent questions in a range of issue areas which may be important in considering the potential impact of the interrelationship of the technology, law and public policy in this major governmental information system.

## PROPOSED IRS TAX ADMINISTRATION SYSTEM

The proposed Tax Administration ***System (TAS) which OTA has been asked*** to review represents a redesign of the basic data processing system of the Internal Revenue Service used to administer the Internal Revenue Laws and to collect taxes. As described by IRS, the main features of the TAS are as follows:

The TAS involves the integration of collection, processing, storage, communications of data, and terminal facilities. The new System will relocate centralized tape tax account master files for the nation from their present centralized location in the National Computer Center in Martinsburg, West Virginia. They will be decentralized to the ten existing IRS service centers across the country, which will accord with the present decentralized administrative structure Of the agency. Taxpayer information in each center's tax account files for its geographical area will be accessible by terminals in the IRS offices in that region. The present sequential system will be replaced by random access to the files.

The National Computer Center till be converted to a centralized account directory and control point for intercenter activity as the National Communications Center (NCC). It will control exchange of taxpayer accounts. Information will be exchanged between centers and NCC by transmission from magnetic tape to magnetic tape on a batch basis by encrypted channels in scrambled form. Processing of tax returns, correspondence and related activities will continue to be

carried out at the ten service centers. Service Centers will communicate with field offices by means of a Data Communication Subsystem with dedicated, leased data transmission lines; local offices will communicate only with their servicing center and direct terminal to terminal or center to center communications are not to be allowed. The subsystem will also feature data communications processors located in each service center and the NCC; programmable data concentrators in the largest offices, testing and encrypting equipment; and modems to interface with terminals remote from the service centers. The Plan projects that 8300 terminals will be in place by 1985; 5400 of these will be in the ten centers for case inquiry and input; about 2900 will be in other major field offices for inquiry and update purposes; 750 line printers will be in field offices for printing forms and for terminal screen images.

The Plan will permit five years of data for a taxpayer's history to be retained as a general rule instead of the present limit of three years. Data for additional years can be kept for problem tax accounts as needed. The existing practice, by means of a separate system, allows for decentralized computerized retention of such data for only ten percent of taxpayers.

For purposes of comparing the present system with the redesigned TAS, the following illustrations (see figures 1 and 2) were made available in public documents on TAS. They were published in the House Appropriations Committee hearings on the IRS TAS budget request in 1976.

## IRS ARGUMENTS FOR THE TAS

Officials of the Internal Revenue Service described the need for the redesigned system in testimony before Subcommittees of the House and Senate Appropriations Committees in 1976.

According to this testimony, the expanded capabilities would allow for improved taxpayer services by providing faster returns processing, increased responsiveness to inquiries, and consolidated/linked tax accounts and Master Files.

The system is expected to allow new applications of computer technology for a consolidated collection program, for a scoring formula for collection case assignment, and for the automation of revenue accounting.

Additional privacy and security safeguards will be afforded with the TAS, according to IRS testimony. In addition, the system will allow expansion for future needs.

These major improvements me explained further in the following excerpts from the IRS testimony: [1]

> "The basic ADP system now in place is conceptually the system which began operations in January 1962. Although we have made a number of significant incremental improvements to the system, we have reached the point where the opportunity for further improvements has diminished. In addition, we are having problems meeting ever growing, complex workloads with our present equipment. Simply put, today's system with its basic design constraints has become inefficient and does not permit us to be as responsive as we should be to taxpayers' and IRS program needs. In view of these factors and considering the potential benefits of current and new technology, it was concluded that fundamental systems changes are necessary . . .
>
> "Today in our processing system, with the cycle which we must go through posting the master file once each week, the very best that can be accomplished is a turnaround time from four to five weeks. That means, then, that our IDRS data base is loaded in five weeks or six weeks, and by the time we produce microfilm records for the district offices, where some 90 percent of the accounts are not in data base, another three to four weeks has elapsed.
>
> "We find a considerable number of differences between taxpayers' figures and our calculations in our first processing loop. The correction of these errors will be expedited because we expect to put them in a real-time processing situation.
>
> "We have a second category which we call unpostables. There are some seven million returns that we bring to the master file annually today that fail to post for one reason or another. For example, the Social Security number will not match the one already in the account. So we must return that item to the service center for research purposes, and we start the cycle all over again.
>
> "So instead of four to five weeks, we are talking now in terms of six, seven, eight weeks. With an on line data base and with terminals, working these kinds of errors simultaneously with our posting efforts, they should be cleaned Up relatively quickly, perhaps within the same day, so they can be posted that night.
>
> "Obviously then we have increased responsiveness to inquiry. We can consolidate and link the taxpayer accounts in ou master files, cross-relating one to the other. This can be accomplished in a data base system of this kind much easier and more efficiently than it can in a serial ordered tape system.
>
> "Some of the new applications which we are talking about are in a consolidated collection program. By this I mean if we have a delinquent account or notices to issue for more than one return for the same taxpayer, we will issue a consolidated profile to the revenue officer one time, instead of several pieces of paper as we must today.
>
> "*We also want to score* the Collection cases *in* much the same way as we do the Audit program today in the program called the Discriminant Function. This should

1. House Appropriations Hearings, 1976.

Figure 1

# Present System

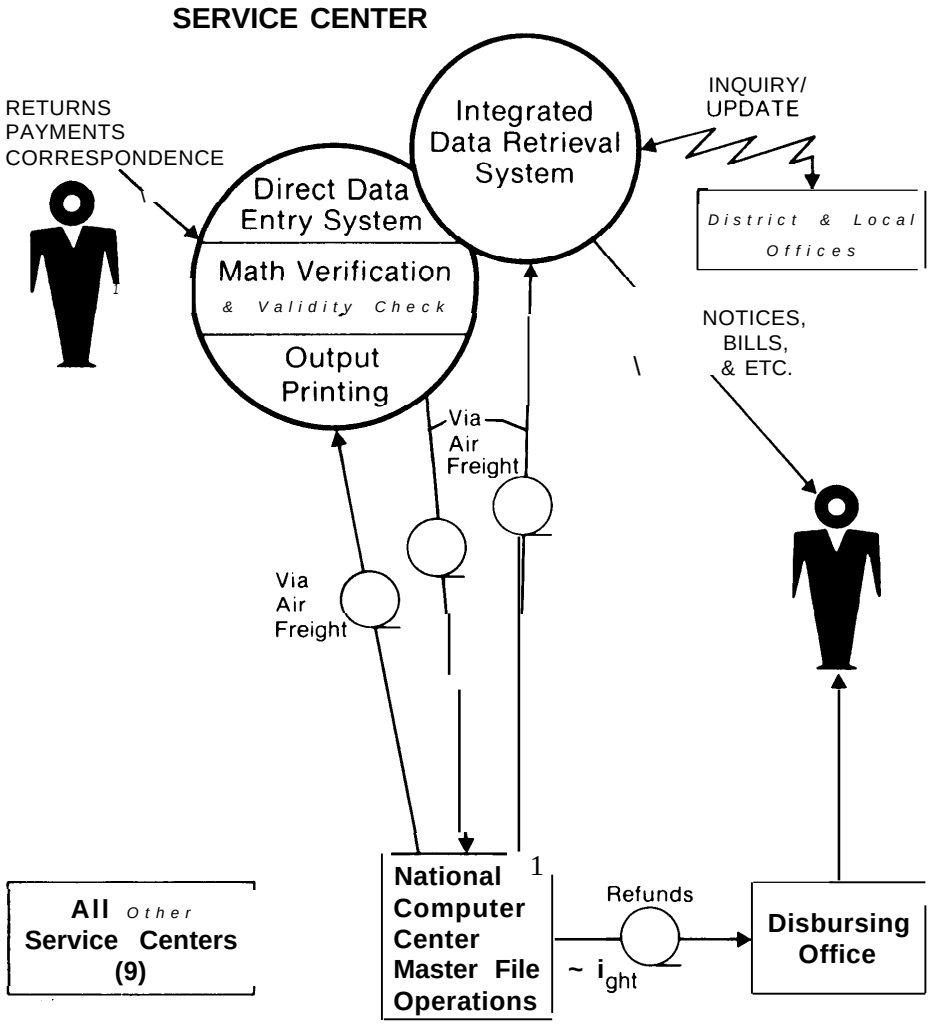
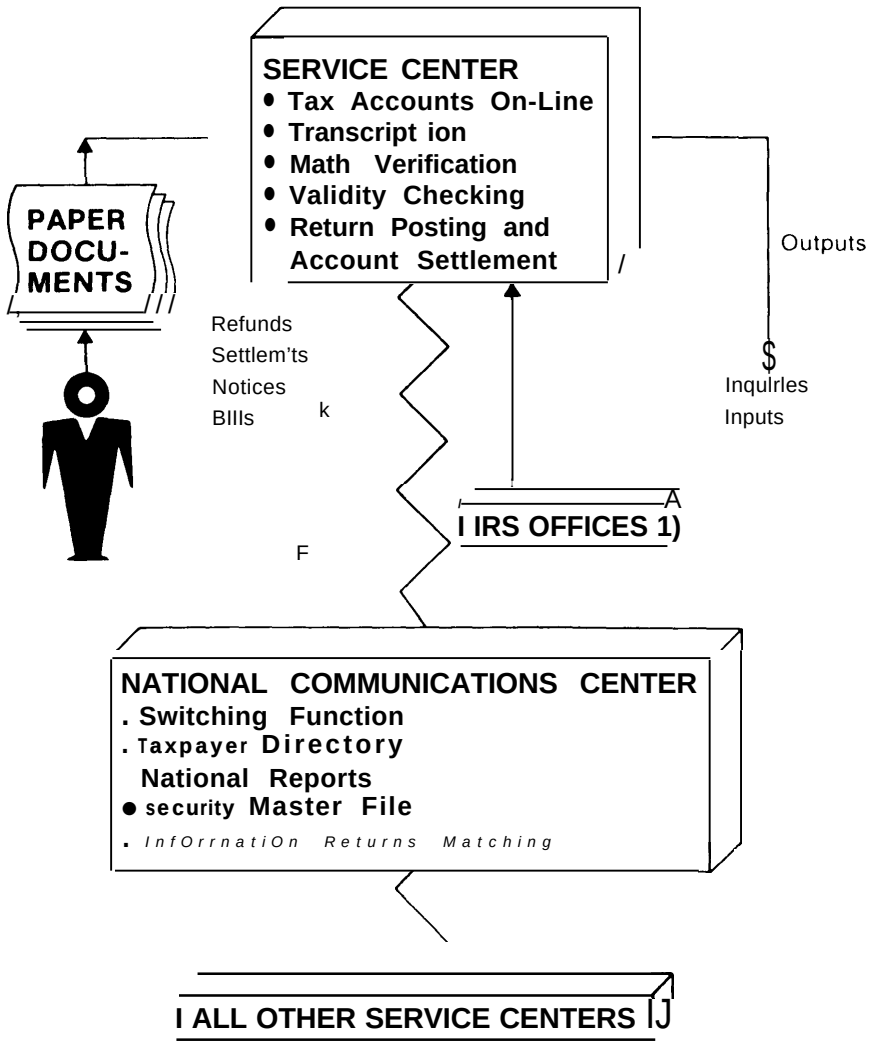


**Figure 2**

# Redesigned System



enhance the collection program considerably. We want to automate our revenue accounting system and bring about considerable savings. We will have expanded case control—this applies particularly in the compliance effort—over that which we have today. We will have more data for the agent to use in connection with his audits. We can keep prior history to a greater degree than we can today and thereby the same case will not be audited year after year as we do sometimes today because we don't know the difference.

"We also expect to maintain five years of data in our accounts rather than three years, which is the maximum we can handle in our tape system. This, too, will permit us to give additional service to the taxpayer. It will also permit us to income average if required. Some 2 million-plus taxpayers today are averaging their income. We don't know, unfortunately, how many are not but could; in a five-year data base we can determine this.

"And of course we will have expansion capability for future needs, which is something we simply do not have today. Our system is 20 years old at this point and it was constructed using the technology which was in existence at the time. We have reached the point where we have several different types of computers working with each other. We are using a tape system and our expandability is just about gone.

"Also, we believe that the technology exists which will permit us to acquire the equipment as needed and build and continue to expand as workloads and growth expand. In fact, we expect that these systems will be in place through this century. "

## BACKGROUND FOR CONSIDERING ISSUES IN TAS

Certain assumptions underlay the OTA preliminary review of the committee request to examine TAS.

In order to define issues which may be raised by TAS, it is important to establish why this particular Executive Branch request for a new computer system may prompt more legislative attention to the specificity of the laws, rules and policies which will govern it than have previous requests.

TAS is being proposed by the IRS in response to an expanding population and growing demands for new and better services. The plan embodies advances in automated data processing and telecommunications technology to aid administrators facing political, economic, and social conditions far different from conditions surrounding earlier requests for automation and the government programs they served. Thus, reasons supporting requests for this new system may differ from reasons supporting earlier requests.

Transition between generations of technology is difficult for Congress, for the public, and for Executive Branch managers. Officials frequently couch requests for ADP systems in the old terminology of management needs and programs of years past. This may seem to preclude the need for full-dress consideration of the impact of the technology and its significance for change.

Alternatively, they may make extravagant claims, couched in scientific terminology for computer experts, for the attributes of the new or altered systems, in hopes of impressing reviewing officers of the Executive Branch of Congress with the worth of their case for new procurements.

Decisions to apply or extend ADP technology to governmental functions are no longer strictly in-house decisions to be made by agency computer scientists and management experts and then channeled through the appropriations process subject only to cost-benefit tests. Out of the new computerized information systems have grown nationwide information networks which are provoking the sharing of personal data among governments at all levels and among private organizations.

While computerized handling of data prima facie offers opportunity for superior security, the growth in the scope and applications of information technology has meant that the consequences of misuse of records are more serious, the potential for abuse is greater, and the impact of computer error is more profound when they do occur. In recent years, therefore, as computer-assisted programs have been applied to many social, political and economic purposes of government and the private sector, public concern for the adverse side effects has increased.

This public interest in the beneficial as well as adverse side-effects of computerization has been reflected in activities of Congress, state legislatures, the courts, private organizations, interest groups and the computer industry. As a result, management issues which were previously confined to the Executive Branch have, with the advent of new generations of equipment, surfaced as key public policy issues of potential concern to Congress and numerous interest groups.

TAS provides an example of the intertwining of many Of the old assumptions and new concerns.

Many heads of executive departments and agencies explaining their Plans to computerize files stress that all they are doing is transferring the existing forms and rules of their manual operations into machine-readable files and automated procedures. They are frequently supported by commentators and observers of computerization. While this assertion is true in one perspective, there is another dimension to their planning which is of interest to Congress and the public. When plans for

large-scale automation and electronic communications are considered, or redesign of existing systems is undertaken, managers and policy makers have an unprecedented opportunity to rethink organizational forms and procedures. When their programs are considered from the viewpoint of cost and rationality, this becomes a duty to the organization and to the public.

As a result of the automation and telecommunications advances in recent years, managers in government and business have been reconsidering questions such as these:

- Just what data do they really need to perform their various functions most effectively?
- How should these data be recorded, processed, analyzed and displayed?
- What arrangement of local, regional and central offices, and what location of files and communication links fit best with the technological opportunities now presented through computer and communication systems?
- Who within the organization needs to use particular sets of data and in what form at a given time?
- Which data should be exchanged with other automated organizations to achieve common goals?
- What data needs to be protected, to what level and at what costs?

One commentator on the need for effective Congressional oversight of these governmental systems described the importance of this kind of review: "Large-scale computerization by the federal executive presents Congress, particularly the subject matter committees, with a vital occasion to exert Congressional influence and place a Congressional imprimatur on the reshaping of agency forms and procedures involved in new systems planning. Of course, any fundamental reconsideration of agency goals and procedures could become an occasion for refighting old battles and forcing yet another proof of sound agency approaches. Yet reconsideration of such old questions in the light of major new technological opportunities and choices is not too great a price to pay for the benefit of such assessments. Government agencies can bask in the freshness of mandate and future support that would come from a judgment by the Congressional committees that a new data system embodies the correct assumptions, procedures and safeguards for that agency to carry on its mission effectively.

2. Address by Alan F. Westin, Dickinson College, Carlisle, Pa., 1971.

"Thus both agency managers and Congressional committees should approach the review of major data systems as an occasion for reconsidering organization fundamentals, not just looking at specific manual-to-computer data relationships or comparing cost effectiveness of computer equip merit."

Among government information systems, the TAS is signficant for its scope, its large data base of extensive personal information on people which it acquires partly through the sanctions of the civil and criminal-laws, its importance to IRS decisions affecting the rights and property of millions of taxpayers, and its complex management needs. IRS officials have indicated that the system is designed to carry the IRS through this century. Therefore, a review of its implications and safeguards should necessarily be addressed not just to immediate problems but to the future.

In its design concepts, TAS is on the leading edge of the state of computer fit. The proposed procurement has been described in the 1976 Senate Appropriations Committee Report as the "largest data processing project ever undertaken by the Federal Government. [3] The total cost of the system was then estimated to be between $750 million and one billion dollars. Potential vendors of the computer equipment told Congressional committees that to respond to the requests for proposals would cost around 2 million dollars per proposal.[4]

The TAS proposal has a potential for vast cost and impact on the information technology and on the rights and duties of many users of the ***system. ~ view*** of the long planning time required and TAS intractability to change if safeguards prove faulty, there is a need to assure at the outset that the policy and technical dimensions are joined.

TO achieve this union of policy and technology in an information system of the size and significance of TAS, the following basic questions should be asked when considering the various issues which may be raised by the TAS proposal.

- Should there be a different level Of management specificity for the technology of this system than there has been in the past?
- Ought Congress spell out in greater detail what would be ProPer USeS of the system and how they should be enforced?

3. U.S. Senate, Committee on Appropriations, **S. *Rept. 94-953,*** 94th **Cong.,** 2d **Sess.** 1976, p. 13.
4. U.S. House of Representatives, Committee on Appropriations. ***H. Rept.*** *No.* ***94-1229,*** 94th **Cong.** 2d **Sess.** 1976.

- Is there a need to consider whether some of the changes in information practices which will be effected under TAS technology may be of such a nature and degree that they represent a change in kind in the processes by which the tax laws are administered and enforced and, therefore, perhaps, a change in kind in the IRS as an organization relating to citizens and to Congress?

TAS and Identified or Perceived Threats

TAS might be reviewed in light of judicial standards which may govern its use and operations. For instance, courts have developed a body of case law which establishes and defines due process requirements in the field of taxation, including taxpayers' rights to certain information. Rules for TAS ought to reflect these concerns. Most important, however, may be the need to place the TAS and its potential impact against the backdrop of recent trends in U.S. Supreme Court decisions which tend to retreat from or halt the judicial implementation of a constitutional right to privacy.

This trend has in effect reinforced Congressional responsibility for assuring safeguards for protecting the citizen's privacy and assuring that government data programs do not result in harassment or improper surveillance. When this trend is reviewed in the context of public concern for privacy protections and safeguards in the gathering, using and sharing of financial information, the TAS proposal assumes increased significance.

Since they will affect public acceptance of TAS, ***any*** review of the TAS proposal should set it against IRS experiences with its other computerized data systems and with its management of information policies affecting rights of taxpayers and other citizens. Reference **might be made to** findings from several Congressional and independent investigations into IRS investigations and audit policies and to its data sharing policies. Recent findings by the Watergate Committee and the Senate Select Committee on Intelligence resulted in recommendations for tight legal prohibitions on access to certain kinds of tax data and on investigations of the returns of unpopular or controversial people or business, beyond the needs of the tax laws. The IRS experiences with some of its computerized systems used for intelligence purposes are described at length in Book III of the Final Report of the Select Committee to Study Governmental Operations with Respect to Intelligence Activities. It points out the problems of the Information Gathering and Retrieval System (IGRS), which was a new approach to intelligence gathering, and to the storage and retrieval of so-called "general" intelligence as contrasted with intelligence developed in the course of an investigation

of a specific tax case. The report states: "A crucial element in the system was computerization of the storage and retrieval of general intelligence. . . The computer, it was thought, would make it possible to retrieve masses of data by category—e.g. by subject name, by illegal activity category—and would thus make gathering vast quantities of general intelligence fruitful. Within a year of the forma] establishment of IGRS, the system came under fire in the press as an alleged secret IRS "hit list" and an index of dossiers on the personal lives of Americans containing data unrelated to tax law enforcement." Other allegations were described and investigated.

The staff report states that "IGRS fell short of its goals of enhanced case development and improved intelligence retrievability. In general, more 'intelligence,' most of it of little or no value, was input into IGRS than the computer could effectively retrieve. In a number of districts, IGRS fostered unrestrained, unfocused intelligence gathering and permitted targeting of groups for intelligence collection on bases having little relationship to enforcement of the tax laws. " It cites the lack of adequate control on the system and concluded that "IRS traditional reliance on agent discretion combined with this new, broad intelligence collection effort to produce a dangerous machine which, had it continued unchecked for a long period, could in some districts have approached the monster some newspaper accounts described. "

In many phases of IRS programs, TAS implications for the right of taxpayers to due process might be analyzed against the comprehensive 1976 study of IRS processes conducted by the Administrative Conference of the United States.[5] That report examines numerous complaints and practices affecting audit and settlement processes, collection of delinquent taxes, applications of civil penalties, the use of the IRS summons power, taxpayer services and complaints and tax return confidentiality. While it did not focus on computerization as such, the topic comes Up numerous times in the report's discussion of computer proramming, errors, and automated processes in different areas of tax administration. This is particularly true with regard to the operation and management of the Integrated Data Retrieval System which has been compared to the TAS on a smaller scale.

5. ***Committee Print.*** U.S. House of Representatives, Committee on Ways and Means, Subcommittee on Oversight, Jan. 20, 1976. Report to the Steering Committee for the Internal Revenue Project, Administrative Conference of the U.S.

The report also notes that the Conference study led to an awareness of other topics that could be profitably examined, one being, "the impact of IRS's computers upon the operations of the Service and society at large."

Apparently no analysis has been made of the extent if any, to which the new TAS will alleviate some of the public concerns and due process problems described in the Conference report and in several Congressional hearings; nor, at the same time, is it clear how many of these identified problems might, without some new rules, be exacerbated by the new system.

A recently published report[6] and continuing hearings and investigations of the Privacy Protection Study Commission have gone far to define certain kinds of threats to IRS information from improper or unwise disclosure and dissemination of information from the files of the Internal Revenue Service. A number of the Commission's recommendations were enacted in the Tax Reform Act of 1976.[7] The TAS proposal might be analyzed for its capacities to enforce these new confidentiality policies and to determine their adequacy within the context of the attributes of TAS design and technology.

IRS officials and others concerned with increasing efficiency have maintained that this legislation against improper disclosure is all that is needed by way of Congressional action on the TAS. As an example, they point to the stricter penalty established for illegal disclosure of information, and tighter restrictions against dissemination of IRS data for non-tax uses as well as other prohibitions.

No attempt was made during discussion of the TAS to judge the strength or validity of such claims, and that is not the purpose of this report. However, the following argument on this point was made during the panel's work on TAS and is worth setting forth here. It is provided by panelist William Smith who is a former Assistant Commissioner of the Internal Revenue Service knowledgeable about the design of the TAS and the operation of the agency.

> "An important safeguard against abuse exists already. Indeed, the Tax Reform Act of 1976 may very well supply all the safeguards necessary to assure the privacy and the confidentiality of data extracted from tax returns today or under the proposed TAS system. It is my opinion that the current files and those that would be created under

6. *Federal Tax Return Confidentiality*, Report by the Privacy Protection Study Commission, 1976.
7. *Public Law* 94-455. See also discussion in *U.S. Senate Rept. 94-938,* Report of the U.S. Senate Committee on Finance on H. R. 10612, Tax Reform Act of 1976.

TAS are covered by the definition of "Tax Return Information" as this is used in the Tax Reform Act of 1976. Thus disclosure of any information will be seriously dealt with. Indeed, the Ways and Means Committee—the very committee that has asked for an evaluation of the TAS system—has upgraded the crime of disclosure from misdemeanor to felony and has upgraded the penalties from $1,000 to $5,000 and one year in jail to five years in jail. I believe that the possibility of actionable disclosure has been effectively eliminated by the Congress.

"However, I suppose one can speculate that in the absence of other safeguards there could be unintended disclosure that occurs simply because of the nature of TAS and the way that system would work. I have thought about this and without reaching—indeed perhaps overreaching-I simply have not been able to conceive of unintended breaches of security or privacy or confidentiality that might occur."

There is disagreement on this point, however, and a suggestion for further legislation was made by the representative of the American Civil Liberties Union.[8]

While there was not total agreement on the sources of threats for TAS, most panelists and many people concerned about privacy, due process and effective tax administration based on voluntary compliance, appear to have an assumption that there is a need to assure that a system this large and sensitive is capable of being perceived as fair, equitable and protective of privacy, due process and confidentiality. Where there is a perceived potential threat which, if actualized, would be detrimental to certain rights and liberties, then it is worth considering as an issue. For this purpose, no aspect of the system, no personnel managing or using it, and no policies affected by the technology, should be automatically excluded from a review.

*8.* See letter from Hope Eastman, Appendix 7(e).