



PRESIDENT'S
REORGANIZATION
PROJECT

INFORMATION TECHNOLOGY AND GOVERNMENTAL REORGANIZATION

Summary
of
The Federal Data Processing Reorganization Project

April 1979



PRESIDENT'S
REORGANIZATION
PROJECT

WASHINGTON, D.C. 20503

APR 23 1979

Mr. Wayne G. Granquist
Associate Director for Management and
Regulatory Policy
Office of Management and Budget
Washington, D.C. 20503

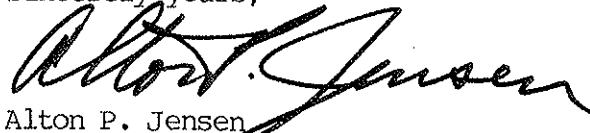
Dear Mr. Granquist:

Enclosed is our final report for the Federal Data Processing Reorganization Project to be forwarded through Mr. McIntyre to President Carter.

We understand that you will use this document and the ten Study Team reports as a basis for producing a Presidential Decision Memorandum which we hope will elicit the Presidential initiative needed to bring about the changes we are recommending. To further assist you in this effort, we plan to submit a proposed draft of a Presidential Decision Memorandum within the next few days.

We applaud your current efforts to bring about a "managerial cohesiveness" of OMB, GSA, and DOC in their leadership roles related to managing Information Technology Resources. We hope that you will call on us if we are needed.

Sincerely yours,


Alton P. Jensen


E. L. Dreeman


Blasdel A. Reardon

Enclosure



PRESIDENT'S
REORGANIZATION
PROJECT

WASHINGTON, D.C. 20503

April 5, 1979

MEMORANDUM

TO: Project Members, PRP/FDP
FROM: A. P. *Let* Jensen, B. *Reardon* Reardon, E. L. *Greeman* Greeman
SUBJECT: Final Summary Report

The enclosed copy of the final report reflects a number of comments received relative to the last draft copy and is improved by them. We realize that further improvement to the report might be possible, but the time has come to formally submit our recommendations in order to stimulate the actions for which we are calling.

It is our understanding that this report as it stands will be transmitted through the OMB to the President. With this document, the President will receive a PDM written by the OMB with our cooperation and input. Those of you who wish to go on record regarding some aspect of the report should do so promptly by letter to the OMB.

Once again, thank you for the support you have given us.

ACKNOWLEDGMENT

An impossibly long list would be required to acknowledge individually all the persons and organizations, both inside and outside Government, that have, in either official or unofficial capacities, contributed their ideas and their time to the work of this project. Although a detailed listing of individual acknowledgments has been omitted here for practical reasons, we would like to emphasize that the recommendations contained in this report have not been produced in a vacuum, nor are they all new; in fact, in many cases these same recommendations were first suggested by persons now in Government service, or are contained in reports of previous studies.

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I. INTRODUCTION

Background and Purpose of the Study

The Federal Data Processing component of the President's Reorganization Project, with a membership comprised of 55 outstanding computer professionals selected from both the public and private sectors, was initiated to examine the ways in which the Federal Government acquires, manages, and uses data processing technology and to make recommendations that will help the Government (1) improve the delivery of services through the effective application of computer and related telecommunications technology; (2) improve the application and management of the relevant resources; (3) eliminate duplication and overlap in agency jurisdiction relative to computer issues; and (4) improve the productivity of the Federal data processing work force.

As the work of the project matured, the group chose to adopt the term "information technology" as the primary descriptor for the object of its study, deciding that the term "data processing" -- a phrase traditionally associated with administrative record keeping -- does not adequately reflect the rapid and important convergence of the computer and the communications technologies. The work was carried out through ten independent study teams: Human Resources Team, National Security Team, Small Users Team, General Government Team, Science and Technology Team, Acquisition Team, Operational Management Team, Standards Team, Personnel Team, and the Central Agencies Team. During the course of the study, an extensive review was made of all pertinent Executive orders, policy statements, records of hearings, and other legislative and administrative documents, and hundreds of interviews were conducted with information technology and management experts throughout the Nation. As a result of this broad review of the use and management of information technology within the Federal Government, the members of the Federal Data Processing Reorganization Project developed the sets of findings, conclusions and recommendations contained in the individual reports of the ten study teams. (Copies of the ten study team reports may be obtained from the National Technical Information Service.)

At that point, it was agreed that a report which presented an expression of common agreement was needed. To seek and identify this expression of agreement, a leadership group was appointed and a period of consensus-seeking meetings, report drafts, telephone conferences, and interpersonal communications was initiated. During that period, every effort was made to give each study participant a voice in this final report.

A more detailed statement of study methodology and individual team report summaries are presented in the Appendix. Readers interested in the details leading to the conclusions and recommendations presented herein are encouraged to review individual team reports.

Study Findings

The summarized recommendations of this study as presented in Section II of the report are based on the following study findings:

- * The Federal Government is irreversibly and increasingly committed to the use of information technology to manage its resources, provide its services, and protect its citizens.
- * Information technology can be an effective means of reducing the costs of Government, and may be the only means of expanding governmental services without increasing budgets.
- * Accelerated development of, and commitment to, information technology, though not a goal in and of itself, is a means by which an information-intensive society may be able to achieve its objectives.
- * The Federal Government is, in general, mismanaging its information technology resources and has not developed a plan for exploiting the opportunities of the future with respect to investment, service delivery, protection of citizens, or national security. This condition is manifested by such major symptoms as:
 - Public complaints about delays and inaccuracies at many service delivery points.
 - An inability to protect the rights and privacy of individuals from intrusive practices of Government agencies and others.
 - Growing obsolescence of equipment, systems, and personnel.
 - Increasing economic threats which have been accelerated by the availability of technical information and products flowing freely and uncontrolled from the United States into competitor nations.
 - A military enterprise which is operationally vulnerable as a consequence of obsolescent equipment and systems and under-developed technical personnel.

These major symptoms are principally caused by:

- The apparent unwillingness of the Office of Management and Budget to exercise managerial (in contrast with budgetary) control over information technology.
- The failure on the part of the Office of Management and Budget (OMB), the General Services Administration (GSA), and the Department of Commerce (DOC) to effectively discharge the responsibilities assigned to them under P.L. 89-306 (the Brooks Law).

- Abdication by program agency management of its responsibility for managing information technology as a mission-oriented resource.
- Tensions between the legislative branch and the executive branch of government: in the absence of leadership from the OMB, the GSA, and the DOC, the House Government Operations Committee has become the de facto manager of much of the acquisition of the Federal Government's information technology resources; these activities plus those of other legislative groups combine to comprise a level of activity which stresses the limits of normal oversight of program and mission agencies and can preempt the decision process of the executive branch.

These summary findings indicate an urgent need to exploit and accelerate the application and development of information technology to reduce the cost of Government, improve service delivery, protect our privacy, improve our individual and military security, and maintain world leadership in a technology that holds the keys to a new era.

Study Conclusions

As it uncovered various serious problems with the Federal Government's employment of information technology, the Federal Data Processing Reorganization Project soon discovered that those problems often took the form of a basic dilemma. On the one hand, (the prudent application of information technology to agency or program missions should and must be the primary responsibility of agency or program management; on the other hand, the study teams found that, (in general, agency or program managers do not exercise the required responsibility, and that the users of data processing services in the Federal Government are seldom held accountable either for the effective use of such services or for planning and justifying the use of similar services in the future. }

Moreover, the teams found that the dilemma extends even to the "central" agencies -- the Office of Management and Budget (OMB), the General Services Administration (GSA), and the Department of Commerce (DOC). On many occasions during the course of the study, debate centered around two related questions: (1) whether some particular central agency actually has the ability or the will to do something it has been mandated to do; and (2) whether a responsibility which has not been honored by some particular central agency should now be reassigned to some other agency, or perhaps to a Special Assistant to the President. Once again, the dilemma. On the one hand, certain responsibilities belong naturally to certain agencies and should not arbitrarily be placed somewhere else; on the other hand, the history of those agencies causes many knowledgeable observers to doubt whether these agencies are capable of changing themselves sufficiently to accept and exercise their responsibilities.

As the ten study teams confronted the basic dilemma in one or another of its various manifestations, they offered solutions which, despite natural differences in preferred phraseology, form a remarkable consensus. That consensus is expressed in the following statements:

With regard to the line agencies, the Federal Government must establish clear and measurable criteria by which mission performance can be judged; then, reward competence; and, by rewarding it, build it and strengthen it. The building and strengthening of such competence is the major task faced by the Government.

With regard to the central agencies, the Federal Government must bring about a managerial revitalization -- a revitalization characterized by a rechanneling of central agency efforts into positive programs intended to provide the Government with energetic and knowledgeable advocacy for the effective use of information technology.

In general, the current condition of the Government will not improve without major changes in attitude with respect to information technology. A systematic and integrated effort will be required to effect needed changes. This effort will require a commitment enunciated and driven by the President.

II. RECOMMENDATIONS

The nine recommendations presented in the following pages represent a consensus developed from the common themes that emerged from the efforts of the ten independent study teams. The separate reports of those ten teams should be consulted for detailed discussions of the findings, conclusions, and analytic processes upon which the nine major recommendations are based. For instance, the Acquisition Team report describes the confusion, delays, and frustrations which characterize the current process for acquiring information technology resources; the Operational Management Team report develops and supports an important managerial concept called "Earned Autonomy" as an answer to the dilemma outlined on the previous page; and so forth.

Since the material presented in this report is not a summary of the individual team reports, the reader of those various reports should not expect that all of the recommendations of the ten study teams translate directly into the nine major recommendations set forth here. The reason for this is that there were various recommendations vigorously proposed by individual teams which did not survive the distillation process that served to develop these recommendations.

As was stated in the Acknowledgments section of this report, few of the ideas and recommendations offered by the study group are "new." What is needed for the management of information technology in the Federal Government is not new ideas, but new and energetic action -- action which will promote the productive use of information technology across the entire Government.

RECOMMENDATION 1: THE FEDERAL GOVERNMENT NEEDS TO TAKE ACTIONS THAT WILL ESTABLISH THE IMPORTANCE OF INFORMATION TECHNOLOGY, PROVIDE TOOLS FOR ITS MANAGEMENT, AND SET NATIONAL AND FEDERAL GOALS FOR ITS PRODUCTIVE USE.

- * The top management of program and mission agencies must effectively relate information processing resources to program and mission requirements. In both the civil and defense agencies of Government, senior Government administrators should:
 - Initiate and maintain review and evaluation procedures which assess the reliability and validity of their information management systems.
 - Become involved in the planning and design of the new information management systems on which their agencies will become dependent.
 - Test and qualify the judgments of technicians in areas which impact agency data needs.
 - Demand managerial responsibility for the costs of the information management systems which support their agencies.
 - Actively require the use of information technology to reduce the unit costs of service delivery.

- * The Office of Management and Budget should establish an Office of Information Resource Management (IRM) at the Executive Associate Director level. The person holding this position should be given a broad mandate to create and reinforce a good system of information technology management. A primary purpose of this office would be to provide a focal point within Government for the aggressive advocacy of the use and management of information technology in order to reduce the costs of Government and to make it more effective.

- * The OMB should require each department or agency of Government to establish an Information Resource Manager as an assistant to the agency head. The IRM would comprise a staff uncompromised by vested interest in any particular computer facility and would be accountable for the following actions leading to the efficient and effective use of information technology throughout the organization served:
 - Oversee the development and on-going operation of the organization's information technology long-range planning mechanism and coordinate this planning with agency program planning.
 - Encourage technological innovation in the provision of service delivery by the organization, within existing budgetary, technological, and organizational resource constraints.

- Monitor the delivery of services by the organization, and advise the Secretary/Administrator on the best use of information technology to increase the efficiency of such services.
- Advise the agency head on areas in which the information technology can be used to increase the overall effectiveness and productivity of information processing activities in support of the organization.
- * The OMB should establish a National Council for Information Technology Policy, Plans and Programs. This Council should be chaired by the Executive Associate Director for Information Resource Management of the OMB. The Council's voting membership should be made up of the Chairperson and the various Information Resource Managers discussed above. Membership should also be open to key representatives of House and Senate committee staffs. The role of the Council would be to:
 - Keep the President and Congress informed about the state of information technology as it is applied in Government.
 - Keep the President and Congress informed about the opportunities and problems presented by advances in technology.
 - Identify and clarify issues of information technology policy, plans and programs as they pertain to governmental operation, public well-being, and international relations.
 - Issue positions and recommendations on privacy and confidentiality matters.
 - Foster continued U.S. world leadership in information technology and identify the research and development programs needed to lengthen that lead.
- * The recommended Executive Associate Director for Information Resource Management (EADIRM) and the various Information Resource Managers (IRM) must not be considered simply "elevated positions" that currently exist. These are new positions to be filled with information technologists with records that clearly place them among the Nation's best as technologists and as executives. The EADIRM and the new IRMs are perceived as forming a peer group capable of collectively addressing the opportunities of information technology through the proposed National Council for Information Technology Policy, Plans, and Programs. These positions should be filled from the private sector and from within the Government through effective use of the new Executive Service category or the use of IPAs as appropriate. The thrust is for a continuing infusion from the private sector and for the release of untapped resources within the Government.

RECOMMENDATION 2: THE FEDERAL GOVERNMENT NEEDS TO IMPROVE AND EXPAND ITS USE OF MODERN INFORMATION TECHNOLOGY TO INCREASE AND ENHANCE THE LEVEL AND QUALITY OF GOVERNMENTAL SERVICE DELIVERY WHILE REDUCING COSTS.

- * The Federal Government should establish a nationwide computer-communications network of service delivery centers which support eligibility and claims processing and determination.
- * The Office of Management and Budget should form and direct a Presidential task force to study (in detail) the consolidation and centralization of human services delivery, and should establish a policy initiative and timetable for the consolidation of human resource programs under a single integrated eligibility determination system which has strict safeguards against violation to individual rights, privacy, and due process.
- * The Office of Management and Budget should encourage and support research programs directed to improve service delivery processes. Maximum effort is needed to improve and continually refine the Government's processes for benefit applications and claim processing in order to achieve and extend the economies of scale in high-volume, labor-intensive areas.
- * The Office of Management and Budget should encourage and support the development of a set of uniform data definitions for human service delivery. Such definitions are needed to facilitate the aggregation of data across programs for various purposes which do not violate privacy, individual rights and due process.

RECOMMENDATION 3: THE OFFICE OF MANAGEMENT AND BUDGET NEEDS TO ESTABLISH A POLICY REQUIRING THAT COSTS OF DATA PROCESSING BE CHARGED BACK TO THE USING AGENCY AND PROGRAM IN PROGRAM-RELATED TERMS.

- * Throughout the Federal Government, immediate actions should be taken to bring about a management system in which the products of information technology can be measured and evaluated in program-related terms. To do this, certain tools, actions, responsibilities, and authorities are appropriate and should be fostered by the OMB:
- The zero base budgeting process should be intensified and refined as an integrated management tool for on-going program tracking and management. This process calls for the development of key indicators by which effectiveness and efficiency can be measured.
 - Cost systems and indicators should be developed for measuring performance against end purposes and agency missions in units of service delivery. Work measurement, unit costing, and productivity indices, service quality indices, responsiveness indices, etc., should be used where appropriate.
 - Responsibility and accountability for effectively managing information resources should be focused on the program managers responsible for delivering services to the public or to other governmental bodies. Program managers should have decision authority commensurate with their financial decision-making authority in non-information technology areas including the ability to make decisions between alternate sources of supply. This includes the responsibility for making investment choices and decisions for competitively acquiring information technology resources and services in accordance with OMB Circular A-76. These managers should seek a reduction each year in the unit costs of service delivery.
 - Information technology costs should be required to flow directly into end-item (product or services) unit expense. All costs should be included, direct and/or indirect, including appropriate allocation of long-term and capital costs. All shared facilities should be placed on a full charge out basis. Users should contract with data processing installations for the cost, quantity, and quality of service to be provided in user oriented terms.
 - Data processing service centers should be performance audited periodically to determine whether they remain cost-effective. Evaluations should consider both cost and quality of services and those centers rated as substandard should be closed.

Agencies should be required to prepare five-year information technology plans which are coordinated with the agency's budget and program plans. Major new information technology acquisitions and the programs they support should be identified so that sociopolitical issues can be addressed and resolved early. These plans should prepare each agency to submit "cost-based" as well as "obligation-based" budgets in fiscal year 1981. (Departmental activities must be managed on a cost basis even though Congress may prefer to examine budget proposals in its historic fashion.)

RECOMMENDATION 4: THE FEDERAL GOVERNMENT NEEDS TO SET AS AN OBJECTIVE THE REMOVAL FROM SERVICE OF ALL INFORMATION TECHNOLOGY COMPONENTS WHICH HAVE OUTLIVED THEIR COST-EFFECTIVE LIFE.

- * The Government should obtain and maintain an information technology base that is sufficient to meet the needs of the Nation's economic life and its military posture. The cost of lost opportunities for providing improved Government services must be reduced. The hidden costs incurred when timely improvements are not made must be avoided. (These costs begin with such factors as the increased maintenance costs required by failing equipment and outdated software. Added to such costs are those incurred when unreliable equipment causes data reruns, underutilization of the better trained personnel, and the loss of potential contributions of promising personnel who decline Government employment because the working environment does not challenge their technological competence.)
- * The Government should set an objective to remove from service all information technology components which have outlived their cost-productive life:
 - The OMB should establish guidelines for determining the cost-effective life of equipment in order to control obsolescence.
 - Each program agency should evaluate its computer inventory in the light of those guidelines.
 - The OMB and the agencies should jointly fashion capital requirements plans for the agencies, with clear priorities set among the competing needs identified.

RECOMMENDATION 5: THE FEDERAL GOVERNMENT NEEDS TO SIGNIFICANTLY ALTER ITS PROCESS FOR ACQUIRING INFORMATION TECHNOLOGY RESOURCES. INCREASED EMPHASIS SHOULD BE PLACED UPON THE PLANNING, NEEDS DEFINITION, AND JUSTIFICATION PHASES OF ACQUISITION.

- * The Brooks Law (P.L. 89-306) provides the legal framework for the management of information technology resources; recent guidelines for the application of OMB Circular A-109 to the acquisition of major information technology systems are consistent with this framework and have the virtue of applying a standard Federal procurement policy to the acquisition of major information technology resources. We applaud the spirit and direction of this effort; it should be extended to cover information technology resource acquisition in general through the application of the proposed Federal Acquisition Act of 1977 so that information technology acquisition can be viewed as a mission support function rather than as an end in itself.

In the absence of a standard Federal procurement policy hospitable to information technology, the following actions and guidelines are recommended:

- * More procurement responsibility should be delegated to the agencies. Specifically:
 - The threshold requiring GSA delegation of procurement authority should be raised from \$50,000 to \$300,000.
 - A certification process should be established under which GSA would give an agency blanket delegation of procurement authority. Such certification ("Earned Autonomy") would be renewable annually upon determination that qualifying conditions by GSA have been met. Certification could be withdrawn by GSA for cause. Qualifications for certification would be determined by GSA. Operation of the process would be GSA's responsibility.
- * Action should be taken under currently legislated authorities to clarify specific responsibilities between the Office of Management and Budget and the General Services Administration with respect to promulgation and issuance of management, acquisition, and procurement policy and procedures. The OMB should specify responsibilities, identify specific policies requiring clarification, set timetables and monitor completion. As a minimum, the following items require immediate attention:
 - The question of P.L. 89-306's applicability to services.
 - Policy covering the continued support to program agencies which obtain data processing services from another agency under the sharing program, when equipment is to be replaced.

- Guidelines for applying OMB Circular A-76 to data processing.
 - Policy concerning treatment of software conversion costs in evaluating new procurements.
 - Guidelines for the development of functional specifications to be used in solicitation documents.
 - Policy governing incremental upgrades of existing resources.
 - Policy defining competitive procurements in various situations, describing under what conditions competitive procurements are in the best interest of the Government, and setting up a mechanism for monitoring program agency adherence to these policies.
 - Policy and guidelines on technological obsolescence as a factor in replacing computer hardware.
 - Responsibility for enforcement of standards related to new procurements.
 - Resolution of inconsistencies in automatic data processing equipment classification between the ADP Schedule contracts and the Federal Supply Schedule contracts.
- * Acquisitions with a system life-cost in excess of \$1 million should be conducted only by data processing and contracting personnel who are qualified specialists in the computer acquisition function. The recommendation visualizes that agencies with full-time specialists (certified by GSA) should be given delegated procurement authority. Where such specialization does not exist, GSA should conduct the procurement. It is intended, as a minimum, that this policy apply to all large-scale computer hardware and large services acquisitions especially where benchmark techniques are used.
 - * Proposed acquisitions with a price over \$1 million should be specifically identified in budget documents and thus become more visible for management and budget reviews.
 - * More formalized procedures should be adopted when delays are imposed during the acquisition process. Whenever the normal acquisition process is halted by organizations external to the program agency, such as GSA, OMB, or congressional committees, the program agency should be advised in writing as to the reasons for the halt and informed of the actions required to resolve any problems.

RECOMMENDATION 6: THE FEDERAL GOVERNMENT NEEDS TO UPGRADE THE TRAINING AND CAREER DEVELOPMENT REQUIRED FOR FUNCTIONAL MANAGERS, RECLASSIFY PERSONNEL SKILLED IN THE MANAGEMENT OR USE OF INFORMATION TECHNOLOGY, AND ESTABLISH APPROPRIATE CAREER PATHS FOR SUCH PERSONS.

* The program and mission agencies and the central agencies should upgrade the training and career development required for functional managers, conduct a comprehensive reclassification of personnel skilled in the management or use of information technology, and establish appropriate and attractive career paths for such persons. To accomplish these tasks the agencies should:

- Require information systems training for functional managers in Grades 14 and above.
- Establish a new occupational group, "Information Science," with appropriate job series to reflect the changed nature and role of data processing in the Federal Government and changed job specialties.
- Provide a central focus to information technology training and career development through the establishment of a Federal Data Processing and Career Development Institute.
- Make effective use of cooperative training and summer intern programs with colleges and universities which offer computer sciences curricula and degrees.
- Establish communications lines between agencies and the Civil Service Commission to improve agency knowledge of the recruiting and examining process.
- Modify existing legislation to allow delegation of examining authority to the heads of agencies.
- Establish appropriate occupational series for and provide specialized training in data processing contract preparations, RFP preparation, contract performance monitoring, and contract administration.
- Support long-term efforts supporting the development of suitable criteria and methods for formal certification of data processing personnel.

* The Department of Defense should:

- Provide for a military career path in each service which includes provision for progression to General in recognition of the extreme importance of information technology specialists to the national defense mission.

- Take the measures necessary to fill certain vitally important posts in the military service with qualified general officers competent in the management of information technology.
- Establish the training programs necessary to ameliorate the problem of personnel obsolescence.
- * The importance of the people who operate the systems that control and manage the Government's information resources should be emphasized; bonding and clearance requirements for operations personnel who control and handle data should be established.

RECOMMENDATION 7: THE PROGRAM AND MISSION AGENCIES NEED TO BE STRENGTHENED TO MEET THE GENERAL REQUIREMENTS FOR MANAGERIAL AND TECHNICAL EXPERTISE IN INFORMATION TECHNOLOGY. THE AGENCIES MUST HAVE PROMPT ACCESS TO RESOURCES WHICH CAN HELP THEM SOLVE THEIR PROBLEMS.

- * The Office of Management and Budget should maintain an awareness of the requirements for managerial and technical specialization and be willing to directly allocate to identified centers of expertise the personnel positions necessary to meet these requirements.
- * Whenever a sufficient unmet demand exists, Specialized Assistance Centers (SACs) should be established to provide fully cost-reimbursable managerial as well as technical services to Government agencies.
 - SACs should be administered by host agencies that are capable of and willing to support them, or by an agency designated by the OMB.
 - SACs should be managed and reviewed by their respective host agencies, the OMB, GSA, and congressional oversight committees. The SACs should be financed through the GSA's ADP Fund.
 - The Department of Commerce should establish and sponsor a federation of SACs to create a community of data processing expertise within the Federal Government, and to provide joint policy, procedures, and planning for individual SACs. Both the OMB and the GSA should have representation in the federation.

RECOMMENDATION 8: THE FEDERAL GOVERNMENT NEEDS TO INSTITUTE A RESEARCH AND DEVELOPMENT PROGRAM IN INFORMATION TECHNOLOGY TO MEET THE NEEDS OF THE NONDEFENSE SECTOR.

- * The Office of Management and Budget should foster and support research in the nondefense sector to deal with advanced software techniques such as formal verification of the correctness of computer programs; data base management systems for very large, shared distributed data bases; distributed computer architectures with terminals for the many counselors and service providers who interact with the public; archival storage technology; and, especially, human factors, privacy, security, and "robustness." The research and development that is required extends beyond the theoretical and laboratory work all the way up to prototype testing. Such a research and development program for computing and communications technology should have an initial funding level on the order of \$25 million annually; over the first five years at least 75 percent of the funds should be spent on contracts with private and university sectors.
- * The Office of Management and Budget should foster and support a national computer network to serve the nondefense research efforts. Such a network would provide a unifying influence on programs and projects based in both the public and private sectors. These projects should also be closely coordinated and interactive with the information technology part of the defense research and development community where security considerations permit.
- * The Office of Management and Budget should foster and support an augmented capability for using advanced computer techniques to keep track of the location and availability of experts in all the specialized areas of information science and technology.

RECOMMENDATION 9: THE FEDERAL GOVERNMENT NEEDS TO REVITALIZE ITS EFFORTS TO ESTABLISH AND MAINTAIN A STANDARDS PROGRAM FOR INFORMATION TECHNOLOGY IN ORDER TO SUPPORT THE ECONOMIC PURCHASE OF EQUIPMENT AND THE ECONOMIC AND EFFECTIVE OPERATION OF COMPUTER RESOURCES.

- * The Federal Government should promote the adoption and acceptance of authoritative, workable standards for information processing to facilitate the cost-effective use of the technology within Government.
- * The standards enforcement roles of the Institute for Computer Science and Technology, of the General Services Administration, of the Office of Management and Budget, and of the agencies should be clarified. The responsibility for measuring, determining, and reporting on compliance is the responsibility of the Secretary of Commerce; the responsibility for the application of sanctions belongs to the GSA for procurement and with the OMB for operational standards. Sanctions should be applied in cooperation with the technical support and compliance monitoring responsibilities of the Department of Commerce.
- * The Secretary of Commerce should remove the Institute of Computer Science and Technology from the National Bureau of Standards, and assign the responsibility for information technology standards to the Assistant Secretary for Science and Technology, who should institute a program to anticipate, identify, prioritize, and develop needed standards in the Federal Government.
- * The Office of Management and Budget should direct each department and agency to establish a central Standards Management Office, or equivalent, which would be responsible for the management of a standards program within the department or agency. The Office of Management and Budget should establish the consultant resources needed to assist it in carrying out its responsibilities with regard to the implementation of standards.

III. THE MINORITY POSITION

One important difference of opinion among the members of the study group has remained unresolved, and it is therefore appropriate to include in the project report a summary of the minority position on this disagreement.

The study team agrees that the central agencies (OMB, GSA, and DOC) have failed to establish a record of credibility, and that the OMB is so firmly set in its emphasis on budgetary control that there is reason to doubt that it will be able to adopt the positive management style needed to implement the recommendations of this study.

The majority view holds that the foregoing recommendations can and must be implemented through a strong and persevering Presidential initiative through the OMB. The minority agrees but further holds that the required Presidential initiative must be of sufficient strength to establish and support a Special Assistant to the President for Information Technology Policy, Plans, and Programs. The majority group objects to the appointment of such a Special Assistant; the minority group answers the majority's major objections as follows:

Objection 1: Special Assistants do not work. Executive departments and agencies will respond much more quickly to the words of their top management than to "Special Assistants" who are rarely seen.

Reply: There are ample precedents to demonstrate that Special Assistants do work. The Council on Environmental Quality, the Council of Economic Advisors, and numerous other special assistants within the White House are among these. It is clear that their success depends heavily on the skill and leadership ability of the individuals filling the positions.

Objection 2: The presence of a Special Assistant establishes an advocacy position close to the President for a special interest group, yet "the President gets all the special interest pressure he can stand."

Reply: The minority group appreciates the tumultuous situation this envisions, with many advocates pleading for a variety of special interests, but believes that this President has the technological background needed to benefit from a Special Assistant whose interests lie in exploiting the information technology to achieve the Nation's ends. Furthermore, the President is already receiving special interest pressures in this area from the legislative committees.

Objection 3: Information technology is not that important. It is just one more technique that can be used.

Reply: This position ignores the fact that the information industry in the United States impacts more than half of the GNP, and is growing. The Government is information-intensive and must therefore become computer-intensive. The rate of increase of computing capability (the computing power available per dollar) offers the only hope for dealing with the growth of the information on which the Government functions.

Objection 4: A new position outside of the OMB would create a conflict in responsibilities within the existing executive branch structure, which can be more damaging than helpful.

Reply: This perceived conflict is viewed as a needed "healthy tension" necessary to insure that the OMB will be constantly reminded of its management role. If the OMB becomes more aggressively "managerial," then the need for the Special Assistant will dissipate. When the need dissipates the office should be abolished.

Objection 5: The most effective tool any President has for bringing about change in Government operations is the OMB.

Reply: It is agreed by the minority that this is how it should be; however, the OMB lacks the credibility needed to effect the changes called for in this report. Numerous GAO reports substantiate this position, and, as an experienced former Government official pointed out: "for a whole variety of reasons...including at times weak leadership, OMB has not been as effective as it should be. This has been particularly true in carrying out its management missions, and I think it is fair to say that it has never really fulfilled its management mandate." The minority of the study group agrees, and adds that there is little reason to expect change, in view of the following:

- The adoption of zero base budgeting had the benefit of a Presidential initiative; yet, even so, the rank and file of the OMB have viewed ZBB as a process for gathering budget data, rather than as a component of a comprehensive management system.
- The OMB views itself as staff to the President with a role which is passive, independent, and objective. This role has been so carefully maintained and instilled in the OMB personnel that there is little hope of effecting required changes in attitude.
- The dominance and importance of the budget process is so great that the OMB will never have an effective management component.

-- The current cabinet-centered management style of the President reduces the likelihood of a more active role for the OMB. In fact, superimposing an unwelcome "advocacy" or leadership role on the OMB would further jeopardize its effectiveness in its natural posture of budgetary control.

In summary, a minority group of the Federal Data Processing Study team respectfully holds that the President needs the counsel of a Special Assistant regarding the long-term goal of increasing governmental effectiveness through the appropriate application of the tools of information technology. In addition to counsel regarding these internal issues of Government, the President needs counsel regarding the international developments related to information technology. Therefore, the person chosen for this office should be one of major stature: a man or woman who possesses not only unquestioned technological qualifications but also a solid record of managerial success, including involvement in the international arena.

APPENDIX

Chapter I: Project History and Methodology

Evolution of the Federal Data Processing Study

As one of the 31 Presidential Reorganization Projects, the Federal Data Processing Reorganization Project was initiated to:

- * Improve the delivery of governmental services through the effective application of computer and related telecommunications technology.
- * Improve the acquisition, management, and use of these resources.
- * Eliminate duplication and overlap in agency jurisdiction relative to computer issues.
- * Improve the productivity of the Federal data processing work force.

Prior to the beginning of the study, the Office of Management and Budget developed a statement of the possible issues to be examined during the course of the study. This statement of issues was published in the Federal Register with a request for comments by interested parties. Over one hundred written comments were received from Government agencies and the general public. The comments were analyzed and a discussion draft was sent to members of Congress, officials of the executive branch, and all of those who commented on the issues published in the Federal Register. In general, the response to the discussion was favorable, and the draft became the basis for conducting the study.

Conduct of the Study

Fifty-five professional staff members were recruited to work on the Federal Data Processing Reorganization Study. Twenty of them were from outside the Federal Government, with their services being donated by their employers through the Executive Loan Program. The thirty-five Federal employees were detailed from their agencies to work on the project.

The project staff was divided into ten study teams and a project management group. Five of the study teams were designated to address planning and management issues which are unique to individual operating agencies and to obtain further views on Government-wide issues. These

teams and their areas of concentration were:

- * Human Resources Team: Department of Health, Education, and Welfare; Department of Labor; Veterans Administration; etc.
- * National Security Team: Department of Defense.
- * Small Users Team: Securities and Exchange Commission; Small Business Administration; Federal Trade Commission; etc.
- * General Government Team: Department of the Treasury; Department of Justice.
- * Science and Technology Team: National Aeronautics and Space Administration; Department of Transportation; Environmental Protection Agency.

The remaining five study teams addressed issues which are common to all agencies. These teams and their areas of concentration were:

- * The Acquisition Team: problems relating to the process of selecting and acquiring computer hardware and services.
- * The Operational Management Team: problems pertaining to the design of systems and management of data processing operations.
- * The Standards Team: problems pertaining to computer and related telecommunications standards issues.
- * The Personnel Team: problems relating to personnel management issues unique to the information technology community.
- * The Central Agencies Team: problems pertaining to the relationships among the agencies which were assigned a special role in guiding the Federal Government's use of information technology under P.L. 89-306.

Each of the ten teams developed its own methodology and further defined the issues it was studying beyond those presented in the basic framework of the discussion draft of August 30, 1977. The teams gathered and analyzed data which served as the basis for a separate report prepared by each team. A draft of each report containing the methodology used by the team, the team's findings and conclusions, and an analysis of the options considered by the team was distributed to several hundred interested parties for public comment. The interested parties included representatives of executive agencies, the Congress, trade associations, the media, and others. The comments received were considered in preparing each team's final report. Each team's final report contains, in addition to the topics included in the public exposure draft, the team's recommendations and, in many cases, implementation plans.

