COURTS TECHNICAL ASSISTANCE MONOGRAPH NO. THREE

COMPUTER USE IN THE COURTS: Planning, Procurement and Implementation Considerations

Larry P. Polansky

THE AMERICAN UNIVERSITY
CRIMINAL COURTS TECHNICAL ASSISTANCE PROJECT
Institute for Advanced Studies in Justice
The American University Law School
Washington, D.C.

A Program of the
Adjudication Division
Office of Criminal Justice Programs
Law Enforcement Assistance Administration
U.S. Department of Justice

COURTS TECHNICAL ASSISTANCE MONOGRAPH NO. THREE

COMPUTER USE IN THE COURTS:
PLANNING, PROCUREMENT AND IMPLEMENTATION CONSIDERATIONS

June 1978

Larry P. Polansky

CRIMINAL COURTS TECHNICAL ASSISTANCE PROJECT
The American University Law Institute
4900 Massachusetts Avenue, N.W.
Washington, D.C. 20016

LAW ENFORCEMENT ASSISTANCE ADMINISTRATION CONTRACT NO. J-LEAA-013-76

This report was prepared in conjunction with The American University Law School Criminal Courts Technical Assistance Project, under a contract with the Law Enforcement Assistance Administration of the U.S. Department of Justice.

Organizations undertaking such projects under Federal Government sponsorship are encouraged to express their own judgment freely. Therefore, points of view or opinions stated in this report do not necessarily represent the official position of the Department of Justice. The American University is solely responsible for the factual accuracy of all material presented in this publication.

FOREWORD

The Criminal Courts Technical Assistance Project, under two successive contracts with the Law Enforcement Assistance Administration, had provided expert services to over 350 court agency clients between 1972 and 1978. These technical assistance assignments covered more than 20 subject areas, ranging from appellate court processes to pretrial release programs, and involved the provision of services in all 50 states.

The Project subject area of computerized court information systems was the second most active field of technical assistance activity (following facilities planning, which was the subject of the first monograph in this series) and involved assignments in all ten LEAA Regions, including 22 individual states. In addition to the range of jurisdictions and court system organization patterns this level of activity represents, the recipient agencies of this assistance covered the spectrum of funding agencies (state legislatures, SPA's county commissions), user court agencies (state supreme courts, trial courts, limited and special jurisdiction courts), and implementing or servicing organizations (county data processing departments, system design committees, state-level data processing units). These technical assistance efforts were applied at every stage of automated court information system development: needs assessment, feasibility study, cost-benefit analysis, system design, etc. - all the way through to post-implementation evaluation of an operating system.

One result of this diversity of activity was the assembly of a unique store of documentation and analyses of the total system development effort in a court agency, from a variety of relevant perspectives. As time went on, this data base permitted the Project to substantially curb the level of effort required on new assignments or to obviate the need for outside technical assistance, altogether, by a prospective client. Nevertheless,

it was evident that there was a need among court managers and planners for a reference document that treated in a systematic and non-technical way the range of issues and considerations, and the alternatives available, in the planning, implementation and monitoring of automated information systems in the court environment.

This monograph was commissioned to fill that information gap. It provides a framework for systematically assessing needs, planning a management-relevant system, and implementing and maintaining a functioning system that furthers the operational mission of the court. If the reader derives only one lesson from the treatment of computer use in the courts presented by Mr. Polansky, it hopefully will be that an automated information system is only an aid to the overall management of a court, and not an independent management activity. If this realization permeates the information system development process, in future efforts, many of the problems that confronted court managers who had attempted to implement computerized information systems in past years will be avoided.

Readers are invited to communicate to us any suggestions they may have for improving the content or format of any of the publications in the Courts Technical Assistance Monograph Series.

Joseph A. Trotter, Jr.
Director
Criminal Courts Technical
Assistance Project
The American University

Gregory C. Brady
Project Monitor
Adjudication Division
Office of Criminal Justice
Programs
Law Enforcement Assistance
Administration

PREFACE

This monograph is an attempt to discuss in layman's language the implications of the computer revolution to the administration and operation of courts. The experience of the LEAA courts technical assistance program bears testimony to the fact that there is no more poorly understood area of court management nor any area more frequently approached with less understanding or more inadequate preparation.

Because computerization carries the mantle of modern technological advance, many courts enter into the use of computers and their products in order to project the appearance of modern management. Often the result is either the maintenance of the status quo at a higher cost or a regression in the effectiveness of management with an attendant increase in cost, case inventory, and backlog.

The computer, and the information it helps to gather and analyze, is only a tool. When used properly, it can help the court mananger to make logical, information-supported and cost-effective decisions more quickly. Used improperly, it is even easier to make illogical, unsupported and costly decisions at a faster pace.

The chapters which follow will describe the alternative paths available to the administrator who is tempted to venture into this wilderness and will review in some detail the questions that should be asked along the way. The various alternatives have been identified previously through review and analysis of the many technical assistance studies of court information system specialists who have provided services through The American University Courts Technical Assistance Project and other LEAA-funded technical assistance programs over the past six years.* The traps

* Appendix D contains a list of the court information system studies conducted under The American University Criminal Courts Technical Assistance Project

which have been encountered by this writer over the years have also been analyzed and, where possible, an attempt is made to delineate a process which may help others to avoid the common pitfalls.

"Murphy's Law,"** quoted extensively by managers, states, among other things, that nothing is as easy as it looks, everything takes longer than you expect, and if anything can go wrong, it will. Be prepared, for it appears that Murphy's Law also governs in court computer installations. The secret of success in the computer usage area is to avoid the unpleasand aftereffects of the problems that may occur by anticipating as many of them as possible and, even more importantly, by not allowing the same problem to affect you more than once.

It is the writer's hope that this monograph will make the process of automation planning less mysterious and a little easier. Much of what follows is based on lessons learned -- often painfully -- after following less structured paths than are recommended in this document. That the lessons are not easily learned is evidenced by the reports of this writer and others who have provided technical assistance and documented the sad experiences of court managers and their data processors who have tried to tame the computer monster and make it work productively for their courts.

The task is difficult and the personal rewards elusive, but the potential management benefits which can be derived make consideration of automation not only worthwhile, but a must for the court manager.

May 23, 1978
Washington, D.C.

Larry P. Polansky

---

over the period 1972-1977, which were analyzed by the author in developing the present monograph.

** See Glossary, Appendix B.

ACKNOWLEDGEMENT

I am deeply indebted to the many court administrators, judges and data processors without whose wisdom, counsel and support this monograph could never have been written.

My thanks also go to the Criminal Courts Technical Assistance Project - Institute for Advanced Studies in Justice of The American University Law School and to the Adjudication Division of LEAA's Office of Criminal Justice Programs whose encouragement and financial support made the effort possible.

I particularly wish to express my gratitude to the staff of the Criminal Courts Technical Assistance Project for their interest, enthusiasm, patience and many helpful suggestions. Thanks also go to Mrs. Michelle Hoffman, Ms. Judy Young, Mrs. Carol Cleland, and especially, Mrs. Nancy Smith who gave unstintingly of their time in the typing and retyping of the several drafts.

Finally, I would like to dedicate this monograph to my wife, Eunice, and to our children, Steven, Harriet and Bruce, each of whom contributed in their own special way to the effort.

Larry Polansky

TABLE OF CONTENTS

I. THE AWAKENING

A. What Is An Information System?

A college-level text on computers describes a management information system as a supplier of the data that the management of an organization requires to make decisions and exercise control.[1] The definition is succinct and obvious, but far too general to be helpful or informative. Problems arise when we leave this very general level and dig into what an information system means in terms that the court administrator can live with and fully comprehend.

First of all, just what information are we talking about? Obviously, it is that information needed to effectively and appropriately operate the system. It includes caseloads and filings, staff complement data, facilities information, costs and budgets, workload and production measurements, detailed case and person information, future case schedules and notices, retirement projections, instant notice of the occurrence of a problem, etc. In other words, everything that a manager should utilize to effectively manage the system and to direct his or her attention to an area of priority need when a problem begins to surface.

Does this mean we immediately must turn to a computer because the problem of managing is so complex and covers such a multitude of subject areas? Of course not. If the court considering the need for good management information happens to be a one-judge, one-courtroom operation with a 200-case-per-year activity level and no inventory of aging untried cases, there is no data collection need beyond whatever manual system currently supports the

---

1. Stanley Rothman and Charles Mossman, Computers and Society, Second Edition, Science Research Associates, Inc., 1976.

court system and its manager. Perhaps some improvements can be introduced which could lighten the workload of the limited staff supporting such a system but, obviously, a computerized information system is not a necessity for such a court.

Remember also that "computer" and "information system" are not synonymous. Many manual systems in large urban courts produce much more extensive management information than the flashy, expensive computer systems many of these same courts are operating. If the court consistently knows through simple and accurate manual means how many cases are outstanding, filed and closed, it would be frivolous to spend thousands of dollars each month to produce this same data unless the automated system will provide additional useful data while producing the basic information and at the same time reduce costs or increase other services.

The goal should not be to produce neat lists and reports for management, judges and the public which are rarely read. Instead, it should be to produce meaningful and useful data for the successful management and the public information responsibility of a large-scale operation which affects the entire population of the jurisdiction served by the particular court.

B. Why Would A Court Want To Get Involved With An Information System?

One might now ask why anyone should even consider an automated information system if the problems are as extensive as indicated above and the number of successful installations are as few as a review of the 1977 Mitre Corporation study of Court Information Systems seems to infer.[2] What drives court administrators to pursue the development of a Court Information System

---

2. Burton Kreindel, et al., Court Information Systems, National Institute of Law Enforcement and Criminal Justice - National Evaluation Programs - Phase I Report, March 1977.

is, usually, the existence of a series of symptoms leading them to believe (not unreasonably) that unless the computer can "bail them out," their situation is hopeless. These symptoms include (but are not limited to) the following:

(1) A publicly recognized substandard performance and image of the court;

(2) A lack of management data on the status of the court system and its component parts;

(3) The management data provided or developed is stale and useless;

(4) A very heavy volume of repetitive tasks of a relatively simple clerical nature;

(5) A shortage of qualified clerical personnel during a period of increasing staff needs;

(6) No apparent uniform procedure for performing administrative and clerical tasks within the system;

(7) Increasing delays in case processing with the cause or causes unidentifiable;

(8) Unexplainable growth in case inventories;

(9) Undetected passing of speedy trial and/or filing deadlines;

(10) Increasing public and judicial dissatisfaction with the system;

(11) A general inability to pinpoint the causes of the symptoms evidenced by the system.

When enough of the above symptoms exist (and it would be very difficult to find an urban or suburban court in which six or more of these symptoms would not be found), the administrator is justified in turning to an evaluation of whether an automated information system or some level of data processing service is warranted for his court system.

Much more effort is necessary, however, before one accurately decides that automation is the answer to the court's problems. Just what that effort should include is the subject matter of a number of the following chapters.

C. How to Learn More About Court Information Systems

One must know a great deal more about Court Information Systems before embarking on such a costly and time-consuming project.

The first step would be to read the relatively limited printed matter on the subject. Highly recommended are: The data processing report of the Court Equipment Analysis Project of the National Center for State Courts;[3] the reports of the State Judicial Information System and GAVEL projects of Search Group, Inc;[4] and Mitre's Court Information Systems report mentioned in section B, above.[5] An earlier paper by this author entitled "Contemporary Automation in the Courts" might also prove helpful.[6]

---

3. J. Michael Greenwood, et al., Court Equipment Analysis Project - Data Processing and the Courts - Guide for Court Managers - National Center for State Courts - September 1977.

4. • State Judicial Information Systems - State of the Art, Search Group, Inc. - Technical Memorandum No. 11, June 1977.

   • State Judicial Information System (SJIS) - Final Report - Phase I, Search Group, Inc. Technical Report No. 12, June 1975.

   • State Judicial Information System - Final Report - Phase II, Search Group, Inc. Technical Report No. 17, September 1976.

   • GAVEL - A National Model Trial Court Information System Project, Search Group, Inc. Technical Report No. 22, 1978.

5. Supra, Note 2.

6. Larry Polansky, Contemporary Automation in the Courts, Proceedings of the Second International Symposium-Criminal Justice Information and Statistics System - Search Group, Inc. - 1974.

Reference to these reports will provide sufficient information on the subject for the reader to achieve a reasonable understanding of the current "State of the Art."

Equally fruitful would be attendance at one or more of the classes on court information systems being offered by various organizations. Attendance at a general class on management information systems, however, is recommended only if the course is directed toward management-level personnel and is not an overly technical presentation geared toward professional data processors. The Institute for Court Management[7] offers a three-day program, at least once each year, which can be extremely beneficial to the prospective court data processing or court information system user. Other programs are offered periodically by I.B.M. Corporation, New York University, and other institutions.[8] Each of the above-named programs has a different approach to the subject matter and a review of the offering materials is recommended prior to registration.

After developing a basic understanding of the technology, it is important for those still interested in pursuing the use of automation to visit several court sites where data processing support is utilized and a court information system is being developed.

Prospective users will want to check with various hardware and software vendors and to review the literature recommended above to determine those sites most closely resembling their court's organization and anticipated approach to information systems development. The Mitre Court Information System report,

---

7. The Institute for Court Management
1624 Market Street, Denver, Colorado

8. International Business Machine Corporation
(Contact any local office)

New York University
New York City, New York

mentioned above, lists thirteen sites visited during that study[9] which, one must assume, have developed significant data processing services. The National Clearinghouse for Criminal Justice Information Systems[10] reports that at the end of 1976 there were eighty-eight courts serving populations of 100,000 or more that were extensively utilizing automated systems, as well as another sixty-nine Criminal Justice Information Systems servicing courts. These one hundred and fifty-seven data processing projects utilize seventeen different computer systems produced by ten different manufacturers. In the year now passed, this number will have increased significantly and the prospective user can expect to find literally dozens of installations in the court's own geographic area.

---

9. Supra, Note 2.
   - Cuyahoga County, Ohio (Cleveland)
   - Dallas County, Texas (Dallas)
   - Tarrant County, Texas (Ft. Worth)
   - Philadelphia, Pennsylvania
   - Allegheny County, Pennsylvania (Pittsburgh)
   - Beaver County, Pennsylvania
   - Santa Clara County, California (San Jose)
   - Alameda County, California (Oakland)
   - San Francisco, California
   - Union County, New Jersey (Elizabeth)
   - State of Colorado (Denver)
   - Broward County, Florida (Ft. Lauderdale)
   - District of Columbia (U.S. District Court)

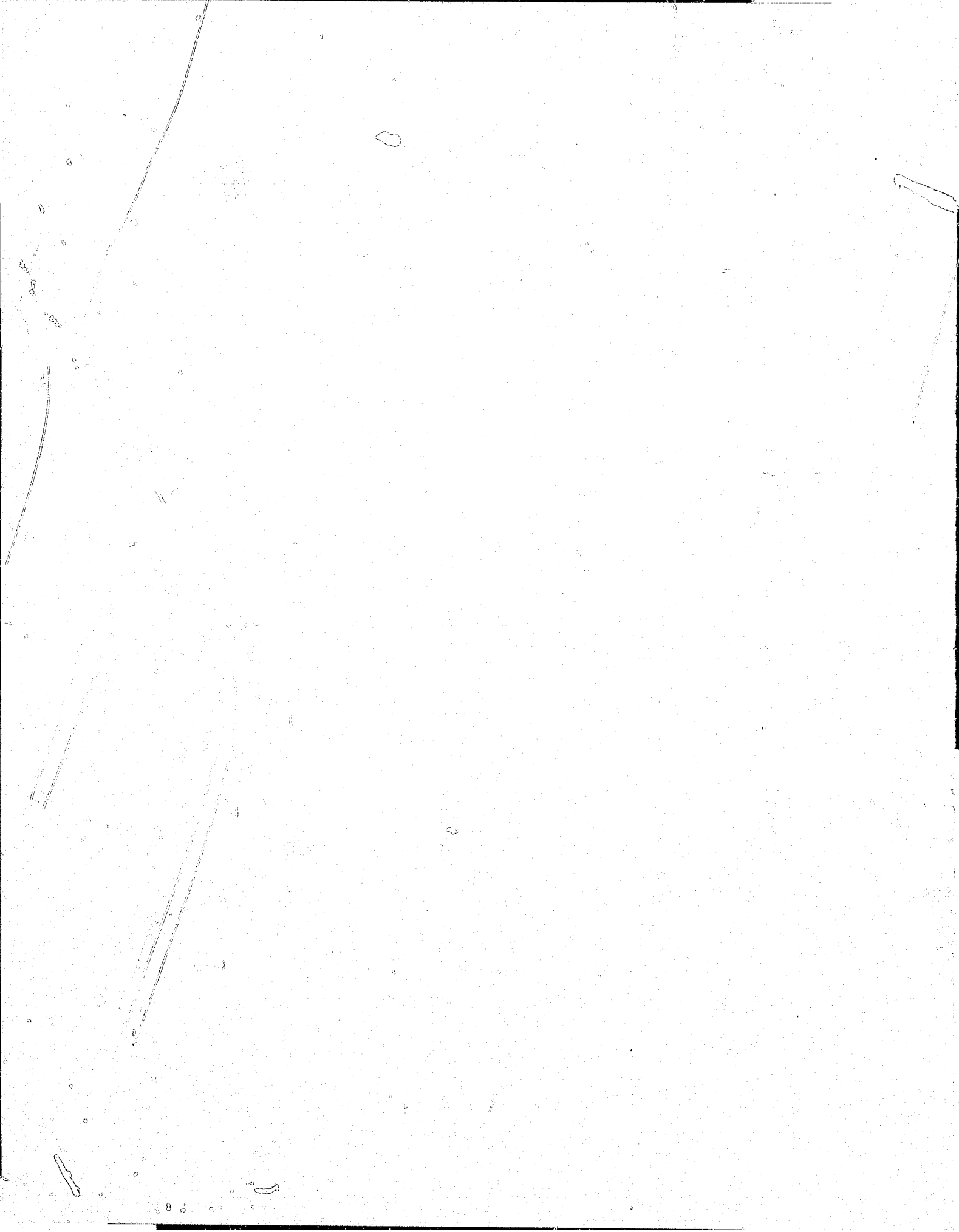
10. Search Group, Inc.
    National Clearinghouse for Criminal Justice Information Systems
    1620 35th Avenue, Sacramento, California 95822

In deciding where to go, look for reasonably close sites with a computer system similar to the one (if any) available to your court, providing support functions comparable to what you believe you will want, and evidencing some significant level of success in their efforts. No single location will satisfy all of your criteria; however, selection of sites for visitation should be guided by how close a site comes to satisfying as many of your criteria as possible.

A site visit should utilize a team of people which includes the President or Chief Judge, the court administrator, the data processor and several middle management "users" of a prospective system.

The visit must not be limited to the data processing facility or its technical staff. Members of the visiting team should arrange to meet with their counterparts at the data processing-supported court. Care must be taken to examine closely the products provided to those "users," the extent of use made of the products, and the effort required of the users to feed the data to the computer in order to produce the final products. An important question to pose to the users at the visited site is "What tasks are <u>not</u> supported by the machines, and why?" Remember to obtain samples of products provided to the users from the data processing system, as well as the forms and procedures required to feed the data into the system.

When and where possible, man-days and cost requirements of the system visited should be obtained, along with work volume, to permit more accurate cost projections for your own project.



II. THE FIRST STEPS

A. The Feasibility Study

1. How Do You Know Whether You Need a System?

In Chapter I, a list was provided of eleven "symptoms" which suggest the need to evaluate the feasibility of utilizing computer support. Typically, in the past, the existence of several of these symptoms has been sufficient to encourage an eager chief judge and/or a court administrator to jump head first into the installation of a computer system to "solve" the court's problems. Mitre's national study suggests strongly that few, if any, courts have gone through a structured feasibility study prior to deciding on the need for computer support or to ordering a computer.[11]

In order to determine whether the need exists, one must take a long, hard look at the court and its operation. In the mid 1960's a pioneer in the area of court computers proposed that every court with more than three or four judges could benefit from automation.[12] More recent analyses by the National Center for State Courts[13] and the Institute for Law and Social Research[14] have not specified a "court-size"

---

[11] Burton Kreindel, et al., Court Information Systems, National Institute of Law Enforcement and Criminal Justice - National Evaluation Programs - Phase I Report, March 1977.

[12] Norbert A. Halloran, a prolific and very early writer and authority on courts and computers, is generally quoted as advocating the evaluation of any court with four or more judges for possible use of computer assistance.

[13] National Center for State Courts - Court Equipment Analysis Project - Phase I, 1976 (Unpublished internal report).

[14] Institute for Law and Social Research - 1976 - An early internal report utilized in support of their Court Scheduling Project.

criterion but have shown, respectively, that there are an estimated 500 court systems already using some form of computer services and that there are approximately 575 courts in the United States with four or more judges.

Unfortunately, the criteria for many of those courts utilizing computer services appear to have been:

- How much money can be obtained through federal grants?
- What prestige will accrue to the court or its administrator for embarking on a computer project?
- How can we do something different than others have done?

Permit the suggestion that any court with four or more judges is justified in analyzing its operation to determine whether there is room for management improvement through the use of computer technology. If a court of this size is faced with an abundance of the "symptoms" listed earlier, it is clear that additional steps are warranted.

The first formal step should be for the court and its staff to determine the areas that need information, whether or not automated, and whether it is already adequately provided. It is very important to gain court-wide agreement on the areas that should be analyzed, for no information system can be successfully implemented without the support and understanding of the judges. Organizational support and assistance in defining needs and goals must be solicited not only from top management (the judges), but also from the court administrator and the administrative staff and from all working-level personnel of the system (including related agencies such as District Attorneys, Clerks of Court, Public Defenders, Bar Associations, etc.)

2. Scope of the Study

When such internal efforts have been fruitful and the decision is firmly made to press on, it is time for a competent and objective evaluation of the practical scope of the project, the costs, and the time frame within which it can be done.

This is the "feasibility study" (as opposed to the design and implementation plan of a system as described in Chapter IV) which should, at the very least, determine:

- Projects or problems which an automated system will and can address.
- The best possible estimate of the cost of achieving successful implementation of computer support in these areas. (Polansky's addition to Murphy's Law - "Everything costs more than you expect".)
- The economic values to be derived through the use of the support system (dollar savings).
- A "weighting" of the non-dollar value of improvements to the system, e.g., the quality of criminal justice or the earlier disposition of civil litigation.
- A logical and detailed plan for the tasks necessary to arrive at the successful implementation of the total project.
- A time frame for each of the tasks and for the overall program. (Since many tasks can be performed concurrently, the overall time requirement is not the sum of the individual tasks.)
- Time commitment requirements for court personnel (judges, court administrator, staff, related agency staff, etc.).

- New staff requirements.
- The availability of funding for the development effort.
- The extent of funding required for maintaining and modifying the "completed" system. (No computer system is ever complete, and the need for modifying the existing system begins "the day before it is operational.")

Remember, this is not the "system study" (see Chapter IV). This is an overview of the projected effort and is to be provided to the decision makers to help them determine whether it is worth going forward with a heavy investment in time, dollars, and reputation.

3. Who Should Conduct the Feasibility Study?

In the section above, the words "competent" and "objective" were used to describe the required evaluation.

Although this evaluation must involve court management and staff, the use of competent and qualified consultant support is strongly recommended during this phase of the effort. The cost of a proper feasibility study is earned many times over in the savings of the dollars which are continually wasted in embarking upon unneeded and unwanted systems as well as in the unsuccessful pursuit of needed systems and management tools.

Approximately ten years ago, when courts were first venturing into this uncharted area, there were few automation consultants competent to provide professional court-oriented advice. A wealth of usable data processing experience was available to help the novice over the basic computer hurdles, but there was no real understanding of computer applications in the sometimes peculiar court environment.

Today, an abundance of "court-trained" data processing professionals

are available. Since 1971, the Institute for Court Management has trained many present and future court administrators, and quite a few of this new breed of court manager came with extensive data processing background. Local court information system efforts and the extensive State Judicial Information System program mentioned earlier (encompassing more than twenty state-level court administration efforts) have brought a wave of professionalism to court data processing and to many of the consulting firms servicing the courts. The National Center for State Courts[15] and The American University Courts technical assistance program[16] have provided consulting support in response to this type of need.

In short, competent, professional and objective help with the feasibility study is available to anyone with the desire to use it, and within a very reasonable price range. It would be prudent to take advantage of this kind of support in order to lay a solid foundation for decision-making in one of the most important efforts a court can undertake during this decade.

B. System Development Alternatives

Early in the development process, the court manager is faced with an extremely important decision which has tremendous short- and long-range implications.

Court management must decide whether it would be better to have the entire project done by outside experts, by a new court staff unit of data processing specialists hired especially for the automation

---

15 National Center for State Courts - Court Equipment Analysis Project - Phase III.

16 The American University Law School, Institute for Advanced Studies in Justice, Criminal Courts Technical Assistance Project.

effort, through a combination of both approaches, or by some other approach.

Each approach has its advantages and dangers. Experience in this area has shown that the "extremes" ("Turnkey" - described in Section 1 below, and "Total In-House" - described in Section 2 below) both possess inherent dangers and disadvantages which outweigh any possible advantage offered by those two approaches.

Inevitably, one reaches the conclusion that a combination of consultant support with professional in-house staffing is the proper solution. The size, capability and scope of activity of in-house staff is the most critical determination and, unfortunately, differs for almost every project. The best advice from a near-unanimous group of experienced court managers is to make the in-house staff as large as the General Fund budget can support (and continue to support) to insure that in-house court expertise is provided at the system design, programming and operations levels (and in supervisory positions, wherever possible) and that the scope of their responsibility and activity is as broad as court management can conceivably permit it to be.

1. Turnkey Systems

The "turnkey", in the criminal justice system, is the person who opens prison doors. In "computerese", the turnkey system is a process whereby an independent organization is paid to conceptualize, design and implement a total system and turn it over to the user when it is "operational"; that is, running exactly as promised. It is a great temptation for the court professional who is a novice in the data processing area to pay an outsider to prepare a complete information system and to turn it over to the court as a running system.

When the "key" is turned over to the user, however, usually no system expertise remains with the user organization.[17] At best, the vendor's task will have been well performed and good documentation for the operation of the system will be available. But if, as suggested earlier, changes begin to be needed even before the system is operational, there will be no one in the court's employ familiar enough with the system to make such changes. The vendor could return (for an additional fee) to make changes as they are needed, but that will usually entail the normal bureaucratic delay to officially authorize the effort and, even if the court is willing to wait that long, the vendor by then may have re-assigned the technicians who developed the system and will be in no better position than the court to make the modification.

The need for significant revisions and modifications, as well as complete overhauls, begins to surface in just a few months or years. Laws change, as well as the goals and direction of the organization and its leaders. Budget fluctuations, legally-mandated expansion and, occasionally, contraction of the administrative and procedural responsibilities of the court have a significant effect on what the information system must provide.

Even more exasperating is the fact that the court will have invested untold hours in "court-training" the vendor and his staff, only to have that newly-developed expertise depart at "system turn-over." The trauma generally associated with extensive in-house involvement with information system development and installation will not have been avoided but will only have been delayed.

---

[17] The word vendor is used throughout this monograph interchangeably with consultant, and is meant to describe any individual(s) or firm providing software and/or hardware services.

Meanwhile, many important decisions with which the court will live for many years will have been made by the vendor. For example, the vendor will have selected the equipment and decided upon the programming language(s), operating system and data base organization. These decisions will control the direction and capability of the court's information system for years to come.

Unless the court has very explicitly described and contracted for the system's requirements, including the products required, the level of system and program documentation, court staff training, and a dozen other matters (the lack of understanding of which caused them to choose the turnkey approach in the first place), there will be great dissatisfaction with the results.

2. Total In-House Development

An alternative approach is the employment of an "in-house" staff of computer professionals to be responsible for the design, implementation, maintenance, operation, and modification of all automated court systems. In theory, this would be extremely desirable and productive since those who design and program the system continue as part of the court staff and remain available to make necessary changes and/or additions to the system.

The cost of a fully "in-house" staffed data processing project is, however, prohibitive. No court can, over the long run, afford to support the size staff required for reasonably speedy implementation of a court-wide information system nor can it afford the costly learning period required to "court-train" the large number of data processing professionals it will need to hire.

The level of professional support required for the conceptual design, system design, hardware and software selection, and initial programming effort is substantially higher than that which will be necessary for

long-term maintenance and modification of the same system. The talents required are significantly different and the price the court must pay in salaries is accordingly higher for development-level personnel. Equally important is the propensity for the interest of the highly qualified professional to lag when the excitment surrounding the newness of the system and the satisfaction gleaned from bringing the conceptual ideas to operational fruition subsides. The top-notch professional is the great demand and has a tendency to move on when the interesting work is done.

Once the basic system has been designed and installed, and even after the (possibly anticipated) departure of the top level professional(s), an even further reduction in staff size will be required, and it will then be the onerous duty of the administrator to choose those who are to remain. Consider, also, the extent of an individual's willingness to participate in the development effort knowing that there would be a good chance of termination upon the successful conclusion of the installation effort.

The exclusive use of the county programming and systems analysis staff is <u>not</u> the same as the use of in-house personnel. The persons involved in the county system typically work for the executive branch and are not always available when it come time for the court to make its changes. Their job priorities while working on the court's project can be changed quickly when a tax or payroll problem arises in other county agencies. Further, one must consider how seriously county employees would pursue "court-training" when realizing that next week, next month or next year other projects, closer to the interests of the organization paying their salaries, will be their primary responsibility.

3. A Combination Approach

It is fairly obvious that the appropriate solution is the use of a combination of consulting and in-house services for the hardware and software selection, system design, and programming effort.

This would require a small but skilled in-house staff--skillful enough to help with the very technical phases of hardware selection, choice of programming languages, operating systems and data base management approach and design, but most skillful in practical design and programming to meet the court's needs and goals. The in-house staff would work closely with the best consulting support the court can afford during the design and implementation phases and, therefore, would be prepared to not only take over the management and operation of the system, but would have the overall understanding of the total system required to implement the modifications and extensions the court will begin to demand literally minutes after the consultant has completed the contract tasks.

It is strongly advised that the same consulting support selected for system design be utilized for the implementation effort. Not only is there an obvious duplicative "court-training" problem involved in using different vendors, but, more importantly, it is extremely difficult (if not impossible) for the implementer to shift criticism to the designer's effort when the same consultant and staff are responsible for both functions.

C. The Cost-Benefit Analysis

For many years court managers have vigorously avoided the need for cost/benefit justification prior to the decision to move forward with an information system effort. This avoidance was usually possible because of the plentiful availability of federal funding and the tremendous need for improvement in management tools for the courts.

Computer efforts frequently resulted from high pressure sales tactics by a vendor which sometimes even included the preparation of an LEAA grant request that called for the "sole source" provision of implementation support by that vendor.

Although such an approach is still possible, by and large today's efforts must be fully justified to several layers of government and funding bureaucracy before implementation is possible.

In order to accomplish such a study, a great deal of data must be collected and analyzed. A recent PROMIS effort by INSLAW[18] indicates that as many as 250 items of information are collected in order to do a PROMIS cost-benefit projection. In addition, the document confirms that cost-benefit analysis is not a precise effort by suggesting that if certain data is unavailable, INSLAW will be able to derive "default values" based on previous experience among similar PROMIS jurisdictions.

Other studies frequently use educated "guesstimates" when hard data are just not available or when benefits defy monetary valuation.

In general, cost-benefit analysis is not a pure science and, at best, is an extremely difficult, but a absolutely necessary, task.

There are many ways to do the study. The Administrative Office of the Courts of the State of Washington[19] approached the problem by projecting the "costs of doing business" for the future and analyzing the

---

[18] INSLAW, Analysis of Costs and Benefits - PROMIS Briefing Paper No. 19, Institute for Law and Social Research, January 1977.

[19] Superior Courts Management Information System (SCOMIS) - Cost-Benefit Analysis, Office of the Administrator for the Courts of Washington State, June 30, 1977.

projected work volumes of the various court modules that were expected to be automated. Its report compared the staffing required with and without automation support and also calculated the costs of operating with and without the information system.

The most significant cost factors are usually associated with the workload and with personnel costs. Major savings in this area will generally be associated with either cost elimination (work accomplished with fewer people) or cost avoidance (more work accomplished with the same or a fewer number of people, thereby avoiding the need for additional staff).

The fixed and variable nature of such system costs presents a moderately difficult accounting problem, but one which is reasonably easy to resolve.

The more difficult part of the analysis by far, is, the "benefits" area. Tangible benefits in industry usually relate to personnel reduction, savings in mailing, printing, paper, typewriters, etc. Some of these benefits are slightly more difficult to achieve in government, since it does not necessarily follow that jobs are eliminated when tasks are simplified. In the typical governmental and/or court environment, dismissals and "layoffs" are unused procedures and most vacancies caused by attrition are filled before the incumbent's seat has a chance to gather even a pinch of dust.

For example, one large city, which issues more than one hundred thousand (100,000) jury questionnaires each year, processed on individually-typed card or envelope each of the six or more times it used the prospective juror's name. Automation of the jury list not only provided a mechanical means for preparation of name and address labels to eliminate all that typing, but use of automation-oriented mailer forms

also eliminated most envelope stuffing and a pre-printed mail permit number on the envelope eliminating the stamping effort. Unfortunately, there has been no reduction in the dozen or more clerical staff persons whose functions have been absorbed by the computer. (It is hoped that their efforts are now geared toward juror convenience and service.)

Intangible benefits are almost impossible to relate directly to cost and generally defy measurement in dollar value. Yet, in order to justify a court information system, one will eventually have to attempt to place some dollar value on improvements to "justice", "employee morale", and/or the "public image of the justice system."

Basically, there appear to be four cost and benefit areas to analyze:

1. Fixed Costs

These costs will be necessary if an automation effort of any kind is undertaken. They are easily calculable and projectable, are practically unchallengeable, and are identified as either one-time or continuing charges. (Some cost factors are partially fixed and partially variable and will be shown in both sections.) These include for example:

Feasibility study contract (one-time)

Systems design contract (one-time)

Management of the information system (continuing)

In-House systems and programming staff (continuing)

Training (one-time)

Basic computer equipment and supplies for minimal configuration, e.g., computer, terminals, lines, forms, etc. (continuing)

Office equipment for basic staff (one-time)

Office supplies for basic staff (continuing)

Space for basic computer equipment and staff (continuing)

Site preparation costs (one-time)

2. Variable Costs

Variable cost will be dependent, in many cases, upon the extent of the automated system. Basically, it boils down to "the more you do, the more it costs." For example, a child support payment system will require the addition of large amounts of data storage equipment and numerous terminals. Each additional module undertaken will require study, design, programming, conversion and implementation costs. The more extensive the work effort, the greater the computer hardware costs, the size of computer support staff, and the volume of data that needs to be collected and reported upon. Variable costs will include:

Implementation systems analysis and programming (contract or temporary staff)

Data collection personnel (during development and conversion)

Continuing data collection personnel (totally dependent upon the application and could be a minus factor if redundant data capture is eliminated for the criminal justice system by a centralized information system.)

Expanded computer hardware purchase or leasing costs (equipment needs increase as new applications are implemented)

Data storage (the need expands as the applications are implemented)

Terminals (the more applications in operation, the more locations will have need to access and/or input data)

Space requirements for growing equipment and personnel needs

Supplies, forms, paper, etc.

3. Tangible Benefits

These represent improvements or cost reductions that can be calculated with some degree of certainty and which can be translated, perhaps with some difficulty, into dollar savings.

Avoidance of unnecessary staff expansion through use of automation support (where projected workload increase would indicate the need for such expansion in the absence of automation).

Reduction of continuances through more accurate, precise and

timely information leading to dollar savings in, for example:

a. number of court hearings scheduled

b. number of witnesses (and witness fees) required

c. number of jurors and juror-days required

d. costs of jail delivery.

Clerical savings through:

a. elimination of multiple filings and recording of transactions

b. reduction of filing and retrieval costs

c. reduction and possible elimination of costs associated with report preparation (since most reports are available as a by-product of daily operations)

d. reduction and, hopefully, elimination of lost case files and people.

4. Intangible Benefits

These are the benefits which are the most extensive and the most important but, by and large, they defy financial evaluation:

Improvement in the quality of the adjudication process through a more effective, efficient, accurate, and timely court operation.

Improved public image of the court and the justice system resulting, hopefully, in better public cooperation, support and acceptance.

Improved employee morale and interest.

Improved management awareness and control of court operation.

Improved utilization of courthouse facilities.

Improved operation and management through the research made possible by the extensive data base developed with the system.

The task is not simple, but it is necessary. Those organizations which have done a good job at this level have used the cost-benefit study to achieve guaranteed support for the continuation of the project by the local funding body before embarking upon implementation of the information system!

III. POLITICAL AND PRACTICAL CONSIDERATIONS

Having decided that is is both desirable and advisable to begin work on an information system for the court, one must now determine whether it is possible to do so within the peculiar political environment in which the court operates. County commissioners and state legislators are not normally happy about a court (or any other agency in their jurisdiction) operating an independent computer facility. Independent computer operations raise questions of the cost and efficiency of redundant hardware and staffing. Further, a certain amount of power and control flows from the management knowledge provided by an effective information system. It is particularly important to understand the implications of various decisions which will have to be made early in this process.

A. Should/Can The Court Have A Computer Of Its Own?

It has been the consensus for sometime that only the largest urban courts can afford their own medium- to large-scale computer system. The advent of the mini-computer with extensive software availability, however, extended this capability to moderately-sized courts (ten or more judges). Now the emergence of the viable and inexpensive microcomputer broadens this availability to any multi-judge court with a significant clerical and/or management information need. (See Chapter V for a discussion of mini- and micro-computer capabilities). As the cost of hardware is no longer the overwhelming detriment it has been in the past, it is necessary to review the other requirements for a successful court-operated computer facility. A court should consider such a review only if it is certain that it can afford a substantial in-house professional computer staff and is willing and able to work extensively and effectively with that staff. Successful computer installation is not for

"short-winded" management, and the failure of a court to successfully implement its independent computer effort will be a direct reflection upon that court's management. Historically, computer implementation efforts which achieve the most rapid success have been well-financed independent efforts, but the costs have usually been high and success is never guaranteed. Consideration should be given, also, to the problems of effective supervision of data processing personnel and operations by court management lacking experience in this new field, which is in a period of volatile growth and change.

It should be noted that the probability of success is even more dependent upon extensive court involvement when a central computer facility operated by the executive branch or others is utilized. Any failure here can, at the very least, be partially attributed to the difficulties described below which arise when one utilizes someone else's computer and/or staff.

On balance, assuming that the other political considerations and problems discussed below can be surmounted, experience suggests that the most feasible and economical approach will be the use of shared facilities.

B. Problems Of Using Central Computer Facilities

Typically, the local court system will be encouraged to use the county data processing facility to implement its court information system and to utilize county data processing and systems staff for the development effort. Seldom, if ever, does this arrangement work to the total satisfaction of the court system!

1. System Design and Development

The very first problems occur in the planning and development stage, where the court is generally relegated to the lowest level in the priority scheme. The highest priorities for local government, understandably, are taxes, property assessments, utility billings, etc., which generate the dollars necessary to operate county government. This is followed by the need to develop

payroll and budget systems for the administrative management of the jurisdiction. Usually, the next phase is to undertake those tasks for which outside funding is available so that expansion of the county data processing capability can be accomplished without any drain on the county treasury.

The priorities for this step are usually set by the availability of "free" federal and state funding and the ease with which those funds can be obtained. When one compares the relative difficulty of obtaining federal criminal justice improvement funds (LEAA) to the availability of funds from the Departments of Health, Education and Welfare, Transportation, Housing and Urban Development, and other sources, it is easy to see why it takes so long for a jurisdiction to even consider automation in the criminal justice area.

When and if the criminal justice system is addressed, experience shows that law enforcement needs almost always take priority over the needs of the court system.

2. Programming and Operations

The typical county data processing operation cannot afford a separate criminal justice unit for programming or operation; therefore, the court must wait until all the "higher priority" systems are operational before development begins. The personnel assigned, at best, will be top-rated professionally in the data processing field, but will be unfamiliar with the courts. In addition, if they have participated in the "higher priority" projects, their work with the court will be constantly interrupted by priority calls for improvements, extensions and emergency corrections to those earlier projects.

In the operations area, the court projects will constantly be delayed by the need to run tax billings, county payrolls, and the like. When a choice has to be made by the county data processing director between the county payroll and the court trial listing, it is easy to predict the decision.

Choices like these will be made every month, every week and every day, and the court will be the "loser" in most cases. Recognizing this, some courts have prepared agreements (see Section D, below) which appear to guarantee the equitable allocation of resources, services and priorities. However, it is safe to assume that when the problem actually arises (as it will, very soon and more often than we anticipate), man will react in very predictable ways to serve his strongest master. Will the court then sue the county for breach of contract? The contractual agreement approach thus appears to be more of a psychological weapon than a physical one -- something like a hammer without a head!

3. Information

Another serious consideration is that of the possession of court information. In the sensitive area of individual rights of privacy, the court will have placed into a very public and accessible computer great volumes of potentially damaging data regarding large number of persons living in its jurisdiction. The court must somehow arrange to control the access to, dissemination and use of this volatile data. Federal and state regulations are constantly being issued and revised regarding these matters, and care must be taken to assure that whoever operates the data processing facility is aware of the rules and faithfully adheres to them.

Further problems arise from the availability of this data to various segments of our local government. Information regarding an individual suspect or defendant is a potent weapon in the hands of a political enemy. Executive and/or legislative branch leaders have used aggregate data regarding a judge or a court system to politically oppose election or retention of judges. Witnesses' names and addresses can fall into the wrong hands and mailing lists for political donations can be more easily prepared from the automated list of

potential jurors than they can from the printed street lists provided to the parties. What access should the Internal Revenue Service have to the numbers, names and addresses of a lawyer's clients? Who should have access to the "win or lose" rates of a particular assistant D.A. or Public Defender? Does the press have a right to see the sentencing record of a judge or a lawyer's record of success or failure before a specific judge?

Most, if not all, of the above information has been public record for many years, but not until the advent of automation has it been so easy to quickly isolate such data. Care is not always taken to objectively evaluate such information, and injustices continue to be done to many people because of the mass availability of data through automation. Much forethought must be given to determining what data should go into a system, who should have access to it, and what steps can be taken to guarantee that the regulations and limitations adopted are respected. (See Section G, below.)

4. Costs

Many county data processing directors support court and criminal justice information systems because of the possibility of added funds for their own operations and as additional justification for their existence when reviewing their programs with county officials. The court, therefore, can frequently rely on the data processing office for extensive support in their initial steps toward automation. This support will disappear if the court pursues the use of independent hardware and programming support.

When the court does use county facilities, great care must be taken to assure that the costs allocated to court work are equitable. The field of data processing is relatively new and mysterious, and often the basis for cost allocation borders on the mystical. It behooves the court user to carefully monitor the basis for cost allocation, as well as the supporting documentation

for periodic billings.

C. Problems of the Shared Criminal Justice System Environment

Many, but certainly not all, of the above problems can be minimized by utilizing a shared criminal justice information system (CJIS), rather than a general county computer system. For example, the formation of a criminal justice information system development and/or operations staff can avoid competition with county projects for priority treatment, data confidentiality and cost allocation. This approach, however, does sharpen and crystallize the competition among the criminal justice system agencies for priority services.

In the most recent efforts toward criminal justice information system implementation, law enforcement agencies have taken the lead and usually have taken over management of the effort. It is, therefore, no surprise that this had led to priority status for law enforcement-related projects. The obvious solution here is for the court to lead the project or, more logically, to initiate such an effort under the management of a board of criminal justice agency heads with representation and voting power allocated among agencies according to a negotiated agreement.

Even within the criminal justice environment, however, the priorities will not favor the court. Logically, the first applications designed and implemented will be those relating to the reporting and investigating of crimes. More importantly, no attention will be given to the non-criminal justice activities of the court, which encompass from 75% to 95% of the work of most courts. Warrants and criminal history information will frequently be of greater importance to the managing board than trial lists or analyses of the causes of continuances. The greatest frustration occurs because the court and/or its clerical support staff is saddled with the largest share of the

burden of feeding data into the system yet usually realizes the least benefit over the longest period of time.

Systems and programming personnel are most comfortable with straightforward projects. Many police and prison automation projects are very much like the accounting and inventory functions of industry and, therefore, will frequently be addressed earlier by data processing staff who know that, in the long run, the permanence of their project is highly dependent upon clearly visible early successes.

Court projects are lengthy and very often complicated. Total satisfaction will rarely be achieved; one must be prepared to be satisfied with a preponderance of positive feeling from the judiciary. It is not surprising, therefore, that the system developers turn to law enforcement and corrections for their first projects.

Problems with priority among the participating agencies will exist even if the criminal justice information system operates an independent computer facility. It is obvious, however, that those problems will be easier to solve than ones arising from competitive use by all county agencies. The CJIS approach appears to be a reasonable compromise between the extremes of expensive independence and subservience in a system run by and for the executive branch.

D. Inter-Agency Contracts

When a court, at either the state or local level, determines that it is not possible to justify its own computer, it is necessary for the court to pursue a contractual agreement which attempts to guarantee the best possible relationship with the provider of computers services (probably a county or criminal justice center).

1. Property Rights

There is always the possibility that at some future date the court may decide it is both feasible and necessary to have its own system or to process all of its work on a state-level court information system (SJIS). The court, therefore, should preserve its rights in the programs and data files in order to enable transfer of the system to another hardware facility.

Sample Clause 1: The court shall maintain management control over any court information system developed through the central criminal justice facility and shall retain the right to transfer this system, in whole or in part, to another computer facility of its choice so long as the selected facility shall guarantee the provision of all court case data required by the central criminal justice system.

2. System Staff Management

It is extremely difficult for a systems-oriented individual to differentiate between responsibility to the employer (a central facility) and the user (the court). This is even more difficult when the systems staff provides services to multiple agency users. Although an employee will naturally have a strong tie to the agency which provides his or her paychecks, it is more likely that an employee will develop a loyalty to and more effectively represent a user agency when that agency is his or her sole "client."

Sample Clause 2: The central criminal justice facility shall permanently assign one or more named systems and programming staff members (full-time) the exclusive responsibility for interaction with the court and its staff. This (these) employee(s) shall be responsible for the design and implementation of all data capture and reporting for the court system through the central facility and for coordinating the court activity with the development of the total criminal justice information system.

3. Confidentiality of Court Reports

It is absolutely necessary for the agencies constituting the "criminal justice system" to determine at the earliest possible stage the extent to which they will permit other agencies access to their data and to establish strict guidelines which record the limits of this permission. The central facility should be restricted from releasing to anyone other than the contributing agency any files or reports generated from those files except with the prior written consent of that agency.

Sample Clause 3: No agency shall have access to court data or reports without the written consent of the highest official of that court.

4. Direct Access to Court Data

Physical control over data is lost once the data is transmitted to central hardware and then provided to remote terminals in various criminal justice agencies. In order to insure that central facility regulations are faithfully observed, an agreement must be entered into by all the user agencies and their employees and must include workable sanctions for noncompliance.

Sample Clause 4: Direct access to the central criminal justice information system via terminal devices or hard-copy reports will be limited to criminal justice agencies and only after the accessing agency has entered into a binding user's agreement obligating the agency and its employees to strictly abide by and enforce the rules and regulations of the central criminal justice information system or face the sanctions specifically set forth in the agreement.

5. Training

Without substantial staff training, the data and facilities provided by an information system are useless. There must be adequate instruction to enable the users to effectively feed data into the system and to make

effective use of the products of that system. Education is required to provide the using agency with an understanding of the restrictions imposed on dissemination and use of data as provided by federal, state, local and central facility security and privacy regulations.

Sample Clause 5: Substantial training will be provided by the central criminal justice facility for court personnel participating in the system to assure effective input of data and proper utilization and dissemination of information.

6. Quality Control of Data

Serious problems will arise because of the inadvertent or negligent posting of erroneous data to the system and the subsequent "legitimate" use of such data. To insure the accuracy of data, the information-collecting agency is well advised to establish a quality control unit and procedures to verify the accuracy of data posted on a daily basis and, further, to provide for an independent survey of the posting procedures and operation on a periodic basis.

Sample Clause 6: The central criminal justice information system facility shall provide an internal quality control unit which will continually verify the accuracy and timeliness of data entered into the information system. An independent audit and survey of the quality control process will be accomplished no less than once each calendar year.

7. Security of Central Facility

Security measures must be taken to protect the system from the elements as well as from dissident citizens. To this end, the computer facility should be located in a well-protected area which provides limited access, reinforced walls and doors, detection and warning devices, vault areas for storage of high security data and key back-up files. Preventive measures to provide protection against environmental hazards such as fire, flood, tornadoes, power

failures, etc., might include: (a) fire detection and special quenching systems (water damage might be worse than fire damage), (b) water-tight facilities, (c) direct alarm systems to local fire and public safety offices, (d) fire-resistant walls and doors, (e) air-conditioning system, (f) back-up files and alternate emergency data processing facilities, (g) auxiliary power systems, (h) constant voltage devices.

Sample Clause 7: Proper measures will be taken by the central criminal justice information system facility to assure the physical security of the data and the equipment used to process it.

8. Processing Priorities

It is generally accepted than an information center should not be operated by one of the agencies which it serves because of the likelihood that, in the event of an emergency, the needs of that operating agency will be serviced with the highest priority regardless of competing needs.

Even when an objective service organization is responsible for a system, it will be possible for one or more organizations to influence the organization's selection of priorities. To anticipate this situation, it is recommended that the central facility prepare a schedule of priorities prior to the beginning of operations and as tasks are added to the operation each be assigned a priority level.

Sample Clause 8: Priorities will be set by a representative managing board (described below) and will be strictly adhered to for the processing of participating agency data, thereby assuring that, in the event of unusual occurrences, each agency will be provided with their reports and data at the earliest possible time consistent with every agency's needs.

9. Managing the Central Criminal Justice Information System

It is extremely important for the chief executive of the court system

to take an active part in the operation of a criminal justice information system. Not only will he or she be expected to represent the interests of the court and its judges, but he or she will also represent the only agency in the information system body which can be expected to reasonably and objectively balance the interests of the individual, the public and the justice system itself.

Sample Clause 9: The management control of the central facility shall be vested in a board of directors which shall consist of _____ members. Both the Presiding Judge and the Court Administrator shall be members of the Board. In decisions regarding information relative to the operation or management of the court or concerning the rights of the individual, the Presiding Judge will have the power to nullify a vote of the Board.

10. Limits of Service

Courts are an integrated system which process criminal, civil, and other matters. In order to effectively manage such a system, it is necessary to maintain detailed and statistical data on the entire court operation. A system which provides management reporting relative to less than one-half of the workload of the system for which the court is responsible could prove to be more harmful than helpful. Therefore, it is imperative that the automated support be committed to tracking and reporting on all court activity.

Sample Clause 10: The services provided by the central facility to the judicial system shall not be limited to criminal justice-related activity.

E. Judicial Independence

A 1976 article in Judicature [20] treats very extensively the "threat"

---

20. "Judicial Independence in the Computer Age", David Weinstein, Judicature, March 1976.

to judicial independence arising from the participation of the judiciary in the developments of automated systems. This "threat" emanates from the pressures to provide data to executive and/or law enforcement agencies regarding court activity and to utilize shared facilities. Although the courts must not yield to the attempts of the executive and legislative branches to compel court "participation" in such programs, since the court desires and needs the tools automation can provide, it behooves the court to voluntarily participate. The issues of independence raised by automation are not so earth-shattering that they cannot be overcome by reasonable discussion and contract agreement. The amount and type of data provided, by whom, and to whom, are easily definable. The conditions under which data will be processed are negotiable and parties can and will arrive at fair compromises if they are willing to be rational about the actual effect of cooperative efforts on judicial independence.

The author of the article mentioned above[21], indicates, very appropriately, that the pursuit of computer facilities alone seems to lack the elements of necessity and emergency that characterize instances where the doctrine of inherent powers of the courts has been involved. It should be noted, however, that a well-known Pennsylvania case,[22] which determined that the judiciary is entitled to sums ". . . reasonable and necessary to carry out its mandated responsibilities. . ." did, in fact, include in the financial judgement an amount needed to expand computer services.

---

21. Ibid.

22. Commonwealth ex rel Carrol v. Tate, 442 PA.45, 274 A.2d. 193, (1971).

It appears, upon reflection, that these arguments do nothing more than delay action on the collection and processing of data important to court management and may, in fact, be a delay tactic used by court management to avoid embarking on an automation project -- a project which will be difficult, time consuming, and may reveal things about the operation of our court systems which will be less than flattering to its judges and managers.

There are also very real threats to independence arising from the use of grant funding, as every grant seems to carry with it conditions which impinge on everything from states' rights (versus federal control) to the right of an organization to hire, fire and supervise its employees. Care should be taken to evaluate grant conditions to ensure that the organization does not affect its independence more dramatically by accepting dollars under contractual conditions than it would by voluntarily cooperating with executive and/or legislative agencies.

F. Comprehensive Data System (CDS):[23]

Uniform Crime Reports (UCR)

Computerized Criminal Histories (CCH)

Offender Based Transaction Statistics (OBTS)

Statistical Analysis Center (SAC)

Court managers venturing into the automated information area are immediately faced with a proliferation of acronyms which both amuse and confuse. Very near the top of the alphabetic exercise are the acronyms associated with a nationwide criminal justice information project which is heavily funded by the Law Enforcement Assistance Administration and which generates

---

23. National Criminal Justice Information and Statistics Service, Guideline Manual - Comprehensive Data Systems Program, Law Enforcement Assistance Administration, December 31, 1975.

many political and practical considerations for courts.

This most important project is the Comprehensive Data System (CDS) which, generally, is an attempt to:

(1) assist the individual states in establishing an extensive and reliable criminal justice data collection and analysis capability;

(2) encourage the multi-year accumulation of this data in a uniform manner so as to facilitate intra-state, inter-state and national comparability; and

(3) eliminate unnecessary duplication of data collection.

The CDS program consists of three major components within each state program:

1. Uniform Crime Reporting (UCR)

The purpose of the UCR component is to collect and report uniform crime data, at the state level, for every law enforcement agency in the jurisdiction.

National standards have been jointly developed for UCR by the Federal Bureau of Investigation (FBI) and the International Association of Chiefs of Police (IACP). Local law enforcement agencies have reported such data directly to the FBI for many years, but the CDS component will centralize the collection of UCR data at a state level with the state undertaking the responsibility for the timeliness, quality and comparability of the data. Courts generally are not affected by this component of the system.

2. Computerized Criminal Histories (CCH) and Offender Based Transaction Statistics (OBTS)

CCH and OBTS represent an immense effort to track every offender through every stage of the criminal justice system, from arrest to final disposition (including the completion of any sentence imposed). Data will

be collected at the state level which can be analyzed in detail and in the aggregate to provide an accurate and up-to-date statistical profile of the state's criminal justice system and its components (OBTS) and, at the same time, will enable states to compile and interchange criminal history information (rap sheets) for individual defendants (CCH) in a reliable and secure manner.

These procedures require that extensive data be collected from every criminal justice agency from the moment of arrest (or the initiation of prosecution, whichever comes first) to the very last contact of the defendant with the criminal justice system. Every substantive action must be recorded and positively identified as to the specific defendant and the specific criminal act.

Although the system is designed to obtain its data from police, prosecution, court and correctional agencies, the burden for provision of the largest portion of the data falls upon the nation's court system.

In order to isolate system weaknesses and points of delay through analysis of OBTS data, every substantive court action which takes time and staff effort must be chronologically identified. The resultant data recording and reporting burden thrust upon the courts is almost beyond belief!

To compound the court's problem, few, if any, states embarking upon a CCH/OBTS effort and statutorily requiring the provision of this data have provided financial support for the providers of the information.

3. Statistical Analysis Center (SAC)

The nucleus of the CDS program is the Statistical Analysis Center, whose purpose is to ". . . provide the state with a professional staff which will:

"(1) Provide objective interpretive analysis of criminal justice

data, including that collected by the various line operating agencies.

"(2) Generate statistical reports on crime and on the processing of criminal offenders in support of planning and operational criminal justice agencies.

"(3) Provide and/or coordinate Technical Assistance (TA) in the development of the CDS program in the state.

"(4) Collect, analyze, and disseminate Management and Administrative Statistics (MAS) on the criminal justice resources expended in the state.

"(5) Promote the orderly development of criminal justice information and statistical systems in the state.

"(6) Provide uniform data on criminal justice processes for the preparation of national statistical reports."[24]

A concern for court management should be that these analyses will be performed on court operations and activities, and will then be interpreted and reported upon "objectively" by executive branch professionals with little feeling for the idiosyncrasies of the court process.

The CDS program can be a godsend for the court manager who believes in a modern business-like approach to monitoring and evaluating the system, but unless the program is structured to financially support all the effort required to provide the data and to fairly and clearly report the results of the analytical process, it could cause significant trauma for participating courts at the local and state level.

---

24. Ibid.

G. Security and Privacy

Along with all the benefits (and problems) associated with an information system comes responsibility for the security and privacy of the automated court information. The data is now many times more readily available and, therefore, more likely to affect the individual. In the minds of many citizens (and particularly their elected representatives) this information is subject to abuse and the source of possible harm to individuals and minorities.

Federal regulation (LEAA and Department of Justice) has set some general standards for courts and criminal justice systems to follow but much detail is left for legislatures to fill in. The federal congress and state legislatures have been quite slow in producing definitive legislation. Where states have acted, they usually have not followed the recommendations of the criminal justice community but, most frequently, have leaned toward protecting (and frequently overprotecting) the individual without seriously considering the needs of the public in general and the justice community in particular.

Much community heat is generated when security and privacy regulations are under consideration, and the court manager is well advised to be thoroughly versed in the "public record" status of the information collected by and for the court and the limits to which the court would be willing and able to share its data with the public, the press or the rest of the criminal justice system.

The federal regulations are particularly geared to "Criminal History Record Information" which is best defined in the literature as:

> ". . . records and data compiled by criminal justice agencies for purposes of identifying criminal offenders and of maintaining as to each such offender a summary of arrests, pretrial proceedings, the nature and disposition of criminal charges, sentencing incarceration, rehabilitation and release.

"Such information shall be restricted to that which is recorded as the result of an arrest, detention or other initiation of criminal proceedings or of any consequent proceedings related thereto. It shall be understood to include, where appropriate, such items for each person arrested as the following:

"(a) Personal identification.

"(b) The fact, date, and arrest charge; whether the individual was subsequently released and, if so, by what authority and upon what terms.

"(c) The fact, date, and result of any pretrial proceedings.

"(d) The fact, date, and result of any trial or proceeding, including any sentence or penalty.

"(e) The fact, date, and result of any direct or collateral review of that trial or proceeding; the period and place of any confinement, including admission, release; and, where appropriate, readmission and release dates.

"(f) The fact, date, and result of any release proceeding.

"(g) The fact, date, and result of any act of pardon or clemency.

"(h) The fact and date of any formal termination to the criminal justice process as to that charge or conviction.

"(i) The fact, date, and result of any proceedings revoking probation or parole.

"It shall not include intelligence, analytical, and investigative reports and files, nor statistical records and reports in which individuals are not identified and from which their identities are not ascertainable."[25]

It is imperative that one keep this definition in mind when reviewing regulations or statutes, for it is easy to get confused and lost in the maze. Further complicating the problem is a widely accepted and frequently used version which is much more concise and is included in the LEAA regulations:

"Information collected by criminal justice agencies on individuals, consisting of identifiable descriptions and notations of arrests, detentions, indictments, informations or other formal criminal charges, and any disposition(s) arising therefrom, sentencing,

---

25. Project SEARCH Committee on Security and Privacy, Security and Privacy Publications, Project SEARCH, May, 1973.

correctional supervision and release."[26]

A first reading of either definition immediately leads the court manager to believe the court's information system is controlled by any regulations or statutes promulgated regarding such data. The rules and most statutes, however, provide specific exception for:

(1) original records of entry, such as police blotters, maintained by criminal justice agencies, compiled chronologically and required by law or long-standing custom to be made public, if such records are organized on a chronological basis;

(2) court dockets and indices used by the court;

(3) court records of public judicial proceedings;

(4) published court or administrative opinions or public judicial, administrative or legislative proceedings; and

(5) records of traffic offenses maintained by state departments of transportation or motor vehicle bureaus.

Although the exceptions appear to exempt the court fully, the court manager is cautioned to consider that the exemptions apparently relate to the manual records and case files and not to any automated file created therefrom which satisfies the definition of a criminal history record!

This latter interpretation is most rigidly adhered to when the court files are just one part of the "Total Justice Information System" of a state, region or county.

Once the court finds itself controlled by the requirements of such a

---

26. "Federal Rules and Regulations," Title 28 - Chapter 1 - Part 20.3(b) Federal Register - March 19, 1976.

regulation or statute, the following series of major issues needs to be addressed with regard to data in the court's automated information system.

1. Currency and Scope of Coverage

During the active life of the case, the automated file represents the basic data needed by all using the court system and normally, therefore, there will be no restriction on the maintenance and provision of "current status information" for defendant or case. When the case terminates, however, there is vast disagreement on just how long conviction, non-conviction, or other disposition records can be retained. "Current records" for both conviction and non-conviction appear to have achieved about a six-month life after disposition in the various states. The major issues, which remain basically unanswered, are "what is a criminal history record?" and "when does a current court record become a criminal history record?" Unfortunately, most, if not all, state and federal legislation has failed to address this issue clearly yet.

2. Completeness and Accuracy

One of the major reasons for security and privacy legislation is to eliminate the use of rap sheets (criminal histories) which carry extensive arrest information but little if any court disposition data. Regulations and statutes call for disposition data to be entered into the files, accurately and within 90 days. Corrections are required to be posted within 15 days of the determination of an error.

3. Dissemination

Generally, dissemination of the automated information is restricted to criminal justice agencies for criminal justice purposes and to others who have been given statutory authorization (e.g., professional licensing statutes requiring proof of no criminal convictions).

Media representatives, however, are currently arguing their First Amendment right to access to this data which could result in instant public access to a great deal, if not all, of the information included in the court's automated files. Conceivably, this would extend to individual judge or district attorney disposition and sentencing records and other traditionally "restricted" information.

4. Sealing or Expungement

Most statutes include some provision for automatic expungement of arrest data where conviction does not result within a short period (usually 6 to 18 months after case initiation), when the case is no longer active and further prosecution is not indicated.

Many statutes go further and provide for sealing or expungement of convictions following a specified time period after the final conclusion of the sentence imposed (usually for the defendant with only one conviction). This time period differs greatly in the various states. (One state proposes mandating expungement only three years after the final conclusion of sentence while another suggests expungement seven years after the death of the defendant, so long as there was no criminal activity for 15 years, or upon achieving the age of 100 and having been free from any criminal activity for at least 15 years.)

5. Physical Security

All regulations and statutes appropriately call for protection against fire, flood, subversion, sabotage, etc.

6. Individual Access and Review

Every individual who so desires (including all persons in custody) must be provided the right to see and review his or her record(s). Usually this right is subject to requiring the individual to identify him or herself

(to the extent that some states require positive fingerprint identification). When an individual disagrees with any information contained in the record, he or she must be provided with a fair and reasonable means to voice such an objection and to pursue a hearing before a higher authority if the criminal justice agency refuses to make requested corrections (due process).

Most statutes place the burden of proof (proving the information to be accurate) upon the criminal justice agency.

7. Privacy and Security Councils

Most statutes provide for an independent council to monitor the operation of systems carrying such information and usually call for executive appointment of such councils which normally include a number of lay citizens along with a sprinkling of criminal justice officials. These councils invariably prove to be a thorn in the side of the criminal justice community but can, if well run, be the medium for providing a carefully balanced system which adequately services the needs of the criminal justice system without abusing and/or violating the rights of individuals.

Other issues will arise regarding the kinds of data that can be included in the system. Should the system capture medical data indicating epilepsy, diabetes or heart condition so that criminal justice personnel interacting with the defendant will not, for example, misinterpret an epileptic fit as a drunken stupor? Should information regarding gang affiliation or aggressive tendencies be captured for the protection of incarcerated defendants, law enforcement or corrections staff?

Courts will be required by the statutes to provide case disposition data (within 90 days) to, usually, an executive agency. They will resent this intrusion on judicial independence but they must recognize that the eventual result of this effort will be to have available to courts, at bail

setting and sentencing time, a complete and accurate criminal history to support the court's work.

Security and privacy issues are volatile ones and have, in some cases, undermined and actually destroyed criminal justice information system projects. The area has to be addressed intelligently and rationally with an intent to develop a package within which the community and criminal justice system can operate and live in peace.

IV. DESIGNING YOUR SYSTEM

A very viable answer to designing a productive and useful system for any organization is utilization of the "systems approach" which is clearly described in the National Center for State Courts' data processing guidebook for managers,[27] according to the following outline:

- formulating goals and objectives
- gathering information
- analyzing information
- preparing the preliminary systems design
- considering alternative solutions
- acquiring the system
- implementing the system
- managing and operating the system
- evaluating the system
- refining the system

Assuming that such an approach is to be taken, the following material attempts to provide a practical organizational methodology for performing several of these tasks, while at the same time attempting to cultivate the invaluable interest, support and assistance of those for whom the systems should be designed. Recognizing that many of those who will be asked to help in such an effort will have no idea of what services might be provided by an information system, this chapter also includes a section describing applications which have been attempted by court data processing systems around the country.

---

27. J. Michael Greenwood, et al., Court Equipment Analysis Project-Data Processing and the Court - Guide for Court Managers, National Center for State Courts, September 1977.

A. Forming the Policy Committee and Determining Goals for the System

The first question which must be asked and a very difficult one to answer is, "What do the court and the justice system (not the criminal justice system) want and expect from the information system?" One will rarely find any single individual with the knowledge to respond to such an inquiry and it is even less probably that such an individual will have the power and authority to move forward without the support of others in the justice system and/or the financial structure of the governmental entity.

Recognizing this "fact of life," the only practical solution is to develop the goals for the information system through the medium of a policy committee. Such a committee should consist of the highest possible level of manager from every court-related agency in the jurisdiction, as well as others who can influence the progress of such a project. As an example, it should include:

- President Judge
- Court Administrator
- Clerk of Court (Civil and Criminal)
- District Attorney
- Public Defender
- Chief Law Enforcement Officer
- Sheriff (for court-related duties if law enforcement is provided by other than the sheriff)
- Probation Chief
- Corrections Director
- Community Legal Services
- Representative(s) of the Civil Trial Bar
- Representative(s) of the Criminal Trial Bar

- Financial Leader(s) of Local Government
- Leading Local Legislator(s)

From this group, initially, must come agreement that the need exists for an information system, as was discussed in Chapter II, as well as a skeletal list of goals for such a system. Extensive staff work must be performed to prepare clear and concise position papers for presentation at the few short meetings which will be possible with such a select group. The initial "shopping list" of goals and needs should be at a very general level and must have the overwhelming, if not unanimous, support of the high level policy committee if the goals are to be achieved. Without this support from the top, the working-level coordination and provision of information personnel, etc., necessary to develop an "implementable" system will not be possible. Note particularly the inclusion of local government leaders, whose support will be needed with the inevitable funding problems, and of trial bar representatives, constituting the most vocal and active portion of the "public" users of services provided by the courts.

B. The Working Committee

It is obvious from the suggested composition of the policy committee that preparation of an extensive, detailed needs statement cannot be the responsibility of such a group. The only possible solution is to have the policy committee members name working-level personnel from their organizations to work with the conceptualizers to "flesh out" the skeletal goals developed by the policy committee. The utilization of middle management personnel who work with (and sometimes around) the system everyday will bode well for identifying those areas about which a great deal more information is needed. Many problems will be articulated and practical solutions offered by such a group. Furthermore, their participation will normally result

in gaining grassroots understanding and support for the system, which will be necessary for an ultimately successful effort.

C. Interviews and Questionnaires

If possible, it is most desirable to develop, with the assistance of the working committee, a questionnaire and/or an interview agenda which can be utilized as extensively as possible within the system and, if practical, in the community. The purpose of the interviews and questionnaires would be to determine the various problems encountered by those using the court system.

Court or court-related personnel involved in the day-to-day effort do not always see what the public, jurors, litigants, the press, the bar or other governmental employees label as wasteful, ineffective, improper, offensive and avoidable. The determination of these perceived flaws in the system can be quite useful in designing a supportive information system that improves the court's services and image to its real users.

Court or court-related personnel who are not included in a working-user advisory group need to be heard from as well. The need to work with a committee whose size is manageable will frequently result in missing important comment from the rank-and-file employees who make the system work. A well-prepared interview program or questionnaire effort can serve to fill this gap.

An example of the questions which might be asked:

(1) Did you get all the information you needed while you were in the courthouse?

(2) Was it provided to you on a timely basis?

(3) Where could you usually get information you needed?

(4) Was it accurate?

(5) Was it useful? If not, why not?

(6) What information or kinds of information couldn't you get?

(7) Was your visit to the courthouse fruitful? If not, why not?

(8) Did you encounter any difficulty filing documents with the court?

(9) What information or information service(s) do you think it would be most desirable for the court to provide?

These questions should be directed to all who use the court system: the entire bench, the clerks and bailiffs who occupy the courtrooms every day, to the litigants, the press who cover the courts, the legislative and executive branch staff who interface with the courts, the clerical staff, the witnesses and jurors, the law enforcement and social service personnel whose work is closely intertwined with the court effort, and as many others who affect or are affected by the court on almost a daily basis as can be identified.

D. Analysis of Potential Applications (Adapted from a previous paper by this author)[28]

1. Case Tracking - Civil and Criminal

The most effective use of automation, by far, has been in the assistance to the day-to-day operation of the courts. A typical system starts with the capture of data on each case at the time of its original filing. In some jurisdictions only the criminal cases are recorded and in others civil cases have been the top priority. It appears, however, that the only logical method is to capture both for any court which has civil and criminal jurisdiction due to the daily interaction of parties and

---

28. Larry Polansky, Contemporary Automation in the Courts, Proceedings of the Second International Symposium - Criminal Justice Information and Statistics System - SEARCH Group, Inc. - 1974.

resources.

The extent of the data captured at filing time will very often dictate the ultimate effectiveness of any automated system. Much care must be taken in determining the data to be captured and evaluating the costs of data capture against the expected benefits. It is as easy to decide to capture valueless data at excessive cost as it is to neglect to collect relatively inexpensive data items which later will prove to be vital links in a good information system.

a. Indexing

The first fruit of an automated system is the virtually limitless indexing capabilities. The first step in most systems has been the creation of defendant (criminal cases) and litigant (civil cases) indices which are effortlessly prepared on demand. These indices are not semi-alphabetic or "partially ordered" as most manual systems inevitably are, but are fully and correctly alphabetized indices. Depending on the frequency and volume of the activity and the need for up-to-date status, these indices may be on paper or, if time constraints are critical, may be on computer terminals.

Many systems have incorporated automated name searching techniques into their index search computer programs, thus making it possible to retrieve names even when partially misspelled inquiries are made.

Party names, however, are not the only indices available in an automated file. Once the information is in machine readable form, it is possible to index on any piece of data in the record. For example, many systems create listings or "on-line" indices by attorney, type of case or charges involved, year of action and many other record characteristics which may aid in managing an operation or obtaining information needed for a particular case or situation.

Perhaps the greatest value in indexing available to the court today is in the automation of the indices for judgments and liens. The typical archaic practices for the maintenance of this data are both expensive and impractical. The data, on the other hand, is an integral part of the commercial activity in the community and it is vitally important that it be accurate, timely and available. Anyone who has ever had the misfortune to have to search these records in a manual system can appreciate what the computer system has to offer. The operation is simple to automate and simple to operate. The major problem encountered is that of "converting" the existing manual files to automated form. In many cases this conversion is virtually (if not actually) impossible. This should not preclude acting prospectively in this area. It is far better to have a good modern system from some fixed date forward than to perpetuate a bad one.

b. Docketing

There is no more tedious function in any court than the posting of each substantive action affecting a case to the log book. In some jurisdictions this is called docketing or making docket entries. These dockets are often virtually unreadable when entries are handwritten and courts frequently fall far behind in their postings whether by hand or typewriter.

In those jurisdictions with an automated system, it is generally necessary to post every substantive case action to the computer file in order to keep the automated case record up-to-date. It is no great task to retain these traditional postings within the machine and to provide an up-to-date complete docket.

The major obstacle to this use of the automated system thus far has been its cost. The price of computer data storage units continues to decrease steadily and many installations believe the cost/use ratio, plus the value

of the expected improvement to the court's operation, now can support an investment in the automated docket to replace the ancient practice of laborious entries in hard-copy docket books. The advantages and savings in manpower and space are obvious, but along with this comes a standardized and readable product!

c. Calendars

Whatever the title, the need for the preparation, on a timely basis, of the lists of cases to be heard in court on a specific date is one that every automated court system appears to have recognized and answered. These lists range from a simple list of defendant names to a complex report showing name, case number, attorney(s), bail data, jail status, charges, previous hearing and trial disposition and, with some lists, a criminal history of the defendant. Practically any piece of data in the file can be relevant and the decision as to what to include on the li[illegible]ppears to lie with the users.

One problem frequently encountered is the popularity of these listings. Some jurisdictions produce more than 100 copies of each day's lists for distribution. One court, recognizing the high cost of multiple copy list preparation by computer, has utilized the computer to produce a ditto master and then runs its additional copies on an inexpensive ditto machine.

d. Notices

The preparation of notices appears to be a universal function of the automated systems reviewed. The notices range from the automated preparation of the summons resulting from the filing of a civil complaint to the reminders for failure to pay restitution or court fees.

Almost every system provides subpoenas for defendants and witnesses and notices to counsel of assigned dates for court action. Some systems

provide memoranda to defendants reminding them of their trial date and that they must be represented by counsel at trial. Other systems produce notices to attorneys of court appointment as counsel in a case. Notices to police officers of trial commitments and to sureties of the failure of their clients to appear when required are also frequently seen as by-products of automated court information systems. When probation records are maintained in the information system, automatic notification of arrest, indictment and/or conviction of a client is available for judge and probation officer.

e. Attorney reports

One valuable tool which is readily available in most systems is the individual attorney workload or "inventory" report. Lists which identify all cases for which an attorney is noted as counsel of record are invaluable both in the operation of the court and the scheduling of cases and are even more of an aid to the attorneys themselves.

From the management perspective, a combination of caseload reports with reports on disposition activity by counsel enables the court to determine whether counsel is "overloaded" and, if attorneys are identified by firm, whether a firm has sufficient trial counsel to handle its workload. A court can easily be cognizant of the quantity and age of the cases pending for every attorney or firm and can act accordingly.

Other jurisdictions have been able to analyze various attributes of attorneys and firms to determine which are prone to settle or to go to trial, which will file numerous delaying motions and which will appeal an inordinate percentage of the time. In some jurisdictions, where the information is legally available, the same analysis is done of insurance company settlement practices.

f. Statistical Reporting

Almost every automated system has utilized the excellent summarization capabilities of computer-based files to provide statistical reports. Most typically, the first products are the pure counting type reports which determine the number of cases entering and leaving the system and, perhaps, break them down even further by type of case and type of court action required to effect a disposition. Other reports enable administrators to inventory the cases on hand and perhaps to break these down by the type of case and type of court action involved. Automated systems have also been used to identify the causes and responsibilities for case continuances, probably the largest single deterrent to the completion of the court's daily work.

The realization that more can be done is now beginning to surface. Many courts are seriously considering the "weighting" of cases so that administrators can readily calculate the work effort and manpower required to handle court workloads. Very serious attention is now being paid to court control of the time necessary for a case to progress through each stage of the court process. From a management standpoint, calculated averages are an excellent method of periodically checking the "vital signs" of a court system. Furthermore, the same data can be used to identify, by comparison to these norms, those cases in the system requiring individual attention of the operations staff because of their deviation from the statistically-identified norms.

A very sensitive area in which these statistics are being utilized is that of the analysis of dispositions by judge or by attorney or perhaps of the sentencing propensities, by charge, by judge or even by race or sex. This area requires extreme care, for cases are not as fungible as industrial

units of production. One case is not the same as every other case with a similar charge, nor is one defendant and his background the same as every other defendant charged, tried and convicted of a particular crime. Until one can adequately "weigh" each case for its difficulty and also scientifically weigh each defendant's prior history and rehabilitative probability, it is practically meaningless to make sensitive evaluations as to judge disposition rates and, then, as to sentencing propensities. The message here is to step very warily in this area recognizing that the numbers are simple to produce, but almost impossible to adequately interpret.

Another danger, very aptly identified by Ernest Friesen, a nationally-recognized expert and leader in the field of court administration, is the phenomenon of what you decide to count dictating what you do. If the need for meeting statistical goals is the ultimate one, then the workers in the system will focus their efforts on those tasks which will count toward the statistical goal and ignore the work that does not contribute to their count. The lesson here is to be sure that what you count is a proper reflection of the real purposes of the organization.

2. Scheduling and Automated Calendaring

From a theoretical standpoint, the greatest advantage to be derived from an automated system is the utilization of automated scheduling algorithms which will provide optimum coordination of parties, resources and facilities. The state of the electronic art is ready for this, but no jurisdiction, no matter how far advanced in the use of technology, has yet been able to successfully implement the "ultimate" - the fully automated schedule. Significant analysis in this area has been performed by the Institute for Law and Social Research and the published material of that organization on the subject is quite worthy of review by the interested court administrator and

by court information system designers.[29]

3. Jury Management

a. Selection

A vast number of jurisdictions have successfully tackled the automation of the selection of prospective jurors. The largest single problem encountered has been the source of the eligible juror list. The most frequent solution is the use of registered voter lists for the jurisdiction, but there are many variations on this theme. They range from combining voter lists with property owner lists, telephone directories, and vehicle registration to the "ultimate" and most costly approach of a complete periodic census, used at one time in the District of Columbia.

Whatever the source, if the original list or lists can be put into or, preferably, are already in machine readable form, the court is well on its way to the most cost-effective application of automation available in the courts area today. An added benefit is that, assuming "fairness" in the source or sources the court selects, the court will no longer be challenged regarding the makeup of the machine-selected jury panels.

The methods for fair selection from the eligible list range from very simple random selection techniques to a very sophisticated procedure provided for the Harris County, Texas (Houston) Courts by NASA space systems specialists which utilizes a computerized random number generator for selection.

b. Questionnaires and Notices

A logical follow-on to selection is the preparation of questionnaires for the prospective jurors and, in jurisdictions which utilize interviews, notices for interview. It is easy to visualize how, once capturing

---

29. Institute for Law and Social Research, Guide to Court Scheduling, INSLAW - 1976.

the name and address for selection, the machines can provide simple and inexpensive subsequent mailings.

Additional savings have been effected by using special forms (called mailers) which can be generated by the computer with message, questionnaire and a stamped return envelope all inside the outer envelope. Several jurisdictions have developed this combination computer and special form system to the extent that there is no need for a single act of human intervention from the point where selection starts until the items reach the post office for distribution. The same techniques can, of course, be applied to the preparation of the summons to appear and any other required notices.

Outstanding work has been done by Bird Engineering Research Associates,[30] through Law Enforcement Assistance Administration funding, in the jury areas described above as well as in the dollar-savings and improved juror satisfaction.

4. Support and Alimony Payments

One court or court-related area where automation has been a very effective tool and one which has made extensive use of computer capabilities is the area of support payments. The problem involved here is a typical business/accounting problem with many items of similar activity and with a great number of highly repetitive processes.

---

30. ● G.T. (Tom) Munsterman and W.R. (Bill) Pabst, Jr., A Guide to Juror Usage, L.E.A.A. - National Institute of Law Enforcement and Criminal Justice, December 1974.

● G.T. Munsterman and W.R. Pabst, Jr., A Guide to Jury System Management, L.E.A.A. - National Institute of Law Enforcement and Criminal Justice, December, 1975.

The typical support system provides court order and payment history data, as well as current status-of-account information. It produces checks for the dependants after receipt of payments from the responsible party. At least one system implements court policies by having the computer hold up the issuance of checks for large amounts for several days to insure the sufficiency of funds in the payor's account and also by having the computer distribute, in accordance with present court policy, the payments received from payors who have multiple payees for whose support they are responsible. In conjunction with automated banks, it is possible to institute a system of automated check reconciliation and bank account balancing as well. Relatively recent and extensive HEW funding in the child support area (see Chapter IX - Section D) has generated an immense amount of automation work in this area throughout the nation.

5. Traffic

Automated traffic systems have been in operation longer than any other type of automated court system. While the criminal and civil courts were moving slowly toward the use of computers, a number of city courts boldly entered the field of automation.

As early as 1964, the city of New Orleans implemented a system for handling moving and parking violations, which generally consists of key-punching the tickets and feeding the records to a computer. Later, disposition data is fed to the computer via paper tapes produced by the cash history records for all cases set in traffic court. The system reviews all unpaid tickets against the motor vehicle registration file and then prints a defendant notice of court arraignment. Another feature of the system enables computer inquiry, tied into the six-month vehicle inspection, showing outstanding parking violations and denies the owner an inspection sticker until

disposition of the tickets is accomplished. The cities of San Diego, California; Chicago, Illinois; Phoenix, Arizona, and Orange County, California, among many others, also feature excellent inquiry capability traffic systems.

A review of the available materials on this area shows that major needs exist for creation of a record of all traffic cases and "bail" deposits. All payments, adjudications and bail forfeitures must subsequently be posted to the file and, upon failure to close the case prior to trial or failure to appear at trial, various notices and postings must be recorded. Indices, available either through inquiry terminals or via printed listings, also appear to be of considerable value. Finally, due to the large flow of cash, systems have extensive audit control features and reports to ensure the continuing integrity of the system.

An interesting feature of many traffic court systems may be of great interest to other so-called "inferior" courts. In many traffic cases, the bail amount is made equivalent to the fine for the charge. A defendant who fails to appear forfeits the bail and, in effect, pleads guilty, thereby closing the case. This sounds like a very practical approach to handling various minor criminal offenses which will eventually result in penalties no greater than a fine.

6. Other Applications

Some activity is beginning to be seen in non-operational court areas as well. One application that shows great promise is the combined payroll/personnel system. For the court responsible for its own payroll operation, the possibilities are obvious and the available experience almost unlimited. There is hardly a governmental unit in the country today which has not automated its payrolls.

Personnel systems, however, are a little less frequently seen but, nevertheless, are fairly common. Systems which track open positions and annual increment and retirement dates are common in local governments today. A by-product of personnel control is, normally, standard classification and salary structure, both of which are absent in most court systems.

Attendance reporting and leave-balance control are other areas in which the computer can serve the needs of modern court management. Once the court has put into machine readable form the absence of its employees, it is able to easily review for "pattern" absences (e.g., the employee who is frequently ill on Fridays and Mondays) and to quickly identify units suffering from chronic absence rates. Typical exception reporting techniques will bring to the attention of management many unusual leave-taking activities which normally escape notice in the manual system.

Good management principles call for solid control of facilities and resources. An automated real and personal property inventory system can keep track of every item and area under court control and can keep management up-to-date on the condition of its property and alert to the need for replacement or repair.

Although the list of possible applications is virtually limitless, the following chart which combines the efforts of several writers on the subject may provide an adequate shopping list for the system designers and the policy makers:[31]

POTENTIAL COURT INFORMATION SYSTEM APPLICATIONS

Management

Case Flow Management (cases overdue, cases behind schedule, cases listed by age)

---

31. Burton Kreindel, et al., Court Information Systems, National Institute of Law Enforcement and Criminal Justice - National Evaluation Programs - Phase I Report, March 1977.

Attorney, Prosecutor, Judge Assignment

Statistics on Court Activity and Status of Cases

Personnel Management

Courtroom Assignment

Planning, Research and Evaluation

Resource Allocation and Utilization

*Facilities Management

*Workload Analysis (weighted caseloads)

Administration

Accounting and Budgeting

Payroll and Other Financial Functions

Personnel Data Processing and Records

Inventory and Property Control

Purchasing Goods and Services

Jury Selection and Administration

Bond, Fine, Alimony and Child Support Payment Accounting

*Probate Audit

*Word Processing (text editing, etc.)

Operational Functions

Case Scheduling (*Assistance)

Docketing

Register of Actions Maintenance

Calendars Preparation

Indices Preparation

Notices, Summons, Subpoenas, and Other Operational Document Preparation

Warrant and Summons Control

Probation Support

Parking Ticket Processing

Traffic Citation Processing

Prisoner Inventory

Interface with Criminal History System, including Dispositon Reporting

Case Transfer Between Courts

*Joint Use with Microfilm Technology

*Computer-Assisted Transcription

*Legal Research (Appellate-use primarily)

*Sentencing Support

*Appellate Case Tracking, Docketing, etc.

E. The Five-Year Plan

Even a cursory review of the possibilities set forth above should reveal to the least sophisticated novice that the court is involving itself in a long-term effort. Many court professionals who are suffering through development of the extensive systems required for a comprehensive court information system that truly assists in the effective management of the court prescribe, as a minimum, a five-year program and call for the policy makers to set forth their preference for the component applications in a clear pirority sequence.

While the expectation level of the users and policy makers should be high, they must be tempered by an understanding of the level of effort and the period of time required to "get it all together."

---

* Asterisked items were added to the Kreindel Report List.

V. SOFTWARE PACKAGES AND HARDWARE CONSIDERATIONS

A recurring dream of the court administrator faced with the need for automated information is the "instant" purchase and installation of a pre-packaged court information system. In this fantasy, a representative of some nationally-recognized court service organization provides a prepared federal grant application, which includes all the necessary justification, system documentation and package description, and the court administrator merely inserts his own name (as project director) and the name and address of the court system. Funds are immediately provided and six weeks later the system is in operation.

Unfortunately, the above is pure fantasy. There is no easy, foolproof way to effect instant information system services. There have been many attempts to produce transferable court system information services, but few, if any, successes.

This chapter will be devoted to an analysis of the most visible package materials available today. There may be other "packages" available but those discussed on the following pages are the ones a court administrator is likely to run across during the period just prior to tackling the toughest task of his administrative career - the implementation of an automated information system.

A. Levels of Technology Transfer

There are various levels of technology transfer and, generally, the closer one gets to the coded programs necessary to produce the end - product document, listing, or report from the machine, the further way from a transferable unit or module one is.

In the area of conceptual design, there is great transferability. The first chapter in this monograph includes an entire section on visiting other court locations. This is done to see, touch and evaluate what others are doing with an eye toward including the best parts of existing systems into any project which ultimately develops out of the exploratory efforts. A very quick review of the proliferation of systems around the country reveals almost instantly that, conceptually, transfer of the basic modules has already occurred. The developers of the "packages" which are described later in this chapter have all volunteered that their products were at least partially built upon early pioneer efforts in Pittsburgh, Washington, D.C., Philadelphia, etc.

Another level of transfer might be described as that of general systems design. At this level, one must find an implemented system which fits well, at the design level, with the needs and goals of the jurisdiction searching for a simple route to computer support. The documented design of the transfer system becomes the basis for the detailed design work of the transferee's system.

The next level, obviously, would be the transfer of detail design documentation to a court which merely would be responsible for the coding and testing of programs. In this era of LEAA-mandated usage of high level languages, the programming task is theoretically limited to modifying the transferor's programs to fit the make and model of the transferee's equipment.

Unfortunately, few if any courts have located systems which are totally acceptable down to the detail design and/or coded program level. There is no evidence of any total court transfer (even intra-state when two similar pieces of computer hardware are involved). In other

words, the work-free/cost-free transfer of information systems by courts does not exist.

Programs and even modules (a related group of programs to service a specific area, e.g., jury selection) have, however, been successfully transferred at all of the levels described.

Specialized computer packages that handle communication activity between the computer and its terminals or the organization, management and retrieval of data files have been developed in highly transferable form. These programs when developed with federal funds are usually available for transfer at no cost. When they are developed independently by profit-making organizations (called "software firms"), however, the products can often be quite expensive.

The use of that level of transfer which does exist is the most practical approach for every court. Months and even years of difficult effort can be avoided by adapting designs, and sometimes entire programs, rather than starting from scratch. The dollar savings are enormous.

The major word of caution, however, is that the user modify and adapt the design and coding of the transferor's information system and not force change upon the operation of the court system just to accommodate the information system needs. Sometimes changes to the court system are already necessary and desirable, but changes which are made simply to enable an easier transfer of a computer system are suspect and usually indefensible.

B. State Judicial Information System (SJIS) and GAVEL: Conceptual Level Software

A prominent and useful example of formal materials developed at a conceptual and, perhaps, a general design level for courts are the

publications of the State Judicial Information System Committee (generally for the state court administrator's needs) and the GAVEL Committee (for trial court needs) of Search Group Incorporated.

1. State Judicial Information System

SJIS, described at length in Chapter X, is an excellent example of system transfer at a conceptual level. At last count, twenty-three states had been involved in the effort to design and install the model State Court Information System. About a dozen now have working systems and yet not one of the participants has tried successfully to pick up and transfer a software module from any other participant. The closest thing to transfer that has occurred during the project has been the use by two states (Rhode Island and Massachusetts) of the PROMIS package discussed below; but even the two PROMIS packages, used by two neighboring New England states, differ significantly both before and after installation.

The SJIS effort has, however, provided a state-of-the-art report[32] which describes the information needs and processes of the nation's courts at the local and state level in the statistics as well as the judicial information systems area and reviews what had or, more frequently, had not been done by early 1975. This document was soon followed by the final report of the first phase of SJIS,[33] which contains the reports of the subcommittees of the project and provides a detailed requirements analysis for criminal trial court, civil trial court and appellate court information systems that is fully adaptable at the conceptual level.

---

[32] State Judicial Information Systems - State of the Arts, Technical Memorandum No. 11 - Search Group, Inc., 1975.

[33] State Judicial Information Systems - Final Report (Phase I), Technical Report No. 12 - Search Group, Inc., 1975.

Further, the System Design portion of the document provides a very simple model system that would be capable, again at the conceptual level, of satisfying the identified requirements.

In 1976, the SJIS Phase II report[34] was published and provides a guide to "system development, implementation and evaluation" and a very detailed description of the SJIS model.

The guide to development reviews very explicitly the why and how of organizing, planning, designing and successfully implementing a judicial information system and the model provides, in detail, an extensive description of the alternative hardware designs, the input data requirements, and the proposed output reports (with samples.)

Soon to be published are the even more detailed Phase III reports of the SJIS Committee which will concentrate on how to properly document a judicial information system[35] and, most importantly, how to properly use the extensive data collected and analyzed to support and improve the management capabilities of the court.[36]

The combination of materials in the reports provides the state court administrator, and the trial court administrator as well, with more than is needed for an effective transfer of the best ideas for information support to courts.

---

34 State Judicial Information Systems - Final Report (Phase II), Technical Report No. 17 - Search Group, Inc., 1976.

35 State Judicial Information Systems Documentation, Technical Report 21, Volume I - Search Group, Inc., 1978.

36 State Judicial Information Systems - Final Report (Phase III), Topics in Data Utilization - Technical Report 21, Volume II, Search Group, Inc. 1978.

and design transfer at the conceptual and general design level has been achieved.

2. GAVEL[37]

The final report of the GAVEL Committee (a group of court professionals which included judges, court administrators, clerks of court and court data processing professionals) describes a model trial court which is meant to represent a composite of all the courts of this county. The report then analyzes the information requirements of the hypothetical composite model trial court. A "state-of-the-art" of trial court systems is included as well as a set of development standards for measuring existing information systems.

Most important to this discussion, however, is the conclusion by the panel of experts that is was impossible to combine the best parts of currently operational court information systems into a composite, modular court information system model which trial courts could adopt and quickly install in whole or in part. Instead, the group decided it could do no better service than to put together "a model system design which incorporated the design concepts in use throughout the country."

To this end, Chapter V of the GAVEL report provides the structure for a model data base the specific items of information for inclusion in the automated system; a general overview of the functions to be performed; and, finally, specifications and samples of the useful management products of the system - the output reports.

---

37. GAVEL - A National Model Trial Court Information System Project, Technical Report No. 22, Search Group, Inc., Spring, 1978.

Since the project did not culminate with the actual development and implementation of a working pilot in a real trial court, it is impossible to know whether the conceptual design is implementable, although it appears to be reasonably comprehensive and, at the same time, practical. It is indeed a shame that LEAA has not yet seen fit to fund an attempt to implement an operational model from this conceptual framework.

The GAVEL Model System is designed to service both criminal and civil Subsystems with modules covering:

- Criminal Subsystem
  - (1) Criminal File Creation and Maintenance
  - (2) Criminal Case Indexing
  - (3) Criminal Case History Data (Docket Data)
  - (4) Criminal Case Analysis (Case Tracking)
  - (5) Calendar Reporting
- Civil Subsystem
  - (1) Civil File Creation and Maintenance
  - (2) Civil Case Indexing
  - (3) Civil Case History (Docket Data)
  - (4) Age of Pending Cases (Case Tracking)
  - (5) Status and Age at Disposition (Workload Analysis)
  - (6) Continuance Analysis (Management Reporting)
  - (7) Calendar Reporting

One can readily see that the modules have just begun to scratch the surface of information needs. The aging, status and continuance information subsystem of the civil system would seem to be even more important to the criminal subsystem, where they appear to be considered only by inference.

The sample reports presented are concise and, more importantly, in many cases the circumstances warranting preparation of such a report are included in the descriptive material.

In reading Chapter V of that report, it is recommended that the court manager start with the Functional Specifications and the Output Report Specifications and then read (or skim) the Data Elements section to understand the extent of data collection necessary to support the model system. On the other hand, court data processing staff will benefit more from first thoroughly reading the Data Base Structure and Data Elements sections and then reviewing the functional and report specifications for an understanding of what their management wants and why.

It is obvious that additional subsystems will be needed by the typical multi-purpose trial court (juvenile, probate, domestic relations, jury management, etc.) but, at the conceptual level, it is an excellent and practical "starter's set" and more than enough to attempt the initial effort toward an improved court information system.

C. Basic Court System (BCS) and Justice Data Base

A very early attempt at transferable court information software, entitled the "Basic Court System," was initiated by International Business Machines Corporation (IBM) in the form of a set of programs designed to provide the capture of case data (primarily through on-line terminals), the automatic creation of indices and a limited report capability.

A number of courts around the country implemented BCS and, although the efforts were generally successful in terms of quickly achieving an automated case information data file, these courts spent many man-years developing useful reports to service the management and

operational needs of their individual systems. The level of user satisfaction with BCS was generally low and few, if any, BCS installation efforts have been initiated in the past several years.

More recently, IBM has concentrated on a system called Justice Data Base to provide a "starter kit" for courts (and other justice agencies) which want a package product to simplify their entry into automated court information systems.

Justice Data Base requires the use of a fairly sophisticated computer and is, therefore, practical only for a court which has access to a computer facility with an IBM 370 computer with a core capacity of 196K or more.

The package is labeled as a "Field Developed Program" and is distributed by IBM on an "as is" basis which implies that any and all modification or extension of the package is the user's responsibility.

On the other hand, the system user is provided with more than 50 completed program modules which are extremely well documented. The major thrust of the package is to create and maintain a compact and flexible data base with extensive indexing capability and to provide a very powerful and generalized report writing program that makes it quite simple to produce a broad range of management reports without the extensive difficulty encountered with the Basic Court System.

The Justice Data Base was designed to provide a common data base for a single information system serving all justice agencies but can be implemented by either a single agency or a group of agencies. An IBM brochure[38] suggests that:

"If proper security and privacy safeguards are utilized, the same

---

[38] Justice Data Base, Field-Developed Program Brochure, I.B.M. Corp., 1976.

system can be used in the Civil, Juvenile and Criminal processes, as well as by courts of limited and general jurisdiction. Thus, all information necessary for conflict-free scheduling can be made available."

The system uses a standard IBM data base package called DL/1 which is very flexible and ". . . permits the data base to be rearranged modified or expanded with minimal impact on the programs provided." The data base has six different physical "files" carrying information on persons, incidents, cases, calendars, codes and cross references to the various numbers encountered in a case (arrest number, court case number, social security number, identification number, driver's license number, prisoner number, etc.). The data base design provides the user with an extensive indexing capability among the various data files.

Justice Data Base is a "batch mode" oriented product which I.B.M. suggests is ". . . designed to facilitate the implementation of on-line terminal-oriented systems." To the user this means that if terminal entry or retrieval is desired, it is the responsibility of the user to write that part of the system. This can be an extensive effort depending upon the sophistication required of the terminal activity.

The cost of the package is $2,500 per month for twelve months ($30,000), after which time monthly charges are waived. This appears to be a reasonable charge for the many man-years of effort which are saved by using the flexibly-designed data base, the 50 plus program modules and the powerful report writing capability, but much work is required by the user to effectively install the system.

The prospective user is well advised to consult with several users of the system before making the decision to implement.

D. PROMIS

The most successful transfer package developed for court-related agencies thus far has been the Prosecutor's Management Information System (PROMIS). A recent report by the Institute for Law and Social Research (INSLAW) reflects seventeen locations where PROMIS is in operation and includes at least three court systems in that number.[39] Another sixteen locations were reported engaged in the process of transferring the package, with another thirty-five jurisdictions in the planning stage.

This set of programs was written originally to support the U.S. Attorney's Office in Washington, D.C., and was specifically designed to support the prosecutor's office in its criminal case activity. It has been designated by LEAA as an "Exemplary Project" and was redesigned and specially packaged by INSLAW in 1974 for transfer to other jurisdictions.[40] Because of this special packaging, the documentation is extensive and includes:

- A set of 21 PROMIS Briefing Papers describing different aspects of the system
- A half-hour videotape for non-technical audiences
- Six volumes of documentation to support transfer
- A Cost/Benefit Analysis
- A Manual PROMIS System

---

[39] Cobb County, Georgia
State of Rhode Island
Second Judicial Circuit of Flordia

[40] Documentation is available through the Institute for Law and Social Research, 1125 15th Street, N.W., Suite 625, Washington, D.C. 20005.

The PROMIS system collects, stores, displays and reports information on criminal cases and defendants and includes:

(1) Defendant Identification Data

(Name, alias, sex, race, birthdate, etc.)

(2) Criminal Incident Data

(Date, time, location, etc.)

(3) Arrest Data

(Date, time, location, arresting officer(s), etc.)

(4) Charge Data

(Charges filed at arrest, in court, etc.)

(5) Court Event Data

(Dates and outcomes of arraignment, motions, hearings, trial, sentence, etc.)

(6) Witness Data

(Names, addresses, etc.)

From the above description of the content of PROMIS data files, it is easy to see that this proven transferable product could easily support a court's needs as well as a prosecutor's. Why then doesn't every court opt to implement automation via the PROMIS package?

The major problem is that PROMIS was designed for criminal cases and does <u>not</u> appear to be able to easily accommodate the remaining <u>non-criminal</u> caseload of the courts, which has been variously estimated to encompass from 60% to 95% of court activity.

Another drawback has been the fact that the original design was keyed to a medium-to large-scale computer. This may have, heretofore, limited consideration of the use of PROMIS to those large urban areas with large computer facilities. The <u>relative</u> inflexibility of "Maxi

PROMIS" has also discouraged many users and, finally, court managers have just not been receptive to the installation of a prosecutor-designed system to support court work.

The latest efforts of INSLAW have been directed toward the development of an extremely flexible and powerful version of PROMIS which has thus far been called "Mini-Computer PROMIS." This latest version can, theoretically, be installed on virtually any maxi or mini-computer and has been designed to provide the most flexible data base content and report formats possible with today's technology.

A number of interested court officials and data processing professionals have been able to review the documentation and early operational phases of Mini-PROMIS and all have reported an extremely flexible package, tailored for transfer and for multi-purpose use by courts as well as prosecutors. Early releases from INSLAW indicate that efforts to adapt this system to support non-criminal cases are already underway and that there appears to be no bar to the eventual use of this package as an all-purpose court information system package.

It is unfortunate that the name Mini-PROMIS has been assigned to the package, for it appears to be restricted neither to the mini-computer nor to prosecutor's use. Court administration and clerk's offices should find the package just as usable as the prosecutor, and the package might more appropriately have been named a multi-purpose computer-oriented legal case processing system.

Another attractive feature of the various PROMIS packages is the federally-funded transfer support provided through the Institute for Law and Social Research to any justice agency interested in anything from a feasibility study to a full-blown implementation effort.

CONTINUED

1 OF 3

Every court administrator, court clerk or prosecutor interested in an automation effort is well advised to carefully review and consider the possible use of a "PROMIS-ING" package.

The following description of Mini-PROMIS appears in an early 1978 draft of the documentation for the software package currently being prepared for release by the Institute for Law and Social Research (INSLAW)[41] and tells the story well:

> Mini-Promis is a computer-based on-line system to assist the criminal justice agency to track arrests, cases, defendants, and parties through the events in the criminal justice system. In addition to the on-line capability, it provides reports, subpoenas, forms, and statistics. (Emphasis added)
>
> The Mini-PROMIS was not designed for one single jurisdiction or one specific hardware configuration but rather to be easily installed in any jurisdiction on the hardware of a variety of manufacturers. To facilitate installation, a tailoring package is provided to assist the user to alter files, records, data elements, indexes, and on-line entry and inquiry screens in an on-line interactive mode.
>
> The primary concern in the design of Mini-PROMIS was that it be easily installed in interested jurisdictions. The two major considerations in attaining this goal are:
>
> - that the system can be easily altered to reflect the local criminal justice system needs and to accommodate the intended uses of the system by different jurisdictions;
>
> - that the system can operate on the hardware of many computer manufacturers so that a jurisdiction has a wide range of choice when selecting computer hardware.
>
> Making the System Easy to Change
>
> There are several areas where differences might exist among jurisdictions that decide to use the system:
>
> - The agencies that are to share the system can differ from jurisdiction to jurisdiction. For example, one

---

[41] Published with minor punctuation change with the permission of the Institute for Law and Social Research; see INSLAW, Mini-PROMIS - Volume II System Description, May 4, 1978.

jurisdiction's system may encompass prosecutor and court agencies, while another could serve police, court and corrections agencies.

- The extended uses of the system will differ. One jurisdiction might manage witnesses with the system; another might provide court docketing capability; and another might use both of these features.

- The steps in the criminal justice system vary widely. In some jurisdictions, each felon who goes to trial is first indicted by a grand jury; in others, the grand jury is rarely or never used.

- Terminology for actions or events is often unique to the jurisdiction. For example, one city might call the finding at preliminary hearing "held to answer," while another might refer to it as "bound over to Superior Court."

- The data elements that comprise the data base would very likely not be exactly the same in any two jurisdictions.

- The characteristics of key data elements such as case number may differ. In one jurisdiction the case number might be eight numeric digits, in another ten alphabetic and numeric characters.

The Mini-PROMIS uses several techniques to spare the implementing jurisdiction any undue concern with these differences:

- It provides software to redesign the data base, input transactions, files, records, and indexes.

- It follows certain conventions in program design to ensure that the programs are generalized, i.e.:

  - avoidance of built-in restrictions that would unnecessarily limit the number of any type of record so that a case can have a sufficiently large number of charges, events, parties, or scheduled events, etc.

  - a flexible data base so that statistics can be defendant-based or case-based according to the needs of different user agencies and so that these statistics will be comparable to presently-produced manual statistics.

  - coding standards which require that structure and data names in individual programs are as alike as possible to assist an implementing jurisdiction's data processing staff to become more quickly familiar with the programs in order to maintain or alter them.

- extensive use of table-driven code

- extensive use of copy library tables so that changes which affect more than one program need be made only once.

Making the Software Manufacturer-Independent

The software is written in COBOL since this is the language supported by the most manufacturers and known to the most programmers. Since most minicomputer COBOL compilers do not implement the full ANSI 74 COBOL, a subset of ANSI COBOL is used. The subset was defined after analyzing the COBOL of approximately 20 manufacturers in order to determine what common level of COBOL most manufacturers of small machines implement. The resulting Mini-PROMIS COBOL subset is currently supported by at least ten manufacturers. Since the trend is for manufacturers to increase their COBOL capabilities with each successive release of a COBOL compiler, the number of manufacturers who support Mini-PROMIS will increase over time.

Consideration was also given to the types of terminals the system supports. So that users can obtain inexpensive terminals, the system is designed to run on nonbuffered terminals with or without video display. In addition, a single system can support various types of terminals.

E. Courtran

Very quietly, over the past six or seven years, the Federal Judicial Center has developed what appears to be a highly flexible and fully transferable computerized information system to handle criminal case activity in the larger volume U.S. District Courts.

This system operates through a large central time-sharing computer complex located in the District of Columbia and is already servicing ten large federal courts. It was installed initially in Chicago and is now reported as installed in San Diego, Los Angeles, San Francisco, Oregon, Arizona, Detroit, Atlanta, District of Columbia and New York Southern (New York City).

Courtran, as the system has been called since the original design, was described to a national audience in October of 1972 at an International Symposium on Criminal Justice Information and Statistics Systems as a modular management information and research system for courts designed to provide information support services for court management

and for study and evaluation of court procedures and processes.[42]

Initially, the concept was developed with the intention of utilizing mini- or small-scale computers in each of the larger U.S. District Courts, but the approach has been modified to utilize a large central time-share facility through input and retrieval cathode ray terminal(s) along with a hard copy printer at each user location.

It is estimated by the Courtran system managers that it takes about seven months to bring a new court into the system and that the seven-month effort is principally involved with accommodating local paper flow idiosyncrasies within the system and, minimally, with minor "local tailoring" of the basic system.

Criminal Caseflow Management is an extensive application and is designed to handle docketing, party and case indexing, caseflow and speedy trial analysis, case scheduling, motion management, sentencing analysis, attorney and firm analysis and probation, marshall and U.S. Attorney support.

Charles W. (Chuck) Nihan, Director of Innovations and Systems Development at the Federal Judicial Center, reports "...enormous success in introducing Courtran II applications, which were developed by a small number of pilot courts, into other federal courts which had no participation in the design or development of the applications." He points out that neither the size of the courts, the fact that some operate in multiple geographic locations nor the fact that they utilize master, individual or hybrid calendars has impeded the transferability of the system.

---

[42] Joseph L. Ebersole and James A. Hall, Jr., COURTRAN: A Modular Management Information and Research System for Courts, Proceedings of the International Symposium on Criminal Justice and Statistics Systems, SEARCH Group, Inc., 1972, p. 203

Since the Federal Judicial Center and the Administrative Office of the Courts are arms of the Supreme Court of the United States and are the administrative managers of the U.S. court systems, it is obviously somewhat easier to mandate that automation will only be accomplished through the Courtran facility and that the Courtran software will be the vehicle.

Being the "only game in town" enhances the transferability of Courtran for if a district court needs automation support, it will have to use Courtran or forego automation. On the other hand, Courtran seems to be readily adaptable and quite useful to the ten jurisdictions using the system. It appears to be contributing extensively to the standardization of federal court procedure nationally and contributes to the comparability of court workload analysis.

Other "packages" in operation beside Criminal Case Flow Management are basically in the Financial Management and Statistics areas, with efforts underway already in the Civil and Appellate Caseflow, Jury Management and text Processing areas. Other applications are also under consideration.

The major limitation on transferability outside the federal system is the fact that the system is programmed in SAIL, using a data base manager called DBMS-10, and runs on a DEC system - 10 computer.[43]

SAIL (Stanford Artificial Intelligence Language) is a programming language used by a number of academic institutions and is reported by the Federal Judicial Center[44] to be the sole programming language of the National Institute of Health (NIH) and the Federal Judicial Center (FJC).

---

43 Jack R. Buchanan and Richard Fennel, An Intelligent Information System for Criminal Case Management in the Federal Courts, Federal Judicial Center, 1977.

44 Charles W. Nihan, Director - Innovations and Systems Development, The Federal Judicial Center, 1978. (Correspondence and Conversation.)

SAIL appears to be a "high level" programming language which is utilizable on a fairly wide span of computer hardware, but one must first locate an organization which has available a computer with a compiler which will produce machine language for the specific hardware the court will utilize or arrange for such a compiler to be produced.

F. Programming Languages

Another important decision which the court administrator may be called upon to make and for which he is, normally, unqualified is the selection of the programming language to be used for the system.

The use of LEAA funding normally results in avoidance of this chore since LEAA grants involving automation are awarded on the condition that the grantee use ANSI COBOL or in the alternative ANSI FORTRAN.

It is useful, however, to understand just what choice has been made. Programming languages come at many levels of sophistication and, basically, fall into the following categories:

1. Machine Language

When computer were first invented, this was the only level of programming available. The programmer fed to the machine instructions in specific numeric combinations which directed the machine to add, subtract, move, read data, print, etc. These "numerical" instructions, since binary is and was the basic language of the machine, used various binary numbering combinations such as quinary (base 5), octal (base 8) or hexadecimal (base 16) to trigger the machine's execution of its electronic tasks. Today's machines still execute their tasks based on the binary instruction triggers, but only the home computer enthusiast (or a masochist) considers writing programs for the computer in the natural language of the machine.

2. Symbolic or Assembly Language

Early on, the computer manufacturers and users determined that programmers were not comfortable or productive with machine language and devised easier programming languages which permitted the use of symbols to represent the instruction to be performed (A for add, S for subtract) and permitted the substitution of "labels" for the locations within the machine (Total, Namefield, Taxrate, etc.) so long as the programmer would somewhere in his program define how large and where these "labelled" fields would be. The resulting symbolic or assembly-level language cannot directly instruct the computer, but instead must itself be fed to the computer to be translated (by a program called an assembler) into the machine's binary-type "object program" language which can then be fed to the same computer to actually perform the programmed tasks.

Although a great deal easier to use than machine language, assembly language still required an extensive knowledge of the specific instruction set of the machine. This meant that the programmer in addition to being a technical expert, had to be a person who could analyze and fully comprehend the tasks which were to be performed. It took a very unique person to fulfill the broad requirements and resulted in a relatively small cadre of truly competent programmers.

3. High-Level Languages

Because inefficent programming methods were recognized as a detriment to the expansion rate of computer use and as a significant factor in the failure of computers to economically and consistently achieve the support role they deserved, higher level languages were designed by academicians and manufacturers which permitted the programmer

to be less of a technical specialist and more knowledgeable in the operation of the task to be performed.

For the mathematician-scientist type who used these machines, FORTRAN (Formula Translation) was developed which enabled the scientific user to pose the problem in a mathematical format with which he or she was familiar and comfortable and left it to a compiler (a program provided, usually, by the manufacturer) to translate the equations to one or (usually) more machine instructions which would actually cause the machine to execute the task.

In the business area a language called COBOL (COmmon Business Oriented Language) was developed to permit the programmer to communicate with the machine in business English and, of course, to reduce the need for unique technologists with extensive computer training to talk to the computer for the businessman.

Since these "high level" languages do not depend upon a knowledge of specific machine instruction and/or addressing, it follows that programs written in Cobol, or Fortran or other problem-oriented languages could be transferable from computer to computer so long as there is a standard form for a high-level language and the various manufacturers provide a compiler for the standard language with their computer line.

There has been more than moderate success in this area. Every major computer manufacturer and most of the mini-computer producers have produced Fortran and Cobol compilers for their hardware. Not all of these compilers fully satisfy the American national standards promulgated by the industry and its users, and various manufacturers have provided "extras" in their compilers to provide expanded machine facilities

to users of their hardware. Transfer from machine to machine therefore requires more than just recompiling programs on the new host computer but is a far cry from having to rewrite every instruction for the new machine.

Even without LEAA's conditions, it behooves the court manager to insist on the utilization of a high-level language to ensure that, when faced with programmer turnover, the need to change computer hardware or a desire to transfer programs (in or out), the road will not be blocked by a plethora of existing software understood only by the original programmer and operable only on the current hardware.

From the standpoint of utilizing computer hardware to its fullest capability, machine and assembly language in the hands of a competent technician will do the best and most economic job. However, on balance, the best product, in the fastest time, in the most flexible form, can only be achieved with the use of higher-level languages.

4. Other High-Level Languages

Fortran and Cobol are not the only high-level languages, but they are the most frequently used and the ones which most frequently are supported by the manufacturers' freely provided software.

Some examples of other high-level languages are:

- ALGOL - (Algorithmic Language) - Used in scientific and mathematical areas.
- APL - (A Programming Language) - A concise language used extensively for interactive programming (where the programmer sits at a terminal and "talks" to the machine).
- BASIC - (Beginners All-Purpose Symbolic Instruction Code) - Used extensively in the mini- and micro-computer area and for introductory computer programming training.
- PL/L - A high-level language designed to handle both scientific (FORTRAN type) and business (COBOL type) problems by utilizing a broader range of the available computer capabilities. This language has not developed

a user acceptance and utilization level anywhere near the level of either of its predecessor languages.

- GPSS - (General Purpose Statistical System) - An extremely effective and easily-utilized software package for the manipulation and statistical analysis of data.

- SAIL - (Stanford Artificial Intelligence Language) - Used by a number of academic institutions, the National Institute of Health, and the Federal Judicial Center.

Most journeyman programmers are more comfortable with assembly-level programming for it gives them the most extensive possible flexibility with the machine they are using. It produces a more economical program since it uses programming tailored to the specific task rather than sets of generalized routines which must fit a very broad range of possible tasks. As indicated above, however, the use of assembly-level languages should be avoided where possible! In the long run, the use of higher-level languages will be of the greatest benefit to the user.

G. Maxi-Computers, Mini-Computers, Micro-Computers

Today's computer marketplace has created another decision-making problem for the court executive. He or she must now decide what size computer would be best suited for the court system.

The data processing traditionalists and the county E.D.P. staff will insist that centralized medium- to large-scale computers are the only answer to the massive information needs of the courts.

More contemporary technologists will just as vocally insist that the mini-computer is the equipment of the present and can more adequately handle the job while saving large amounts of money for the organization.

The rugged individualists who are into "state-of-the-art hardware" and futuristics will espouse micro-miniaturization (tremendous space reduction) and the enormous dollar savings possible through the use of this technological breakthrough.

There is no question but that the traditional, centralized medium- and large-scale computers can and have done the job successfully in an ever-growing number of jurisdictions. The hardware is reliable and maintenance services are extensive and quickly provided. The variety of pre-packaged and well-tested software provided with the computer is almost infinite, and there are large numbers of trained systems analysts, programmers and operators available who have had extensive experience with the equipment.

The basic drawbacks are the high cost of such equipment and the tendency for control of the hardware to be in the hands of the executive branch, inevitably resulting in inter-agency conflict where the court comes in no better than second place.

Mini-computers can significantly lower the cost of automation for the special purpose or less-than- "massive" volume general purpose user. They can also provide a means for freeing the agency from the restrictive use of larger executive branch controlled maxi-computers.

With the mini, the drawbacks are of a different nature. Although software support continues to grow in leaps and bounds for the minis, it still lags far behind the almost unlimited software availability of the maxis. (Most well-known minis now support, at the very least, a subset of ANSI COBOL.) Experienced staff is much more difficult to locate and attract. It is virtually impossible to find court-experienced data processing professionals with experience on any particular mini.

One of the benefits of the mini is the independence which comes with court control of its own hardware. (This is a mixed blessing, for independence also infers total responsibility for the operation of the system.)

Mini-computer maintenance and repair services are not nearly as

readily available as one might desire. The level of service depends upon the number of organizations utilizing the equipment within the geographic area. Service response times can vary from minutes to hours, or even days, when a unique piece of mini-computer hardware is used.

As the application needs of the court expand, so does the mini-computer. Each application frequently calls for the addition of more disk or tape storage, more terminals, faster and more reliable printing equipment, and so on. Often these added peripherals are products of different manufacturers, require special connecting devices, and raise the costs of the mini-computer extensively. Mixing vendor equipment inevitably increases the number and difficulty of maintenance problems, but this is frequently a maxi-computer as well as a mini-computer problem.

The most intriguing technological advance, however, is micro-miniaturization and the micro-computer. These new computers are very small, and a complete system, normally, can be set up on the top of a small card table.

At least two firms (Commodore with the "Pet" and Radio Shack with the TRS 80 "Breakthru") have now produced a micro-computer system selling in the marketplace for a $600 total purchase price,[45] both of which appear to have the computing capability of the major manufacturers' workhorse computers of the early 1960's (which, incidently, rented for much more than $600 per month). These miniature "giants" include a keyboard and usually utilize a standard black-and-white TV set for screen output. Data and program storage in the low-price models is accomplished through inexpensive

---

[45] Chuck Peddle, The Pet Computer, Personal Computing - September - October 1977.

audio cassette recorder(s). A very easy-to-use and relatively-proficient programming language called BASIC is the programming language.

The $600-1,000 micro, however, is just not the answer to even a small court's needs. A recent concept paper, prepared by SEARCH Group, Inc., suggested configuring a micro-computer system and developing specialized software to meet the requirements of trial court calendaring and scheduling.[46] It was estimated that the cost of such a hardware and software system, which would require substantially more computing power, data storage media and input-output than the "home computer" described above, would be in the $25,000 (total purchase) price range (still a lot cheaper than the typical "maxi").

A comparable project for jails, Jail Accounting Micro-Computer System (JAMS),[47] has been successfully pilot-tested by SEARCH in that price range. This system requires no air-conditioning and little space and was no problem to program since it was a turnkey effort. The development group claims very little training is required to teach an average clerk to use the system.

Software, however, is still a major problem with this equipment, and it is going to be a slow process developing specialized applications for the courts. Progress, however, is being made by leaps and bounds and one can expect, in the next five years, to see extensive use of the micro approach in the courts as well as in the general business market.

---

46 Application of Micro-Computer Systems and Court Calendaring and Scheduling, An unpublished concept paper by SEARCH Group, Inc., staff, 1976.

47 SEARCH Group, inc., JAMS - Jail Accounting Micro-Computer System - Technical Report No. 20 - SEARCH Group, Inc., February 1978.

At the present time, the micros are, for the most part, home computers and a hobby activity. They have tremendous potential and, as programming languages and support software begin to appear in volume, these systems will begin to dominate the marketplace. The cost-conscious court manager is well advised to keep a sharp eye on this developing technology.

H. Free Technology Transfer Support

Several agencies have been funded by LEAA to provide assistance with technology transfer to criminal justice agencies, in general, and to courts, in particular.

The National Clearinghouse for Criminal Justice Information Systems[48] is a program of SEARCH Group, Inc., which maintains the most up-to-date and complete index of criminal justice automated information systems available in this country. It contains information on the features of every system, the hardware and software used, and the applications covered.

Services are available to assist in the locating and transfer of developed systems and include:

Requirements and Feasibility Analysis

System and Procedures Analysis

Preparation of Technical Specifications

Donor System Selection

Transfer Coordination

Implementation Support

Since the service is supported by a grant from LEAA, the service is available free-of-charge to any state or local governmental agency with

---

48 National Clearinghouse for Criminal Justice Information Systems, SEARCH Group, Inc., 1620 35th Avenue, Sacramento, CA 95822.

criminal justice responsibilities.

As discussed in Section D, above, the Institute for Law and Social Research[49] stands prepared (and funded) to provide extensive free support to federal, state or local justice agencies with a desire to evaluate, analyze and/or implement the transfer of a PROMIS package for their jurisdiction.

Other sources of LEAA-funded free support which have been utilized at various stages of information system review, installation and pre- or post-installation evaluation are the Criminal Courts Technical Assistance Project of American University[50] and the Court Improvement Through Applied Technology (CITAT) project of the National Center for State Courts.[51]

---

[49] Institute for Law and Social Research
1125 15th Street, N.W.
Washington, D.C. 20005

[50] Criminal Courts Technical Assistance Project
The American University
4900 Massachusetts Avenue, N.W.
Washington, D.C. 20016

[51] National Center for State Courts
Court Improvement Through Applied Technology (CITAT) Project
300 Newport Avenue
Williamsburg, Virginia 32185

VI. THE PROCUREMENT PROCESS

A. Procurement Policies and Procedures

After the multiple phases of computer justification (feasibility study, cost/benefit analysis, assessment of political and practical issues, in-house/consultant decisions) have left no alternative but to proceed along the road toward computer usage, the potential court user is faced with the most technical and most trying phase of computerization -- objective screening and selection of the "best" approach and the "best" hardware and/or software for the "best" possible price. Several approaches are possible, ranging from hiring a consultant to do the job to a multi-phase, in-house evaluation project.

From the standpoint of objectivity on the part of court management, the use of an outside consulting firm is the best choice. The use of a consultant will avoid the danger of even the appearance of impropriety or favoritism in the selection of the vendor by the court. On the other hand, one must be careful to avoid the selection of a consulting firm which invariably selects the same vendor for its clients.

Another factor is cost. Use of in-house staff will not, of course, require additional funding, but it may delay other development programs.

If the decision is made to contract for the services of an outside expert, the following materials will be of lesser importance to the reader but should be helpful in monitoring the work of the contractor. Suffice to say that care must be taken to select a reliable adviser and to continuously monitor the progress of the effort. At least one member of the court staff, preferably the data processing manager, should maintain constant contact and, if possible, participate fully in the procurement process.

The more usual (and probably the better) approach is to perform

the task in-house. One would not normally entrust the selection and hiring of his/her most important staff member to others, nor should one delegate to others this stage of the computerization effort wherein decisions will be made which will control the direction, priorities and limits of computer activity for many years to come. The technical nature of much of this effort will dictate that most evaluation work be performed by data processing professionals who, preferably, will be the implementers of the system, but court management must participate fully in defining, explicitly, the project's short- and long-range expectation in terms of end products and capability of the system to provide specific information.

1. What is a Computer Project RFI (Request for Information), RFP (Request for Proposal), IFB (Invitation for Bids), SSP (Sole Source Procurement)?

   a. The Request for Information (RFI)

A solicitation for technical information from vendors regarding the vendors' state-of-the-art "capability" in computer hardware, communications equipment, data base, system software and/or application software, available to service a proposed project which is described in terms of the tasks or services which the system will be expected to perform, is known as an RFI (Request for Information).

The response is to include pricing, but normally the RFI process does not represent a commitment by the solicitor to engage in a procurement. Typically the project description will include a description of the overall purpose of the system and reasonable estimates of the volume and type(s) of data, the number and type(s) of locations where it must be made available, the speed with which data must be entered and/or retrieved, the hours of operation ('round the clock, prime shift, etc), the reliability of the equipment (up-time requirement), the applications to be implemented, the extent and general form of reports, and

any special requirements such as computerized microfilm output, automatic telephone answering or voice output.

The RFI approach is recommended highly for the court which is venturing for the first time into computer hardware and/or software procurement with a staff which is not totally familiar with the full range of available vendor products or, even more importantly, with the full range of court applications. Describing the proposed system sufficiently to satisfy vendors attempting to respond adequately will sharpen staff knowledge of the needs of the court system they are serving and will enhance their ability to design the best possible system.

b) The Request for Proposal (RFP)

A solicitation for "bids" to provide the equipment and/or services required, which is issued when one is certain of the extent and capabilities of the equipment and software necessary to implement the project in mind, is termed a Request for Proposal (RFP). Those requirements are documented with particularity and are issued to as large a group of qualified vendors as is possible, along with the conditions under which the bids will be accepted and, usually, the basis upon which the bids will be evaluated.

Assuming that price is one of the important factors in the evaluation, one can expect the vendors to respond with the most reasonably-priced equipment and software in their line which can perform within the range of specifications detailed in the RFP. Some care must be taken to assure that the hardware and software in the response can in fact perform at the levels required, and proof of performance should be provided by demonstration or benchmark testing (a benchmark test is a simple test effort designed by the prospective buyer which

will tax the capabilities of the equipment and software of each vendor and will provide a relatively-fair comparison of competitive vendors' offerings).

c) The Invitation for Bids (IFB)

The IFB is most frequently used to procure specific pieces of equipment of equal capability wherein the primary difference is cost. The IFB is geared to award the bid to the vendor who is most responsive to the specific requirements for the equipment in the required time frame at the lowest price.

d) The Sole Source Procurement (SSP)

The Sole Source Procurement, as the name suggests, is the awarding of a contract without the competition normally associated with large dollar procurement in the public market. SSP is not recommended unless there is no other alternative.

When faced with a situation where the vendor's equipment or services are unique and necessary or where the vendor is the only one who can provide what is needed within a mandated time frame, it is possible to consider the SSP approach. However, it is extremely advisable to document well the circumstances which led to the conclusion that SSP was necessary and, if possible, to document the prior approval of those governmental bodies which have the responsibility for the review of such activities. Any sole source procurement by a public agency is, on its face, suspect!

2. Issuing the Procurement Document

It is extremely desirable, especially for a public agency, to follow the agency's "standard" procedure in undertaking a procurement effort to ensure an equal opportunity for all qualified vendors. When the court issues its document, it should first attempt to provide a copy to as many qualified vendors as it can discover. One successful

approach has been to request a list of reputable vendors from a Law Enforcement Assistance Administration office (or other funding source) in order to avoid later charges by the funding body that the dissemination was not broad enough. This should be supplemented by announcing the procurement effort in a publication such as the Commerce Business Daily,[52] which is recognized nationally as the vehicle for notice to vendors interested in public undertakings.

The following is a list of typical information included in a procurement release:[53]

- Statement of general purpose of the procurement
- Conditions of procurement (i.e., return date, minimal response data required, benchmark tests, format of response, requirement for pricing, etc.)
- Arrangements for response(s) to vendors' questions. (It is usually best to formally schedule a meeting for all vendors at one time to answer specific questions regarding the procurement document or expected responses to ensure that no vendor inadvertently gains an advantage from a response to which no other vendor is privy. The formal meeting, unfortunately, can inhibit questions from the vendors, since a vendor is sometimes loathe to give his competitors some idea of his approach by asking specific questions. On balance, however, it is safer for the soliciting agency to handle this touchy matter in this fashion.)
- Statement of criteria to be used in evaluating responses
- Description of proposed system

---

52 Commerce Business Daily
U.S. Department of Commerce
Room 1304
433 West Van Buren Street
Chicago, Illinois 60607
(312/353-2950)

53 Adapted from a list of typical information for an R.F.P. contained in: Data Processing and the Courts - Reference Manual, National Center for State Courts, September, 1977.

- Time frame for project completion
- Proposed contract terms
- Limits of funding (Optional: Although this tends to cluster the bids at the funding limit level, it also eliminates gross overbids or underbids which are not responsive to project needs.)
- Estimated award date

3. The Review Process

The most important step in the review process is the prior determination of the factors to be considered in evaluating the responses and the "weight" to be allocated to each factor. Failure to determine the most important factors before release of the procurement announcement can lead to suspicion of "fixing" the final selection by heavily weighting those factors best responded to by a favored vendor.

It is advisable, therefore, to carefully assess the values to be assigned to each factor to assure that the weights reflect their relative importance to the organization. This is not an easy task nor is it one which can be accomplished totally and scientifically.

Basic questions to be answered by the evaluation are:

a. Fundamental factors

(1) Did the vendor respond adequately to your request? (Is all the information you requested contained in the vendor's submission?)

(2) Is the vendor a reliable firm to deal with? (Financial stability, user satisfaction, geographic location, history of successful projects.)

(3) Does the quality of the response indicate high vendor interest in your project? (Or does it look

like it was thrown together over the weekend by his secretary?)

b. Quantifiable Factors

(1) Capabilities of competitive pieces of equipment offered (processing speeds, storage capacities, climate control requirements, etc.)

(2) Software and data base evaluation (Does vendor have proven software in your areas of need - COBOL text editing, etc.)

(3) Maintenance support (How soon can he respond and how capable is his staff?)

(4) Delivery dates (Can the vendor perform within the time frame you have set and will he contractually commit to penalities for failure to do so?)

(5) Benchmark performance (speed and quality of test performances in comparison to competitors.)

(6) Educational opportunities (How many relevant courses? In what time frame? Are they taught at a reasonably close location? Who bears the cost of transportation, as well as the cost of courses?)

(7) Cost and cost options (variety and desirability of various acquisition possibilities offered)

c) Qualitative factors

(1) Vendor experience in court projects

(2) Experience in court projects of vendor staff included in proposal

(3) Satisfaction of previous court clients

The above list is not all inclusive, but is extensive and should provide a formidable foundation upon which to base the ultimate

selection. The problem, as suggested above, is the fair determination of the weight to be applied to each of these criteria.

It is strongly advised that an evaluation team be formed which consists of a combination of technology experts and court personnel (administrators and jurists), and that this group meet and discuss at length the relative importance of the various factors to be considered. A reasonable approach would be to have each member of the evaluation team prepare an individual list of weights for the factors and, after further discussion and revision, utilize the democratic process to arrive at consensus values.

Care must be taken, however, to ensure that the technologist(s) in the group do not overwhelm the lay people with their "expertise" and, therefore, impose their value judgments upon the effort. The "people and problem" knowledge and experience of the judicial and administrative members of the team is a valuable asset and is a significant factor in the successful weighting of the evaluation criteria.

After developing the weighting criteria, the task becomes somewhat mechanical. A form (Figure 1)[54] could be prepared for entering the objective and subjective judgments of each evaluation (each evaluator should review every acceptable proposal) and the final mathematical calculation will produce an ordered list of vendors.

Occasionally (but very seldom) one vendor will stand out far above the rest, but, more frequently, two or more vendors will have scored close enough to each other to warrant further validation of the proposal

---

[54] Sample form as illustrated in:

Data Processing and The Courts - Reference Manual, National Center for State Courts, September, 1977.

VENDOR	TITLE	MAX. SCORE	EVALUATOR AND DATE
A B C CORPORATION	VENDOR CAPABILITY	NORMAL 900	JUDGE I.M. MORRIS 7/15

MANDATORY CRITERIA

DESCRIPTION	CRITERIA MET		COMMENTS
1. MAINTENANCE RESPONSE - 2 hours or less	(YES)	NO	3 local servicemen
2. DELIVERY DATE - 10/1/77 + 2 weeks (max.)	YES	(NO)	on-site by 10/25
3. ABILITY TO DEMONSTRATE EQUIPMENT	(YES)	NO	Local court using
4.	YES	NO	

DESIRABLE CRITERIA

DESCRIPTION	WGT.	SCORE	WGT. SCORE	COMMENTS
1. FINANCIAL STRENGTH	7	9	63	One of fortune 500 - ok
2. SYSTEMS SUPPORT	5	5	25	One "pro" for one month
3. MAINTENANCE SUPPORT	7	5	35	Users report "fair"
4. EDUCATIONAL FACILITIES	5	3	15	Nearest - 20 miles
5. ACQUISITION PLANS	7	5	35	Purchase only - make own arrangements for lease
6. DELIVERY DATE	9	10	90	One week ahead
7. TIME IN BUSINESS	7	7	49	5 years
8. COURT EXPERTISE	5	5	25	A few court systems
9. VENDOR INTEREST	5	9	45	Very responsive
10. CUSTOMER OPINION	7	9	63	Customers report "excellent"
11. EARLY DELIVERY	1	10	10	Extra award
TOTALS			455	

Evaluation Worksheet

FIGURE 1

[See Note 54]

process. This is normally accomplished by inviting the "finalists" (the top scorers) to make a supplemental oral presentation. This step will sometimes identify for the team those vendors who can write a good proposal but drop the ball when it comes time to do the job. The judicial and administrative members of the evaluation team are most valuable at this stage!

Following the evaluation process, it is advisable for the team to meet and formally decide upon the vendor selection and to have this decision accepted by the applicable authority. Announcement of the selection should then be forwarded to all vendors who responded to the proposal. This, of course, would be followed by the formal contractual procedure required by the jurisdiction.

4. Who Should Make the Final Selection?

The basic selection recommendation will be made by the evaluation team, but the final selection must be made, objectively, by the highest possible level of court management. This means the chief judge, a managing judicial council, the board of judges, or the court's administrative board, etc.

It is imperative that the selection be made after an extensive explanation by the evaluation team of how the decision was reached (hopefully the decision maker(s) will have been an active part of that team) and be joined in by a substantial majority of the decision-making body. There is no better way to gain management support and commitment for the project than to have visible and active participation by top-level management in this process!

B. Writing a Tight Contract with the Vendor

1. Standard Vendor Contracts

The lack of attention paid by the average user-purchaser to the contractual terms of a rental or purchase agreement entered into when ordering computer hardware and software is amazing. Even more extraordinary is the failure of the knowledgeable judicial community to attend to contractual details. Court experts who daily see the results of faulty contract construction are just as likely (or perhaps even more likely) to sign a contract for computer goods or services which protects the manufacturer and leaves the user with virtually no rights or remedies.

Most manufacturers will insist upon the use of their standard contracts. It behooves the user to review the standard document very thoroughly and to insist upon the inclusion of various protective clauses before signing any formal document. Just as in the field of real estate transactions, where most mistakes are made at a very early stage when an agreement of sale is signed, a letter of intent may commit much more than the user intends. In real estate transactions, it is advisable to consult an attorney prior to signing an agreement of sale, and so too is it advisable to confer with the organization's legal advisor(s) before signing any commitments related to computer hardware or software.

2. Contract Content

A recently published comprehensive document[55] on data processing contracts lists two hundred and fifty-five contract clauses at four

---

55 Dick H. Brandon and Sidney Segelstein, Esq., Data Processing Contracts - Structure, Contents and Negotiation, Van Nostrand Reinhold Company, 1976.

levels of risk (key, important, minor, and no impact), with ninety-nine of these clauses at the "key" and "important" rating level. It is not practical or necessary to cover all of the ninety-nine in this document, but an attempt will be made to address the clauses which it is felt are the most important to the court user and to explain why they are important.

a. Complete agreement

Most contracts will contain a clause indicating that the document includes all agreements, rights and promises of all parties and that it supersedes all previous agreements and representations. From a contract construction standpoint this is an excellent clause. The user must ensure, however, that all of the commitments, promises and limitations desired are contained in the document in clear and understandable terms or that other important written agreements and oral promises are incorporated into the document by specific inclusion, reference or attachment to the contract.

Care should also be taken to restrict amendments to written amending clauses signed by the party or parties charged with a duty therein.

b. Hardware and software specifications

Precise descriptions of the hardware and software covered by the contract must, obviously, be included therein, but it also is very important to include performance requirements, as well as the description and configurations. The manufacturer will normally provide the specifications, but it is the responsibility of the user to review those "specs" in detail to ensure that all expectations are included therein.

c. Pricing

Due to the volatile nature of computer pricing structure,

it is advisable to include a clause or clauses to protect a quoted price during the period prior to delivery and, to the maximum extent possible, after delivery. The manufacturer will be more willing to provide short-term price guarantees, while the user should bargain for long-term price guarantees if he is asked to sign long-term rental agreements. At a minimum, a ceiling on maximum increases should be set by the contract.

d. Implementation support

Vendors will, typically, promise to provide "necessary" systems support personnel to assist in the initial stages of installing and implementing a computer system.

These promises are usually vague and seemingly all-inclusive until the moment of truth when one finds that the manpower provided is not of the highest caliber and that you are sharing their services with one or more other vendor clients.

Any commitment for technical support must be set forth with particularity in the contract with the quantity (man hours, days or years) and quality (senior systems analysts with at least x years of relevant experience) of such support very carefully detailed. It is even more desirable to describe the products that the vendor's support will provide and to contractually commit the vendor to those products within a specified time period, leaving to the vendor the problem of how much manpower is necessary.

e. Maintenance

Every computer requires preventive and emergency maintenance. The contract will normally specify the annual or monthly price of maintenance and should include the cost of all parts, labor, etc. A very sophisticated user might be able to arrive at a lower annual cost

figure by securing a time-and-materials billing, but this is advised only for the very highly experienced user.

Most maintenance contracts only cover the prime working hours (approximately 8 A.M. to 5 P.M.) Monday through Friday. If there is an intention to utilize the system on more than a one-shift basis and to require shift time service as well as weekend support, it is necessary to include this service in the contract with the costs, if any, clearly prescribed.

Another important maintenance factor which should be covered contractually is the permissible response time. A computer with only a minor part inoperative or malfunctioning can, quite frequently, be useless. If emergency maintenance response is counted in days or even hours, staff will most likely be totally unproductive during that period. It is advisable, when and if possible, to negotiate for response in two hours or less.

In order for such an agreement to be effective, it is necessary to provide for monetary sanctions for failure to respond within the contract time which should be significant enough to produce results. It is also necessary to ensure contractually that, once the maintenance call is responded to, the repair personnel will work diligently and continuously to restore the machine to working condition. The quality of the vendor's maintenance staff is difficult and even impossible to contractually guarantee, but it is certainly advisable to get a good reading of the maintenance response provided in your area from other users with similar equipment before committing to any vendor.

f. Emergency backup

It is possible for a problem to develop in the equipment or software which is very difficult to isolate or repair. A typical computer

installation faces a series of deadlines which must be met, such as the preparation of daily trial lists or the completion of a series of programs by a necessary target date.

To ensure against lengthy periods of machine unavailability, it is advisable, where possible, to provide for backup services in the contract. This is most frequently possible when the vendor has a company data center in your area which is used for pre-installation testing, education, etc., and when the user has a reasonably popular configuration of equipment.

It is also usually possible to make separate arrangments, on a reciprocal basis, with other users of the vendor's equipment who are located nearby and have the same or similar hardware and software configurations.

Unique equipment configurations and/or extensive terminal usage and reliance by the user will, however, limit the ability to utilize outside backup and could lead to the very expensive alternative of "duplicating" the equipment which is critical to maintaining the operation even though only one unit is necessary to do the job.

The computer contract should also cover the protection that will be provided by the vendor in the event a disaster befalls the user installation. Fires, floods, bombs, and acts of vandalism have destroyed organizations which have become dependent upon the computer for day-to-day support of operational activity.

Typically the manufacturer will be able to guarantee short-term replacement by arranging for delivery of replacement equipment from their inventory, if available, or by adjusting priorities for the equipment currently on their assembly lines. This is a difficult step for the manufacturer to take, for it will normally inconvenience a number of its other users. It is, therefore, advisable to include penalty clauses

for failure to provide replacement equipment within a specific number of days from the loss. It is also advisable to negotiate and fix the price for replacement equipment, hopefully at the existing contract price of the lost equipment and software.

g. Test time

Every vendor provides run time on comparable equipment to that ordered by the user, prior to equipment installation, in order to facilitate the preparation and testing of the user's programs.

Care should be taken to assure that the total free test time permitted is adequate and that it will be available in reasonable time segments. Additional consideration must be given to the time of day when the test time will be made available and the geographic location of the test site.

Most preferable would be prime-time hours (9 A.M. to 5 P.M. - Monday through Friday) in your own city. If this is not possible, the costs of user staff travel and overtime must be considered and the bearer of these costs determined.

It is sometimes possible to arrange with another area user for test time in exchange for future reciprocal backup arrangments.

h. Delivery and acceptance

It is difficult to predict a delivery date with any specificity when the contract is prepared many months and sometimes a year or more in advance of actual delivery. If, however, the date of delivery is of dramatic significance to the user, penalty clauses for failure to achieve delivery by the specified date should be included.

The user will find, however, that there will more likely be a need for both the vendor and the user to be flexible in the selection of delivery dates. Program design, preparation and testing have a tendency to drag out, and the typical user will experience the desire to delay

delivery until the equipment can be properly utilized. Usually clauses concerning delivery delay require thirty or more days notice. Care should be taken to observe this requirement, for delivery date changes are not welcomed by factory personnel on tight manufacturing schedules.

The user should demand and contract for notification prior to delivery and insist upon a "coordinated" delivery, wherein it will be the vendor's responsibility to arrange for all (or as many as possible) of the components to be collected at a central point in order to provide a single delivery.

Occasionally it is determined that doors and elevators in the user's facility cannot accommodate the sometimes sizable and heavy equipment. This should be determined far in advance of the delivery date. If special rigging is required, it should be arranged on a timely basis, with the contract specifying who will be responsible for the cost. It is not unusual to have to rent a crane and other heavy rigging gear to install a computer on the 23rd floor of an older building. This is a complicated and costly process and should be carefully planned with appropriate contract provisions.

It is also necessary to designate the point at which the equipment will "go on rental." On the delivery date, a series of units will be delivered in packing crates and will require uncrating, cabling, testing, etc. The contract should call for rental to begin when both parties agree that the equipment is in operable condition and, since this could be anywhere from a week to a month after delivery, the user will want to avoid paying for an expensive and unusable computer during that period.

Further, it is reasonable to expect a "break-in" period after delivery and "acceptance" wherein extensive maintenance and lengthy periods of system unavailability are likely to occur. To this end, it is

appropriate to negotiate for a period of free usage after acceptance to compensate for the anticipated early "break-in" problems.

i. Lease/purchase option

When one enters into a computer contract, it is normally a multi-year commitment, whether the contract reads for more than one year or not. The tremendous preparatory work required and the facilities and procedure modifications necessary commit the organization to a multi-year period, no matter what the intent of the user.

Recognizing this fact, it is suggested that serious consideration be given to multi-year leasing at lower annual cost. Most vendors will be pleased to make such contracts and will have schedules of reduced rental rates based on contract length.

Further evaluation is necessary to determine whether, in the alternative, a long-term purchase arrangement is advantageous to the user. As a rule of thumb, the models change in approximately five-year cycles, with the newer models incorporating tremendous technological advances. If the model type for which the user is about to contract is, for example, several years old and it is the user's intitial venture into computer equipment, he should avoid the higher annual cost of a lease/purchase arrangement. If, however, it is new (but proven) technology, one must seriously consider the savings which will accrue after the typical five-year period is completed.

In any event, it is advisable to negotiate for some purchase option at the conclusion of a rental agreement to permit the user to take advantage of the "rent receipts" accumulated during the contract period.

j. Disputes clause (continuation of services during disputes)

Whenever parties contract for services and/or goods, it is quite possible, if not probable, that problems will arise, many of

which are not specifically covered by the written contract. These may result in disagreement and dispute and can, occasionally, lead to litigation and tremendous delay. This can be devastating to an organization, particularly if many other key steps are based on the automation project being completed within a particular span of time.

It is absolutely necessary, therefore, to include within the contract a mutually satisfactory procedure for the continuation of work during the attempted resolution of disputes.

VII. IMPLEMENTATION PROBLEM AREAS

The problems and responsibilities relating to the implementation of an automated court information system are broad, as well as extensive, and will tax the court administrator and chief judge to the limits of their patience and endurance. To effectively monitor this complex process, it is necessary to have a clear and complete timetable for implementation (see Appendix A - A Checklist for Action) and to invest many hours of court management time in understanding and tracking the progress of the project. The responsibilities will be diverse and will range from hiring and supervising technical staff for duties which the executive barely understands to the preparation of a site for computer installation (including the satisfaction of requirements for air-conditioning, power, humidity, lighting, etc.).

Decisions, with the potential for affecting the future operation of the court, will be made on an almost daily basis. This chapter will attempt to identify some of the most critical implementation areas and explain the underlying problems within each

A. Hiring Staff

The marketplace for professional technical personnel improves every day as high schools, colleges and technical schools graduate literally hundreds of academically-qualified computer technicians every month. Experienced data processors seem to be in plentiful supply. So, wherein lies the problem?

The first problem is to find personnel with some knowledge of court applications. The basic background of the journeyman computer professional will have included payroll, inventory, billing, accounts receivable and

accounts payable projects, but the meaning and use of trial listings, subpoenas, causes for continuance, bench warrants, and jury panels will be totally foreign to the average applicant. The heavy activity in court information systems over the last 5 to ten years has, however, developed a reasonably-sized pool of court computer professionals throughout the country, and it behooves court management to attempt to attract them. Advertising in national court publications can be quite fruitful in accomplishing this.

Whether the effort is an independent one by the court, a criminal justice joint effort or an attempt to utilize the full service support of a centralized governmental data processing facility, it is imperative that the court have some technical expertise on its own staff. This can range from a full-scale developmental and operations staff (independent dedicated system) to the bare minimum of a single court information system coordinator responsible for expediting all court activity in a centrally-served environment.

Serious problems will be encountered in achieving salary structures which will attract these competent professionals. The typical government data processing salary structure is low in comparison to industry and leads to volatile turnover of staff which is detrimental to successful implementation of a data processing project. The nature of existing court support staff salaries also dictates against being able to offer the going rate for competent professional(s). The approval of "reasonable" salaries for data processing staff by local government will often cause resentment among lower-paid, experienced court staff. Unfortunately, this phenomena seems to repeatedly result in the hiring of bright, aggressive and ambitious young trainees in whom the courts invest extensive training time and money, only to have them leave the court employ after very short periods of employment and, usually, at the most inopportune and critical stages of system development.

After several experiences of this nature, the court begins to establish salary levels necessary to attract employees for the long-term effort, hires outside consultant support or gives up the attempt to automate.

Selecting the most qualified from among applicants is another very difficult task for court management. Reliance on normal governmental testing processes leaves much to be desired. On the other hand, court management is not usually qualified to screen technical applicants. Some support can be enlisted from agencies such as the National Center for State Courts, which has assisted a number of jurisdictions in the selection effort. Another successful approach has been to assemble a selection committee comprised of governmental and industry computer professionals, along with knowledgeable members of court management.

Staff hiring must take place very early on the implementation timetable for, whatever the level of court involvement, court staff must take an active part in implementation and design from the very first possible moment! It is also advisable to: (1) hire the chief of data processing unit first; (2) utilize this chief in the search and recruiting of the remaining staff; and (3) place great weight on this chief's recommendations for the final selection of the persons who will make up his or her staff.

An open line of communication between staff and court management must also be established from the very beginning, and it is highly recommended that the line be directly between the court administrator and or chief judge and the head of the technical staff.

B. Managing and Evaluating the Progress of an Unknown Process by the Policy Committee

In Chapter IV, the concept of a policy committee and working committees was introduced as a means of controlling the design of a system so as to

most capably address the needs of its users. During the implementation stage, it is necessary to monitor the progress being made and the direction of such progress to assure that tasks are being accomplished in a logical and timely fashion and that they are addressing the needs articulated by the court and the users in the priority sequence outlined by the designers.

It is not easy for court management and/or policy and user committees to determine whether the data processors are achieving the appropriate goals in a timely fashion, especially when the only indication they have during the early stages is the verbal assurance of their data processing chief that "everything is proceeding well." Too many projects have been reported as proceeding well by data processing chiefs only to have someone discover after a year or two, when the data processor resigns, that no targets have been met or products produced.

One way to assure that this does not happen is to insist on a checklist and timetable (see Appendix A) which includes the provision of tangible evidence of goal achievement at every checkpoint in the development plan. The first task of the data processing leader must be to prepare and explain in detail to the policy committee such a checklist/timetable. It is the duty of the policy committee to insist upon a status report (oral, written or both) at every meeting including some evidentiary proof of the attainment of a task or an acceptable rationale for a failure to achieve completion on time, along with realistically-revised target dates.

Such a review process, even when conducted by a policy committee totally unfamiliar with data processing, is extremely effective. The data processing manager faced with this formal reporting procedure will be a better manager of his staff and resources and will find it difficult to glibly explain away failures and delays. This process is most effective when the checklist

and timetable have been prepared by or with the help of the data processing manager.

The policy committee should enlist the services of an objective and impartial professional outsider to review the progress of the automation effort periodically. Such service can often be provided through federally-supported agencies at little or no cost to the court. The National Center for State Courts "CITAT"[56] program and SEARCH Group Incorporated's Technical Assistance Service[57] are prime examples of excellent free monitoring and evaluation support.

C. Educating Management

The earliest educational activity must take place at the management level long before any data processing efforts are undertaken. The first need is for the president judge, court administrator and/or other top court management to ascertain just what automation has done, is doing, or is used for by industry, government and, most importantly, by other courts. It is not necessary to learn how a computer is engineered or constructed, nor is it advisable for court management to learn how to program or operate computer equipment. The need is only to know what it can do and has done!

This knowledge can best be gleaned by a combination of efforts. It is suggested that the first simple step be a perusal of a National Center for State Courts publication entitled Data Processing and the Courts - Guide for Court Managers.[58] This should provide the reader with a general feeling

---

56. National Center for State Courts, Court Improvement Through Applied Technology (CITAT), 300 Newport Avenue, Williamsburg, VA 23185.

57. SEARCH Group, Inc., National Clearinghouse for Criminal Justice Information Systems, 1620 35th Avenue, Sacramento, California 95822.

58. J. Michael Greenwood, et al., Court Equipment Analysis Project - Data Processing and the Courts - Guide for Court Managers, National Center for State Courts, September 1977.

for what kind of tool the computer is and what general types of support are available through the use of such a tool.

The next step (perhaps an optional one) would be for management to take advantage of the free "Executive Concepts" classes, offered by virtually every computer vendor, which are geared to educate and interest the executive in the management uses and benefits of computer support. At least one of the vendors offers a course geared particularly to criminal justice systems and/or court managers.[59]

The court executives, if still interested, are now ready to visit one or more courts, comparable in size to their own, where automation has been implemented or, at least, undertaken. A recent survey indicates that literally hundreds of courts have attempted automation, and quite a few are reported to be successfully utilizing the technology for improved management and operation. Visits should be made to several successful installations and to at least one unsuccessful one. Court management will profit greatly from personal, on-site evaluation of why some efforts succeed while others fail, as well as from viewing the products of such a system and investigating the use (or non-use) to which such products are put.

Before embarking on an expensive and time-consuming automation effort, court management must be thoroughly convinced that the benefits to court operation which will ensue will be worth such an effort. This is the major purpose of pre-feasibility management education. It is strongly suggested that no automation effort be undertaken unless, after such an educational effort, court management is firmly convinced that automation will be highly beneficial to the management and operation of their court system.

---

59. International Business Machines Corp. (contact any local office).

D. Educating Staff

Lack of communication within any organization is often a major cause of problems. Frequently, the first formal indication to lower-level court employees that an automation effort is being undertaken has been the delivery of a computer terminal or a "Computer Report Form." The psychological problems, as well as the procedural problems, created by the shock of "instant change" have been sufficiently extensive in many cases to sink the automation effort. People distrust what they don't understand. Change is, at best, unpleasant to the experienced employee who is comfortable with the old ways. Forcing change down the throats of unprepared staff is probably the least-effective way to attempt implementation of a new and improved system.

An extensive staff education program, such as is described in the following sample charts from a text on computer training for court personnel,[60] must address such matters as: (1) why and how the court feels a computer can assist in staff work; (2) what tasks will be undertaken; (3) who will be involved, and in what way; (4) what effect, if any, automation will have on the administrative organization, number of personnel, employees duties and salaries; (5) employee involvement during design and implementation; (6) future training plans; (7) new career opportunities; (8) possible problems which employees will face; (9) timetables, and many others. Failure to provide such educational programming, for all levels of court personnel from trial judge to messenger, would be a fatal error!

---

60. Maureen M. Solomon, Guidelines for Development of Computer Training Curricula for Court Personnel, National Center for State Courts, September, 1974.

FROM: NATIONAL CENTER FOR STATE COURTS

GUIDELINES FOR DEVELOPMENT OF COMPUTER TRAINING CURRICULA FOR COURT PERSONNEL

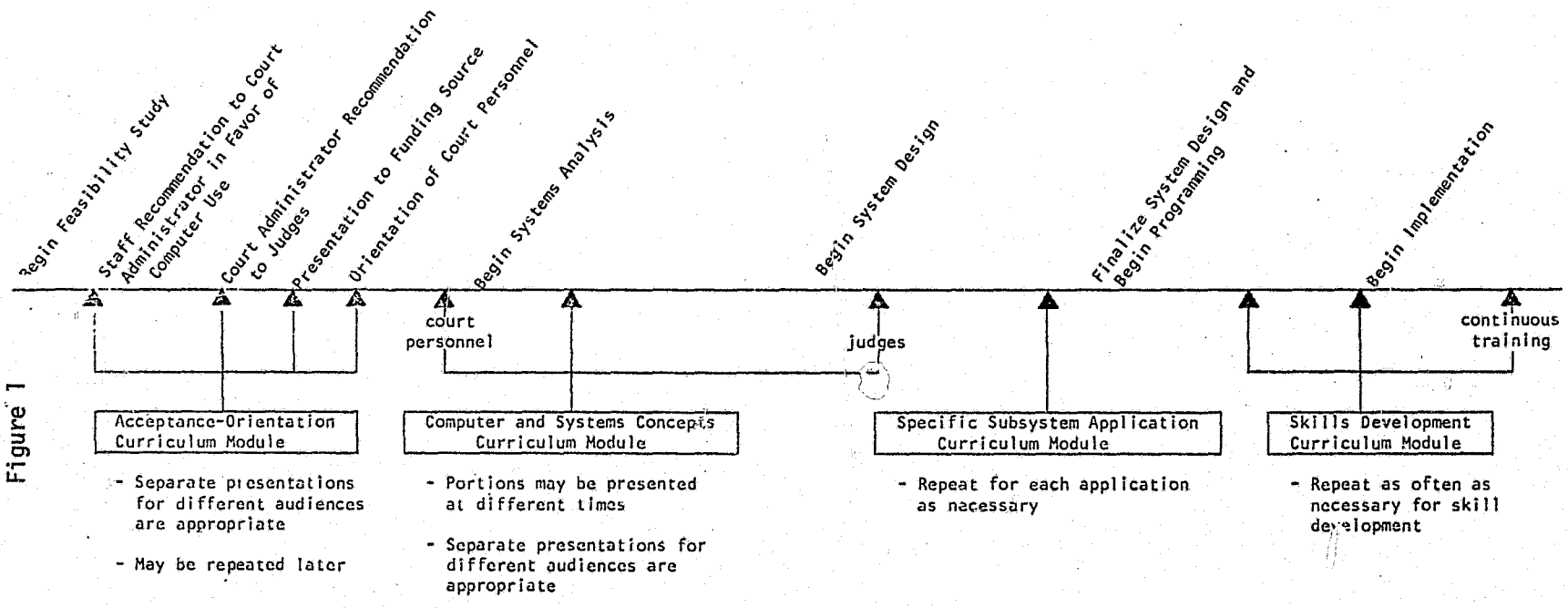


Figure 1

GUIDE TO CURRICULUM MODULE USE

FROM: NATIONAL CENTER FOR STATE COURTS

GUIDELINES FOR DEVELOPMENT OF COMPUTER TRAINING CURRICULA FOR COURT PERSONNEL

ACCEPTANCE - ORIENTATION MODULE

SUBJECT	AUDIENCE	PRIORITY FOR THIS AUDIENCE	ESTIMATED DURATION	INSTRUCTORS	PROJECT PHASE	EDUCATIONAL TECHNIQUES
NEED FOR THE PROPOSED SYSTEM Problem Description Causes Alternative Solutions Expected Benefits of Automation Precedents Set in Other Courts	I-A I-B & I-C II & III IV V	C C C U D	60 minutes 30 minutes 30 minutes 30 minutes memo & press release	Director of Information Systems and Lead Analyst Court Administrator & Dir. of Information Systems Court Administrator & Dir. of Information Systems Court Administrator & Dir. of Information Systems Presiding Judge and Court Administrator	Before project activities begin	Lecture, discussion, Q & A, films, slides, charts, handouts of comparative information
PRACTICAL CONSIDERATIONS IN COMPUTER USE Impact on Court as a Whole Cost vs. Benefits or Other Savings Areas of Possible Difficulty Realistic Timetable	I-A & I-B I-C II & III IV & V	C I I U	1 hr. max. w/poss.add'l. discussion same as above 30 minutes ---	Director of Information Systems and Lead Analyst Court Admin., Dir. of Info. System, possibly P. J. Court Administrator and Dir. of Information Systems ---	Before project activities begin (possibly slightly after above topic)	Same as above plus possible presentation by personnel from another court
PERSONNEL ASPECTS OF CONVERSION TO COMPUTER USE Common Employee Fears Possible Reorganizations or Reordering of Tasks Potential New Career Paths Anticipated Training Programs Employees' Involvement Throughout Court-EDP Liaison During Project	I-A I-B & I-C II & III IV & V	I U C U	60 minutes --- 2 hrs. possible follow-up discussion ---	Director of Information Systems --- Court administrator and Dir. of Info. Systems ---	Before project activities begin (possibly repeat some portions later)	Lecture, Q & A, small group discussions
ORGANIZATION OF ACTIVITIES FOR PROJECT Project Organization and Management Project Stages User Committees for Planning Jointly Establishing Priorities	I-A I-B & I-C II III IV & V	I U C C U	30 minutes --- 60 minutes 30 minutes ---	Director of Information Systems --- Director of Information Systems and Lead Analyst Director of Information Systems and Lead Analyst ---	Before project activities begin	Lecture and discussion
CONCLUSION Summary of Major Points Further Questions and Plans for Possible Future Sessions Program Evaluation	all categories receiving portions of module above		as much time as necessary	Whoever leads the session		

Figure 2

FROM: NATIONAL CENTER FOR STATE COURTS

GUIDELINES FOR DEVELOPMENT OF COMPUTER TRAINING CURRICULA FOR COURT PERSONNEL

Figure 3

GUIDE TO SUGGESTED PERSONNEL CATEGORIES

Code	Characteristics of the Category	Typical Members of the Category
I-A	Determines or recommends overall court policy; maintains policy-level relationships with non-court agencies; is responsible for program justification to funding authority; initiates major programs within the court; is a recipient and user of management information and exception reports	Administrative Officers, Court Budget Officers, Court Legislative Liaison Personnel
I-B		Presiding Judges, Judicial Committees
I-C	Source of funding for court operations or projects	County Boards of Supervisors, City Councils, State Legislators and their Staffs, Judicial Councils, State Court Administrator's Staff, State Planning Agencies
II	Recommends policy to category I-A and B; supervises operational personnel; has mid-level decisional responsibility; uses daily computer output for management of his department; expects operational changes in his department as a result of computer use	Assignment and Scheduling Office Managers, Chief Deputy Administrators and Clerks, Departmental Supervisors from the Court and Other Related Agencies, and Data Quality Control Supervisors
III	Works with well-defined procedures on integral functions within the court system; uses daily operational data in performance of job; may recommend procedures for case progress control; supplies data for input to computerized information system on regular basis	Courtroom Clerks, Minute Clerks, Bailiffs, Docketing Clerks, and Other Clerical Personnel
IV	Operates terminals for input and output of data; performs systems analysis or programming for system	Computer Operators, Operations Supervisors, Terminal Operators, Systems Analysts, Computer Programmers
V	Potential user of computer system output, but not involved in input of data to system; and court personnel who will not be involved in the computer system	Attorneys, Members of the Public Defender's Office and Prosecutor's Office, Judge's Messengers or Bailiffs (who do not have any data preparation or input responsibilities), and Personnel from the Court and Related Justice Agencies Who Will Not Be Directly Involved in Computer Use, Judges As a Group, Members of the Public

E. Constantly Evaluating Proposed Products While Limiting Changes During Implementation

During the design and development of a court information system, the court itself will continue to change. The court system is not as volatile as the space program; however, legislation, procedural rules, court opinions and decisions, and financial status and management changes will all contribute to changing goals. It is obvious that any rigid system, designed at "Day 1," which ignores the changes occuring about it will not even come close to satisfactorily serving the system that exists on the "delivery" day.

To this end, it is absolutely necessary that the policy committee and implementation staff periodically review and evaluate the overall system, its goals and proposed products to insure that the efforts currently being undertaken will, when complete, serve (and continue to serve) the real needs of the court system. It is suggested that such a review be scheduled at intervals of no longer than three months duration.

Balancing this desire to keep the changing needs of the system in mind is the effect on systems analysts and programmers of constant requests for change to the work they have in process. It is possible to wipe out many man months of progress with just a simple change in goals or desired products.

At some point in the implementation of the automation project, the developers will ask for (and really need) an irrevocable commitment to the design for a reasonable period of time so that they can complete their basic work. Management should be prepared to do this if only for the sake of producing a substantive product and helping to preserve the sanity of the development staff. Subsequent changes which involve only format or content of a particular report will be simple follow-on matters. The only permissible

changes after commitment to a final design would be those that reflect a reversal in overall management goals and, therefore, its basic information needs.

There is no clear guideline other than to warn of the problem and to encourage a very careful balancing of decisions to assure that the system can become operational in a reasonable period of time with a design that, although not perfect, serves its users well.

F. Site Preparation

The problems of site preparation are normally very technical ones and are best handled by the technicians. It is only important that the court realize the extent and the meaning of the problems which will be faced and be prepared to address these problems very early in the project, since much time can be required to locate and prepare the necessary physical plant.

1. Power

The basic power needs usually involve, first, a separate power line (not an independent power plant), so that the use of other building equipment does not affect computer operation. Computer history is resplendent with stories of elevator motors, garbage disposals or electric shavers intermittently immobilizing whole computer systems, with the symptoms disappearing when computer repair personnel arrive.

Problems with power surges and drops must be anticipated as best as possible, because they can cause extensive damage to equipment and to the operation of a court dependent upon that equipment. A device such as a "constant voltage regulator" should be considered if the equipment ordered is sensitive to power level change.

Typically, unique connectors (plugs) will be needed for various pieces of equipment in the computer room and each will usually require special

wiring and voltage.

In preparing for the power needs of the site, the mere omission of something as seemingly minor as ordinary plug outlets can cause other delays and initiate additional problems. It is advisable, therefore, for the court to promptly delegate this aspect of site preparation to a group consisting of the vendor(s) who will specify the needs, the building electrical department (or paid electrical consultant) who will determine the cost and time frame for installation, and the data processing manager who will try to keep both of them "honest."

2. Air-Conditioning and Humidity Control

Almost every computer of reasonable size generates heat and is, at the same time, sensitive to heat. In addition, the materials passing through the system (paper, cards, electrical impulses, etc.) are extremely sensitive to humidity variances.

For this reason, as well as for the comfort of the personnel who will work directly with the equipment, it is almost always necessary to have an independent air-conditioning/humidifying system in addition to the existing building temperature control equipment. This equipment is expensive and normally requires lead time for delivery as well as its own "site preparation" work for water, power, ductwork, and the equipment itself. Again, plan early and in conjunction with the computer vendor(s), your own supplier and/or adviser and the data processing manager.

3. Lighting and Sound

Lighting requirements for a computer room are not much different from those for general office working areas, except that special attention should be given to assure that areas where computer screens or reports are read or terminal input is entered are relatively free from glare.

Noise levels in computer rooms are generally very high (especially near printing gear), suggesting that sound absorbing materials should be used in the room to protect the data processing workers who must spend much of their time in the room. Attention should also be paid to protecting the hearing and concentration of non-data-processing employees working near the data processing area.

4. Raised Flooring

Because of extensive power lines, computer cabling, frequent use of under-floor air distribution ducts, etc., it is normally desirable, for safety as well as for neatness, to have the computer room outfitted with raised flooring.

5. Telephone and Direct Terminal Cabling

When the use of terminals at locations other than the computer room is considered, it is necessary to plan for the necessary "data" lines. For devices more than a couple of thousand feet from the computer, it is normally necessary to utilize telephone connections, resulting in the need for arrangements with the local telephone company for special lines and connections.

When user locations for terminals are relatively close, it is possible to run cables through the building (sometimes several buildings in a court complex) in order to much more inexpensively connect the terminals to the computer. A combination of both approaches can frequently be used in the same installation and each requires preparation work and "lead time."

Decisions must be made early regarding how (telephone or direct cable connection) and where terminals are to be installed. The time required to get delivery of the necessary equipment and cabling can be as extensive as the frustrating, traumatic, expensive, and time-consuming task of running telephone line or leading direct cabling through an old building whose architects

never considered such a need.

In many courthouses, the noise of drilling holes through concrete to pass the cable has resulted in judges enjoining all-day time efforts, causing extensive and expensive additional delay. Suffice it to say, plan and start cabling activity very early and be sure to forecast cabling needs for a reasonable future period. Frequently forgotten is the need to arrange for at least one conventional voice telephone with a very loud bell in the noisy computer room so that problems can be reported quickly and directly to the computer staff.

6. Space for Machines and People

Equipment vendors will almost always assist in laying out computer room areas to assure adequate space for the equipment and its servicing, and will help place the equipment in the most efficient sequence. Frequently, however, the needs of the operation and of operating personnel are overlooked during the layout phase.

Be sure that adequate space is allocated for the card, disk and tape cabinets required to store the volume of those materials necessary to operate the data processing project. Paper, ribbons, manuals, spare parts, and many other items will be required inside the computer room. Cabinets or other covered space should be provided to accommodate these materials, and to maintain the neat appearance that a computer room demands. Additional space must be allocated for personnel and working areas (including a table and a desk or two).

Expansion probabilities should be seriously considered during site preparation to assure that predictable growth of the operation will not result in the need and cost, as well as the trauma, of preparing and moving to a different site location.

G. Conversion and Parallel Operation

1. Conversion

As the data processing project begins to take shape, management is faced with another difficult and important decision regarding how much of the courts manual information system should be "converted" to machine form. It is obvious that the "best" approach would be to convert all existing records which are used, but the cost of such an approach would be prohibitive and would probably take more time than the organization can spare.

To illustrate, consider a typical support payment file. Each account may contain as many as 52 payments per year over the life of the court order. Many are a dozen or more years old and contain, literally, hundreds of cash receipts, payments, adjustments, and modifying court orders. Would it be worthwhile to enter every account transaction, back to the initiation of the file, into the automated record? Absolutely not!

Yet, will staff be called upon to provide a complete detailed record to court or counsel at some future date? Very likely so! What then is the reasonable compromise? In this example, the most frequent approach has been to calculate the precise account status as of a specific date (i.e., the conversion date) and to record the status and complete detail activity from that date forward on the automated record. Some courts have then microfilmed the prior records to make the historical record available in handy form and, perhaps, in multiple locations. This seems to be a very rational approach to a difficult problem.

From criminal case processing, the solution more likely will be to undertake a parallel operation for all new cases (see discussion below) for a significant period of time (two or three months), at the end of which time a significant portion (perhaps 90%) of open criminal cases will be in the automated file. It is then reasonably inexpensive and extremely desirable

to undertake the full conversion of all "old" open cases initiated prior to the parallel process in order to have a complete automated open-case file on the date the computer officially takes over from the manual operation.

If the civil case file is an open case tracking and indexing system, the approach suggested for criminal cases may be feasible. On the other hand, if the civil project represents an attempt at total case activity recording, as well as tracking and indexing, it may be necessary to utilize another approach. Some courts have restricted the automated effort to cases initiated after a specific date and maintain a combination of manual (for old cases) and automated systems until all the old cases have closed (which could take many years in the large urban court).

Another approach might be to convert old cases to the automated system only when a current transaction affects the old case. This is certainly more desirable than continuing the manual maintenance of old case records while operating the new system and much less costly than total conversion. In addition, the conversion of the old cases will frequently occur over an extended period of time, with minimum cost and the least strain on operating staff.

There is no single right answer for any of the above situations. Each conversion need must be evaluated for a number of factors:

- Number of active old cases
- Size of file(s)
- Importance of record details
- Cost of conversion
- Strain on operating personnel
- Anticipated accuracy of converted files

The decision regarding the conversion approach should be made separately for each file and only after a thorough evaluation of all possible alternatives.

Whatever the level of conversion attempted, it is absolutely necessary that the conversion effort be controlled and monitored to ensure that every required record is converted, that all necessary data is captured for the record and that every item of "start-up" data is accurate. Any file which begins its life incomplete and/or inaccurate will have problems gaining acceptance from users and will frequently lead to the project's doom or, at least, distrust and disuse of its automated products.

2. Parallel Operation

Unless a project is new, it is absolutely necessary to operate the old manual system and the new automated system side-by-side for a period of time to ensure that the new system can provide everything the old system could for every case or unit. Case listings, statistical counts, subpoenas, bench warrants, checks, and docket postings for both operations must be compared carefully for any possible discrepancy before eliminating the old approach and labeling the new project operational.

This phase is extremely difficult as it calls for duplication in recording activity and a third effort to check one against the other. It is costly, time consuming, abhorent to staff, and most important, absolutely necessary! The faster one can end the parallel operation the better, but the completion of such a process can only be permitted when the organization is certain that the new system works better than the old!

Management must plan for the parallel activity for every segment of the information system project and be prepared to provide extra support for staff during this traumatic period. Care must be taken, however, to utilize

the temporary support staff in auxiliary matters and to ensure that those who will have to work with the files have absolute responsibility for the creation and maintenance of those files during the parallel process.

H. Documentation

The most frequently overlooked phase of an information system installation effort has, in all industries, been that of documenting the system for those who are to use, modify or even replace the system in the future. The intensive effort required to design and install a system frequently leaves staff feeling that there is little or no time to stop to document their blueprint of design, their roadmap to implementation, the requirements for programming, or the steps necessary for data preparation and system operation.

Although time consuming and costly, the documentation effort is another absolute necessity. System designers and programmers leave for greener pastures or forget why and how certain things were accomplished. Programs have to be modified and replaced. The right way to do something, once defined, should be known to all who must use the system.

The report of the Documentation Sub-Committee of the State Judicial Information Systems Project[61] reviews a National Bureau of Standards document[62] in detail and derives a practical level of documentation for courts.

---

61. Operational Perspective of SJIS Documentation, S.J.I.S. Systems Documentation Subcommittee Final Report, Search Group, Inc., March 1978.

62. Guidelines for Documentation of Computer Programs and Automated Data Systems, (FIPS PUB 38 - Federal Information Processing Standards Publication 38) National Bureau of Standards, February 1976.

In reviewing the importance of documentation, the SJIS report states:

"Documentation is essential to the effective development, implementation, modification, operation, utilization, and potential transfer of any information system -- whether manual or automated. Despite its importance, it has been a notoriously weak area in the ADP industry -- and one in which there are few industry-wide standards or guidelines. While there have been numerous books published on programming and documentation techniques, no single approach to documentation has been accepted for widespread usage. Additionally, funding constraints, tight scheduling and general programmer distaste for writing have generally relegated program documentation to the lowest priority. The courts have been no exception to this. In court management, system documentation is extremely critical. It is essential that the public records generated by the judicial process be properly stored and the ADP systems operationalized to support that process be adequately documented."

The report also lists the following basic document types which the SJIS group considered as the minimum documentation permissible for a statewide court information system:

(1) Systems Management Overview Documentation

(2) Feasibility Study Documentation

(3) Project Work Plan

(4) Functional Requirements Documentation

(5) System/Subsystem Specifications

(6) Users Manual

(7) Program Maintenance Specifications

(8) Operations Manual(s)

(9) Test Plan

VIII. THE NEED FOR CONTINUOUS EVALUATION OF THE ON-GOING SYSTEM

One of the more subtle dangers inherent in the operation of Court information systems is the development of the "we've done it!" complex. This feeling often develops in court officials and their data processing managers when the tough years of development effort finally begin to produce results in the form of readable reports, notices, jury lists, instant terminal responses, etc. Arriving at this stage is a healthy experience but does not indicate success. Most often the early products look good and indicate substantial progress but are only the harbingers of the realization that several more steps are necessary before the system can truly be classified as operational.

A. Quality Control

Invariably the first rude awakening relates to the quality of the data included in the automated system. The first reports reveal inconsistencies which usually uncover two separate and distinct problems.

The first problem centers on the methods designed to collect data and the personnel performing the task. Invariably there has been a crash program to create the base file and the persons utilized for this effort have been temporarily assigned to the task. Training, when available, has been sketchy for the "one-time" conversion effort. During the parallel operations the temporary personnel have little interest in accuracy or completeness. In short, errors of omission and commission are frequent and begin to undermine the faith of users in the new system.

The second problem aggravates the situation even more. For many years the errors made in the manual system lay hidden in the recesses of individual files and record books. The automation of the data and the analysis performed thereon starkly reveals the flaws for all to see: misspelled names, incorrect

and inconsistent addresses, patently invalid and incorrect dates, incomplete disposition data, etc. The computer has not caused these problems. It only has brought them out in the open to shock and dismay the managers and users of the system.

Even though inaccurate and incomplete data existed for years in the manual system, it will not be accepted or permitted in the automated system. Suddenly and rightfully so, everyone believes that nothing except 100% accuracy is permissable for the official records of the Court.

Whereas the typical high volume billing process of department stores or oil companies anticipates an error rate of 2% or more and considers this an effective operational mode easily correctable through complaint units, the basic philosophy has to be that where the lives, finances and reputations of the public are concerned, nothing less than perfection can be accepted.

The solution is simple, but expensive. A quality control procedure must be set up to insure that every bit of data entered in the system is timely, accurate and complete. This usually means that every entry must be verified by an objective and independent unit through a procedure which carefully insures that every transaction is complete and accurate. Unless an effective on-going quality control process is developed and conversion mistakes as well as daily activity is cleaned effectively the automated system will not achieve acceptability and will fall into disuse.

B. Complacency

Typically, once a module of the system is operational, attention is directed elsewhere and unless there are extensive complaints or a need for changes to the automation project because of changes to the law or the procedure little attention is given to the "completed" projects.

On subsequent review of operational modules one is apt to find, however, that well thought out procedures were difficult to follow precisely or developed flaws. Adaptable employees in user agencies have "modified" procedures to accommodate the flaws and ease the work effort. In some cases, difficulty with the use of the computer products results in the development of new and parallel manual procedures to cover the shortcomings of the automated system and non-use of the computer products. Complicated coding will have been "simplified" causing the computer prepared management analysis data to reflect something other than what is really happening.

The only way for management to be sure the procedures are being followed or that they need to be corrected is to provide for a means of continuously monitoring the system and evaluating its use. One thoughtful court administrator who had noticed many data processing reports in trash baskets has instituted a "report of the month" program wherein he discontinues delivery of a different report each month to see if anyone misses it and will complain. If no complaints are received, he institutes an analysis to determine whether there is no need for the report or the data. (Sometimes he finds the report is still needed but personnel are still too much in awe of automation to complain.)

A review of various operational reports <u>with the users</u> from time to time is also always of value. One will find, for example, that there are some technical flaws in reports which user personnel overcome with several hours of manual effort each month but which could be corrected with a very simple programming change. Frequently, such review reveals the need for additional reports which were not considered at design time but, based on experience gained through use of the products provided, can produce another quantum leap forward in the management and control of court activity.

Computer development which stands still in a volatile and changing environment is really falling behind. Periodically, perhaps every two years or so, an objective evaluation should be performed. Consider a reciprocal agreement with other court administrators which provides that the president judge, court administrator and data processing manager of each organization review and evaluate the other jurisdiction's operation every few years to provide an objective viewpoint. Perhaps they will pick up some ideas from the successes and failures they observe as evaluators as well as provide evaluations and recommendations to the organization evaluated.

One should also consider periodically requesting an evaluation from one of the free LEAA technical assistance programs such as the National Center for State Courts' Court Improvement Through Applied Technology Project, the Criminal Courts Technical Assistance Project at The American University, or INSLAW, which have been previously mentioned (in Chapter V, Section H and Chapter VII, Section B).

C. Obsolescence

In this tremendous growth period for computers, software and court applications, the technology which might provide great opportunity for further improvement of the court's information system can be passing by.

Computer manufacters announce a new and advanced generation of hardware about every five years. If the court is utilizing hardware which does the job, it is not necessary to change just to have the "newest and best" but it is worthwhile to see if there are improvements available in cost, operation and/or capability which can make change worthwhile.

In addition to the five year "generation" cycle, the computer peripherals industry is constantly changing to meet competitive activity. Careful observance of the market place has saved thousands of dollars

for alert managers who have replaced terminals, disk drives, printers, and even computer cores with competitive, reliable and easily interchangeable equipment which comes onto the market.

Tape and disk storage media improvements occur almost monthly, with today's media holding 5 to 10 times the data of just five years ago for the same or even lower costs. Failure to keep abreast of these developments can be an expensive mistake!

Software efforts are continuously underway. Anyone using communications programs for terminals or a data base designed more than five or six years ago must look at current improvements. Response time problems inevitably arise for those with on-line systems, and sometimes new software can be a godsend.

Perhaps the court decided against some applications(s) during the original feasibility study because of the level of difficulty or the inability of the equipment and/or software to properly service the project. A review of the current applications in operation around the country and improvements in hardware and software capability could reveal that it is time to support with automation a part of the organization that was ignored initially.

D. Taking Advantage of Technological Advances

There are many technological advances which could be helpful to a court and which should be evaluated by court management.

Court managers who are not looking into the computer-related areas of word-processing, microforms and computer-assisted transcription of court testimony, or reviewing software for probate, personnel, finance and budget, etc., are missing the boat.

Every technological advance is not for every court, but it should be carefully evaluated for its applicability and value. If the court manager doesn't wish to suffer the trials of the pioneer he is, perhaps, justified in waiting; but, once the trail has been blazed, it is advisable to "check it out" to see if it travels in the direction of the court's needs.

IX. FUNDING THE PROJECT

A major problem associated with court information systems has been and will continue to be the securing of funds for an automation effort.

Federal support, usually in the form of LEAA discretionary or block grants, has been the primary source of funds for almost every automated court system in this country. One of the most important lessons learned by those utilizing the LEAA funding source has been to use these funds for non-recurring development costs and to supplement this support, right from the beginning, with local funds to pay for expenses of a continuing nature. In addition, since LEAA's interest lies predominantly in the criminal justice area, it behooves the jurisdiction to fund the concurrent development of non-criminal justice automation (with local or other non-LEAA funds) or suffer the embarrassment of supporting much less than 50% of court activity with the expensive automated system.

A. LEAA Funding

Judicial Planning Committees[63] have been authorized and encouraged by recent amendments to the Safe Streets Act and have resulted in most state court systems developing a plan for the effective statewide use of LEAA court dollars. The court manager should investigate the status of such efforts in his/her own state to determine the proper approach to LEAA funding, which, for purposes of potential information system development

---

63 For extensive information on the court planning process, one is directed to a variety of materials published by:

State Court Planning Capabilities Project
National Center for State Courts
1150 17th Street, N.W.
Washington, D.C. 20036

support, consists of three categories of funds: block grants, discretionary grants, and special CDS monies.

1. Block Grant Funds

These monies are allocated proportionately to each state by LEAA on the basis of a state-submitted plan. The plan indicates the type of projects which will be funded and the guidelines that the grantor and grantee will follow.

In those states where a Judicial Planning Committee (JPC) has been formed, the initial responsibility for the identification of court projects worthy of sharing the block grant monies provided for court purposes is vested in the JPC.

Grant requests are reviewed by the JPC for conformity with the judicial plan as well as for the substance of the grant proposal. The JPC then recommends approval or rejection of the grant to the state planning agency, which has final authority over the distribution of the federal funds. It is hard to conceive of a situation in which a state planning agency would override the recommendation of the judicial planning committee, which consists of a variety of court officials. It behooves the prospective grantee, therefore, to work with the JPC on the grant request.

2. National Discretionary Grants

A small percentage of LEAA's funds are retained at the national level to fund programs of national significance. When a court agency believes it has an idea worthy of being attempted not only for the benefit of its jurisdiction but because it is felt to be an effort which, is successful, has applicability to courts throughout the nation, an attempt can be initiated to seek support through a national discretionary grant. Inquiries regarding these funds should be directed to the Adjudication Division of

LEAA,[64] and it is strongly advised that the concepts be discussed thoroughly with that office prior to any extensive time and effort being invested in the preparation of a grant request. (It is also advisable to coordinate such activity with the state JPC and SPA.)

3. Comprehensive Data Systems (CDS) Funds (See Chapter III-Section F)

Courts have been continually encouraged and cajoled to take part in the CDS program which, basically, represents an effort to improve uniform crime reporting, criminal history compilation, and the development of criminal justice system statistics. This national discretionary effort has been funded at a substantial level (approximately $20,000,000 annually) by LEAA and relies heavily on courts to provide case disposition information.

The informed court manager, therefore, is well advised to become familiar with his state's CDS effort and to determine how and where the courts' share of those funds is distributed and used.

B. State Funding

Many state court administrators are beginning to develop State Judicial Information Systems for improved management of the statewide court system. (See Chapter X). Funds are frequently provided for this effort in the state budget as well as in LEAA discretionary and block grants.

It is possible that local court units, which will be the principal data suppliers to these state systems, will be able to share the funds provided by the state for this purpose. In any event, it is worthy of pursuing cooperative efforts with the state-level system and attempting to have some of those state funds programmed for local improvement. For example, software

64. Law Enforcement Assistance Administration
Adjudication Division
Office of Criminal Justice Programs
633 Indiana Avenue, N.W.
Washington, D.C. 20531
Telephone: 202/376-3615

development costs borne by the SJIS project may very well produce standardized software packages which local courts can implement at tremendous savings. Some state systems contemplate the use of mini-computers and/or intelligent terminals at the local level for data input which can provide a state-funded vehicle for various local projects.

C. Local Funds

Local criminal justice information systems (CJIS) are being developed all over the country. These systems most frequently are developed primarily to support law enforcement and require great volumes of data from the courts. The court manager is well advised to trade on this "information providing" requirement to gain concessions for court services to be provided by the CJIS.

The typical county data processing center is looking for customers and for justification to improve and expand its facility. Court projects are frequently used to provide this justification.

D. Other Sources

There are several other good sources for funds to help support an information system effort.

1. Traffic-Related Programs

The traffic area has proven to be a fertile one for finding monies to support a court automation effort. This is usually a very high-volume activity with simple data input needs and high revenue value resulting from installation of a good system (i.e., it is frequently a cost/beneficial and self-supporting effort).

In addition, the U.S. Department of Transportation and state motor vehicle bureaus frequently will provide funds to help improve the operation of local traffic violation procedures and reporting.

2. Support for Dependent Children[65]

The U.S. Department of Health, Education and Welfare, Office of Child Support Enforcement, under the Child Support Enforcement Act (P.L. 93-647, as amended by P.L. 94-88) is sponsoring an extensive program in the domestic relations area. This program is commonly called the IV-D Program (referring to Title IV-D of the Social Security Act) and includes as one of its components a "parent locator" module which utilizes the national social security files.

The Act provides for a combination of programs undertaken on the federal, state and local levels which attempt to place responsibility for child support upon parents, rather than taxpayers, by obtaining support from absent parents - particularly where the absent parent is a wage earner and the children are recipients of public welfare monies. In states where this has been implemented, the decrease in welfare payments has far exceeded the costs of the program.

From a funding standpoint, funds are provided through HEW to the state's welfare agency, which then contracts with the individual courts who wish to take part in the program. The Act specifically provides for federal reimbursement of 75% of administrative costs incurred by the jurisdiction pursuant to an approved IV-D plan, plus incentive payments of 15 percent of the amount collected in Aid for Dependent Children (AFDC) cases. Combined, these payments have by far exceeded the costs of setting up and operating extremely effective programs and have covered everything from salaries and typewriters to the design, purchase and installation of automation systems.

---

65. Marvin D. Weintraub, Esquire, "Pennsylvania's Child Support Enforcement Programs In a Nutshell," unpublished presentation - May, 1978.

X. STATEWIDE JUDICIAL INFORMATION SYSTEMS (SJIS)[66]

Recent developments in court automation have led to emergence of various types of State Judicial Information Systems in the central administrative offices of the state court systems. This effort has been underway since late 1973 when LEAA funded Project SEARCH[67] for a requirements analysis for the development and demonstration of an SJIS and, concurrently, funded eleven separate state implementation efforts. The broad goals of this project were to:

- Establish the minimum judicial data elements and statistics required for centralized court information, trial court management, research, and planning.
- Design a model for collecting and analyzing judicial information and statistics by state judicial departments which could be implemented on a manual or automated basis in different jurisdictions.

---

[66] Various publications of SEARCH Group, Inc. (S.G.I.):

- SJIS - State Judicial Information Systems - State of the Art, S.G.I. Technical Memorandum No. 11 - Sacramento, California - June, 1975.
- SJIS - State Judicial Information Systems - Final Report - Phase I S.G.I. Technical Report No. 12 - Sacramento, California - June, 1975.
- SJIS - State Judicial Information Systems - Final Report - Phase II S.G.I. Technical Report No. 17 - Sacramento, California - September, 1976.
- SJIS - State Judicial Information Systems - Final Report - Phase III S.G.I. - April, 1978.
- SJIS - Proceedings of The Data Utilization Workshop - Dallas, Texas - January, 1978 (to be released 1978).

[67] Larry Polansky, "The Courts and Project SEARCH," The Justice System Journal - Volume 1/3, Institute for Court Management, Denver - September, 1975.

- Provide the design and documentation needed for implementation of the model in several states as the judicial segment of the LEAA sponsored (and funded) Comprehensive Data System (CDS) program and, especially, the Offender Based Transaction Statistics (OBTS) and Computerized Criminal Histories (CCH) modules of that program.
- Ensure that adequate provisions would be made for system security, the protection of individual privacy, and insurance of the integrity and accuracy of data collection.

Initially, eleven states[68] were funded to implement such programs and were provided with $200,000 each as the first half of a $400,000 LEAA subsidy toward the production of an effective SJIS in the state. Over half of the fifty states have now participated or are participating in the SJIS program to develop some form of state court information system.[69] The broadest goals of the SJIS venture have already been achieved. On the other hand, no state has yet produced the model "Comprehensive Court Management Information System" which was the real goal of the group which pioneered this program. The effort continues with substantial federal funding and, for at least the next two years, will be under the umbrella of the National Center for State Courts and an advisory group of twenty-two state court administrators.

A recent evaluation of the overall effort indicates that many mistakes were made and that progress has been relatively slow. There is nationwide agreement, however, that the most significant advances in statewide court management are more than partially attributable to participation in this program.

---

[68] California, Florida, Georgia, Hawaii, Idaho, Louisiana, Massachusetts, Minnesota, Missouri, New Jersey, and Oregon.

[69] Alabama, Arkansas, California, Colorado, Delaware, Florida, Georgia, Hawaii, Idaho, Illinois, Louisiana, Maryland, Massachusetts, Michigan, Minnesota, Missouri, New Jersey, New Mexico, New York, North Carolina, North Dakota, Ohio, Oregon, Pennsylvania, Rhode Island, Texas, Utah, and Washington.

Those who have attempted to implement statewide court information systems have, at the very least, begun to actively monitor and manage the courts of their state. The state court administrator who has participated in this program is no longer an executive secretary to the highest appellate body, but is an "activist" pulling together data to keep the management of a state's court system alert to the status and the needs of that system through the use of accurate and timely information flowing through a developing information system.

A. Feasibility

Can a centralized state court information system work? Is it cost effective? Will local courts utilize the system? Should there be regional data centers? All of these questions (and many more) need to be answered for individual states.

There is little doubt that a single centralized system can "fully" support a geographically compact state like Rhode Island, and further agreement that the computer system has not been designed that will be capable of adequately supporting a large state like California, with multiple large urban population centers, literally hundreds of "large" and active county court centers, and a history of passive relationships between state and local court organizations. Given the "right" jurisdictional and organizational structure, however, the centralized state system is undoubtedly the most desirable.

The advantages of a centralized system range from the avoidance of local executive and legislative branch interference in the operation of the courts (and the possible political analysis of court data) to extensive cost savings through the elimination of costly duplicative computer hardware procurement and software development efforts throughout a state.

Courts utilizing local government automation support services suffer continually from the low priority allocated to their efforts. County tax billings and payrolls will, predictably, always be more important to the managers of the county data center than any trial list or court reminder notice. A review of the political considerations discussed in Chapter III will serve to remind the local court user of the reasons for seeking alternatives to executive branch computer services.

On the other hand, few, if any, state court administrators will truly desire to be responsible for direct automated support of the daily operation of the numerous and varied-size courts of their state. The implication of full-time "on-line" total services to fifty or more courthouses throughout a beautifully-populated state is overwhelming. Hardware maintenance and repair alone would be enough to discourage even the most experienced court administrator or computer expert.

The apparent solution is now at hand. In the age of distributed data processing systems, a combination of terminals, mini-computers and, now, microcomputers can be utilized throughout the state to provide tailored local services with minimal reliance on the central facility for daily operational support. The larger jurisdictions, which can support the costs, could have an extensive computer capability to provide daily services for their own operations, with only a periodic transfer of summary data to the central facility. The smaller courts requiring automation support can, when necessary, be directly connected to the central facility, while the moderate-sized courts could make use of a combination of stand-alone and central automation services.

In other words, "the best of all worlds" is available when a sophisticated state court information system is intelligently designed to serve the

true needs of the components of the statewide court system. Technology has progressed to the level necessary to achieve effective distributed systems and the costs of supportive equipment are beginning to approach realistically afforable levels. Each state, however, must design its system to best serve the idiosyncrasies of its organizational and workload structure. Some will best be served by establishing regional facilities to serve logical groupings, others will rely on stand-alone units in each courthouse which will feed summary data periodically to a large central facility, while still others will need to combine both of the above with manual-form data submission for some parts of their state, as well as machine-ready data from highly automated urban courts with highly developed and operational computer services (perhaps far more extensive and expensive than those of the central agency).

In summary, state-level judicial information systems are feasible and will be developed. There will not, however, be a single state prototype for such systems. They must be developed to serve the particular needs of each state with care taken to utilize the most cost-effective approach available.

B. Local Court Involvement

Chapter IV (Section D) describes in some detail the many applications developed or being developed to service operating court systems. Recent local efforts to implement computer systems to support the daily needs of courts and related agencies have been, for the most part, geared to court involvement in the criminal justice system and with other criminal justice agencies. Many times this involvement has substantially benefited the efficiency and management capability of the court; but even more frequently, the involvement has resulted in a large increase in the amount and type of data supplied by

the court and court clerks with little or no court benefit resulting from the extensive effort. Although there are many explanations for this phenomenon, we can safely say that in a substantial number of such instances studied, this "limited-benefit" result is due to the mandated exclusion from the automation effort of the non-criminal justice activities of the court (due to federal funding restrictions) which are conservatively estimated to represent from 60% to 90% of the court's work.

It is imperative, therefore, for the effective local and statewide management of court systems that the local court expand its automation efforts to encompass as much of the workload as is possible.

Since the interests of state court administration far transcend criminal justice system needs, the state court administrator usually desires to monitor the operation of all phases of the court system. One, can expect, therefore, assistance from statewide administration in conceptualizing, designing and perhaps even implementing software applications servicing many, if not all, of the facets of court activity. At least one state court system (Michigan) has followed the practice of developing pilot applications in different local court locations and then assisting in the installation of those applications (technology transfer) in various local courts of that state (primarily on centralized hardware).

A less obvious side benefit of such development is standardization. One of the most frequently articulated problems of management evaluation of court activity and progress is the lack of standardized procedures, practices and even definitions of terms. This is not only among the states but, even more frequently, within individual state systems. The coordinated statewide development of local court information systems could contribute substantially to ameliorating this problem and to making it possible for a local court operation

to fairly, accurately and intelligently measure its activity and progress against that of similar courts within (and perhaps even outside of) the state system.

Unfortunatley, most frequently, the involvement of local courts in the development of a statewide judicial information system, has been limited to representation on "rubber stamp" statewide user advisory committees. This is most likely due to a lack of understanding of local court problems and needs on the part of the state system development staffs, which are usually made up of very competent data processing professionals with little or no local court experience. Local courts should, therefore, strive to place their most vocal and knowledgable representatives on such advisory committees and supplement this with steady communication with the developers of the statewide system.

Too often, the role of local courts in SJIS development thus far has been that of the "patsy" that does the hard work and gets very little in return for its efforts. Even in the state(s) where on-line services have been provided for larger local courts, the service has been spotty and limited in scope. Many on-line users complain of poor response time, limited applications, and system design that serves the central state administration with little or no benefit to the "worker in the pit".

Take heart, for we are only experiencing the necessary growing pains that accompany progress. Many court administrators are realizing that the single statewide court computer facility will only be practical in the (geographically) small states with an integrated, unified and well-structured court organization. In the larger and less rigidly structured states, the philosophy of distributed data processing, coupled with the rapidly diminishing cost and size of computer equipment, is engendering the broader thinking

necessary to conceptualize statewide systems that accommodate local court information systems (even as a sub-unit of a local criminal justice information system) yet lend themselves to helping the local systems develop in a fashion that provides statewide data as a by-product of a local system supporting the effective operation of the working court and its staff.

C. A Tool to Consolidate Control of the Local Courts

Many local courts feel that the statewide judicial information system is an attempt to gain direct control over the operating court. In a sense this is true, for effective central management is only possible with the timely and accurate flow of relevant information which can be intelligently analyzed and quickly reacted to by the overall managers of the system. To the extent that central management wants to quickly isolate the trouble spots and problems in the administration of the statewide system, the standardized summary information which will flow through a statewide service will be the primary tool. On the other hand, no reasonable state court administrator would directly interfere with the daily operation of a local court system, and the advent of computer support will not change this situation. The totality of information necessary to operate a local court system would be useless to the state-level administrator and would inundate the state with meaningless information and time-consuming tasks. The day-to-day problems of operating a courthouse are not solvable through the machinations of a remote centralized computer facility, nor can central administration react quickly enough to solve the multitude of problems facing local court administration personnel.

In sum, then, state court administration, no matter how extensive and capable the statewide information system developed, will come no closer to directly administering the local trial court than the local court administrator has come to making judicial decisions in a courtroom.

D. How to Make It Work for You

Local court administration has a great opportunity today to capitalize upon the desire of state court administration to know what is happening within the state court system. The central office is often willing to subsidize the efforts necessary to capture and transmit the information needed by the central system. Many times the data collection process will require changes in procedure that were recognized locally as being necessary, but were not feasible due to local funding or personnel constraints.

Long-desired modernization of filing systems and streamlining of procedures can be implemented over the objections of old-fashioned and adamant court clerks, lawyers, and judges by utilizing the influence and authority of that central administrative body which is mandating timely, complete and accurate submission of information.

Insistence on a quid pro quo for the provision of the extensive data required by state administration can result in timely turn-around reporting from the central facility which could satisfy the weekly, monthly, quarterly, and annual reporting needs of the local court.

Offers of automated support from a central court facility have had an amazingly positive effect upon the cost and timeliness of services provided by the local government computer facility. The real possibility of losing a significant part of the workload, which has been used to justify not only the original installation of the local computer but, probably, virtually

every improvement to that system and additions to the local development staff, will truly quicken the interest of the county data processing director and staff.

State judicial information system development efforts will uncover varied and numerous automation efforts throughout the state. SJIS staff will know that is being done by local courts and where. It is possible that some of these efforts will be transferable to other local computer operations with minor modification, and it will, therefore, be worthwhile to keep in touch with the SJIS developers to eliminate as much re-invention of local wheels as possible. The number of excellent jury management and support payment systems that have developed, independently and with little fanfare, throughout many states is amazing.

State judicial information systems are the wave of the present. They can be made to work for the benefit of all the participants or they can be an added burden upon the local data feeder. The choice is clear.

APPENDICES

A. A Checklist for Action

B. Glossary of Data Processing Terms for the Court Administrator

C. Bibliography

D. List of Criminal Courts Technical Assistance Project Assignments in Information Systems Subject Area

APPENDIX A: A CHECKLIST FOR ACTION

1. As a very first step, an analysis of the court system itself to determine its needs and goals is strongly suggested. The judicial planning process described in several recent National Center for State Courts' documents on planning is highly recommended as a feasible approach to determining the overall needs of the system.[70] Almost assuredly, information system needs will be developed and revealed by any such analysis.

2. Top management and those personnel who will take part in feasibility studies must learn as much as possible, at an executive level, about the use of computers and especially their use in the courts.

3. It would then be necessary to determine which shortcomings revealed by the planning analysis could be addressed through the use of the computer. This determination will provide for the organization the limits of the possible scope of a computer effort.

4. The next step will be to utilize some cost evaluation methods to determine a fair picture of the overall benefits to be attained. The determination of relative cost/benefit effects of utilizing data processing for support in the solution of the courts' problems is an extremely difficult task for, frequently, there will only be intuitive methods for comparing costs to court improvements when the improvements are to

---

69. This appendix is adapted from a section of a document prepared by this writer and is provided with the permission of Dr. Michael Wong, court architectural expert, for whose book Court Facilities and Architecture, scheduled to be published in 1978, it was prepared.

70. For extensive information on the court planning process one is directed to a variety of materials published by:
State Court Planning Capabilities Project
National Center for State Courts
1150 17th Street, N.W.
Washington, D.C. 20036

the quality of the court operation.

5. It is strongly suggested that, concurrent with in-house evaluation, a professional feasibility study be performed at this point by an outside consultant. It is extremely desirable to get an objective professional viewpoint before proceeding into this very difficult and expensive operation.

6. The results of the in-house cost benefit analysis and the consultant's feasibility study should then be compared and evaluated by top management of the court system.

7. Assuming a decision has been made to implement the data processing effort, it is even more important at this time that substantial involvement and support of top management be provided.

8. At this point, it will be desirable to hire a system design consultant. This will require the preparation of a detailed request for bids which must contain as specific a description of the system desired as is possible.

A management committee should take total responsibility for the review of responses to the "RFP" and make the final selection of the system consultant. The criteria for selection should be adopted prior to the receipt of the first response in order to assure the objectivity of the evaluation.

9. In-house staff should be hired and court training begun prior to the selection of the system design consultant since the in-house staff, as well as top management, must be involved in all stages of the system design.

10. The users must also be involved in the system design effort. A user working committee should be formed and utilized (but, top management must also remain deeply involved in the design effort.) The users group should continue to be utilized throughout the life of the information system.

11. When design work has progressed to the point where hardware and software needs can be defined, it will be time to select and order computer hardware, software and a data base management approach.

The consultant as well as the in-house staff should take part in this activity which will require another "RFP" and a bid evaluation process.

12. The consultant performing the systems design work, assuming good results were obtained during the system design process,should also be responsible for the implementation effort. It is extremely important that the consultant know this while doing the design work for experience has shown that the design work product is much more explicit and implementable when the designers know they are going to be responsible for the implementation effort.

13. Site preparation must begin early in the game and usually, immediately after hardware selection. Care must be taken to provide sufficient electrical power, peripheral storage areas, air-conditioning, raised flooring, etc. There are extensive and specific requirements for each service and engineering specifications and advice are usually readily available from the hardware supplier selected.

14. Upon completion of the programming effort, it will be necessary to go through a parallel checking operation in order to assure that the computer system will provide all the information currently being provided

and be responsive to the needs of the court system. This parallel effort is time consuming and expensive but absolutely necessary.

15. Continuing review, monitoring, maintenance and updating of the information system.

CHECKLIST CHART

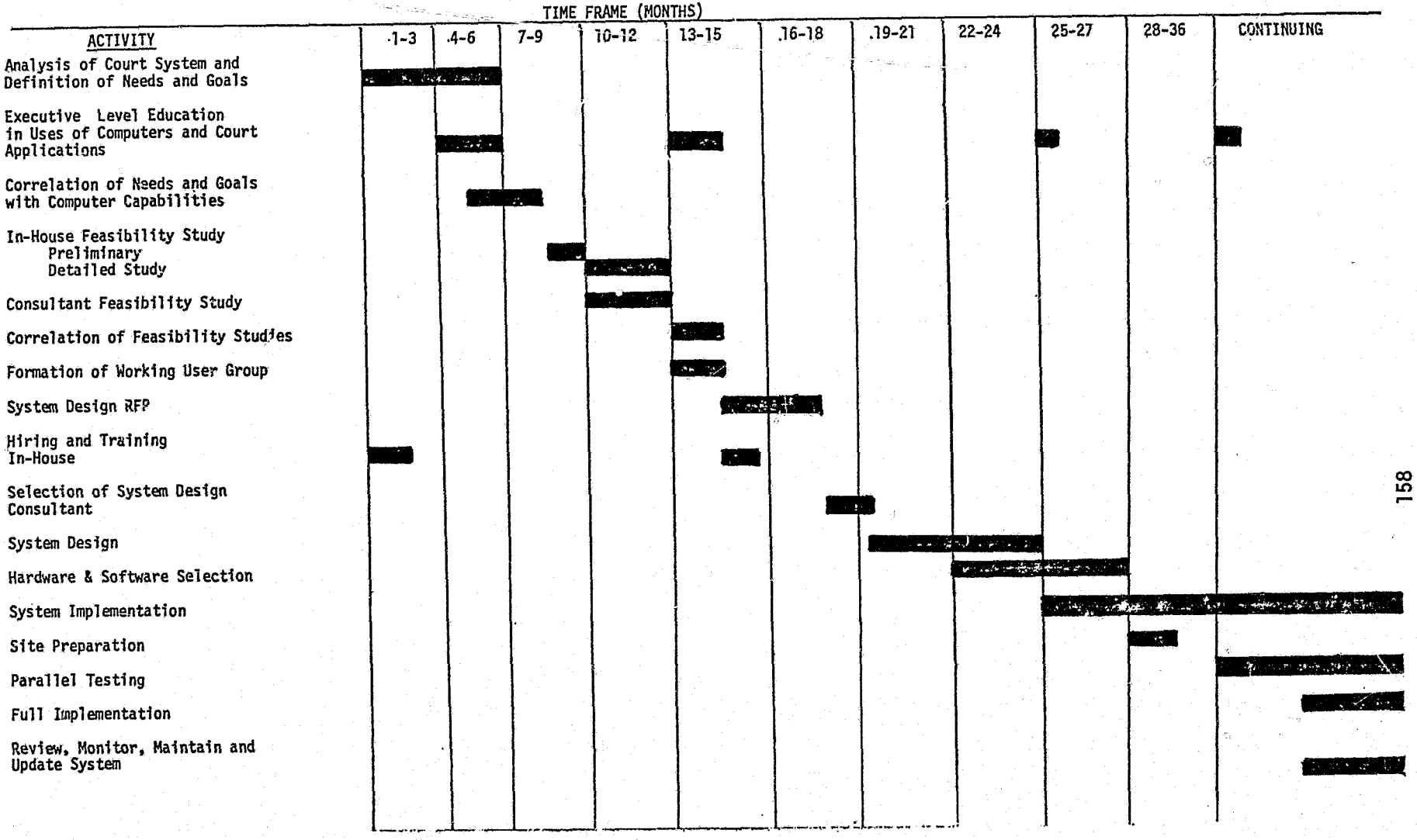


Figure 4

APPENDIX B: GLOSSARY OF DATA PROCESSING TERMS FOR THE COURT ADMINISTRATOR

Adapted (with minor additions) from
Data Processing and the Courts:
Guide for Court Managers published
by the National Center for State
Courts (Denver, 1977)

access time: The time interval between the instant at which a record is requested from a storage device and the instant delivery begins.

algorithm: A series of steps in a procedure to solve a problem; a formula.

application program: A computer program which performs user-oriented functions and solves user problems.

arithmetic unit: A component in the central processing unit which performs arithmetic operations.

assembly language: A language for writing programs which is, generally, indigenous to a specific computer. The programmer writes in this "english-like" symbolic language and the computer through a program called an Assembler, translates the symbolic statements to the machine language necessary to perform the "symbolic" statements written by the programmer.

audit trail: A procedure for recording additions, deletions, and changes to data at each step of computer processing.

automatic data processing (ADP): See "electronic data processing (EDP)."

auxiliary storage: A storage medium used in addition to the main computer memory for storing large amounts of information; e.g., magnetic tape, disk, or drum.

background program: Usually a batch program which can be executed whenever the facilities of a multiprogrammed computer system are not required by real-time programs or other programs of higher priority.

backup: The security provisions which enable the organization to continue operating when primary files or equipment become unavailable.

basic: A relatively simple programming language which is designed primarily, for the novice and low-intermediate program for "interactive" (conversational made) programming.

batch processing: A technique by which records are coded and collected into groups prior to processing.

binary digit: A number in the base two numbering system, either zero (0) or one (1); it may be equivalent to an "on" or "off" condition, a "yes" or "no", etc.

bit: Same as "binary digit."

buffer: A storage area that temporarily holds data as it it transferred from one computer component to another.

bug: A mistake in a computer program or a malfunction in the computer; to "debug" is to detect, locate, and correct the mistake or malfunction.

byte: A sequence of eight adjacent binary digits which form a unit; normally the amount of storage required to store one character (letter, number, or symbol).

cathode ray tube (CRT): An electronic display terminal device with a television-like screen which is used to enter or display information.

central processing unit (CPU): The main section of a computer which decodes and executes program instructions; it contains the control logic, main memory, and arithmetic unit.

centralized data processing: Data processing performed at a single central location on data obtained from several geographical locations, managerial levels, or sources.

character: One symbol in a set of elementary symbols, such as those corresponding to the keys on a typewriter; the decimal digits 0 through 9, the letters A through Z, and punctuation marks, operation symbols, and any other single symbol that a computer may read, store, or write.

COBOL: Common Business Oriented Language: A business data processing language highly recommended for court use.

communication: The transmission of information between a computer and a remote station through a wire or telephone circuit.

compatibility: The quality of an instruction to be translatable or executable on more than one class of computer; generally the ability to utilize data processing facilities of different manufacturers.

compiler: A computer program which translates source programs such as those written in COBOL into machine language for processing by the computer.

computer: An electro-mechanical device operating under the control of a stored program which is capable of accepting information, performing logical and arithmetical operations on it, and reporting the results.

configuration: A combination of machines, devices, and programs which make up the data processing system.

control unit: A device which controls input/output operations.

conversion: The process of changing from the current method of operation to a new method; e.g., from a manual system to a data processing system.

core: A type of internal memory that consists of tiny magnetic rings which are wired together; each core can store one bit of data.

cursor: A movable spot of light on a cathode ray tube that indicates where the next character will be entered.

data: A set of characters, words, or numbers which collectively represent information.

data base: A collection of data which are usually related in some way.

data base management system: The consolidation of all data elements and data files into one location in such a way that all information is readily accessible to authorized users.

data element: A field or unit of information within a record; e.g., defendant name.

data entry: The procedure by which data is submitted to the computer for processing.

data processing: The performance of a planned sequence of operations upon data; source data (input) are converted into machine readable records which may be classified, sorted, calculated, and summarized to produce reports (output).

debug: To detect, locate, and correct any errors in a computer program or any malfunction in a computer.

dedicated computer system: A computer system controlled and operated by one user group or used only for one specific task.

disk: A flat circular plate on which data can be stored by magnetizing portions of its surface.

disk pack: An assembly of several disks which can be removed from the disk drive as a unit.

distributed data processing: Data processing performed remotely on mini-computers or intelligent terminals with each remote location linked to a central computer via communication lines; complete files, or selected portions of files, may be stored and processed in either or both locations.

documentation: Instructions and explanations of a software program, such as flow charts, block diagrams, and operating directions.

downtime: The time during which a computer is unavailable for productive use because of preventive maintenance or equipment malfunctions.

drum: A direct access storage device which records data magnetically on a rotating cylinder.

EAM: Electrical Accounting Machines; various machines used in punched card processing such as keypunches, sorters, and collators.

electronic data processing (EDP): The recording, analyzing, and reporting of data by use of an electronic computer system and auxiliary equipment.

field: See "data element."

file: A set of related records which are treated collectively as a unit; e.g. the voter's registration file.

file maintenance: The process of keeping a file up-to-date by adding, modifying, or deleting data.

flowchart: A graphical representation of procedures, flow of data, growth, equipment, methods, documents, and machine instructions.

foreground program: A program operating in a multiprogramming environment that requires real-time responses, has a high priority, and therefore takes precedence over other currently operating programs.

FORTRAN: FORmula TRANslating system; a computer language used primarily for mathematical or scientific programming.

general purpose computer: A computer designed to solve a large variety of problems through a stored program which may be adopted for any of a large class of business and scientific applications.

"glitch": A particularly annoying "bug" that is extremely difficult to isolate.

hard copy: A printed pager copy of computer output; e.g., reports, listings, documents, and summaries.

hardware: The physical equipment of a computer system.

index: An ordered listing of items contained in a file together with the information necessary to retrieve those items.

information retrieval: The process of recovering desired information or data from a collection of records.

information system: See Management Information System.

input: Information to be transferred into the internal storage of the computer.

input device: A piece of equipment which transfers information from an input medium to the computer; e.g., magnetic tape unit, card reader.

inquiry: A user's request for stored information.

instruction: A statement in a computer program which performs a particular operation.

interactive: A data processing application in which each query elicits a response.

I/O: Input/Output

K: Kilo; equivalent to 1,000 in decimal notation and 1,024 in computer terminology; for example, 1 KB = 1,024 bytes.

lead time: Delay which must be anticipated for hardware delivery, site preparation, contract details, systems and programming start-up, etc.

machine language: The form into which instructions to the machine (programs) must be translated in order that the instructions can be understood and interpreted by the internal circuitry of the machine.

magnetic tape: The tape with a magnetic surface on which data is usually stored in sequential order.

main frame: The central processing unit.

Management Information System: A system, whether manual, automated or a combination of both, that supplies the data to the management of an organization that is required to make decisions, exercise control, and plan for the short- and long-range future of the organization.

mass storage: The storage of a large amount of data which is readily accessible to the central processing unit of the computer.

master file: The main file for an application which contains the most tape, magnetic disk, punched cards.

memory: A volatile, temporary storage area where data and software programs are stored during processing.

merge: To combine two or more items into one set, usually in a specific sequence; the process of combining records from the master file with new transactions to produce an update master file.

multiprogramming: The concurrent execution of two or more programs by a computer.

Murphy's Law:

Murphy's Law of Perversity
Nothing is as easy as it looks.
Everything takes longer than you expect.
If anything can go wrong it will.
If there is a possibility of several things
going wrong, the one that will go wrong
will be the one that will do the most damage.
Left to themselves, all things go from
bad to worse. If you work on a thing long
enough to "improve" it, it will break.
If you think everything will be OK you have
surely overlooked something. Mother Nature
always sides with the hidden flaw.

off-line: Equipment, devices, or processing which does not interact directly with the central processing unit.

on-line: Equipment, devices, or processing which interact directly with the central processing unit.

operating system: Software which controls the execution of computer programs and which may provide scheduling, debugging, input/output control, accounting, compilation, storage assignment, data management, and related services.

optical character recognition (OCR): The machine identification of printed characters through the use of light sensitive devices.

output: Data transferred from the memory of the computer to auxiliary storage or to a printing or display device.

output device: A device that converts information to a form desired by the user; e.g., line printer, terminal.

CONTINUED

2 OF 3

password: A code that a program, computer operator, or user must prov de in order to gain access to the computer system or to the data.

peripheral equipment: Equipment which is connected to the central processing unit by cable to provide the system with increased storage capacity or with input/output capability; e.g., mass storage devices, line printers.

PERT: Program Evaluation and Review Technique; a mathematical method for determining the minimum time needed to complete a complex project.

printer: A device which converts output data from a computer system into a readable, printed form.

printout: The printed output.

priority: The basis of selecting the sequence in which various entries and tasks are processed by the computer.

program: A set of instructions in logical sequence for directing the processing operation of a computer.

random access: The storage or retrieval of information where the time to record or access such information is not dependent on its location on the medium.

real-time processing: The processing of information or data in a sufficiently rapid manner so that responses to inquiries or transactions are received in a few seconds.

record: A collection of related data elements treated as a unit.

record length: The size of a record generally given in units such as characters or bytes.

remote batch: The process of recording data onto a medium off-line and then transmitting the data on-line via communication lines between the remote location and the computer.

response time: The time that elapses between an inquiry to the computer and the reply.

security: The prevention of access to the computer facility or to computer data or programs without authorization; also, the physical protection of data, programs, computer facilities and equipment.

sequential access: The storage and retrieval of information for which the time to access specific information is dependent upon the location of the information on the medium. Records are stored in serial order on the medium.

software: A set of instructions which directs the operation of a data processing system.

sort: To arrange data or items in a sequence.

storage medium: Same as "medium."

subroutine: A program module that might be used frequently within the main program.

system: An entity composed of all the equipment, personnel, and procedures necessary for accomplishing some defined function.

systems analysis: The examination of an activity, procedure, method, technique, or organization to determine what must be accomplished and how the necessary operations may best be accomplished to achieve predetermined objectives.

systems analyst: A person skilled in uncovering problems and developing solutions and/or systems to solve them.

telecommunications: The transmission of data between a computer system and remotely located devices through telephone lines.

terminal: An input/output device that may be connected to the computer directly or by a communication line.

throughput: The rate at which useful work can be performed by a data processing system; a measure of system efficiency.

time sharing: The use of a computer by two or more users in such a way that it appears that each user has the total capacity of the computer at his command.

turnaround time: The elapsed time between the submission of a job to a computer center and the return of the results.

update: To add, delete, or modify the information in a master file.

uptime: The time during which equipment is fully operational and available for processing.

validation: The computer checking of data to ensure that it meets pre fined standards.

vendor: The word vendor is used throughout the monograph, interchangeably with consultant and is meant to describe any individual(s) or firm providing software and/or hardware services.

virtual memory: A data processing technique for combining main memory and auxiliary storage in such a way that it appears that main memory is significantly larger than it actually is.

word: A combination of bits stored and retrieved as a unit.

APPENDIX C

B I B L I O G R A P H Y

Adams, Eldridge, Review of Computerized Information System Planning in the Montgomery County, Pennsylvania, Court of Common Pleas: American University Law School, October 1974.

Administrative Office of Pennsylvania Courts, 1975 Report.

American Bar Association, Standards Relating to Court Organization: American Bar Association, 1974.

Baar, Carl, Separate But Subservient,Court Budgeting in the American States: National Center for State Courts, D. C. Heath and Company, 1975.

Barna, Arpad and Porat, Dan I., Introduction to Micro-Computers and Micro-Processors: John Wiley and Sons, 1976.

Barnet, Arnold, Securing User Involvement and the Process for Meaningfully Involving Them in Their Own Systems Efforts: October, 1977.

Blaine, Gerald S., Computer-Based Information Systems Can Help Solve Urban Court Problems: Judicature, November 1970.

Blake, Edward J. and Polansky, Larry P., Computer Streamlines Caseload : Judicature, December 1969.

Bohl, Marilyn, Information Processing: Science Research Associates, Inc., 1971.

Bohlin, Einar, Systems Technology and the Michigan Courts: Status Report and Plan for Action: Michigan Supreme Court, October 1972.

Brandon, Dick H. and Segelstein, Sidney, Esq., Data Processing Contracts: Van Nostrand Reinhold Co., 1976.

Buchanan, Jack and Fennell, Richard, An Intelligent Information System for Criminal Case Management in the Federal Courts

BYTE, The Small Systems Journal (A Monthly Home Computer Magazine): BYTE Publications, Inc., 1978.

Cagan, Carl, Data Management Systems: Melville Publishing Company, 1973.

Chasen, Irving, Philadelphia Justice Information System, Request for Information, Volume I: Common Pleas Court of Philadelphia, 1975.

Chasen, Irving, Philadelphia Standards and Goals Exemplary Court Project, Philadelphia Justice Information System, Request for Proposal, Common Pleas Court of Philadelphia, 1976.

Clark, John; Kirsch, Clifford and Polansky, Larry, Technical Assistance Study No. 43 - Preliminary Planning for Development of Comprehensive Court Information System - Delaware County, Pennsylvania : American University - Criminal Courts Technical Assistance Project, July 1973.

Computer Applications Subcommittee, Guidelines for General Systems Specifications for a Computer System: American Institute of Certified Public Accountants, 1975-76.

Cost/Benefit Analysis - Philadelphia Justice Information System, IBM/CJAC Phase III Joint Study - Volume 1: Executive Overview (uncirculated), 1974.

DATAPRO, All About Small Business Computers: DATAPRO Research Corporation, 1977.

Ebersole, Joseph L. and Hall, James A., Jr., COURTRAN: A Modular Management Information and Research System for Courts: SEARCH Group, Inc., 1972 Symposium Proceedings.

Ellenbogen, Judge Henry, Automation in the Courts: Allegheny County, Pennsylvania, 1964; and Court Information System Project Report: September, 1972.

Fowler, Gus, Management Decisions in Computer Equipment Selection: Vantage Press, Inc., New York, New York, 1971.

Frost, Sidney W. and Others, A Jury Selection System As Designed and Implemented for Harris County, Texas: October, 1969.

Friesen, Ernest C., Jr.; Gallas, Edward C. and Gallas, Nesta M., Managing the Courts: Bobbs - Merril Company, 1971.

Greenwood, J. Michael, et al., Data Processing and the Courts - Guide for Court Managers: National Center for State Courts, August 1977.

Greenwood, J. Michael, et al., Data Processing and the Courts - Reference Manual - Courts Equipment Analysis Project: National Center for State Courts, 1977.

Greenwood, J. Michael, et al , Audio/Video Technology and the Courts - Guide for Court Managers: National Center for State Courts, November 1977.

Higginbotham, Judge A. Leon, Jr., Effective Use of Modern Technology: Justice in the States - Addresses and Papers of the National Conference on the Judiciary, March 1971.

Information Systems and Statistics Task Force Report: National Advisory Commission on Criminal Justice Standards and Goals, 1973.

IBM, The Considerations of Physical Security in a Computer Environment: IBM, October 1972.

IBM, Data Processing in the Courts of Philadelphia - An Application Brief, undated.

IBM, Justice Information System - Advanced Conceptual Design: IBM, July 1975.

INSLAW, Guide to Court Scheduling - Institute for Law and Social Research: Institute for Law and Social Research, 1976.

INSLAW, PROMIS Training Manual: Institute for Law and Social Research, January 1977.

INSLAW, Analysis of Costs and Benefits - Briefing Paper No. 20: Institute for Law and Social Research, January 1977.

INSLAW, Report on Agencies Using or Contemplating the Use of PROMIS: Institute for Law and Social Research, unpublished, 1977.

INSLAW, MINI-PROMIS - System Description (Draft Version): Institute for Law and Social Research, May 1978.

Kreindel, Burton, et al., National Evaluation Program Phase I Summary Report - Court Information Systems: National Institute of Law Enforcement and Criminal Justice, Series A, No. 12, March 1977.

Lyon, John K., An Introduction to Data Base Design: Wiley - Interscience, 1971.

Mitre Corporation, National Evaluation Program Phase I Report - Court Information Systems: Mitre Corporation, August 1976.

Mitre Corporation, A Concept Paper for the National-Level Evaluation of LEAA'S Court Delay Program, September 27, 1977.

Munsterman, G.T. and Pabst, W.R., Jr., A Guide to Juror Usage: LEAA National Institute of Law Enforcement and Criminal Justice, December 1974.

Munsterman, G.T. and Pabst, W.R., Jr., A Guide to Jury System Management: LEAA National Institute of Law Enforcement and Criminal Justice, December 1975.

Murray, P.X., et al., Automated Court Case Management in the Prosecutor's Office: National District Attorneys Association, 1977.

N.B.S., Guidelines for Documentation of Computer Programs and Automated Date Systems (FIPS PUB 38 - Federal Information Processing Standards Publication #38): National Bureau of Standards, February 1976.

National Criminal Justice Information and Statistics Service, Privacy and Security Planning Instructions - Criminal Justice Information Systems: U.S. Department of Justice, LEAA, Revised April 1976.

Nihan, Charles W. (Chuck), COURTRAN: The Current Status of the System: (Correspondence and discussion), 1978.

Peddle, Chuck, et al., The PET Discussion: Personal Computing, September/October, 1977.

Polansky, Larry, Contemporary Automation in the Courts, Proceedings of the Second International Symposium - Criminal Justice Information and Statistics System: SEARCH Group, Inc., 1974.

Polansky, Larry, The Courts and Project Search - The Justice System Journal - A Management Review: Institute for Court Management, Denver, Colorado, September 1975.

Polansky, Larry and Graham, Herbert, Technical Assistance Study No. 269 - Recommendations for Developing an Automated Court Disposition Information System for Salt Lake City and County, Utah: American University - Criminal Courts Technical Assistance Project, September 1976.

Polansky, Larry, Technical Assistance Study No. 292 - Review and Analysis of Data Processing Support for the Superior Court of the District of Columbia: American University - Criminal Courts Technical Assistance Project, September 1976.

Rothman, Stanley and Mosmann, Charles, Computers and Society, Second Edition: Science Research Associates, Inc., 1976.

Project Search, International Symposium on Criminal Justice Information and Statistics Systems, October 1972.

Root, Clifford A., A Collection of Articles and Correspondence on Management Systems Design and Analysis, Programming, Planning and Equipment Selection: Unpublished, 1978.

SEARCH Group, Inc. - Security and Privacy Publications

Project Search - Committee on Security and Privacy: Security and Privacy Publications, May 1973.

Security and Privacy Rulemaking - Resources , Terms and References: Technical Memorandum No. 15, March 1978.

Standards for Security and Privacy of Criminal Justice Information, Second Edition: Technical Report No. 13 (Revised), January 1978.

Access to Criminal Justice Information - Summary of Proceedings of the Forum on Criminal Justice Information Policy and Law: Technical Memorandum No. 14, October 1977.

Perspectives on the Evolution of Criminal Justice Informational Privacy Issues: October 1976.

Privacy Index (Undated).

Criminal Justice Informational Privacy - Selected References : (Undated).

S.G.I., Gavel - A National Model Trial Court Information System Project - Technical Report #22: SEARCH Group, Inc., 1978.

S.G.I., Proceedings of the Third International Search Symposium on Criminal Justice Information and Statistics Systems : SEARCH Group, Inc., May 1976.

S.G.I., Application of Microcomputer Systems to Court Calendaring and Scheduling (A Concept Paper): SEARCH Group, Inc., (Unpublished), 1976.

S.G.I., JAMS - Jail Accounting Microcomputer System - Technical Report No. 20: SEARCH Group, Inc., February 1978.

Secretary's Committee on Automated Personal Data Systems, Records Computers and the Rights of Citizens: U.S. Department of Health, Education and Welfare, July 1973.

Security and Privacy: Federal Rules and Regulations, Title 28 - Chapter 1 - Part 20.3 (b), Federal Register, March 19, 1976.

Smith, Leighton F., An Executive Briefing on the Control of Computers: Data Processing Management Association, 1971.

Solomon, Maureen M., (Ms.), Some Typical Problems in Court Information Systems: (Speech to the Supreme Court of Ohio, March 5, 1971).

Solomon, Maureen M., et al., Guidelines for Development of Computer Training Curricula for Court Personnel: Publication No. R0015, National Center for State Courts, September 1974.

Soucek, Branko, Micro-Processors and Micro-Computers: John Wiley and Sons, 1976.

SPERRY - UNIVAC, Vocabulary for Information Processing: Sperry Rand Corporation, 1973.

State Court Planning Capabilities Project, Planning in State Courts - A Survey of the State of the Art: National Center for State Courts, July 1976.

State Judicial Information Systems

State of the Art - Technical Memorandum No. 11, June 1975.

Phase I Final Report - Technical Report No. 12, June 1975.

Phase II Final Report - Technical Report No. 17, September 1976.

Phase III Final Report - Technical Report No. 21, April 1978.

Documentation Subcommittee Final Report, March 1978

SEARCH Group, Inc.

Stovall, Thomas J. and Others, A Study of Jury Management Techniques for the National Conference of Metropolitan Courts: Unpublished, 1972.

Superior Courts Management Information System (SCOMIS), Cost-Benefit Analysis: Office of the Administrator for the Courts of Washington State, June 30, 1977.

Various, Technical Assistance Reports and Evaluations of Court Information Systems (25 - 30 reports); American University - Criminal Courts Technical Assistance Project, 1972 - 1977.

Weinstein, David, Judicial Independence in the Computer Age: Judicature, March 1976.

Weintraub, Marvin D., Pennsylvania's Child Support Enforcement Program in a Nutshell: Unpublished presentation, May 1978.

APPENDIX D

COURT INFORMATION SYSTEM TECHNICAL ASSISTANCE ASSIGNMENTS OF THE CRIMINAL COURTS TECHNICAL ASSISTANCE PROJECT: 1972 - 1978

TECHNICAL ASSISTANCE NO.	REPORT TITLE, DATE, AND REGION	CONSULTANTS(S)
4	Court's Data Processing Action Plan for the 21st and 22nd Circuits of Missouri (10/72) VII	The National Center for State Courts
18	Offender-based Transactional Statistics: The Concept and its Utility (2/73) (Arkansas) [Letter Report] VI	Charles M. Friel
21	Report on Juvenile Court Information System Development for Maricopa County Juvenile Court (2/73) (Arizona) IX	Gary L. Albrecht
32A	A Review of the Feasibility of Automating Certain Court Operations in Roanoke City, Virginia and Surrounding Jurisdictions (2/73) III	David J. Saari
32B	Developmental Recommendations for an Automated Criminal Justice Information System in Roanoke, Virginia (5/73) III	David J. Saari, Steve J. Madson and Stevens H. Clarke
43	Preliminary Planning for Development of Comprehensive Court Information System in Delaware County, Pennsylvania (7/73) III	John Clark, Clifford Kirsch, and Larry P. Polansky
44	Preliminary Report on the Development ADP Tracking System for Alcohol Safety Action Project (ASAP) (3/73) (Virginia) III	Geoffrey A. Corbett and Thomas W. McCahill
45	Offender-based Transactional Statistics: The Concept and Its Utility (7/73) (Louisiana) VI	Charles M. Friel
72	Preliminary Evaluation of State of Colorado Judicial Department's Criminal Justice Data Exchange System (3/74) VIII	System Planning Corporation: David R. Pearce, Jean Taylor

212	A Preliminary Assessment of the Record Keeping and Management Information Systems Used by the Maryland Juvenile Services Administration and the Baltimore City Juvenile Court (3/76) III	Gary Albrecht
215	Survey and Assessment of Statewide Court Information System Development in Tennessee (2/76) IV	Thomas W. Morrill
225	Assessment of Criminal Justice Information System Development in Tennessee and Recommendations for Future Planning (3/76) IV	James R. Donovan, Francis J. Taillefer, and Robert L. Marx
237	A Review of the St. Louis Regional Court Information System (RCIS), 21st and 22nd District Courts of Missouri (5/76) VII	Thomas Morrill and Robin Trenbeath
293	Basic Property Management System for Accounting and Management Use by the Alabama Department of Court Management (10/76) IV	Dennis Bruns and Roger Goodman
296	Review of the Progress of the 10th Judicial Circuit Court, Brimingham, Alabama, in Implementing the Recommendations of a 1973 ICM Study (10/76) IV	Ellis Pettigrew
292	Review and Analysis of Data Processing Support for the Superior Court of the District of Columbia (9/76) III	Larry P
298	Master Plan for the Development of a Criminal Justice Information System: Ventura County, California (4/77) IX	Joseph Jordan
306	Recommendations Regarding the Design and Methodology for an Evaluation and Cost-Benefit Analysis of Alternative State Court Information Systems for Florida (5/77) IV	Ernest Short Burt Kreindel Louis Metz
315	Assessment of Juvenile Justice Information System Development in Georgia and Recommendations for Further Implementation (7/77) IV	National Council of Court Judges:

324	Training for Mini-Computer Programming and Operation, Letter Report (7/77) VI	Data General Customer Education Center
327	Considerations Relating to Development of an Information System for the District Courts of New Hampshire (7/77) I	Maurice Geiger
379	Trial Court Information Systems Development in the State of Kansas (11/77) VII	Joseph Jordan
383	Assistance in the Development of a Comprehensive Criminal Justice Information System in Kane County, Illinois (11/77) V	Louis Metz, William Chiquelin

THE AMERICAN UNIVERSITY

Joseph J. Sisco, President
Richard Berendzen, Provost
Nicholas N. Kittrie, Dean, Law School

INSTITUTE FOR ADVANCED STUDIES IN JUSTICE

Harold C. Petrowitz, Acting Director
Joseph A. Trotter, Jr., Executive Associate Director
David J. Saari, Associate Director
B.J. Tennery, Associate Director (On leave)
Jill Berman Wilson, Administrative Officer

CRIMINAL COURTS TECHNICAL ASSISTANCE PROJECT

Joseph A. Trotter, Jr., Director
Caroline S. Cooper, Deputy Director (12/72-8/77)
R. William Linden, Jr., Technical Assistance Specialist
Kathy Bradt, Evaluation Specialist
Sara Travis, Administrative Secretary
SueAnn Krimsky, Secretary
David Trebach, Student Intern

PROJECT ADVISORY BOARD

Nicholas N. Kittrie, Law School
Richard A. Myren, School of Justice
David J. Saari, School of Justice
Elliot S. Milstein, Law School

OTHER INSTITUTE PROJECTS

EMPLOYMENT AND CRIME PROJECT
Leon Leiberg, Project Director

COURT MANAGEMENT PROJECT
Caroline S. Cooper, Project Director

NATIONAL ADVISORY COMMITTEE TASK FORCE ON DISORDERS AND TERRORISM

WAR ON CRIME IN THE DISTRICT OF COLUMBIA 1955-1975

ASSESSMENT OF THE CRITICAL ISSUES IN ADULT PROBATION SERVICES

THE IMPACT OF DECRIMINALIZATION ON THE INTAKE PROCESS FOR PUBLIC INEBRIATES

END