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CONCEPT OF OPERATIONS FOR A WELFARE INFORMATION SYSTEM

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Booz, Allen & Hamilton, Inc.
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This document, The Concept of Operations for a Welfare Information System, presents the design of a system concept for automated income maintenance operations. This design evolves from that of the National Recipient System and has been expanded to include both the NRS and a state/local telecommunications network.

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PREFACE

The concept of Welfare Information System (WIS) Operations presented in this report was developed for the Department of Health Education and Welfare (DHEW), Social Security Administration, Office of Family Assistance. The purpose of this report is to present the design of a system concept for income maintenance operations. The objectives, functions, and components of the system concept will provide the basis for further assessment of systems support.

This report was developed at the DHEW facility in Rosslyn, Virginia, with the assistance and guidance of the Office of Family Assistance. Technical advice and development of reports were provided by Booz, Allen & Hamilton Inc. Coordination, project management, and consultant services assistance was provided by the General Services Administration, Region 3, Data Services Division.

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I N D E X O F T A B L E S

1. INTRODUCTION

On September 27, 1977, the Secretary (DHEW) notified the Commissioner of the Social Security Administration of the immediate need for improvements to the Aid to Families With Dependent Children (AFDC) program. In his memorandum, the Secretary apprised the Commissioner of the need for a system for:

- Avoiding duplicate payments
- Identifying those who are ineligible
- Improving the efficiency of current operations and accuracy of payments
- Providing methods for cross-checking and testing for various forms of fraud, error, and abuse
- Increasing data exchange at Federal, state, and local levels
- Improving quality control, cost allocation, and statistical reporting methods.

In addition, the Secretary required that the system be consistent with the President's Program for Better Jobs and Income (BJIA).

The Secretary's memorandum ultimately caused the creation of a project with two major tasks. The first task was to focus on the development of requirements, recommendations, and alternatives for what has become known as the AFDC National Recipient System; the second was to be directed toward identifying the requirements in the BJIA, and comparing them with the requirements of the National Recipient System.

1.1 PROJECT SPONSOR

The Welfare Reform Planning Group, OFA/SSA, of the Department of Health, Education, and Welfare is the project sponsor for both tasks.

1.2 PROJECT DEVELOPER

The WRPG is conducting the assignment with contractor support from Booz, Allen & Hamilton, Inc. under GSA Contract No. 3FP-C9-N-BB0254.

1.3 RESULTS OF TASK I

The first task of the contract began on July 24, 1978 and was completed on November 8, 1978. The major result was the conceptual design of the National Recipient System. Briefly, the system features a centralized data base which contains a limited amount of data for each welfare recipient in the country, and a telecommunications capability between the

states/territories and the Federal government. The NRS performs three key functions:

- Interjurisdictional Search/Match--To determine whether an applicant/recipient is known to the system anywhere in the country.

- Verification of Social Security Number--To assure that SSN's, when provided, agree with those on file with the Social Security Administration.

- Disclosure of Federal Payments Information--To verify that an applicant/recipient is currently receiving payments from a Federal agency, e.g., SSA, VA, CSC.

In compliance with GSA regulations, the general design was documented in four volumes: Consolidated Information Requirements, Consolidated Application Requirements, Consolidated Communications Requirements, and the Management Summary. Each of these reports is available from the Project Director.

Another result of Task I was the collection and reduction of data from survey questionnaires, prepared by DHEW and distributed through the American Public Welfare Association. The questionnaires, which focused on welfare system capabilities, were distributed to the fifty states, the District of Columbia, and the territories of Puerto Rico, Guam, the Virgin Islands,

and American Samoa. Twenty-eight states/territories had responded by the first deadline date. The information from these 28 jurisdictions and six additional states whose surveys arrived late was published in two volumes: Assessment of Existing AFDC Systems and Assessment of Welfare Systems.

1.4 STATUS OF TASK II

Near the completion of the first task, GSA requested a contract modification to change the scope of Task II. Rather than BJIA, the contractor was asked to identify the requirements in three welfare reform proposals--the New Coalition proposal, the Ullman bill, and the Baker-Bellmon bill--and to ensure that the requirements under the National Recipient System were consistent with the welfare reform proposals. In addition, the assessment report was to be updated and completed.

The revised Task II began on November 1, 1978. Four reports were produced:

- State Welfare Systems Assessment Report--Expands on the assessment reports developed in Task I and includes all the states and territories.

- System Impact of Pending Welfare Reform Proposals--Analyzes the three welfare reform proposals from a systems perspective and compares them to existing legislation and procedures.

- Concept of Operations for a Welfare Information System--Presents the conceptual design of a welfare information system (WIS), i.e., a system which meets the requirements of the three welfare reform proposals.

- Executive Summary--Presents both the highlights of the above reports and recommends next steps to be taken by DHEW in the development and implementation of a welfare information system.

These reports will be available in March, 1979.

1.5 PURPOSE OF THIS REPORT

This is the Concept of Operations for a Welfare Information System. As previously mentioned, its purpose is to present the design of a system concept for income maintenance operations. The objectives, functions, and components of the system concept will provide the basis for further assessment of systems support.

1.6 METHODOLOGY USED IN THE DESIGN

The methodology used to develop the conceptual design presented in this report consisted of four major work steps: preliminary requirements analysis, verification of functional areas, preparation of a preliminary model, and finalization of the resulting design. These steps are described in Sections 1.6.1 through 1.6.4, following.

1.6.1 Preliminary Requirements Analysis

In light of the conceptual nature of the design to be developed and the stated scope of the assignment, the requirements analysis focused on two activities:

- Identification of the Requirements Impacted by the Three Proposals--The system design team, working with the team investigating the system impacts of the pending reform proposals, identified the functions required to support WIS operations. The team analyzed the functions for consistency with those of the National Recipient System.

- Assessment of Existing Capabilities--The focal point of this activity was the HEW/APWA survey information documented in the State Welfare Systems Assessment Report. This document provided almost all of the statistical information supporting the requirements analysis at the state level. Discussions with key officials in SSA provided the requirements at the Federal level.

1.6.2 Verification of Functional Areas

The functional breakout was then analyzed to determine if the functional areas in the legislation covered all facets of WIS operations. Additional functions were identified and incorporated. The resulting functional breakout was then a product of the analysis of the legislative proposals, the responses from the state and territories, and the experience of the team with income maintenance programs and systems.

1.6.3 Preparation of a Preliminary System Design

A preliminary design was then abstracted from the functional requirements and analyzed to determine the trade-offs involved in automating various system functions, centralizing them at the state or Federal level, etc. The results of this analysis were refined in several iterations.

1.6.4 Verification of the Resulting Design Concept

After developing a workable design which met WIS objectives, additional conversations were held with Federal officials to obtain information regarding WIS operations for performance and workload analyses. Each of the four reports from Task I

were then used to estimate both the impact of the WIS at the state level and the extent to which the NRS would have to be expanded at the Federal level to be upgraded to the new system.

The remainder of this report is organized into five chapters:

- The Welfare Information System--An introduction to the WIS concept in terms of system objectives, a system overview, and system processes at the Federal and state levels.

- Application Requirements--The application requirements of the WIS concept presented in terms of existing methods and procedures, proposed methods and procedures, processing and performance requirements, the system operating environment, and a summary of system improvements.

- Information Requirements--The information requirements of the WIS delineated in two sections: Data Description and Data Collection.

- Communication Requirements--The communication requirements of the WIS presented in terms of the objectives of a WIS telecommunications solution, existing method and procedures, proposed methods and procedures, and performance and workload requirements.

- Impacts and Next Steps--The impacts resulting from the WIS design and the next steps toward implementation of a system.

* * * *

As much as possible, the team complied with the documentation requirements specified in FIPS PUB 38. Topics at too low a level of detail for this analysis, e.g., costs and implementation plans, were identified as next steps in Chapter 6.

2. THE WELFARE INFORMATION SYSTEM

The purpose of this chapter is to present a system design to support WIS operations. This design is described in terms of the objectives of the system, an overview of the system, and the system functions automated at the Federal and state levels.

2.1 OBJECTIVES OF THE WELFARE INFORMATION SYSTEM

The following five sections discuss the key objectives guiding the design of a Welfare Information System.

2.1.1 Compliance with Legislative Requirements

The system designed to support WIS operations must comply with the requirements defined by current legislation and those requirements indicated by pending legislative proposals. The analyzed welfare reform proposals--the Ullman bill, the Baker-Bellmon bill, and the New Coalition proposal--underscore the need for implementation of new state welfare systems to achieve better program administration. As shown in Table 1, each of the reform proposals suggests implementation of new systems to support income maintenance operations at the option of each state and provides varying levels of funding incentives, functional

	BAKER-BELLMON	ULLMAN	COALITION
A. Funding of an Optional Automated System			
1. Design and Installation	Federal funding of 90% of system planning, design, development and installation costs, if the system 1) Meets the requirements defined under (C) (p.14) 2) Provides more efficient, economical, and effective administration of the state plan (as determined by the Secretary) (p.14)	Federal funding of 75% of system planning, design, development and installation costs, if the system 1) Meets the requirements defined under (C) (p.60) 2) Provides more efficient, economical, and effective administration of the state plan (as determined by the Secretary) (p.60)	Federal funding of 90% of system planning, design, development, and installation costs, if the system 1) Provides more efficient, economical, and effective administration of the state plan (as determined by the Secretary) (p.15) 2) Is compatible with the claims processing and information retrieval systems utilized in the administration of Title XIX (with 90% Federal funding of the state's share of the cost of installing such a system to be used jointly in the administration of the state's AFDC plan and the approved plan of any other state). (p.15)
2. Operation	Federal funding of 75% of system operating costs whether the system is operated by the state or a vendor and whether or not the system was installed with Federal funding assistance; however, the operating system must meet the requirements defined under (C). (p.15)	Federal funding of 50% of remaining costs. (p.61)	Federal funding of 75% of systems operating costs whether the systems are operated by the state or a vendor and whether or not the systems were designed, developed, or installed with Federal assistance; however, the systems must still be approved by the Secretary. (p.15)

TABLE 1 - LEGISLATIVE REQUIREMENTS

	BAKER-BELLMON	ULLMAN	COALITION
B. Requirements of the Planning Document for the System	The state shall optionally establish and operate the system in accordance with an advance automatic data processing planning document. (p.15) The Secretary shall not appraise the document unless he finds that such document when implemented will generally carry out the objectives of the statewide management system (as defined in Section C), and such document: 1) Provides for the conduct of, and reflects results of requirements analysis studies which consider program mission, functions, organization services, constraints, and current support of the system. (p.17) 2) Contains a description of the proposed system including a description of information flow, input data, and output reports and uses. (p.17) 3) Sets forth security and interface requirements. (p.17) 4) Describes resource requirements e.g., staff and resources available to meet the plan requirements. (p.18) 5) Includes cost-benefit analyses of each alternative management system, data processing services and equipment, and a cost allocation plan with the basis for rates, both direct and indirect, to be in effect under the system. (p.18)	The state shall optionally establish and operate the system in accordance with an (initial and annually updated) advance automatic data processing planning document approved by the Secretary. (p.51)	

TABLE 1 - LEGISLATIVE REQUIREMENTS

	BAKER-BELLMON	ULLMAN	COALITION
B. Requirements of the Planning Document for the System	6) Contains an implementation plan with charts of development events, testing description, proposed acceptance criteria, and backup procedures. (p.18) 7) Contains a summary of proposed improvement of the system in terms of qualitative and quantitative benefits. (p.18)		

TABLE 1 - LEGISLATIVE REQUIREMENTS

	BAKER-BELLMON	ULLMAN	COALITION
C. Functional Requirements of the Automated System			
1. Eligibility Determination and Fraud Detection	The system must be designed to assist management in the administration of the state plan in A) Controlling and accounting 1) All the factors in the total eligibility determination process for families in the state including	Same as BAKER-BELLMON (ULLMAN-p.72)	
a) Interjurisdictional AFDC Match	a) Identifiable correlation factors (such as Social Security numbers, names, dates of birth, and home addresses of all AFDC applicants and recipients) to assure sufficient compatibility among the systems of different jurisdictions to permit periodic interjurisdictional match. (p.16)		The system must be able to be used jointly in the administration of the state's AFDC plan and the approved AFDC plan of any other state. (p.15)
b) Intra/Interjurisdictional Match with Other Programs	b) Records of AFDC applicants and recipients to periodically check with other agencies, both intrastate and interstate for determination in verification of eligibility. (p.16)		The system must be compatible with claims processing and information retrieval systems utilized in the administration of Title XIX. (p.15)
2. AFDC Program Management	2) The cost, quality, and delivery of funds and services furnished to applicants and recipients.(p.16)	Same as BAKER-BELLMON (ULLMAN-p.73)	

TABLE 1 - LEGISLATIVE REQUIREMENTS

	BAKER-BELLMON	ULLMAN	COALITION
C. Functional Requirements of the Automated System			
3. Security	B) Providing for security againstun-authorized access to, or use of, the data in the system. (p.17)	Same as BAKER-BELLMON (ULLMAN-p.73)	
4. Notification of Other Agencies	C) Notifying the appropriate officials of child support, food stamp, and medical assistance programs approved under Title XIX whenever the case becomes ineligible or the amount of aid or services is changed. (p.17)		

TABLE 1 - LEGISLATIVE REQUIREMENTS

	BAKER-BELLMON	ULLMAN	COALITION
D. Requirements for Administration of the System	State administration of the AFDC plan is encouraged via reduction of the rate of Federal matching when the state plan provides for local administration. (p.29)	A single state agency will be established or designated to administer the plan. (p.53)	
E. Requirements for Review of the System	The Secretary, on an annual basis, must review, assess and inspect the planning, design, and operation of the statewide management information systems to determine whether, and to what extent, such systems meet and continue to meet the requirements of Section (C). (p.18) If the Secretary finds that a system fails to substantially comply with criteria, requirements, and other undertakings, prescribed by the advance automatic data processing planning document approved by the Secretary, then he shall suspend his approval of the document until there is compliance. (p.19)		
F. Technical Assistance	The Secretary shall provide such technical assistance to the state as he determines necessary to assist in planning, designing, development, or installation and provision of security of a system. (p.19)		

TABLE 1 - LEGISLATIVE REQUIREMENTS

requirements specifications, system review procedures and DHEW technical assistance. A central theme of these proposals is that states should be better equipped to administer their program responsibilities. The WIS should support this central theme.

2.1.2 Improve the Administration of the Welfare Program

In addition to better equipping the states to administer their program, the WIS should be used to support overall improvement of the administration of the welfare program. To accomplish this objective, WIS must be designed to:

- Reduce Fraud, Abuse, and Error--WIS should employ intra and interjurisdictional file search techniques similar to those of NRS.

- Promote a Greater Exchange of Information Between the State and Federal Governments--WIS should effectively use distributed processing to speed the transfer of data so that both the state and Federal governments have access to more timely information.

- Protect the Rights of the Recipients, the States and the Federal Government--Clearly, WIS must be designed in light of the Privacy Act of 1974. Further, the system must ensure the states rights as well as the separation of State and Federal powers.

2.1.3 Integrate Existing Procedures and Trends

In order to facilitate system implementation and maximize the effectiveness of system support, the proposed WIS must integrate existing program procedures and trends. For example:

- Many states have adopted procedures to improve coordination between their social service programs such as Title IV-D Child Support Enforcement, employment programs such as CETA, medical programs such as Title XIX, and income maintenance programs such as AFDC and General Assistance, so as to promote better service delivery methods. The WIS must support the interfaces with these programs.

- States have also improved their reporting relationships with local program offices to provide for statewide standardization of program administration. The WIS must reinforce this trend toward standardization.

- The Federal government has stepped up its efforts to support state fraud detection efforts (e.g., Project Match) and has plans for developing the National Recipient System to help states reduce fraud, abuse and error. WIS operations should make maximum use of this proposed Federal System by incorporation NRS into the WIS design.

In addition to these trends, the proposed WIS must incorporate those functional requirements found in the current program and those resulting from the proposed legislation. A description of the key functional areas and their specific requirements were developed for, and have been published in, System Impacts of Pending Reform Proposals, January 1979.

2.1.4 Minimize the Burden on Local, State, and Federal Governments

In order to promote acceptability, the WIS must be designed to minimize the burden on local, state, and Federal governments. For example, currently proposed Federal processing, i.e., NRS, should be integrated into the WIS to augment rather than replace state processing In general, the WIS should make maximum use of existing

state and federal processing components, networks and procedures and consolidate redundant functions or interfaces.

2.1.5 Improve Responsiveness to Clients

Another key objective of the WIS is to improve responsiveness to clients. The WIS must support operations by providing the client with timely eligibility determination results and an accurate grant calculation. The system should also be capable of redetermining client eligibility and benefits when program benefits are affected by a change, for example, in Social Security benefits.

2.2 OVERVIEW OF THE WELFARE INFORMATION SYSTEM

As depicted in Figure 1, the WIS network is composed of a Federal center, 55 individual state/territorial centers, and many local offices. The WIS design interconnects these sites via telecommunications to form a distributed processing environment, i.e., a system environment in which varying levels of automated support are distributed to different locations.

As proposed for the National Recipient System, each state center is linked to the central Federal center. In the case of the WIS, this Federal center is designed to perform the functions of National Recipient System (NRS) processing, SSN enumeration, Federal statistical reporting, and Federal quality control. Justifications for including these functions are provided in Section 2.3.

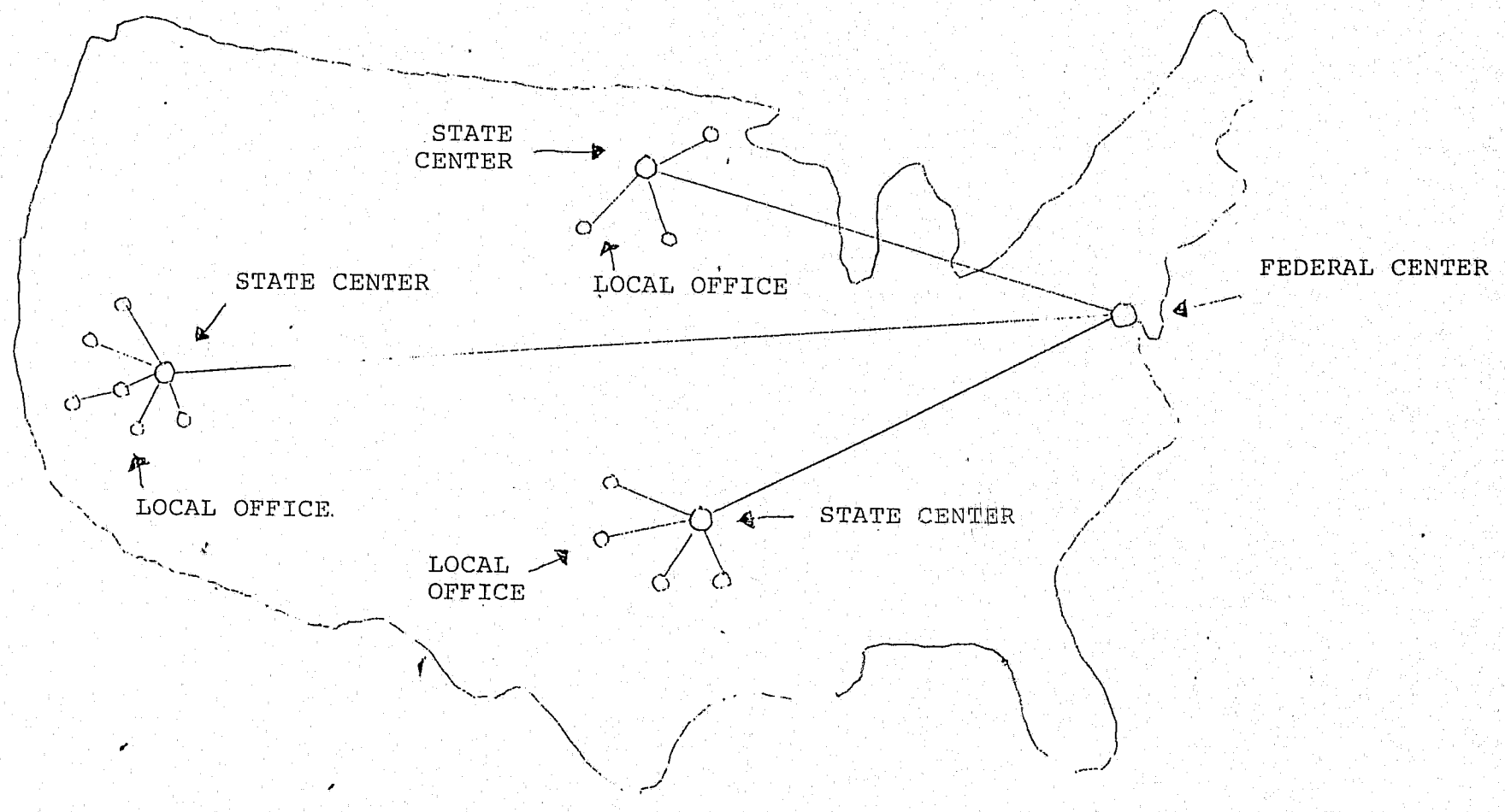


FIGURE 1 - WIS DISTRIBUTED NETWORK

In the same manner that NRS links each state/territory to the Federal center, the WIS can link local offices to state centers. The state centers would maintain a master file of all client data for interfacing with the Federal government and could perform the following key functions:

- Eligibility determination and grant calculation
- Check payment authorization, check writing, and reconciliation
- Administrative report generation
- Statistical reporting
- Quality Control
- Financial Management

In some large states, e.g., California, factors such as caseload size and current system configuration would dictate that master files and appropriate processing be located in regional county and/or local offices. WIS can accommodate this additional level of distributed processing, but for purposes of this report, it is assumed that local offices would transmit at least minimal information to a central state office for processing and maintenance of the master file.

2.3 THE FEDERAL PART OF THE WELFARE INFORMATION SYSTEM

This section describes those WIS components which can be automated at the Federal level. As depicted in Figure 2, the Federal WIS would contain processes which support two major areas within WIS operations: Case Management and Program Management.

2.3.1 Case Management

There are two WIS Case Management processes that would be centralized at the Federal level:

- National Recipient System Processing--This subcomponent consists of the National Recipient System processing performed at the proposed site of NRS. This processing, which includes SSN verification, interjurisdictional search/match, and the provision of benefits information from other Federal programs, is designed into the Federal part of WIS because it helps minimize the system implementation burden on the Federal government, utilizes a currently proposed procedure, promotes information exchange between the state and Federal governments, and improves welfare administration by reducing fraud, error, and

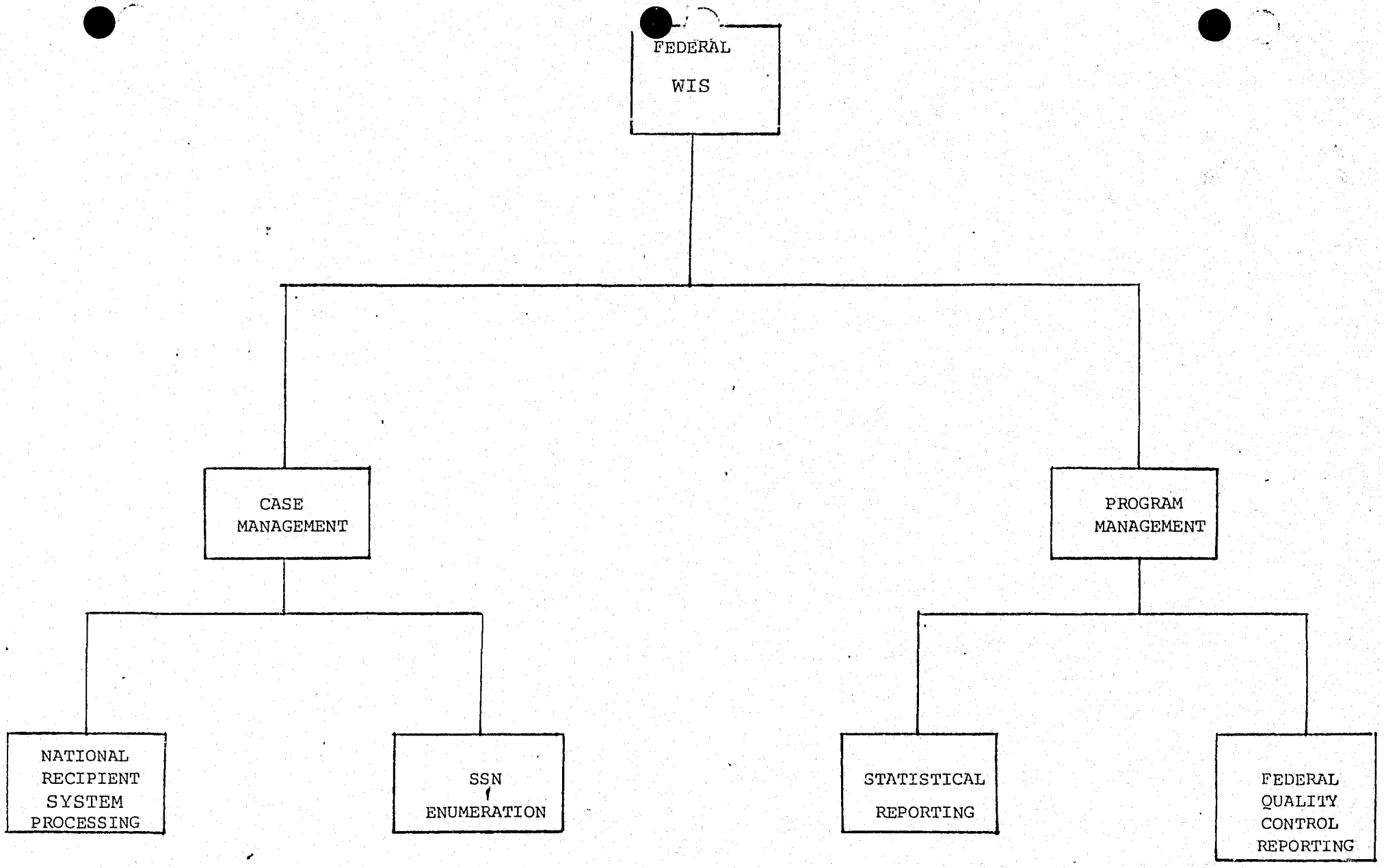


FIGURE 2 - FEDERAL PART OF THE WELFARE INFORMATION SYSTEM

abuse. Utilization of NRS Processing will also reduce the interface requirements between Federal agencies and each indivdual state system.

Social Security Number Enumeration--This subcomponent would perform Social Security number enumeration by requesting the SSA to assign a Social Security number to those applicants who have applied for one. This process can be automated with minimal modification to the proposed software at the central site of NRS by:

- Denoting a new transaction, "add/enumeration," which contains the data required for the NRS add transaction plus the additional data required for SSN enumeration.

- Designing SSN enumeration interface software which would pass transaction data to the SSN enumeration component when required. SSN enumeration would be centralized at the Federal level and would replace the current interface between SSA and each state.

Further analysis is required regarding the efficacy of including this function as a component of the WIS.

2.3.2 Program Management

There are two WIS Program Management processes that could be centralized at the Federal level:

- Statistical Reporting--This subcomponent includes the compilation of statistical data, currently being performed by an automated system for the Office of Research and Statistics.

- Quality Control--This subcomponent includes the generation of national Q.C. statistics both from the Federal subsample and from tables provided from the states/territories. Subsample processing has already been automated by the Office of Quality Assurance and might be transferable to the WIS. Table handling, currently manual, would be automated in the WIS because the production of Q.C. tables in the states/territories is automated as is the interface with the Federal government.

Further analysis is also required for these functions.

2.4 THE STATE PART OF THE WELFARE INFORMATION SYSTEM

As depicted in Figure 3, the state part of the Welfare Information System would contain processes which support three major areas of operations: Case/Client Management, Program Management, and Financial Management.

2.4.1 Case/Client Management

State/local level WIS Case/Client Management consists of the following subcomponents:

- Input Processing--This subcomponent includes all local office data entry operations, data editing, routing, screening, and the maintenance of an audit trail for each transaction. Input Processing would be automated to improve system responsiveness to clients and to minimize the burden at the local office and the state of implementing standardized statewide processing.

- Eligibility Processing--This subcomponent processes local office initiated eligibility transactions, performs technical and financial eligibility evaluations, calculates

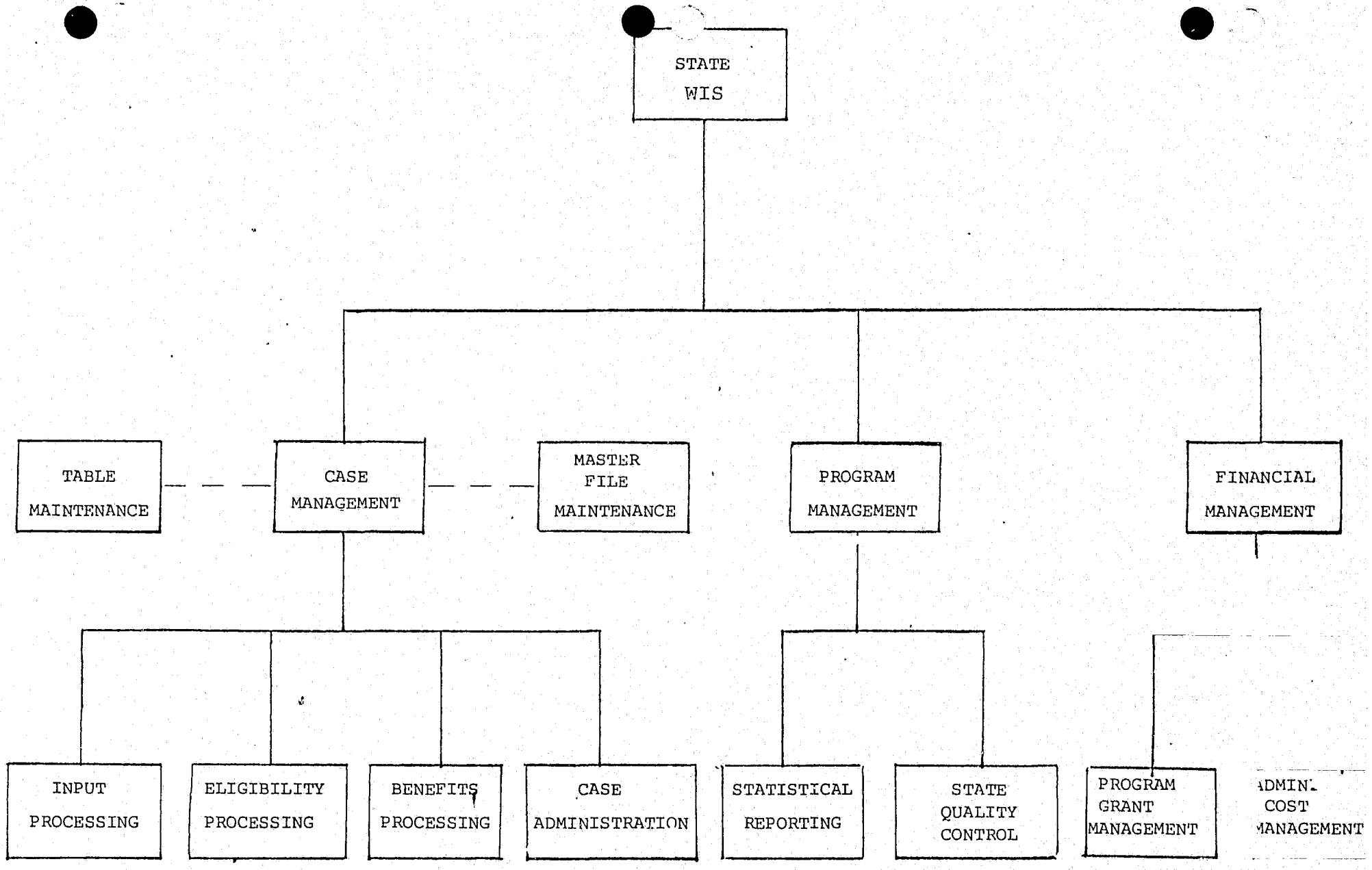


FIGURE 3 - STATE PART OF THE WELFARE INFORMATION SYSTEM

assistance unit grant amounts, and performs mass change. Eligibility Processing would be automated at the state level to provide improved responsiveness to clients and to reduce errors in both application of policy and grant calculations.

Benefits Processing--This subcomponent includes authorization of scheduled and unscheduled benefit payments, check writing, generation of a check register, processing of stop payments and voids, and the reconciliation of redeemed checks to issued checks. Automation of Benefits Processing would have minor impact on the states because many states currently have one or more of these processes automated.

Case/Client Adminstration--This subcomponent provides client information to other agencies such as Title IV-D Child Support Enforcement, Medicaid, and Social Services; and generates case status review reports, follow-up reports, case review results, and caseload listings. Automation of this component would dovetail with existing procedures in most states and

supports standardized state program administration.

- Table Maintenance--This subcomponent maintains and updates any internal tables; e.g., the coding and decision tables. It would be automated to facilitate the table update procedure.

- Master File Maintenance--This subcomponent organizes and provides storage backup of case records, indexes new case records and purges old case records. It would also be automated to facilitate the maintenance of system records.

2.4.2 Program Management

State/local level WIS Program Managements consists of the following two subcomponents:

- Statistical Reporting--This subcomponent generates statistical reports for program management at the state and local levels, and supplies the Federal government with statistical data regarding case characteristics. State Statistical Reporting would be automated

in order to facilitate both the gathering and distribution of information within the state and Federal governments.

- State Quality Control--This subcomponent provides case selection for quality control review, updates each reviewed case, produces quality control reports, and compiles quality control data for the Federal government. State Quality Control is included as an automated function since the process is now heavily automated. Currently, 28 states use a service bureau for quality control data processing, but do not release state quality control data to the Federal government - only a subsample.

2.4.3 Financial Management

State/local level WIS Financial Management consists of the following two subcomponents:

- Program Grant Management--Proceeds from Federal outlays of program funds to welfare recipients are accounted for in this subcomponent. It also supports Federal reporting requirements for program matching and state cash management requirements. Program Grant Management would be automated to facilitate

control over both Federal and state obligations and expenditures.

- Administrative Cost Management--All state and local office costs incurred in the administration of the program are processed by this subcomponent for internal state cost management reporting and Federal reimbursement claims processing purposes. This component is automated to facilitate control of the budget and to monitor administrative costs.

The State Welfare Systems Assessment Report gave little indication of the impact of including these functions in the WIS. Additional analysis would be required

* * * *

A more detailed description of the Federal and state WIS components can be found in Chapter 3.

3. APPLICATION REQUIREMENTS

This chapter presents the WIS application requirements in accordance with some of the guidelines established in FIBS PUB 38. It is divided into the following sections:

- Existing Methods and Procedures--A discussion of methods and procedures used by the Federal and state governments in the administration of existing income maintenance programs.
- Proposed Methods and Procedures--An overview of the proposed concept for WIS operations including system data flow.
- Processing Requirements--A presentation of the input, processing, and output requirements for each of the components of WIS.
- Performance Requirements--A discussion of accuracy, validation, timing and flexibility of the system.
- Operating Environment--A discussion of WIS hardware, software, system interfaces, security, and privacy.

- Summary of Improvements--A summary of the improvements to be gained from the implementation of the proposed system.

Each of these topics is more fully discussed in Sections 3.1 through 3.6, below.

3.1 EXISTING METHODS AND PROCEDURES

This section reviews the methods and procedures now used in the administration of income maintenance programs. Sections 3.1.1 and 3.1.2 discuss these procedures at the state and Federal levels, respectively, and focus on the extent to which these operations are automated.

3.1.1 State Governments

The latest edition of the State Welfare Systems Assessment Report indicates that many (30 of the 44 respondent) jurisdictions administer income maintenance programs at the state rather than local level. In most states, check issuance, central recordkeeping, and some management reporting functions are automated. The data processing environment in the states is relatively sophisticated, characterized by large-scale computer configurations and remote data collection and processing capabilities.

Eligibility Determination/Grant Calculation--All but five states perform eligibility determination/grant calculation manually at the local office level. Twenty-five states allow local offices to access state unemployment insurance records for screening applicants/clients. Many states also support caseworker initiated inquiries to two Federally operated systems:

- BENDEX (Benefits Data Exchange)--Is accessed by 26 states for disclosure of RSDI (SSA Payment) benefit records.

- SDX (State Data Exchange)--Is accessed by 32 states for disclosure of SSI payments/benefits records.

In addition, some states such as Michigan, Mississippi, New York, and Illinois automatically conduct periodic checks against intrastate payroll files, and/or exchange recipient data with neighboring states to detect duplicate payments. In most states, however, this process is manual, and extremely labor intensive.

- SSN Enumeration--All states periodically conduct a tape-to-tape interface with the Social Security Administration for the purpose of SNN enumeration.

- Check Issuance--Forty-two states centrally process benefit payments based on local office initiated payment schedules.

- Case Management Reporting--Thirty states automatically generate redetermination schedules and other case management reports to assist eligibility technicians.

- State Statistical Reporting--Most states limit their statistical reporting to reports which satisfy Federal reporting requirements. Methods for compiling Federally required reports range from manual procedures which rely on local office monthly reports, to semi-automated procedures which use data available in centralized payment records.

- State Quality Control--At least 28 jurisdictions use a service bureau to extract their AFDC samples, perform consistency checks on completed services, and generate error-profile tables.

- Grant Administration--All states maintain applicant/recipient records, program outlay records, and aggregate annual expenditure records. Administrative cost records, however, are generally imcomplete or are distributed at the local office level, making cost management reporting difficult.

3.1.2 Federal Government

Two functions performed by the Federal government in the administration of income maintenance programs are described below:

- Federal Statistical Reporting--Statistical reporting at the Federal level is a highly automated process which is driven by forms provided by the states. Output from the Federal system is retained permanently, and the automated data files are retained for five years.

Federal Quality Control--Quality control statistics are generated at the Federal level from both the Federal subsample and from tables from the states/territories. Although subsample processing has been automated by the Office of Quality Assurance, table handling is currently manual.

3.2 PROPOSED METHODS AND PROCEDURES

Figure 4, following, is an overview diagram of the WIS processing environment. This distributed processing system is an outgrowth of the Federal level NRS with Federal and state level centralized files key to the design. In some large states, e.g., California, factors such as caseload size and current system configuration would dictate that master files and appropriate processing be located in regional offices. WIS can accommodate this additional level of distributed processing but, for purposes of this report, it is assumed that local offices would transmit to a central state office for processing and maintenance of the master file.

As shown in Figure 4, local offices initiate transactions which, in turn, trigger state level processing. Basically these transactions concern either applicant/recipient eligibility or program benefit payments. Once

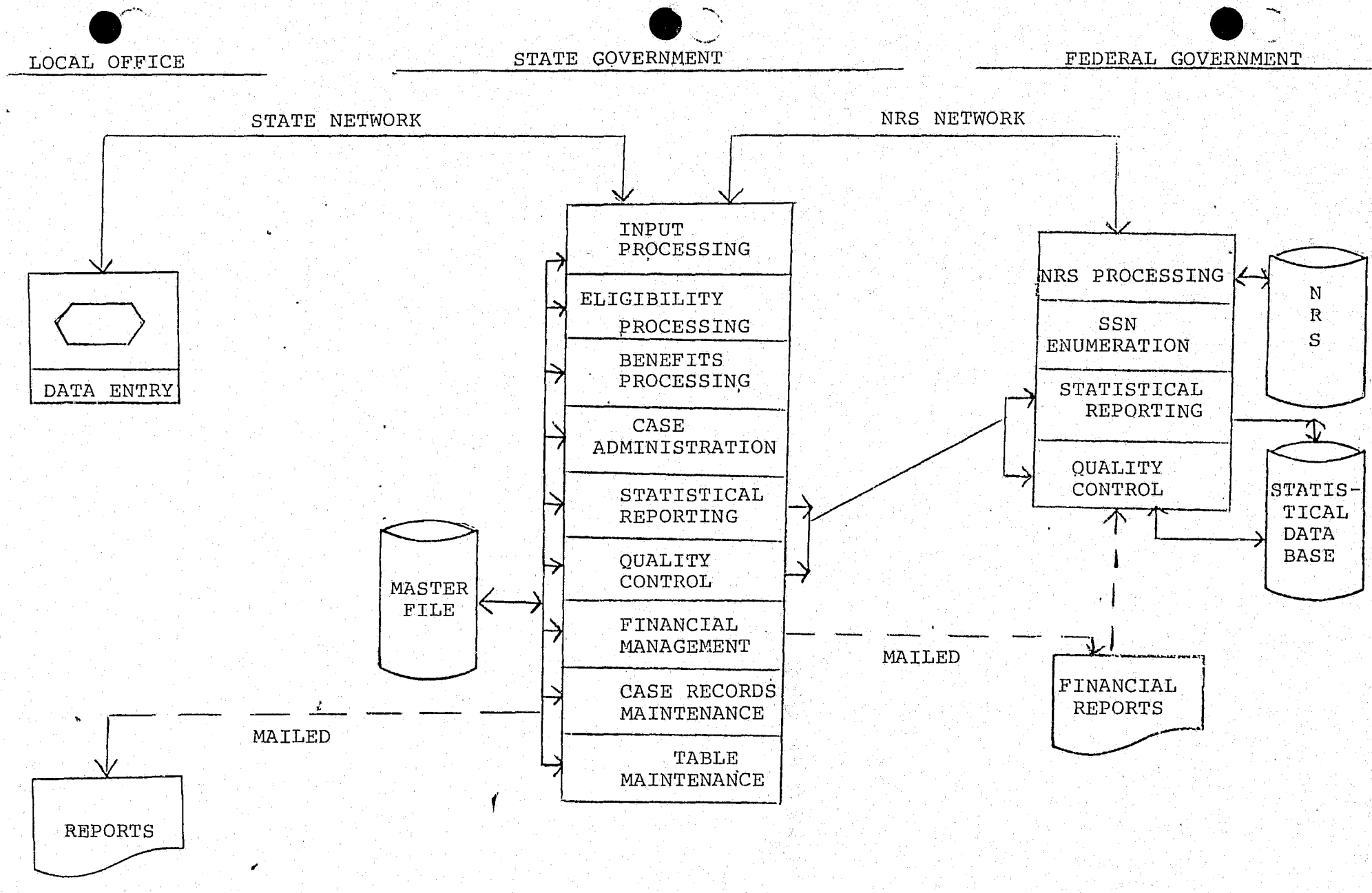


FIGURE 4 - AN OVERVIEW OF THE WELFARE INFORMATION SYSTEM

transmitted to the state level system, these transactions are handled by Input Processing which edits and routes them to other components for further processing. Transactions may be routed for NRS Processing, Eligibility Processing, Benefits Processing or may be matched to sources such as unemployment insurance records.

Routine eligibility determination is performed from transaction data validated at local offices. Grant amounts are then calculated (or recalculated) and the central Master File is updated. This file also supports local office screenings, is the basis for making monthly scheduled benefit payments, and provides the data for reports generated in the Case Administration and Statistical Reporting components. The State Quality Control component also uses the Master File to generate periodic samples for state administered quality control reviews, and provides data for Federal Quality Control.

The Financial Management component interfaces with Benefits Processing to track expenditures. This component also maintains administrative cost records for cost management and reimbursement claims report processing.

At the Federal level, transactions interfaced from state Input Processing components are used to drive National Recipient System processing and SSN Enumeration. The results

of this processing are transmitted to the states and become input to the state Eligibility Processing component.

Federal reports are produced from state statistical data and quality control program data on a periodic basis to meet both DHEW and Congressional requirements.

All data transmission from both the local level to the state and from the state to the Federal level occurs via a telecommunications network.

3.3 PROCESSING REQUIREMENTS

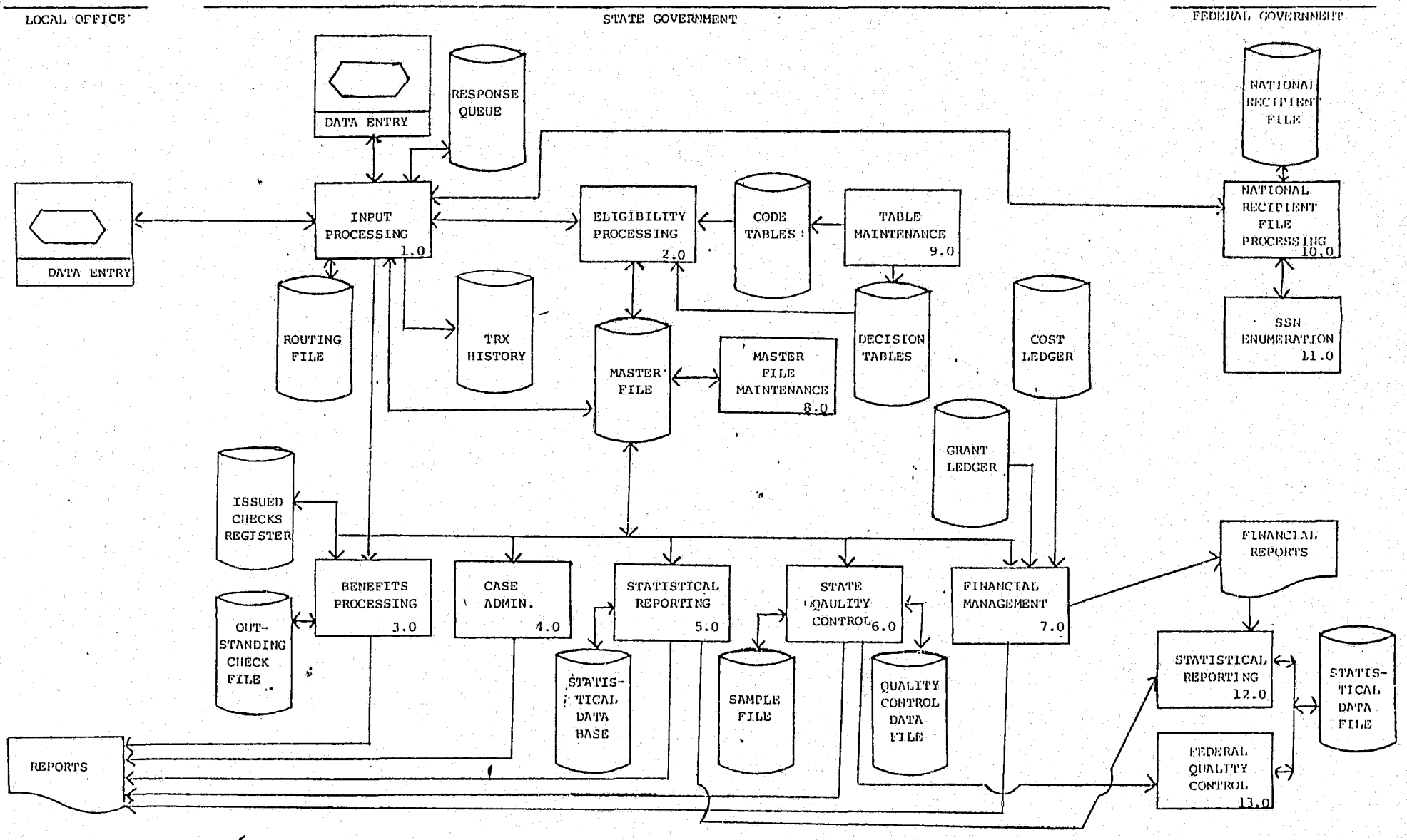
The major automated components of Federal and state/local WIS operations depicted in Figure 5 are presented in Sections 3.3.1. through 3.3.13, below. Each component has been defined as a separate module of the system and may be composed of one or more computer programs.

3.3.1 Input Processing

All transactions input to the WIS are processing through this component. Specifically, the following functions are performed:

- Data Entry--This step may be performed on-one or batch at the local or state level. At the local level, input includes screening inquiries against the Master File or Transaction

FIGURE 5 - Welfare Information System Flowchart



History File, data regarding emergency assistance payments, payment action requests, and data to be used in eligibility processing. At the state level, input includes results of Quality Control actions and budget transactions.

- Input Editing--Data which are entered into the system are edited for range and syntax errors based on resident Coding Tables or parameters established in editing programs.

- Transaction History Updating--All transactions which result in an update to the Master File are written to the Transaction History File. This file provides an audit trail by recording transactions, and a mechanism for error correction.

- Routing--Transactions which are entered into the system are sent to a Routing File. From this file, transactions are sent to the other processing components of the system. An individual transaction is routed to only one component. The transaction type determines the processing component destination. (See Chapter 4 for more detail.)

- Response Processing--Responses to local office inquiries to the Master or Transaction History Files as well as Eligibility Processing results, NRS Processing results, or the results of processing by other state programs are sent to a Response Queue. Entries to this queue are then routed to the appropriate local office. In addition, processing results will also be written to the Master File.

3.3.2 Eligibility Processing

This component performs all transaction processing associated with eligibility determination. It includes the ability to perform mass change based on parametric changes to eligibility criteria, as well as the ability to perform individual determinations based on local office, NRS processing, and/or state program input. The Master File is read to merge existing case data with transaction data and eligibility is determined during execution of the following functions:

- Technical Evaluation--Both the individual and assistance unit are evaluated for eligibility based on existing policy.

- Financial Evaluation--Both the individual and assistance unit are evaluated for eligibility based on resource criteria.

- Benefits Calculation--The grant amount for the assistance unit as a whole is computed using the standard of need and the unit's income.

After eligibility is determined, the new information is routed to the Input Processing component which updates the Master File. If Eligibility Processing is performed on-line, these data are sent to a Response Queue for transmission to the originating local department.

3.3.3 Benefits Processing

All benefit payments are processed by this component, which performs the following functions:

- Payment Authorization--On a scheduled basis, the Master File is reviewed to determine authorized benefit payments. The result of this batch run is a printed voucher list and a printed check list.

- Emergency Assistance Payments Processing--If emergency assistance checks are written locally, a transaction may be routed through

the Input Processing component to the Benefits Processing component which will record these payments on the Master File, and on the Issued Check Register (for reconciliation purposes).

- Check Writing--Benefit checks are produced from the check list, and the Master File and Issued Check Register are updated.

- Stop Payment and Check Replacement--Stop payment or replacement check authorization transactions are routed to the Benefit Processing component so that the check list and Issued Check Register may be updated.

- Reconciliation--Periodically, redeemed checks are matched against the Issued Check Register. As a result of this process, the Outstanding Check File is updated.

3.3.4 Case/Client Administration

The processing of this component results in reports which support local office administration and client notification. Based on given report parameters, the Master File is read on a scheduled basis to produce the following reports:

- Notice of Action--On a daily basis, notices are generated and mailed to the client informing him of the results of Eligibility Processing.

- Application Status--This report is produced weekly and provides the local office with a listing of applications that are pending, approved, or denied.

- Case/Client Status--This report is produced monthly and provides the local office with information on each case whose status has changed during the month.

- Caseload Register--This report is produced on request, and provides a listing of all cases in a local office. In addition, redetermination schedules, other reminder reports, and reports which contain the results of NRS processing are generated on a periodic basis.

3.3.5 State Statistical Reporting

This component produces all of the statistical reports required by the Federal government's Office

of Research and Statistics. This process involves the following two steps:

- Compilation Report--Based on given parameters, reports required for internal state/local program management purposes are generated from Master File data.

- Statistical Data File Update--The Master File is also read to compile Federal statistical data which are added to the Statistical Data File. These data are periodically transmitted to the Federal government for processing by the Federal Statistical Reporting component.

3.3.6 State Quality Control

This component supports the administration of a Federally required quality control program by performing the following functions:

- Quality Control Review--The Master File is read to select a sample of cases for the Sample File. This sample is then read from the file and is used to perform the quality control review. The results of this review

are annotated to the sample records via input transactions, and tracking reports are produced to assist in the completion of the review.

- Quality Control Results Processing--Once the quality control review has been completed, the results of the review are used to generate error profile analysis reports and Federal quality control data. The Federal data are stored on the Quality Control Data File to be transmitted for processing by the Federal Quality Control component.

3.3.7 Financial Management

This component supports state management of Federal program grant outlays and administrative costs. The financial management component consists of the following major processes:

- Grant Ledger Maintenance--Transactions regarding grant proceeds and payments listed

in the Issued Check Register are routed to this component to be recorded in the Grant Ledger. This ledger and the Master File are then reconciled in terms of payment records. In addition, management reports are produced.

- Cost Ledger Maintenance--Transactions affecting administrative cost allotments and expenditures are routed to this component. The Cost Ledger is then adjusted to reflect changes in allotment amounts or costs. From the Cost Ledger, various cost management and reimbursement claims reports are also produced.

3.3.8 Table Maintenance

This component supports the maintenance of coding and decision tables required for all of the processing components at the state/local level. When tables require updating, a table maintenance transaction is input to indicate which of the tables will be changed. The change is then entered and the table updated.

3.3.9 Master File Maintenance

This component supports the maintenance of records on the Master File by ensuring that closed cases are purged. Based on legal criteria established for case record retention, closed cases are purged from the Master File, thereby enhancing processing efficiency. The Master File is then reorganized based on the case records retained. Copies of the Master File are stored on tape for back-up purposes.

3.3.10 National Recipient System Processing

The National Recipient System processing performed by the NRS central site will be used to augment state/local WIS operations. Transactions to be input to the NRS Processing component are generated by the state Input Processing component for each program applicant/recipient. Each transaction results first in a search for interjurisdictional program matches against the National Recipient File. Then, the Social Security number input for the applicant/recipient is verified by the Social Security Administration's number identification process. Once verified, the SSN is used as an identifier for making inquiries to other Federally operated systems. The purpose of these inquiries is

to identify any other Federal benefits (e.g., VA, CSC benefits or SSA payments). If an SSN is not input and is needed for an applicant/recipient, an interface to the enumeration process is initiated. The results of the interjurisdictional program search and the inquiries to the other programs are transmitted for processing by the state Input Processing component. A more complete discussion of NRS Processing may be found in the (NRS) Consolidated Application Requirements Report.

3.3.11 SSN Enumeration

This component will be used by states to obtain Social Security numbers for applicants/recipients. States will interface with this component using an NRS processing add/enumeration transaction, generated by the state Input Processing component. The NRS Processing component will then input this transaction to SSN Enumeration via the SSN enumeration interface. The SSN Enumeration component will read this interface file, perform enumeration, maintain a master record, and output the enumeration response for transmittal by NRS Processing to the state Input Processing component.

3.3.12 Federal Statistical Reporting

This component is responsible for compiling statistical reports which satisfy DHEW and Congressional reporting requirements. Statistical data compiled by the State Statistical Reporting component are transmitted to this component to build a Statistical Data Base. In addition, state financial reports are updated to the data base when financial processing is completed. The data base can be used to compile individual state reports, or statistical profiles that merge data from many states.

3.3.13 Federal Quality Control

This component uses the Quality Control data transmitted by the states and the results of Federal subsample processing to perform error profile and trend analyses. The processing consists of aggregating and weighting data to arrive at national averages.

3.4 PERFORMANCE REQUIREMENTS

This section addresses the processing of the WIS in terms of accuracy, validation, timing, and flexibility.

3.4.1 Accuracy

The discussion of accuracy is focused on two specific components of the WIS.

- Eligibility Processing--Eligibility processing within WIS is ensured by the timely maintenance of a comprehensive Master File within each state, the maintenance of a complete National Recipient File in the central site, and the consistent application of current eligibility standards. Processing accuracy is further supported by controlled interfaces with related state programs; e.g., Title IV-D and Workmen's Compensation, extensive use of decision tables for eligibility determination and algorithms for grant calculation.

- Benefits Processing--Accurate benefits processing is supported by the timely performance of eligibility processing and the exercise of controls over the authorization, issuance and reconciliation of scheduled, unscheduled, emergency assistance, and replacement checks.

3.4.2 Validation

Input data are edited prior to processing at the state and Federal levels. The editing process is conducted at two administrative levels:

- Local Office Transaction Editing--Transaction data initiated at the local office level will be validated manually prior to input. System edits will be applied to the encoded data to ensure that range and syntax criteria are met.

- State Transaction Editing--Prior to transmission to the Federal part of the WIS, data collected at the state level will be validated to ensure that transaction data meet applicable range and syntax criteria.

3.4.3 Timing

The execution of the WIS processing components depends on the mode of operation. The two processing modes are described below:

- Real Time Processing--The WIS design allows for real-time Eligibility Processing and real-time screening (intra state) through Input

Processing at the state level. Depending on network configuration and system loads, response times from these components may be virtually instantaneous.

- Batch Processing--The remaining processing components of the WIS are designed to operate in a batch mode. Response times will vary from one to three days for Benefits Processing, and up to sixty days for Master File updating with the results of NRS Processing. The sixty day period allows ample time for interfacing with other Federal agencies.

3.4.4 Flexibility

The modular design of the WIS, the use of decision tables to govern eligibility processing, and the flexibility of NRS processing are key features of the WIS's flexibility. In more detail, these features are:

- Modular Design--The components defined for WIS operations have been designed as sytem modules which can be implemented sequentially in the state and which will be consistent with state priorities and existing systems support.

- Decision Tables--Eligibility processing is driven by decision tables which delineate eligibility rules and which can be updated without extensive software changes.

- NRS--NRS Processing is used to augment state eligibility processing and can be expanded to include additional Federal system interfaces.

3.5 OPERATING ENVIRONMENT

This section presents a description of the WIS in terms of four categories: hardware estimates, support software, automated interfaces, security and privacy.

3.5.1 Hardware

As depicted in Figure 6, the WIS will operate on three administrative levels: local, state, and Federal. Eight classifications have been identified to estimate resource requirements at the three levels:

- Federal Processing Resources--Federal processing resources include the National Recipient System computing and storage hardware, the computing hardware necessary to

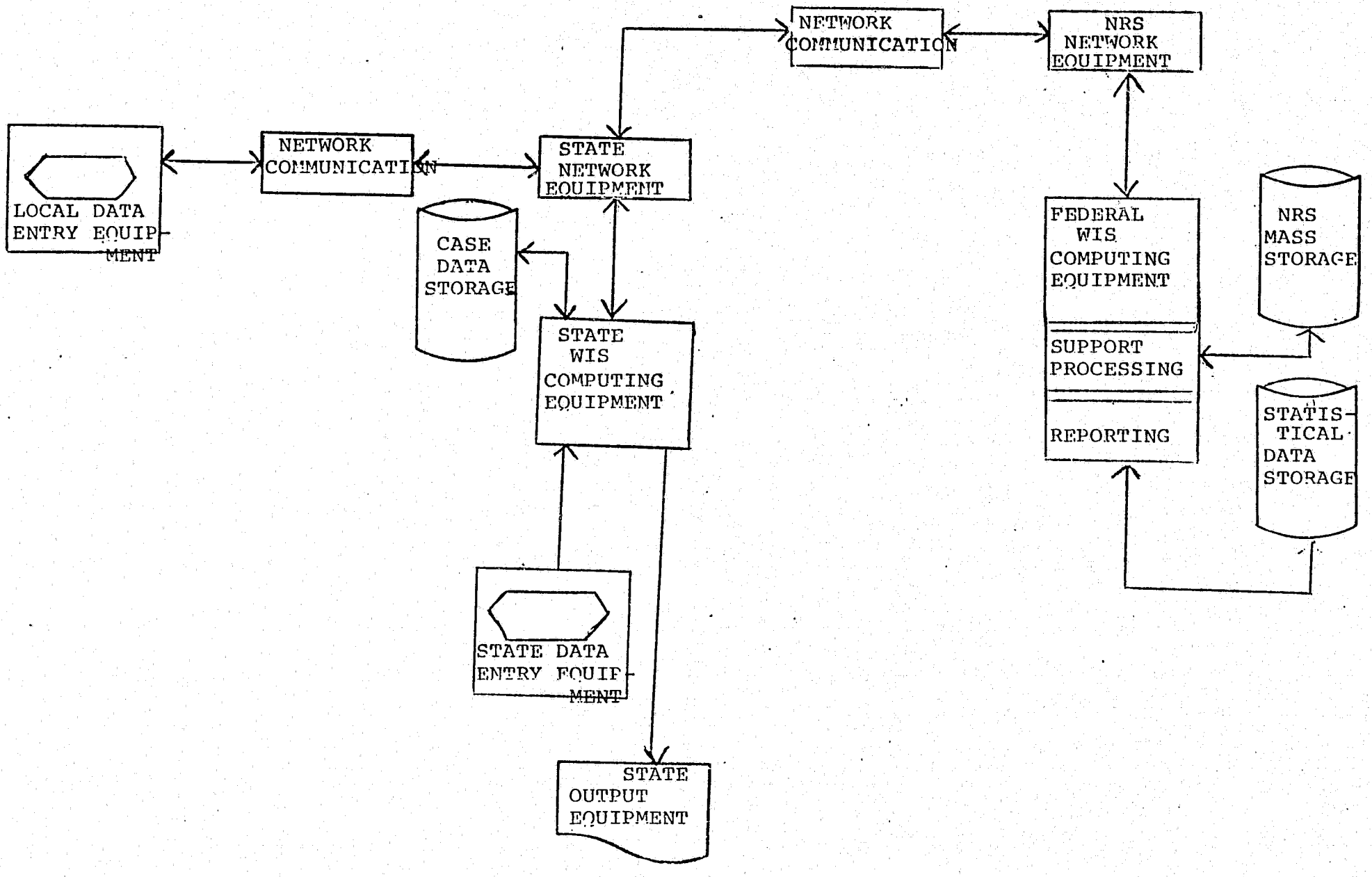


FIGURE 6 -- WIS OPERATING ENVIRONMENT

support SSN Enumeration, and the computing and storage hardware required for Federal report generation. Specifically, the hardware must be able to process the estimated numbers of transactions that are presented in the NRS documentation and must have enough on-line storage capacity to accommodate the NRS Processing and SSN Enumeration components. The on-line storage figure of 7 billion bytes previously estimated for NRS Processing of AFDC recipients alone, has been found to increase to 11.2 billion for all Federal WIS on-line storage. This 11.2 billion figure includes AFDC non-PA MA, and non-PA FS recipients and allows for the additional data required for SSN enumeration.

Federal/State Data Transmission Capability--Data transmission between the state and Federal levels will occur via the NRS telecommunications network.

The NRS telecommunications network will include all transmission links and equipment needed to transfer the data. The actual hardware to be used will depend upon the commercial communications network selected for the NRS.

Based on the yearly statistical/quality control data volume calculated in Chapter 5, the Federal level off-line storage requirement for a five-year period is 87.5 million bytes.

- Federal Interface--The Federal interface to the NRS telecommunications network requires the communication hardware to establish a computer connection for each transmission link to the NRS network.

- State Interface--The state interface to the NRS telecommunications network requires the communications hardware to establish a connection for each transmission link to a local office and for each transmission link to the NRS network.

- State Processing Resources--Required state processing resources vary for states with small, medium, or large caseloads. According to the State Welfare Systems Assessment Report, the average program caseload is 49 thousand for a small state, 226 thousand for a medium state, and 709 thousand for a large state. Using the average number of local office/state transactions per case per year

cited in Section 5.4.2 of this report, the state configuration must be able to process the following number of transactions per year.

- Small states--1.3 million
- Medium states--5.8 million
- Large states--18.2 million

In addition, each state system must have the following storage capacity:

- Small states--0.7 billion bytes
- Medium sates--3.4 billion bytes
- Large states--10.7 billion bytes

State/Local Data Transmission Capability--Data transmission between the local and state levels occurs via the communications network or tape transfer. The state communications network will include all transmission links and equipment to perform the transfer of data.

Local Interface--The local interface to state communication network requires the

communication hardware needed to establish hook-up with each transmission link to the State WIS.

- Local Data Entry--The optional local office configuration will consist of one or more CRT's with a hard copy printer. For small local offices without automated facilities, a service bureau may be used to generate a tape to be transferred manually to the state central office.

3.5.2 Support Software

The support software at the Federal level can include all software associated with the NRS, the software necessary to support SSN enumeration, and that required for the performance of Federal statistical reporting and quality control processing. The software at the state level may support input processing, case administration, state statistical reporting, state quality control, and financial management. Software needed to perform table and case records maintenance may also be included at the state level.

Because of the large volumes of input and output expected from the WIS, processing efficiency at both state and Federal levels will be a significant consideration in software design. This requirement has already been specified for the software to be developed for the National Recipient System.

Applications software for both state and Federal systems should be written in a high level language, easily learned and used by applications programmers, and easily interfaced with any selected data base management system.

To make maximum use of existing software, both the Federal and State WIS's should be designed with modular processing components. At the Federal level, currently planned NRS processing software may be supplemented with components to support SSN Enumeration, Statistical Reporting, and Quality Control. At the state level, processing components, or elements of processing components which have already been automated, should be integrated into the modular software design of the WIS, whenever possible.

3.5.3 Interfaces

The WIS requires the following interfaces:

- Sate/Federal Interface--The selection of the communications method by which the WIS at the state level accesses the WIS at the Federal level will be determined by individual states. Since input to both NRS and other Federal processing components occurs via the NRS telecommunications network, each state may interface with the Federal WIS via the NRS network.

- Federal WIS Federal Program Interface--As described in the NRS documentation, the National Recipient System Processing component of the Federal WIS will interface with other Federal programs via high speed magnetic tape or telecommunications. The processing cycles used will depend upon the Federal agencies, and the linkage will be designed to minimize software development by these systems.

- State WIS/Federal Program Interface--As part of the case administration processing, the State WIS provides case/client

information to other state agencies administering Federal programs including Child Support Enforcement, Medicaid, and Social Services. These data will be transmitted via a data link currently maintained between the agencies, via magnetic tapes, and/or via printed reports.

State WIS/State Program Interface--

As part of Input Processing, the State WIS accesses client income information from state programs such as unemployment insurance, state retirement, and Workmen's Compensation. This information will be exchanged via the data link currently maintained between these agencies and the state income maintenance office.

State WIS/Local Office Interface--

The selection of the communication method by which local offices are to access the State WIS will be determined on a state by state basis. Each local office may interface with the State WIS via the network described in Section 5. Such local

offices could use a CRT to access a transmission link to the State WIS. Other local offices may use a service bureau and have case/client data written to tape for transfer to the state central office.

3.5.4 Security and Privacy

Due to security requirements defined by the Privacy Act of 1974, the WIS operations environment must be such that only authorized personnel and/or agencies can access case/client information, and that all disclosures of data are justified by either a "routine use" or on an individual disclosure basis. To protect the sensitive data maintained by the WIS, physical and data processing security measures will be instituted and maintained at Federal, state and local levels, and system securities will be established for data transmitted among the three.

In addition, written agreements between DHEW and participating states will further ensure the security and integrity of system data and the rights of individuals to privacy. States will be required to adopt the policies and procedures

necessary to ensure that the information obtained from Federal sources will be used only to aid in eliminating program fraud and abuse.

3.6 SUMMARY OF IMPROVEMENTS

Sections 3.6.1 through 3.6.5 discuss the anticipated improvements based on the WIS design. These improvements correspond to the objectives cited in Section 2.1.

3.6.1 Compliance with Legislative Requirements

The Welfare Information System complies with current and pending legislative requirements by:

- Incorporating specific legislative rules for system processes such as eligibility determination and grant calculation.

- Supporting legislative guidelines which point to improvement of state welfare administration through the effective use of distributed processing.

It should be noted that "compliance with legislation" is generally by implication only; i.e., there is little specific legislation governing the design of, and policies surrounding automated information systems. In particular, there is no legislation concerning

centralized (state) data files or standardized client identification numbers.

3.6.2 Improved Administration of the Welfare Program

The WIS improves the administration of the welfare program by:

- Reducing fraud, waste, and abuse by expanding the use of the NRS, central state files, decision tables, state interfaces with other state programs, and central state processing.
- Promoting a greater and/or more efficient exchange of information between the state and the Federal Government through the NRS Processing component's interface with other Federal programs and the state interface with Federal level Statistical Reporting and Quality Control.

3.6.3 Compatibility with Existing Procedures and Trends

The WIS design demonstrates compatibility with existing procedures and trends by:

- Encouraging the use of existing state-level components such as check writing, and state-level telecommunications facilities.

- Providing for the gradual integration of new components via the modular design of the WIS.

- Allowing the flexibility of using manual tape transfer of data or a more sophisticated telecommunications solution.

- Integrating the currently proposed NRS software and its telecommunications network.

- Designing a system consistent with available technology and application trends surveyed in the states.

3.6.4 Minimized Burden on Local, State, and Federal Governments

The WIS minimizes the burden on local, state, and Federal governments by:

- Using existing components, networks and procedures.

- Incorporated functions and thereby eliminating redundant interfaces.

3.6.5 Improved Responsiveness to Clients

The WIS improves responsiveness to clients through:

- Real-time (intrastate) screenings by case-workers.

- Real-time, standardized eligibility determination/grant calculation methodologies (in so far as policies and procedures can be standardized under the current law).

In addition, WIS provi-es for timely notice to clients whenever program eligibility or the grant amount is changed.

4. INFORMATION REQUIREMENTS

This chapter provides a more detailed description of the Welfare Information System requirements identified in Chapter 3. These requirements are presented in terms of data descriptions and data collection requirements.

4.1 DATA DESCRIPTIONS

There are three categories of data in the WIS:

- Static Data--Those data which are used by the system for reference purposes.
- Dynamic Data--All input and output data needed for file update processing.
- Internally Generated Data--The central (master) files maintained for processing dynamic data.

The required data sets in each of these categories are described below. Given the conceptual orientation of this report, these descriptions are presented at a generic level.

4.1.1 Static Data

The Welfare Information System will maintain coding and decision tables as static data to support processing at both the Federal and state levels. The static data requirements for the National Recipient System Processing

component are presented separately in NRS documentation. The static data sets used by the state level Input and Eligibility Processing components consist of:

- Coding Tables--Tables of codes used to enter transaction data collected by local offices, and to report system processing results. Data elements include:
  - Program Related Codes--State-defined code lists which identify program related client data. Examples of these code lists are Deprivation/Support Factor, Living-With Factor, Unemployment Insurance Code, and Check Issuance Reason.
  - Personal Codes--State-defined code lists which indicate personal client data. Examples of these code lists are Citizenship, Birthday, Sex, Race, Aged/Disability Type, Employment Status, WIN/Work Registration Status, Date of WIN/Work Referral Registration, and SSN Status.
  - Financial Codes--State-defined code lists which identify client financial data. Examples of these code lists are Income Type, Deductions/Expenses Type, Assets Type, and Special Needs Type.

- Case Related Codes--State-defined code lists which indicate case related data. Examples of these code lists are Payee Type, Case Status, Case Status Reason, Follow-up Action Reason, Household Type, and Household Composition.

- Transaction Information Codes--State-defined code lists which identify transaction information. Examples are Transaction type, Local Office, Category, Caseload, Transaction Date, and Caseworker.

Decision Tables--Tables of technical, financial, and grant calculation/eligibility criteria used in the Eligibility Processing component. Data elements, as defined by the State Plan, include:

- Technical Eligibility Criteria--Criteria such as number of dependents and assistance unit relationship used to determine technical eligibility.

- Financial Eligibility Criteria--Criteria such as income amounts, expenses, and deductions, used to determine financial eligibility.

CONTINUED

1 OF 2

- Grant Calculation Criteria--Criteria such as asset limits and deductions, used in grant calculation.

4.1.2 Dynamic Input

The dynamic input to the State part of the WIS is presented in this section. The dynamic input to the Federal WIS will be discussed in Section 4.1.3 because it is part of the state system's dynamic output. The following transactions comprise dynamic input to the state:

- Eligibility Transactions--Local office initiated transactions that result from initial applications, redeterminations, and/or NRS and state intrajurisdictional processing. Data include:
  - Control Information--Data elements such as transaction code, transaction date, and local office code.
  - Case/Client Number--The number(s) assigned to each case and/or client.
  - Applicant/Recipient Description Data--Data obtained from the client application which are input by the local office, e.g., name, date of birth, sex, and Social Security number.

- Technical Eligibility Data--Parameters such as other program participation and relationship to the assistance unit which are input by the local office from the client application.

- Financial Eligibility Data--Data such as income, expenses, and assets which are input by the local office from the client application.

- Intrajurisdictional Program Eligibility Data--Data received from other state programs, e.g., program registration status and income information.

- NRS Eligibility Data--Data received as a result of NRS processing. (Refer to NRS documentation for a description of this data set.)

Benefit Payment Transactions--Local office initiated transactions which affect benefit payment processing, including stop payments and emergency assistance payments. These data elements include:

- Control Information--Data elements such as transaction code, transaction date, and local office code.

- Case/Client Number--The identifier of the case/client being processed.

- Check Number--The number of the check as recorded on the Check Register.

- Amount--The amount of the check as recorded on the Check Register.

- Date of Check--The date the check was issued as recorded on the Check Register.

- Reason for Issuance--The reason supplied by the local office for emergency assistance check issuance.

Screening Transactions--Local or state office initiated queries to state level Master and Transaction History Files. Data elements include:

- Control Information--Data elements such as transaction code, transaction date, and local office code.

- Client Number--The identifier of the client to be screened.

- Name--The client's last name, first name and middle initial.

- SSN--The Social Security number of the client.

- Period of Interest--The time period of interest for which the data entries are to be retrieved from the Transaction History File.

- Table Maintenance Transactions--State-initiated transactions which update the static data tables. Data elements include all data sets defined in Section 4.1.1, above, for coding and decision tables.

- Quality Control Transactions--State-initiated transactions which are used to annotate the sample records selected for quality control review with the review results. These data elements include:

  - Control Information--Data elements such as transaction code and transaction date.

  - Case/Client Number--The identifier of the case/client to be reviewed.

  - Q.C. Review Date--The date of the quality control review.

- Quality Control Notations--The results of the quality control case review, including any errors discovered in eligibility determinations.

Financial Management Transactions--State-initiated transactions which are used to record budget and actual cost transactions on the Cost Ledger, and to record grant awards, receipts, and adjustments on the Grant Ledger. These data elements include:

- Control Information--Data elements such as transaction code and transaction date.

- Cost Center--For Cost Ledger transactions, the cost center number assigned to the administrative responsibility center.

- Account--The cost account number required for Cost Ledger transactions and optional for Grant Ledger transactions.

- Accounting Period-- The dates for which the ledger amounts are recorded.

- Transaction Amount--For Grant Ledger transactions, the amount of award, receipt, or adjustment.

- Budget Amount--For Cost Ledger transactions, the approved administrative budget for this cost center and account.

- Actual Cost--For Cost Ledger transactions, the actual program administrative costs according to state cost records.

4.1.3 Dynamic Output

The dynamic output generated by the State and Federal parts of the WIS is described in this section. The following data sets comprise the dynamic state output for the WIS:

- NRS Add/Enumeration Transaction--A state-generated NRS processing transaction which involves "add" processing and SSN enumeration. State output data elements include control information and:

  - Sender ID--A code representing the state/territory and local office from which the record is sent.

  - Case/Client Number--An alphanumeric identifier used to identify a client or the case to which he/she belongs.

- Name--The last name, first name, and middle initial of the client.

- SSN--The Social Security number of the client.

- Date of Birth--The client's date of birth.

- Sex--A code indicating the sex of the client.

- Name of Parents--The names of a child's parents.

- Place of Birth--The city, town, or country and state where the client was born.

State Program Transaction--A state-generated transaction which requests processing by other state programs for verification of program benefits. State output data elements include control information and:

- Case/Client Number--An alphanumeric identifier used to identify a client or the case to which he/she belongs.

- Name--The client's last name, first name, and middle initial.

- Quality Control Data--The results of the quality control review, including total number of cases containing agency or client errors and error payment records.

Response Queue--A state system queue containing the real-time responses to screening transactions (based on Transaction History and Master File data retrieval) or to eligibility transaction processing, NRS processing, or processing by other state programs. Data elements include:

- Local Office Code--A code which uniquely identifies the source of the inquiry.
- Case/Client Number--The identifier of the case/client to which the response applies.
- Descriptive Case Data--Response data from the Master File which describe each case in terms of recipients, processing status, etc.
- Eligibility Processing Results--A system response which describes the status of a case and the benefit amount, if any.
- NRS Processing Results--Information about an individual's participation in Federal programs and/or SSN enumeration status.

- Transaction Data--Response data from the Transaction History File including input data, routing status, and the date processed for each transaction entry.

- Benefits Processing Output--The voucher and check printed at the state as a result of payment authorization.

- Case/Client Administration Reports--The state-generated reports which support local office administration and client notification. Examples are Notice of Action, Application Status, Case Status, and Caseload Register reports.

- State Statistical Reports--The state-generated reports required for state/local program management reporting purposes.

- Quality Control Reports--Error profile analysis and tracking reports printed at the state as a result of quality control review.

- Financial Management--Cost management reports and reimbursement claims reports generated by the state Financial Management component, copies of which are sent to the Federal WIS for selected entry on the Federal Statistical Data Base.

Federal dynamic output includes:

- Federal Statistical Reports--The reports generated by the Federal government which satisfy either DHEW or Congressional reporting requirements.

- Federal Quality Control Output--The error profile and trend analysis reports printed by the Federal government.

4.1.4 Internally Generated Data

As input data are processed by the State and Federal parts of the WIS, various central files are maintained to support data storage requirements. These central files are internally generated data sets, updated from input transactions, and the results of periodic processing (e.g., Benefits Processing). The internally generated data set requirements for NRS processing can be found in the NRS documentation. The most important state central file is the Master File, containing a record of every action case and, according to the practice in the state, closed and/or suspended cases. The data elements on this file include:

- Case/Client Number--The identifier of the client or assistance unit.

- Recipient Name(s)--The name(s) of each of the recipients in the assistance unit as entered by the local office.

- Recipient SSN--The Social Security number of each recipient as entered by the local office.

- Recipient Characteristics--Data such as the age, sex, and marital status of recipients as entered by the local office.

- Eligibility Data--Technical and financial eligibility data for the assistance unit as entered by the local office.

- Grant Calculation--The amount of the unit grant as determined by the WIS Eligibility Processing component.

- Payment History--The benefits paid to the unit as recorded by the WIS Benefits Processing component.

- State Program Responses--The results of processing by other state programs, e.g., unemployment insurance, state retirement benefits, motor vehicle registration, disability, etc.

- Ancillary Program Status--The WIN Registration, Child Support, and Social Service program status of the recipient.

- Eligibility Status--A code provided by the state system indicating whether a case is active, suspended or terminated.

- Activity Code--A code provided either by the local office or the state, indicating case administration activity including redetermination reviews.

Other internally generated data sets are:

- Transaction History File--A log of all transactions processed by the state part of the WIS. Data elements include control information and:

  - Case/Client Number--The identifier assigned to the case/client.

  - Transaction Data--The data input with the transaction.

- Error Code--The code indicated by the Input Processing component to identify the errors detected by the system in processing.

- Routing Code--The code indicated by the Input Processing component to identify the components to which this transaction has been routed for processing.

- Routing Status--The code indicated by the Input Processing component to identify the status of interfaces to other components.

- Routing Date--The date the transaction was routed for processing by the Input Processing component.

- Status Date--The date the routing status was last updated by the Input Processing component.

Issued Check Register--A register containing a list of all scheduled and non-scheduled program checks issued to recipients. Data elements include:

- Case/Client Number--The identifier of the case/client receiving the payment.

- Check Number--The number of the check.

- Payee--The payee to whom the check was written.

- Date of Check--The date the check was issued.

- Amount--The amount of the check.

. Outstanding Check File--A file containing a list of all issued checks that have not been redeemed. Data elements are the same as those specified for the Issued Checks Register.

. Sample File--A file containing a sample of cases taken from the Master File to be reviewed by state Quality Control according to Federally prescribed methodologies. Data elements are similar to those specified for the Master File.

. Grant Ledger--The accounting ledger maintained by Financial Management for grant proceeds and payments listed in the Issued Check Register. Data elements include:

- Account--The account number assigned to grant receipts and disbursements according to the state chart of accounts.

- Accounting Period--The date for recorded ledger amounts.

- Debit Amount--The amount debited to the account by the State Treasurer in the accounting period.

- Credit Amount--The amount credited to the account according to the Issued Check Register and redeemed checks.

- Closing Status--The status of the account balances for reconciliation, month-end closing, and year-end closing, as provided by the Financial Management component.

Cost Ledger--The state accounting ledger kept by Financial Management for state and local office program administration costs related to the welfare program. Data elements include:

- Cost Center--The cost center number assigned to the administrative cost responsibility center.

- Account--The cost account number.

- Accounting Period--The period of time for which the ledger amounts are recorded.

- Budget Amount--The approved administrative budget for this cost center and account.

- Actual Costs--The amount of expenditures as recorded on state records.

- Statistical Data Base--A Federal file of compiled state program statistical/quality control data which supports Federal Statistical Reporting. Data elements include:

  - State Code--The code which identifies each state.

  - Report Period--The period of time covered by the data.

  - Statistical Compilation Data--The formatted summaries of state program statistical data.

  - Financial Data--Grant and administrative cost information reported by states and audited by the Federal government.

4.2 DATA COLLECTION

This section describes the local office preparation of source data transaction inputs for processing at the state level. Two topics are covered: input responsibilities and procedures.

4.2.1 Input Responsibilities

Data collection at the local office supports data input for two transactions:

- Eligibility Transactions--Developed from initial applications for program participation as a consequence of reported changes to initial application data.

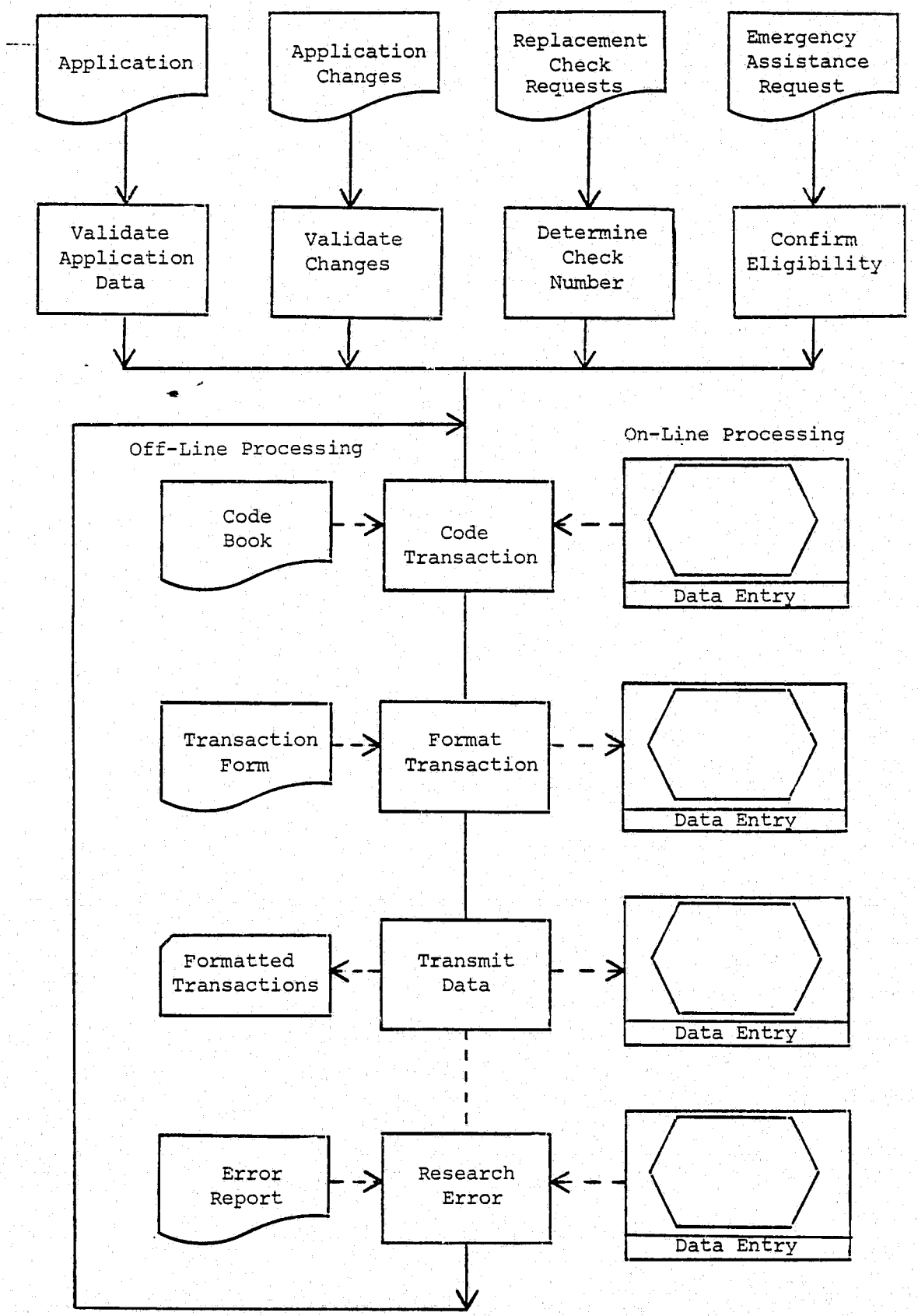
- Benefit Payment Transactions--Developed in response to emergency assistance payment requirements or replacement check requirements due to reports of lost, stolen, or mutilated checks.

Eligibility technicians validate information collected and prepare transactions for entry to the system. Once prepared, the transactions are formatted for system input by the local offices. Input can be accomplished using an on-line data entry terminal connected to the state system, or through off-line data capture facilities (e.g., tape/disk, or card punch) and batch data transmission. If the local office is equipped for on-line data entry and can initiate on-line eligibility processing, data entry may be performed by the caseworker to enable real-time processing of the application in the local office.

4.2.2 Procedures

Figure 7 depicts the procedures required for source data transaction collection. Source data from program applicants/recipients are validated, coded, formatted and transmitted for state system processing. As shown in the figure, the data collection procedures occurring after initial data validation may be performed off-line to the state system or with a data entry terminal that is on-line to the Input Processing component of the state system. In either mode, the procedures are the same, although on-line processing streamlines the data collection effort in the local office and ensures both state-level system processing efficiency, and increased applicant/recipient service.

FIGURE 7 - DATA COLLECTION PROCEDURE



5. COMMUNICATION REQUIREMENTS

The purpose of this chapter is to present a conceptual telecommunications solution for the Welfare Information System in terms of objectives, existing methods and procedures, proposed methods and procedures, and performance and work load requirements.

5.1 OBJECTIVES OF A TELECOMMUNICATIONS SOLUTION

The telecommunications solutions proposed for the WIS must satisfy network design objectives necessary to support WIS operations. Sections 5.1.1 through 5.1.4 discuss these objectives; i.e., the system should have minimum impact on the states, timely data transmission, accurate data communication, and data security.

5.1.1 Minimum Impact on the States

The implementation of a communications network between the Federal part of the WIS and state systems, and between each state system and its local offices, must not overburden the states. The impact of network implementation will be minimized by using existing telecommunications networks such as the one proposed for the NRS. Impact within the state will also be minimized by making maximum use of the telecommunications facilities currently in use.

5.1.2 Timely Data Transmission

Because the WIS relies on distributed processing at the local, state, and Federal levels, the telecommunications solution must provide timely data transmission among these three levels. Specifically, the results of screening and eligibility processing would be of greatest benefit to the caseworker and recipient in a real-time mode.

5.1.3 Accurate Data Communications

Another key to successful distributed processing is accurate data communications. Since the network solution must maintain the integrity of all transmitted data, the WIS telecommunication network will be responsible for correcting data transmission errors.

5.1.4 Data Security

The network solution should also support data security requirements. The WIS depends upon the interactions among three administrative levels, and the solution must maintain the confidentiality of transmitted data by utilizing appropriate data enciphering and deciphering procedures where or when warranted.

5.2 EXISTING METHODS AND PROCEDURES

As documented in the State Welfare Systems Assessment Report, only two state-wide processes, central recordkeeping and check

issuance, are centralized in the majority of states (38 or more). The local office-to-state, and state-to-Federal data transfer that supports this limited type of batch operation normally has the following characteristics:

- Copies of case files provided by the local offices are transferred to the state through the mail.

- Statistical data accumulated by the state are mailed to the Federal government in the form of reports.

- Data are exchanged between local offices and state and Federal programs by telephone or via tapes sent through the mail.

Sixteen states improve upon the above mode of transmission using remote batch input and eight have an interactive input mode available. Recent assessments reveal that twenty-eight states have an average core usage of 100K or more indicating relatively sophisticated hardware configurations, including large-scale computer mainframes with remote terminal processing capabilities.

5.3 PROPOSED METHODS AND PROCEDURES

This section presents the network design strategy and the proposed telecommunications solution for the WIS.

5.3.1 Network Design Strategy

A telecommunications solution for the WIS must address the communications requirements of the three-level network. Each local office must have a data transfer capability to and from the state level system, and each state office must have a data transfer capability to and from the Federal level system. Figure 8 depicts the logical topology of this tri-level network.

The strategies used to develop a telecommunications concept for this network are discussed below in terms of:

- Federal/State Data Communications Strategy--
  The Federal/State data communications design strategy is to make maximum use of proposed NRS/state communications. The NRS telecommunication network can be used to support transmission of data for SSN enumeration and National Recipient System processing without impacting the NRS network design. In addition, the data to support the Federal statistical reporting and quality control functions can be transmitted periodically during non-prime time hours via the NRS network. These data can then be stored off-line and processed as needed.

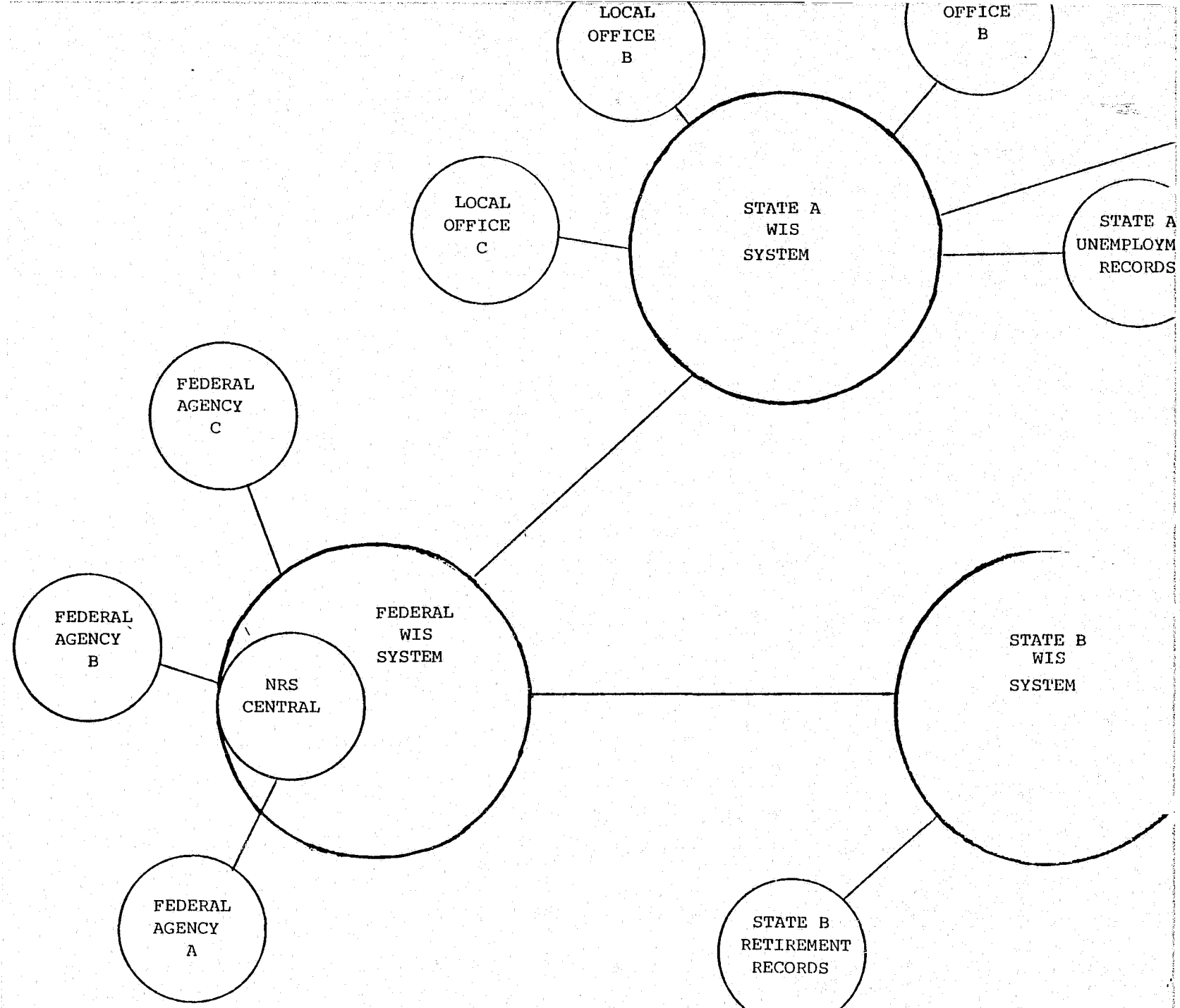


FIGURE 8--LOGICAL TOPOLOGY OF WELFARE INFORMATION SYSTEM

- State/Local Data Communications Strategy--The strategy for development of a state/local data communications design is to provide for a simple, low-cost method of automated data transfer with an alternative of off-line data transfer. This flexibility will provide local offices with low data volume an alternative mode of access to the state part of the WIS without compelling complete participation in a network solution before state-wide processing can become operational.

  Reports generated by the state system will be mailed to the local offices in order to avoid adding cost and complication to the data transfer process.

- Local Office Access Strategy--The strategy for the local office is to facilitate access of the state part of the WIS for data processing and retrieval. Local offices which automate may interface with the State WIS via a CRT. At these terminals, a user may perform on-line eligibility processing and screening. Responses would be in a real-time mode. Local offices which send the State WIS a

tape of case/client data will still have access to the system's Eligibility Processing component, but in a batch mode.

5.3.2 Proposed Network Solutions

The proposed network solution for Federal/state data communication is the NRS telecommunications network. A description of this network is included in the NRS documentation.

For state/local office data communications, many states may elect to use existing network facilities. However, for those states without such a network there are several alternatives. One solution is to attach terminals to one high speed communication line. This solution greatly reduces the line mileage and cost that would be required to maintain a separate line between the state and each local office. The number of multidrop lines required would vary with the number of local offices, the amount of data traffic, and the desired response-time.

Another possible network solution is to use closed multidrop loops. This configuration provides two paths from each local office terminal to the State WIS. In this configuration, any single line segment can fail and every terminal will still be connected to the state system. The total line cost is increased by only a small

proportion and an acceptable response time will be maintained. Additional terminal logic is required, however, to perform the alternate path selection.

Because any two terminals on a multidrop line cannot transmit or receive at the same time, a line discipline must be established for operation of either of these two suggested networks. Communication software in the WIS could consecutively poll the local office terminals on each line. As each terminal is polled, it would send whatever data it has accumulated to the state part of the WIS. Communications from the state system would be sent to all terminals on each line, but each transmission would be prefaced with the address of the terminal for which it is intended. The terminal would strip off this encoded address, and if the message contained the proper address, it would be decoded and printed out on the screen. This decoding scheme would ensure that the confidential data routed through the network can only be received by the destination for which they were intended.

States desiring minimum response time should consider a third, more costly telecommunications solution--the value-added network. A possible configuration of this type would consist of single drop lines to each local office, supported by local office microprocessors. These microprocessors could be programmed to perform any of the following functions:

- Blocking Data--Ongoing records or messages can be placed together in one block and reformatted for transmission. Conversely, individual records will be extracted from blocks received.

- Multiplexing--For local offices with more than one CRT, software can be used to interleave characters or words of different terminals.

- Data Compacting--Outgoing information can be compressed so that a smaller number of characters would be transmitted.

- Store-And-Forward Functions--Software can be used to file messages for later transmission or retrieval from a terminal.

Although the use of single drop lines and implementation of one or more of the above functions results in increased network cost due to additional line mileage and software, network performance would be significantly enhanced.

5.4 REQUIREMENTS

This section discusses the performance and workload requirements for the network solutions presented in Section 5.3.2.

5.4.1 Performance

Both the state/local network solutions and the NRS network address the following performance criteria:

- Response Time--The state/local network allows the user to perform on-line eligibility processing, data input, editing and screening. Of these four processes, eligibility processing and screening provide a real-time response. Each of the proposed state/local network solutions may be configured to achieve the desired user response time by increasing line speed. In addition, multidrop lines may be configured with fewer terminals per line or loop. No real-time response is required of the NRS network since all Federal WIS processes are batch.

- Accuracy--Each proposed state/local network inherently supports transaction processing accuracy. By using leased lines which may be conditioned for lower error rate, transmission errors may be kept at a minimum.

The planned NRS network also addresses the accuracy requirement by requiring the commercial communications network to use transmission error detection techniques and automatic retransmission of erroneous data.

- Security--The state/local network solutions would support security requirements by using private lines, thereby controlling access to the lines. In addition, since individual data transmissions are enciphered and addressed, only the local office terminal for which the data are intended will decipher the transmission. (The NRS network uses a similar scheme.)

- Flexibility--Flexibility is a key element in the design of the WIS state/local and NRS network configurations. Although three basic designs have been suggested, the actual network configuration chosen will be tailored to the existing state communications facilities.

5.4.2 Workload

This section discusses the telecommunications work load for the WIS in terms of:

State/Federal Work Load--The work load estimated for the NRS network includes transactions for National Recipient System processing and SSN Enumeration, and data for input to Federal Statistical Reporting and Quality Control.

Statistical Quality Control data will be transmitted via the NRS network on a monthly, quarterly, semi-annual, and annual basis. Based on current Federal data reporting requirements, (forms SRS-QC 341.1, 341.1A, 341.2, 341.3, 341.3A, and 341.4) the following number of bytes will be transmitted for each state:

Monthly:	26,025
Quarterly:	1,131
Semi-Annually: (Quality Control data only)	8,233
Annually:	3,151

Adding ten percent for error messages and unprocessable data, these figures translate to a total of 320 thousand bytes per state per year for statistical data and 16 thousand bytes per state per year for quality control data. Therefore, the yearly statistical/quality

control data volume for 52 jurisdictions using the national NRS network is 17.5 million bytes.

Transactions for NRS Processing and SSN Enumeration are transmitted daily to the Federal WIS. Since the work load estimates for NRS processing found in NRS documentation were based on AFDC client load only, the number of WIS transactions estimated for AFDC, non-PA MA, and non-PA FS can be calculated by multiplying the documented NRS transactions by a factor of 1.3. This newly calculated number of transactions remains constant when the SSN Enumeration component is added, since the new NRS processing add/enumeration transaction merely replaces the add transaction used by a client to apply for an SSN. The work load is impacted, however, by the additional information required for enumeration. Two supplemental data elements--place of birth and parents' names--result in an increase of 66 characters for the add/enumeration.

Based on this additional data and an expanded NRS population, the incremental daily volume for the national NRS network is estimated at 51.5 million bytes.

Local Office/State Workload--The workload for the state network includes transactions for Eligibility Processing, Benefits Processing, and Screening. Table 2 provides the number of transactions required to process an average case for one year, the number of bytes per transaction, and the average annual volume in bytes. Transaction data were compiled from estimates of transactions in a currently operational on-line income maintenance system.

Workload factors used to compute the estimates include:

- Input Transaction Rate--Input transactions for Eligibility Processing occur at a rate of 1.5 for application, 2 for redetermination, and 3 for non-scheduled changes per case per year. Benefits Processing includes .5 transactions for emergency assistance and .2 transactions for financial functions, such as stop payment. Six transactions are estimated for screening.

TABLE 2 - LOCAL OFFICE/STATE WORKLOAD FOR AN AVERAGE CASE FOR ONE YEAR

Transaction	Number of Transactions	Number of Bytes/Transaction	Aver Volu
Total for Eligibility Processing	13		
Applications	3	2872	
Redeterminations	4	1526	
Non-scheduled changes	6	1526	
Total for Benefits Processing	.7		
Emergency Assistance	.5	217	
Stop Payments, etc.	.2	44	
Total for Screening	12	517	
TOTAL	25.7 transactions		1

* Volume estimates include transaction data bytes only

- Output Transaction Rate--Output transactions for real-time Eligibility Processing and screening are assumed to occur on a one-for-one basis with input transactions. Benefits Processing transactions require no response and therefore have no output transactions.

- Bytes Per Transaction--Input transactions for Eligibility Processing contain 16 hundred bytes for application, 226 bytes for each redetermination and non-scheduled changes. Output transactions for Eligibility Processing each contain 1,300 bytes. Input transactions for Benefits Processing contain 217 bytes for emergency assistance and 44 bytes for stop payments. Input transactions for screening contain an average of 67 bytes. Output screening transactions contain an average of 450 bytes.

- Individuals Per Case--An average of three individuals per case are assumed for all calculations.

From the table data, it can be shown that the average state caseload per year, 247 thousand cases, would generate 6.4 million transactions and an average work load of 3.7 billion bytes per year.

6. IMPACTS AND NEXT STEPS

The previous chapters of this report have described the Welfare Information System and its design in light of the three welfare reform proposals. The purpose of this chapter is to summarize the impacts of both the proposals and the system, and to delineate the next steps toward implementation of the system.

6.1 IMPACTS

Organizational, operational, hardware, and software impacts are presented in Sections 6.1.1 through 6.1.4, following:

6.1.1 Organizational Impacts

The design of the WIS has significant organizational impact. As part of a distributed processing environment to support state income maintenance program administration, the WIS will:

- Increase processing efficiency at the local office.
- Centralize master files and (in most states) automated functions.

- Utilize Federal NRS processing to support the eligibility processing performed by the states.

As a result, one major organizational impact is that data processing will play a greater role in supporting the administration of welfare at the local, state, and Federal level. Newly automated and centralized functions may necessitate an upgrading of staff skills and may require staff training.

In addition, the WIS will have the following impacts:

- At the Federal level--The proposed National Recipient System (NRS) may be expanded to include SSN enumeration, statistical reporting, and quality control. Coordination with SSA would be required to implement SSN enumeration, and with ORS and OQA to effect the transfer of statistical reporting and quality control technology.

- At the state level--Based on data in the State Welfare Systems Assessment Report, the scope of most state systems will need to be expanded to include the functions proposed for the state part of WIS. Interfaces with the local offices, other

programs, and the Federal government will be established during system implementation. Because it is essential that the WIS be compatible with other systems such as those to support Title XIX, close coordination with those agencies will also be required.

- At the local office level--The local office may need to revise many of its methods and procedures in order to adjust to the expanded processing and standardization offered by the WIS. Extensive coordination with the state may be required to facilitate this transition.

6.1.2 Operational Impacts

The WIS design affects operations at the local, state, and Federal levels in the following ways:

- Federal Level--The Federal WIS design impacts the following two areas:
  - Federal Statistical Reporting and Quality Control Procedures--Input data would be received via the NRS network and processed by automated components. As a result, the level and numbers of support

staff at the central site would increase. Training on the use of the system would also be required.

- SSN Enumeration Procedures--The WIS design includes SSN enumeration as a Federal level process. The exact impact of the implementation of SSN enumeration at the Federal level has not yet been assessed.

State Level--For most jurisdictions, the WIS includes new data processing functions. These functions include maintenance of eligibility decision tables, and of automated interfaces such as those to other programs and to the Federal part of the WIS. These features would impact state operations by requiring:

- Increased members and, possibly, skill levels of personnel to support the system

- A central control group to interface with local offices and the Federal Government regarding system maintenance and report distribution.

- Modification to and standardization of methods and procedures for current state functions such as benefit processing, financial management, quality control, and statistical reporting.

- Conversion of any state manual files to automated files or in some states, the initial creation of centralized files.

. Local Level--The WIS has a major impact on manual processing at the local offices of most states. In order to support this new mode of operations will need training to interface with the automated system. In addition, caseworkers will need to gain familiarity with the new reports they will receive to assist them in case administration.

6.1.3 Hardware Impacts

This section discusses the hardware impacts of the WIS design in terms of Federal processing resources, Federal/state data transmission capability, state processing resources, and state/local data transmission capability. These impacts are as follows:

- Federal Processing Resources--The off-line storage required for statistical/quality control data for a five year period has been estimated in Chapter 3 to be 87.5 million bytes. This off-line storage requirement is not expected to have any major impact on Federal part of the WIS resources. In addition, NRS planned computing resources are estimated to be sufficient for the expanded Federal part of the WIS. The workload analysis presented in Section 3.5.1 states that the NRS planned on-line storage of 7 billion bytes must be expanded to 11.2 billion for the Federal WIS processing. However, most of the expansion is required for the addition of non-PA MA and non-PA FS recipients to NRS.

- Federal/State Data Transmission Capability--Section 5.4.2 presented the workload analysis for the Federal/state network in terms of the incremental daily volume necessary for SSN Enumeration. This incremental volume is not expected to impact the network design. In addition, since statistical and quality control data can be sent periodically during

- State Processing Resources--According to the workload analysis, state processing resources must be capable of handling 1.3, 5.8, and 18.2 million transactions per year for states with small, medium, and large caseloads, respectively. Similarly, storage requirements for small, medium, and large states are 0.7, 3.4, and 10.7 billion bytes, respectively. The impact of these requirements would vary from state to state depending on current state processing resources.

- State/Local Data Transmission Capability--Section 5.4.2 also presented the work load analysis for the state network in terms of the yearly state averages. The hardware impact of this workload will vary for each state depending on currently available state telecommunications.

6.1.4 Software Impacts

The WIS design impacts software at both the Federal and state levels, as follows:

- Federal Level--The Federal part of the WIS would supplement existing NRS software with additional software to support SSN enumeration,

statistical reporting, and quality control. Statistical reporting and quality control software that has already been developed by ORS and OQA may be transferrable to the WIS, thereby minimizing the impact of this software requirement. The impact of developing SSN enumeration software has not been determined.

- State Level--The State WIS is composed of modules which supplement existing state software. The impact of developing, integrating, and installing this software at the state level is an area requiring further analysis.

The level of detail of the data in the State Welfare Systems Assessment Report is insufficient to make more definitive statements about hardware and software impacts at the state and local levels.

6.2 NEXT STEPS

This section presents the next steps recommended at the Federal and state levels.

6.2.1 Federal Level

The following steps toward WIS implementation are suggested at the Federal level:

- Most importantly, an implementation plan must be developed for the expanded Federal part of the WIS including development milestones and costs, an NRS integration procedure and schedule, and proposed system acceptance criteria.

- A methodology for keeping the implementation plan consistent with new legislation should be developed. A possible procedure could include a review of legislative proposals by DHEW to ensure that proposed policy and procedures could be administered within the time, budgetary and other constraints in the proposals.

- A plan must also be devised to encourage states to implement an interface to the Federal part of the WIS and to provide evaluation criteria for state plans.

- Existing state systems must be defined in sufficient detail so that software and/or

technology transfer can be analyzed, costed, and recommended to the states. (Part of this definition is being provided by a HCFA project, one of whose purposes is to study the transferability of several eligibility systems.)

- An in-depth study of the feasibility and costs of including SSN enumeration as a Federal level process must be undertaken.

- An assessment must be made of the current Federal processing resources in terms of Federal WIS requirements. For example, it is necessary to:

  - Verify that NRS computing resources can support SSN Enumeration.

  - Estimate the computing resources used by the Office of Research and Statistics for automation of Federal Statistical Reporting, in order to determine the required WIS resources for this function.

  - Estimate the computing resources used by the Office of Quality Assurance for

automation of the subsample processing portion of Quality Control. In addition, estimates for table handling, currently a manual process, must be made. The total estimate will determine the WIS resources required for Quality Control processing at the Federal level.

- Estimate the costs of including SSN Enumeration, Statistical Processing, and Quality Control in the Federal part of the WIS.

6.2.2 State Level

The following steps toward implementation of the WIS are suggested at the state level:

. An implementation plan must be developed that would assure integration with the overall Federal plan. The state's implementation plan would include the results of much of the analysis suggested in subsequent points.

. Staff and resources currently available should be analyzed to determine the resources

required to support the system both state and local levels. In particular, staffing requirements should be assessed for the central control group which will interface with local offices and the Federal government.

- Training requirements should be developed and a standardized approach to training at state and local levels should be devised.

- A more detailed assessment of existing state filing systems should be made to determine the degree of difficulty for conversion to the WIS.

- A more detailed assessment must be made of existing state resources to determine present storage capacity and any additional processing resources resulting from the implementation of the WIS.

In addition, the costs associated with operating WIS in the states, e.g., design, development, implementation, conversion, training, etc., must be estimated for each state/territory so that the cost of the overall Welfare Information System can be determined.

END