Department of Social Services:

**The Department's Approach to Welfare
Automation Is Too Costly and
Unlikely To Succeed**

CALIFORNIA STATE AUDITOR

April 18, 1995   94021

The Governor of California
President pro Tempore of the Senate
Speaker of the Assembly
State Capitol
Sacramento, California 95814

Dear Governor and Legislative Leaders:

As required by the 1994-95 Budget Act, the Bureau of State Audits presents its audit report entitled "Department of Social Services: The Department's Approach to Welfare Automation Is Too Costly and Unlikely To Succeed." It was prepared under contract by Ernst & Young, LLP. The report concludes that the department's approach to welfare automation will cost over $1 billion and that the department's estimated savings from this project will not recover the costs for nearly ten years. Moreover, we are concerned that the department's estimated savings may not be attainable.

In addition, the software selected by the department may not be suitable to accommodate a high volume of transactions and is based on a proprietary system not suitable for competitive procurement. The technology approach is inefficient, outdated, and not performing as expected. Further, our contractor found a number of serious deficiencies in the department's management of welfare automation including the lack of a strategic plan, measurable objectives, and adequate cost accounting or reporting. Because of these deficiencies, we recommend the Legislature limit funding until certain conditions are met, the department competitively procure statewide welfare automation, and the department improve its management of welfare automation.

Respectfully submitted,

KURT R. SJOBERG
State Auditor

California

State Auditor

Bureau of State Audits

April 3, 1995

The Department of Social
Services' Approach to Welfare
Automation Is Too Costly and
Unlikely to Succeed

State of California

(94021)

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April 3, 1995

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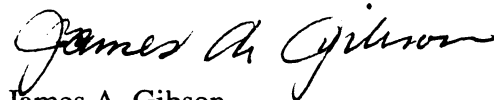Sacramento, California 95814

Dear Mr. Sjoberg:

Ernst & Young LLP is pleased to present our independent review of the Statewide
Automated Welfare System (SAWS). This project is the largest and most costly
computer-based system ever undertaken by the State of California. The review provides
critical needed analyses in order to assess the future direction of welfare automation. We
hope the recommendations in this report are quickly implemented in order to provide
counties with the enabling technology for delivering welfare services, and to help better
manage the significant investment in state expenditures.

We would like to express our thanks for the substantial help and insight of Mr. Fred S. C.
Forrer, Special Assistant State Auditor, on this complex and difficult review. The project
director on this effort, Mr. Edward Kaempf, and our information technology manager,
Ms. Martha Maxwell, along with myself, appreciate the opportunity to be of service to
the Bureau. Should you have any questions or comments concerning this review, please
do not hesitate to contact us in Sacramento at (916) 449-3400.

Very truly yours,

ERNST & YOUNG LLP

James A. Gibson
Director of Management Consulting

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Summary

Results in Brief   The California Welfare and Institutions Code requires the Department of Social Services (department) to implement a Statewide Automated Welfare System (SAWS) for the following public assistance programs: Aid to Families with Dependent Children (family group and foster care), food stamps, Medi-Cal, aid for adoption of children, special adult programs, and, where feasible, social services programs. The statutes set no time schedule for when welfare automation must be implemented statewide. In its initial detailed workplan, submitted to the Legislature August 1, 1984, the department planned to complete SAWS by June 1990. The department currently has no date set for completing statewide automation.

The purpose of this review was to evaluate the effectiveness and efficiency of the department's approach to statewide welfare automation. Our review included the evaluation of two completed pilot projects developed by Napa County and Merced County, and an assessment of a third welfare automation project being developed by Los Angeles County. We examined the goals, benefits, and costs of welfare automation, and evaluated the department's strategy and evaluation plan for a pilot system being implemented in 14 small to medium-sized counties, known as Interim Statewide Automated Welfare System (ISAWS). Nine of the 14 ISAWS counties are in various stages of installation, with the remaining five counties to begin later this year.

We project that the Department of Social Services (department) will spend $166 million to automate 14 counties (eight percent of cases). Projected costs for statewide automation may exceed $1 billion, or $455 million over original department budget estimates. Some of the savings expected by the department from automation may not be attainable, and may not be sufficient to recover projected costs for nearly ten years.

The approach chosen for automating the 14 interim SAWS (ISAWS) counties is unlikely to succeed as a cost-effective approach to statewide welfare automation. Administrative cost savings of $231,000 during fiscal year 1993/94 in Napa County are below what should be expected after the NAPAS was implemented. The annual cost of keeping the application software up-to-date with welfare laws is $6.8 million, and increasing. A backlog of requested rules and other changes to the software may take $3 million to resolve, and indicates that the underlying software is difficult to maintain. The NAPAS software may not be suitable to accommodate a high volume of transactions and records, is based on a proprietary system not suitable for competitive procurement statewide, and is inefficient. The technology approach to ISAWS is outdated and the system is not performing as expected.

The state is bearing full financial risk for making sure ISAWS performs as originally planned. The department is not requiring its hardware supplier, nor its software maintenance vendor, to meet system availability or response time standards, and has not established a fixed price to meet performance objectives. As a result, the department does not know how much hardware is needed to service all ISAWS counties, nor what the hardware and software costs will eventually be.

Support for the ISAWS approach is waning. Counties believe that the department and federal government have been "unwilling... to allow counties to pursue viable alternatives." In California, other welfare automation systems compare favorably with NAPAS. One of these, the Merced Automated Global Information Control (MAGIC) system developed by Merced County, already was paid for by the State and is now in the public domain. Annual costs savings in Merced County after implementation of MAGIC are estimated at $5 million. These are net savings after subtracting out the amount of savings which may have been attributable to county efforts to reorganize and streamline their manual operations before automating. The county reduced its total 1993/94 costs per case by 55 percent since 1989/90, the largest reduction of any county in California over the same period.

A second welfare automation system which compares favorably with NAPAS is Los Angeles County's proposed Los Angeles Eligibility, Automated Determination, Evaluation and Reporting system (LEADER). Though no contract has yet been signed to deliver the system, planned commitments are to implement the system in 42 months. The total projected cost, including county actual and projected costs, is less than the cost of ISAWS for four times as many cases. The approach required by Los Angeles County and bid by Unisys Corporation and Deloitte & Touche is based on client/server technology and a relational database design. The contract being negotiated now to produce LEADER will require the contractor to meet specified and measurable performance targets for the system, provides for penalties and damages for failing to meet these targets, and establishes a fixed price bid. If the contract is signed, and assuming it is managed to completion as planned, the county will know up front how much it will pay the vendor for the project.

In organizing and conducting its activities to provide welfare automation to counties, the department has failed to deliver a statewide system. The results of our review, which included activities back to 1984 up through this year, indicate the need for substantial changes to how the department is organized and how it performs its responsibilities for welfare automation. The complexity of this project has overwhelmed the department's ability to manage it; we estimate that statewide welfare automation may not be available until the year 2000, ten years after the department's original plans for SAWS.

As discussed in this report, the department:

❑   Has no strategic plan for statewide welfare automation. Without this plan, it is difficult to keep the project on course, to understand when the project will be implemented, or to assign and mange the resources needed to implement the plan

❑ Has not developed measurable objectives, and as a result is unable to evaluate the effectiveness, efficiency, or progress of the project

❑ Has not established an effective cost accounting or reporting system for welfare automation efforts, is unable to tell the Legislature how much has been spent to-date on welfare automation, and has not tracked actual cumulative costs to budget estimates since the Legislature initiated the Statewide Automated Welfare System (SAWS) in 1984

❑ Places the SAWS branch chief at too low a level to command authority and accountability, and has had six changes in the branch chief in the last eight years

❑ Has not prepared a risk assessment plan and does not share risks of the project with vendors providing ISAWS

❑ Has not complied with Legislative and administrative reporting requirements

❑ Has not provided the Legislature with a complete cost estimate for ISAWS, and continually underestimates costs of statewide automation

❑ Has made, and is planning, expensive and unnecessary enhancements to ISAWS (workstations, graphical user interface)

❑ Does not have an evaluation plan for ISAWS which would result in an unequivocal recommendation to continue with or cease ISAWS

❑ Does not properly utilize outside expertise where staff do not have the specialized skills to meet a specific need. There has been no independent validation or verification of the project's progress, budget, or performance.

Recommendations   The department has much more to do in order to remedy the concerns presented in this report. We make the following recommendations to the Legislature to move forward with implementing statewide welfare automation:

❑ The Legislature should limit welfare automation funding until certain conditions are met

❑ The department should competitively bid the statewide implementation of welfare automation

❑ The department should improve its management of welfare automation

❏   The Legislature should consider continued independent review of welfare automation.

Department of Social Services' Comments

In its response, the Department of Social Services acknowledges that the ISAWS software is not a viable solution for statewide welfare automation, that competitive procurement of SAWS is needed, and that vendors should be required to provide performance guarantees for the automated systems being procured. However, the department states that there are many issues throughout the audit report with which it disagrees. In particular, the Department is concerned that the report leaves the incorrect impression that it is wasting money in its administration of welfare, and that the report understates the achievements of the SAWS project.

The department expresses concerns with three of the report's recommendations. The department would like the Auditor to reconsider the recommendation to limit ISAWS funding to six months. They are concerned that this recommendation would put ISAWS counties in limbo and believe that the department could address the conditions raised in the report adequately over the next few months. The department also is concerned with the report's recommendation to issue a Request for Proposal to automate 42 counties. Finally, the department believes the recommendation to continue legislative independent review of welfare automation would divert department staff from SAWS project activities, and that normal federal and legislative budget oversight processes provide ample review.

Napa County's Comments

In its response, Napa County alleges that the report is inaccurate and flawed. Napa County provides remarks on the goals it achieved with the automated system, response time improvements, user satisfaction, time to process a welfare case, and development costs.

Merced County's Comments and Los Angeles County's Comments

Merced county believes the report to be thorough and reflective of MAGIC's impact on operation of public assistance programs in the County. Los Angeles County did not have any comments on the final report.

◆   ◆   ◆   ◆   ◆   ◆   ◆   ◆

To provide clarity and perspective, we provide our comments to responses from the department and Napa County at the end of this report.

Introduction

In 1979, the Legislature passed Assembly Bill 8 requiring the Department of Social Services (department) to implement in all counties a centralized welfare system by 1984. After four years of effort and a lack of progress, the Legislature cut off funding for the project and asked the department for an evaluation of why the effort failed. In its 1983 evaluation report to the Legislature, the department recommended that the State proceed with automation of California's county-administered welfare system in a manner that takes advantage of the existing county systems and the county computer centers that are already equipped and staffed for operating the welfare system.

The department's proposed new system was subsequently called the Statewide Automated Welfare System (SAWS). Following the department's recommendations, the Legislature then passed Senate Bill 1379 in 1984 to develop and implement SAWS beginning July 1, 1984.

SAWS Welfare Programs

Welfare is a term commonly used to describe public assistance programs designed to provide cash payments, goods, or services to needy individuals. The following public assistance programs are included in SAWS:

❑   *Aid to Families with Dependent Children (AFDC)* -- direct cash payments to needy families with dependent children

❑   *Food Stamps* -- coupons for food or food-preparation items redeemed at participating retailers

❑   *Medi-Cal* -- funding to cover costs of medical care for low-income individuals; known outside of California as Medicaid

❑   *Foster Care* -- funding for children who otherwise would be living in AFDC-eligible homes

❑   *Refugee Program* -- direct cash payments to eligible refugees and funding to cover costs of their medical care

❑   *County Medical Services* -- funding to cover costs of medical care for those who do not qualify for Medi-Cal

Exhibit 1, at the end of this section, provides an overview of these six programs. As shown in the exhibit, approximately $18.4 billion in benefits were paid in California during fiscal year 1993/94 for just AFDC, food stamps, and Medi-Cal.

Other NonSAWS Welfare Programs In addition to the above six programs, each county in California is required by the State to operate a General Assistance program to further assist needy individuals who may not qualify under other aid programs. Because eligibility requirements and benefit levels are set at each county's discretion, program specifics vary from county to county. General Assistance is not included in SAWS.

The department has responsibilities for a number of other information technology projects and initiatives, including the automated income eligibility verification system (IEVS). However, a discussion of these other projects, including their costs, benefits, and performance, are not included in this report. Finally, costs and benefits of fraud detection and reduction efforts are not included in any of the department's plans for statewide welfare automation, and are not discussed in this report.

County Welfare Operations Of all levels of government involved in public assistance, counties operate on the front lines, and are in direct contact with welfare recipients. They are responsible for providing cash and other benefits to needy individuals and families. To do this, county staff must first identify eligible recipients and determine the type and amount of benefits to be delivered according to state and federal policy.

Counties rely on individuals who want to apply for aid to initiate contact with the local county welfare office. At the office, individuals complete an initial aid application, receive information about the various public assistance programs, and schedule an appointment with a welfare eligibility worker. Applicants are required to bring to the appointment documents and information which will be used to determine which programs they are eligible for and how much their benefits should be. At the conclusion of the appointment, applicants are told if they have qualified for assistance, as well as the type and amount of aid they will receive, provided that all information is complete and verified. This process is known as client intake.

All applicants are given a Notice of Action (NOA) which describes what, if any, benefits they are entitled to receive, how benefits for their particular case are calculated, and their appeal rights. Individuals with immediate needs can receive benefits on the day they are found eligible. Nonemergency cases are processed according to the county's routine benefit cycle.

Aid recipients must complete periodic reports and notify the county of changes which could affect benefits (such as changes of address, income, household, health, etc.) to remain eligible for aid. Welfare eligibility workers are responsible for issuing monthly benefits, monitoring compliance, modifying case records, and assisting recipients with related needs. These activities are called continuing processing.

Exhibit 2, at the end of this section, illustrates the processes generally followed in California to deliver welfare services. The State tracks county statistics such as total intake and continuing caseloads, caseload per eligibility worker, error rates in benefits distributed, and incidence of fraud in order to aid in workload management and performance measurement. Due to their size, some statistics are not tracked for small

counties. **Appendix B** to this report provides more details on SAWS public assistance programs, including the full costs of welfare administration in each of the state's 58 counties.

Counties Have a Compelling Need for Automated Welfare Services

Counties are in critical need of automated systems to manage over 2.7 million welfare cases statewide, and to accurately and efficiently apply over 5,000 different welfare eligibility and benefit rules. The number of welfare cases has nearly tripled since fiscal year 1983/84 when SAWS authorizing legislation was passed. When adjusted for changes in state population, the number of cases has more than doubled since fiscal year 1983/84, from 36 to 86 cases per 1,000 residents. To process these cases, California counties employed 16,128 full-time equivalent welfare eligibility workers during fiscal year 1993/94. Staffing levels to accommodate the increased demand for public assistance have doubled since fiscal year 1983/84.

In addition to the large volume of cases, complex calculations are required to determine if applicants are eligible for assistance, the duration of eligibility, and the benefit amount due those who are eligible. Eligibility guidelines may conflict if individuals apply for more than one type of program. For example, treatment of an income source under food stamps may be different than treatment of the same income source under Medi-Cal. County staff also must continuously monitor cases for compliance issues and document changes reported by aid recipients. Staff must recalculate benefits to reflect these changes, when appropriate. Further, sometimes cases require retroactive processing under a prior set of rules, and mass updates are required to reflect new rules and regulations affecting all cases. Often, these needs arise when a court ruling changes eligibility guidelines and subsequently affects a significant number of previously processed cases; cases then must be reworked to ensure compliance with the court ruling.

These complexities are coupled with promulgation of an increasing number of welfare rules and regulations, as well as frequent rule and regulation changes. Welfare rules have increased from approximately 2,900 in fiscal year 1989/90 to over 5,000 rules today. The number of changes to the base rules and regulations which occur over a year's time average one change per day. Welfare eligibility workers must be knowledgeable of numerous welfare rules which apply to the individual programs they administer, and must constantly update this knowledge due to rule changes. Workers in counties which handle cases based on individual applicants or households, instead of cases for just one welfare program (such as food stamps), administer multiple programs and must have an integrated knowledge of welfare rules and regulations for all programs under their responsibility.

There is no question that counties need automated systems, given the increasing volume of cases, the complexity of rules and regulations, and the need to interface with other state and county programs. In the current manual mode of operation, counties are unable to comply with all requirements because they do not have sufficient local funding for the staff needed. For example, Sacramento County has formally asked the State for relief from some welfare program mandates, saying that the County would need at least 136 full-time equivalent eligibility workers

if it had to comply with all existing mandates. Automation is essential for managing county operations and delivering welfare services in California.

The State is charged with ensuring accurate, uniform, and efficient welfare policy application within and across counties. Automation can assist the State in meeting this objective by:

❑ Objectively and consistently applying welfare rules and regulations in the same manner for every case processed

❑ Enhancing counties' ability to store, reference, recall, and update thousands of welfare rules and regulations

❑ Improving the speed at which eligibility is determined and benefits are calculated

❑ Nearly eliminating mathematical errors and limiting calculation errors to those related to data entry or welfare recipients

❑ Facilitating workers' transition to processing multiple program applications for the same individual or household, and reducing duplicate application information requested and processed for more than one program

❑ Reducing fraud by utilizing an on-line records match with data collected by other state and county offices to verify applicant information.

Welfare programs in California could change significantly if reforms proposed by both the Clinton Administration and the 104th Congress pass. President Clinton, who promised to "end welfare as we know it," unveiled his plan in June 1993. The plan would boost spending by $9.5 billion over five years to support job training and child care assistance to get mothers off welfare, and would cut AFDC benefits to mothers 24 years and younger after two years unless they get job training. Republican legislators propose to cut spending by implementing tough new eligibility rules and time limits for AFDC benefits, converting food and housing programs into a cash grant to the states, and cutting some state block grants by five percent. These reforms could greatly change the operations and automation needs of the counties, and could change some of the conclusions of this report.

Scope and Methodology of Review

The purpose of this review was to assess the feasibility and technical approach of the California Department of Social Services' Statewide Automated Welfare System project. This effort was not a formal audit, but a response to the Budget Act of 1994 (Chapter 139, Statutes of 1994) directive to review the SAWS project and report the results to the Legislature and relevant State of California departments and agencies.

This initial report addresses the first two tasks requested in the Budget Act of 1994:

(1)   Determine whether one or more hardware or software solutions, or both, for all counties is the most cost-effective choice for automation. This evaluation is to include a review of two pilot systems developed by Napa County and Merced County, and the system proposed by Los Angeles County, as well as a review of a centralized, state-operated automated welfare system versus a decentralized, county-operated system. This evaluation is to include a review of the business case directly associated with an automated welfare system made to determine system selection.

(2)   Assess the adequacy of the department's evaluation plan for the interim SAWS project.

To respond to the Legislature, the Bureau of State Audits established a number of objectives for this initial report, in addition to those established by the Legislature. These additional objectives are summarized below:

❑   Review state and federal law and regulations regarding administration of the AFDC, food stamp, and Medi-Cal programs that will be administered through statewide automation

❑   Determine how the state and counties operate and administer the AFDC, food stamp, and Medi-Cal programs

❑   Review and assess the goals and objectives of statewide automation. Determine whether the department has adequately defined the business problems and opportunities that will be addresses by statewide automation

❑   Determine the potential benefits of statewide automation, whether those benefits have been adequately assessed and quantified, and whether SAWS is likely to produce those benefits. Determine which entities will be the recipient of the expected benefits of SAWS

❑   Determine the probable impact of statewide automation on the operations and management of welfare programs at the state and local levels

❑   Review and assess the department's strategy for ISAWS. Determine whether the goals and objectives of ISAWS have been adequately defined. Determine the costs and benefits of the ISAWS project

❑   Review and assess the department's strategy for multiple platform (MPSAWS). Determine the technological, operational, fiscal and managerial impact of the multiple platform approach with regard to such issues as application porting, code rewriting,

centralized software maintenance, decentralized computer operations, and multi-platform support

❑   Review and assess the adequacy of the evaluation plan for the MPSAWS project.

In addition to several fact finding interviews with the department and the Health and Welfare Data Center (HWDC), we interviewed officials from Napa, Merced, and Los Angeles Counties regarding their operations and respective automation projects. Each of these three county interviews covered several days, and included meetings with vendors who have, or plan to, develop and help maintain the automated systems in each of these three counties.   We also met with representatives from 14 other California county welfare offices.

We met with representatives from the federal agencies providing oversight and funding for welfare automation. These are the U.S. Department of Health and Human Services (Administration for Children and Families, and the Health Care Financing Administration) and the U.S. Department of Agriculture (Food and Consumer Services). We also met with directors of welfare programs in seven other states to compare their approach to welfare automation with the approach used in California.

All interviews were conducted using formal structured interview templates designed prior to the interviews. These templates allowed us to conduct consistent interviews which were focused on the objectives for this assessment of SAWS.

Exhibit 1

SAWS
Welfare Programs

Medi-Cal (referred to as Medicaid outside of California)

- Administered by the U.S. Department of Health & Human Services' Health Care Financing Administration
- Operates in 49 states; Arizona has its own program
- Provides funds to cover costs of medical provider payments for low-income people
- Benefits funded by the federal (50%) and state (50%) government
- Eligibility traditionally linked to AFDC and Supplemental Security Income (SSI) for aged, blind and disabled, but recently extended to those with no ties to welfare
- Approximately 11% of the U.S. population receives Medicaid benefits
- $10.3 billion spent on Medi-Cal participant benefits during FY 1993/94 in California
- Approximately 1,100,000 cases in California during FY 1993/94

Food Stamp Program

- Administered by the U.S. Department of Agriculture's Food and Consumer Services
- Operates in all 50 states
- Provides coupons for food or food-preparation items at participating retailers
- Benefits funded 100% by the federal government
- Eligibility based on income levels, liquid assets, and employment-related requirements
- Approximately 10% of U.S. population receives food stamps
- $2.4 billion spent on food stamps participant benefits during FY 1993/94 in California
- Approximately 569,000 cases in California during FY 1993/94

AFDC: Aid to Families with Dependent Children

- Administered by the U.S. Department of Health & Human Services' Administration for Children and Families
- Operates in all 50 states
- Direct cash payment to needy families with dependent children
- Benefits funded by the federal (50%), state (47.5%) and county (2.5%) government, managed by state government
- Federal government provides broad standards for eligibility and program requirements
- Approximately 5% of U.S. population receives AFDC benefits
- $5.7 billion of AFDC benefits paid during FY 1993/94 in California
- Approximately 1,062,000 cases in California during FY 1993/94

County Medical Services Program

- Administered by California counties
- Provides medical coverage to needy adults who do not qualify for Medi-Cal
- Benefits funded almost entirely by county government
- Applies to counties which contract back to the State for these services (currently 34 of 58 counties do so)

Refugee Program

- Administered by the U.S. Department of Health & Human Services
- Provides cash benefits and funding to cover medical assistance for refugees during their first eight months in the U.S.
- Benefits are funded 100% by the federal government

Foster Care

- Administered by the U.S. Department of Health & Human Services' Administration for Children and Families
- Provides states with federal funding to pay for foster care
- Funding only for children who otherwise would be living in AFDC-eligible homes

Exhibit 2

Overview of the County Welfare Process in California

INTAKE

1 Initial Client Contact with County Welfare Bureau

- ❑ Reception
- ❑ Completion of SAWS I
- ❑ Emergency aid assessment
- ❑ Internal case screening/routing
- ❑ Case entered into information system
- ❑ Program information, forms, and verification information distributed to client:
  - CA2 for AFDC, Food Stamps and RCA
  - MC210 for Medi-Cal & RMA
  - FC1 & 2 for Foster Care
- ❑ Client intake appointment scheduled
- ❑ Orientation:
  - General information about local bureau (facilities, hours, contracts, etc.)
  - Client's legal responsibilities to the County
  - County's legal responsibilities to clients

2 Eligibility Determination

- ❑ Statement of Facts review
- ❑ Verification review
- ❑ Benefits review
- ❑ Income Eligibility Verification System (IEVS)
- ❑ Systematic Alien Verification Entitlements (SAVE)
- ❑ Additional forms completed as necessary including Good Cause determiniation
- ❑ Initial referrals to other programs and agencies (DA, WIC, GAIN, etc.)

3 Benefit Calculation

- ❑ Household income reviewed and verified
- ❑ Budget prepared
- ❑ Benefit entitlement determined

4 Notice of Action (NOA)

- ❑ Written results of eligibility determination provided to client describing:
  - Budget calculation of benefits
  - Amount to be issued for first and ongoing months
  - Appeal rights

5 Issue of Benefits

- ❑ Benefit provided to client

POST-INTAKE

Case assembly, transfer, and assignment to continuing eligibility operations.

CONTINUING ELIGIBILITY

6 On-Going Caseload Maintenance

- ❑ Changes reported by client
- ❑ Eligibility reports:
  - Monthly CA7 (AFDC, Food Stamps, Foster Care, and Refugee)
  - Quarterly Status Report (Medi-Cal)
- ❑ Benefit modification or discontinuance requiring 10-day advance notice to client
- ❑ Annual re-certification interviews and processing
- ❑ Program status changes
- ❑ Monthly review and update of caseload management report

7 Special Caseload Handling & Follow-Up

- ❑ Late/lost or never issued benefits
- ❑ Special needs benefits
- ❑ Public and client complaints
- ❑ Administrative hearings, case reviews, quality control, and investigations
- ❑ Supplemental benefits checks
- ❑ Sanction requests (District Attorney, GAIN, quality control, etc.)
- ❑ Outgoing Inter County Transfers (ICT)

Chapter 1   The Department Of Social Services' Approach To Statewide Welfare Automation Is Too Costly

When the State Legislature redirected statewide welfare automation efforts in 1984, it expected that the Statewide Automated Welfare System (SAWS) developed by the Department of Social Services (department) would provide a cost-effective solution to counties. The system would help counties reduce the time needed to determine if eligibility for assistance, and help eliminate mistakes made in calculating benefits paid to recipients. The system also would help counties reduce the time welfare recipients have to wait for a final decision on eligibility and benefits.

In the ten years since Legislative reauthorization, the department has not produced welfare automation, and most counties may not see automation for at least another six years. Approximately $100 million has been spent by the department and federal funding agencies through June 30, 1994, yet only two small counties representing one percent of cases statewide are completely automated. The automated system selected for interim SAWS (ISAWS) is not working as planned and may not produce the expected savings in administrative costs.

Costs also continue to increase for the $105[1] million interim step which the department initiated in 1993 to test welfare automation before implementing it statewide. The department is providing ISAWS to 14 counties[2] which service 8 percent of welfare cases in the state. The department increased its estimate for ISAWS costs by 40 percent within just one year, and will increase it further, based on lessons already learned during the first year of ISAWS.

The department's own estimate for ISAWS costs and benefits over 7.5 years, when discounted back to fiscal year 1994/95 dollars, shows that ISAWS never pays for itself within this timeframe. Further, this department estimate excludes all costs to develop the software ($12 million) and all annual costs to keep the software current with welfare law ($6.8 million per year). The department continues to make enhancements to ISAWS, costing $3.3 million through June 1994, which were not originally planned for. The department is requesting an additional $2.7 million for more enhancements, though the federal government recently denied the request.

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[1]   The department's current estimate for ISAWS is $109 million, as provided in the December 20, 1994, Special Project Report. However, these costs occur over several years. Unless otherwise noted, all dollars in this report are in fiscal year 1994/95 dollars. Historical costs are escalated to 1994/95 dollars using annual changes in the Consumer Price Index prepared by the Bureau of Labor Statistics. Future year dollars are discounted back to 1994/95, assuming three percent discount rate.

[2]   ISAWS counties: Butte, Colusa, Glenn, Kern, Kings, Lassen, Madera, Marin, Mendocino, Plumas, San Joaquin, Shasta, Tehama, and Yuba.

The department's projected cost for ISAWS, which serves 8 percent of the state's welfare cases, is greater than the projected cost for the Los Angeles County proposed automated welfare system serving 35 percent of the state's cases. Of note is the Los Angeles County projected cost includes software development and annual costs to keep the application current with welfare law, unlike the projected ISAWS cost.

The implementation of an ISAWS approach statewide may lose money for 9.5 years. That is, the expected savings from automating 57 counties (excluding Los Angeles) is not enough to recover the costs until the middle of the 10th year. The possibility that a project of this size and complexity may take nearly 10 years to recover the public's investment indicates that statewide automation based on ISAWS will continue to expose the State's General Fund to significant risk.

While the department could not deliver on promised automation, counties took it upon themselves to reorganize their processes and cut their administrative costs by 27 percent over the last 5 years. As a result of county efforts to streamline their own operations, automating counties with welfare automation may in fact increase, not reduce, administrative costs in some counties.

The welfare automation application is fully operational with historical cases in only Napa County, where the system was originally developed. Napa County has its own dedicated mainframe to run the system. Nine of the 14 ISAWS counties are in various stages of implementation, and 40,000 of the 300,000 ISAWS welfare cases are on-line. The mainframe computer originally designed for all ISAWS cases and workers is now installed and being used to service just 15 percent of the workload. Despite originally planned full mainframe resources, eligibility workers in Napa County and the ISAWS counties who use the system are experiencing delays between screens (after hitting the "enter" key) which are unacceptably high and fail to meet original design goals established for the system. These delays cause disruptions in county workloads and schedules, frustrate users of the system, and erode the savings in administrative costs expected from automation.

The department is nearly paralyzed in keeping the system up-to-date with current eligibility factors and program-specific rules. In December 1994, there was a backlog of over 200 required changes to the system. The department estimated that it would take 49,000 hours to make these changes, not counting new changes in welfare rules being added at the rate of one per day. This is approximately 27 person years of effort.

The Department Has Spent $100 Million for Welfare Automation Through June 30, 1994

Based on our review of department accounting records, we estimate that the department and federal government spent approximately $100 million[3] on welfare automation development from July 1, 1985, through June 30, 1994. This includes $12 million to develop and enhance the Napa Automated Public Assistance System (NAPAS) and $14 million to develop the Merced Automated Global Information Control System (MAGIC). The State spent $55.7 million and the

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3   Costs are in 1994/95 dollars. Actual historical costs are $91 million.

federal government spent $44.7 million. Although Napa County and Merced County developed the two original automation pilot systems, their costs were paid from the State's General Fund.

The Department Consistently Underestimates the Costs of Statewide Welfare Automation

The department's initial 1986 estimate of costs for welfare automation was $554 million,[4] including Los Angeles County. However, the department overlooked a number of activities required to automate welfare programs. The most significant was the need to convert manual welfare case files to the computer system, an activity the department did not include in its 1986 estimate. The department now believes conversion costs may exceed $46 million, according to its December 1993 revised estimate. This new cost is still underestimated because it is based on outdated 1990/91 welfare caseload. The department also underestimated the scope and cost of training county staff in the use of welfare automation. Training costs in the 1986 Advance Planning Document (APD) were estimated at $13 million. The December 1993 Special Project Report (SPR) now shows $36 million for training. This is 177 percent greater than the original estimate, even though the number of workers needing training increased 22 percent during the same time period (through 1990/91).

The costs for NAPAS also were underestimated. In 1988, Napa County, with assistance from the department, began development of NAPAS as one of two pilots for welfare automation. The original cost estimate to develop NAPAS was $1.9 million. Through June 30, 1994, approximately $12 million was spent to develop and enhance NAPAS ($8.7 million original development, $3.1 million for a enhancements). The ongoing costs to maintain NAPAS (now SAWS) also were underestimated. The original estimate was $800,000 annually (November 1989 APD amendment). Annual costs have escalated to $8.2 million in 1995 to maintain the welfare rules in ISAWS and maintain and operate equipment in Napa County.

The department and Merced County did a better job estimating development costs for MAGIC. The original estimate was $9.5 million (September 1988 APD). Estimated development costs are estimated at $13.7 million. No original estimate for annual rules and maintenance costs was prepared for MAGIC until 1991, well into development. Annual costs to maintain rules in MAGIC are $2.9 million, and annual costs to maintain and operate equipment in Merced County total $1.2 million.

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[4] Source: December 1, 1986, draft Advance Planning Document. Costs are in 1994/95 dollars. Actual total cost shown in the APD is $483 million.

The department's second estimate for welfare automation was presented in its December 1993 SPR. In this SPR, the department estimates costs at $592 million for the 11-year period ending June 30, 2003,[5] excluding Los Angeles County. The 1993 SPR makes no mention of what was spent to-date on welfare automation development. This document also uses outdated, 1990/91 information on caseloads statewide, and does not provide for any expected growth in cases or eligibility workers to handle these cases.

The SPR includes a budget to automate the 14 ISAWS counties. These counties account for eight percent of welfare cases statewide. The department estimated ISAWS costs at $76 million. Twice during 1994, the department increased its cost estimate for ISAWS. In its September 1994 SPR, the department increased its estimate for ISAWS to $94 million. Three months later, the department issued December 1994 SPR, estimating that ISAWS will cost $105 million, or 40 percent more than its first estimate just 12 months earlier.

The department incorrectly planned for ISAWS when preparing its initial 1993 estimate, requiring an increase to its estimate of ISAWS costs. The primary reasons given for the cost increases are:

❑ Use of outdated caseload information. The December 1993 SPR approved by the Office of Information Technology assumed fiscal year 1990/91 caseloads for 14 ISAWS counties. Nine months later, the department increased its estimates for ISAWS cases by 50 percent using 1994/95 estimates for caseloads. The number of cases increased from 207,000 to 300,000.

❑ Failure to account for key implementation activities. The department had to double the capacity of the mainframe processor and nearly triple disk storage capacity required for ISAWS to allow for:

• Developing and testing changes and enhancements to the software

• Training users on how to use ISAWS

• Additional functionality added to NAPAS. This includes retro-processing (e.g., recalculating welfare benefits retroactively under prior welfare rules in response to a court ruling) and transitional child care.

❑ Adding site printers and upgrading printer servers. Thirty-seven printers were added to automate a variety of forms, reports and warrants normally done manually.

❑ Failure to include an evaluation of ISAWS to the Department of Finance. The department initiated ISAWS to test the transfer of welfare automation in counties and to confirm welfare

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5   The December 1993 SPR actually shows 12 years of costs. However, to compare with the 1986 APD, which included over two years of SAWS operations, we include just three full years of SAWS operations from the SPR, rather than the four shown. Also, costs from the December 1993 SPR are converted to 1994/95 dollars.

automation administrative and program benefits. However, the department did not include the tasks, resources, or costs to confirm ISAWS costs and benefits in its December 1993 SPR. The department first included the evaluation in its December 20, 1994 SPR. A staff of 12 from the department will conduct the evaluation in 1994/95 and 1995/96. These staff will look at errors made in determining welfare payments before and after conversion to ISAWS. Total costs of the evaluation are $1.2 million in 1994/95 and $1.4 million in 1995/96.

❏ Shifting costs from welfare automation to ISAWS. The department redefined current and future welfare automation costs as either an ISAWS implementation cost or a statewide automation "positioning" cost. This included shifting costs such as the ISAWS evaluation team from a separate federal planning document for welfare automation to the ISAWS.

One reason given by the department of why costs increase is that the number of welfare cases in the State increase. However, hardware costs during 1986 to 1991 declined by at least 20 percent per year.[6] Assuming just a 20 percent annual price performance improvement, the $191 million originally planned in the 1986 APD for computer hardware could purchase equipment which could handle 150 percent more cases than originally planned (20 percent increase compounded for 5 years). During the same 5-year time period, total AFDC and food stamp cases increased by about 32 percent. Therefore, the cost for computer hardware should be about 20 percent (150 percent ÷ 32 percent) of the original $191 million estimate, or approximately $38 million. The actual increase in caseload would not justify the planned hardware costs of $177 million shown in the December 1993 SPR, given improvements in computer hardware price performance.

Total Costs for SAWS, Based on the ISAWS Experience, May Exceed $1 Billion

The department does not know what statewide automation will cost nor when it will be implemented. In order to prepare an estimate, we reviewed the department's cost estimates for ISAWS, evaluated results from implementing ISAWS, and interviewed representatives from Los Angeles County. Based on this information, we estimate that total costs for statewide automation from 1985 through 2004, may exceed $1 billion.[7]

Table 1 on the next page shows the costs for automation that may exceed original department estimates by $455 million.

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6   Source: Gartner Group, Inc.

7   Assumes implementation of welfare automation by the year 2001 (including interface development), plus three years of statewide operation.

Table 1
Expected Costs of Statewide Welfare Automation
(Millions of 1994/95 dollars)

Item	Costs	Percent of Cases
Development through June 30, 1994	$100	1%
Statewide implementation and three years operation (including ISAWS counties)	805	63%
LEADER[a] development and three years operation	104	35%
Total	$1,009	100%
Original department estimate (1986 APD)	554	100%
Underestimate	$455	

(a) Los Angeles Eligibility, Automated Determination, Evaluation and Reporting System.

Appendix C provides a summary of our $805 million estimate for fiscal years 1994/95 through 2003/2004. It also summarizes the bid received from Unisys Corporation for developing, implementing, and operating Los Angeles Eligibility, Automated Determination, Evaluation and Reporting System (LEADER), and the expected costs of Los Angeles County to manage LEADER.[8]

The department's first estimate for welfare automation was $554 million, and was submitted in a 1986 APD for approval by federal funding agencies. This document was never approved, though the federal government has continued to pay for almost half of the costs in the first ten years of welfare automation development.

There appears to be a number of reasons why expected costs for statewide automation are much greater than the department's original estimate. The department has made major changes in strategic direction for welfare automation, and currently has no formal strategy on how and when welfare automation will be implemented. There is no current definition of what welfare automation is or what it will look like, and no one involved with directing or managing welfare automation has established measurable objectives for the project.

It took the department nine years to establish and obtain approval for a budget and schedule for welfare automation. Until December 1993, neither the department nor the federal government had adopted a budget and funding target for welfare automation, nor had either one established any objectives related to the cost-effectiveness of welfare automation. The U.S. Food and Nutrition Service admitted that the federal government has not done a good job of assessing return on the

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8   The bid from Unisys includes development, implementation, and operation for four years. In order to make a comparison to statewide automation costs estimated by the department, three years of operation are assumed; costs for the fourth year are not included. Costs are in 1994/95 dollars.

public's investment in welfare automation. With no budget or schedule, neither the department nor federal agencies have effectively monitored or reported costs to-date for welfare automation and do not know what has been spent to-date.

The project may be 10 years behind the department's original schedule presented to the Legislature.[9] This excessive delay has meant numerous changes in welfare automation project management and strategy, exposure to more risks, such as increasing caseloads and changes in available technology, unused products developed by the department, and lost financial contributions from the federal government.

The department has been unable to appease the conflicting needs of major stakeholders in welfare automation, making it difficult to reach a compromise approach. These stakeholders include counties, the State, federal funding agencies, and technology vendors. County support for welfare automation is tenuous, as counties feel more like "passengers" rather than partners in welfare automation. In its letter to the department, dated September 21, 1992, the California Welfare Director's Association supports SAWS only if it is provided at no cost to the counties.

The department also assumes no inflation or salary increases in their budget projections. Rather, the department has historically assumed a steady-state environment for staff costs and economic conditions. Conversations with the Legislative Analyst Office indicate that prior department budget requests have not included projections of how caseloads and county staff may change during the upcoming budget year. This results in requests for additional budget if cases or staff do increase.

Our reestimation of statewide automation costs is based on the department's December 1993 cost estimate for both welfare automation and ISAWS, adjusted for: (1) increases in welfare cases and eligibility workers, (2) increases in staffing and mainframe computer capacity noted by the department in its December 1994 SPR for ISAWS, (3) increase in the number of PCs being provided counties, from 1.25 to 1.5 PCs per county worker and supervisor, and (4) required changes in costs based on actual experience of ISAWS counties.

As shown in Appendix C to this report, approximately 40 percent of our total cost estimate reflects the same relative increases in state staff, network costs, and contract services for statewide automation that the department assumes in its revised December 1994 SPR for ISAWS. The remainder of our cost estimate reflects the unreported costs discussed earlier, and a number of other adjustments to the department's budgets for welfare automation:

❏   Welfare caseload. In its December 1993 Special Project Report, the department underestimated the number of welfare cases in the State. When it used more current estimates of caseload, the department increased the power and size of the computer

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[9]   The department submitted a detailed planning report to the Legislature, dated August 1, 1984, in response to Section 10818 of Welfare and Institutions Code.

equipment needed. To size mainframe equipment, we used revised estimates of 1994/95 "nonduplicated" welfare cases (one person receiving public assistance from two programs typically has two duplicated case folders opened, but would be one "nonduplicated" case when automated). Total nonduplicated ISAWS cases for purposes of sizing the hardware is 227,000; total statewide cases (excluding Los Angeles) are assumed to be 1.9 million. The number of cases is assumed to grow four percent each year.

❑ Eligibility workers and supervisors. In its December 1993 SPR, the department assumed there were 12,055 eligibility workers and supervisors statewide, excluding Los Angeles County. An estimate of workers is used to determine the number of PCs and office printers which are deployed, and to estimate total annual training budgets. We obtained from the department, and used for estimating purposes, the number of budgeted (allowable) full-time equivalent (FTE) workers and supervisors in each county for fiscal year 1994/95. There are 1,583 budgeted FTEs in ISAWS counties, and 13,939 statewide. We assume no growth in the number of workers throughout the entire 10-year projection period.

❑ Centralized mainframe computers at HWDC. Mainframes located at the HWDC run the welfare application software and data storage needed to operate ISAWS. This includes all software to determine eligibility and calculate benefits, manage all welfare case files and data, and prepare all screens used by eligibility workers to interact with ISAWS. The department's 1993 estimate for hardware needed to run welfare automation statewide was sized to accommodate 1.5 million cases, at an average price of hardware of $82 per case. We assume that hardware must be sized for estimated 1994/95 caseloads of 1.9 million. We assume that the average price of this site hardware is $64 per case, the same effective price assumed in the department's December 1994 SPR for ISAWS.

❑ Salary increases. The department's cost estimates do not include expected increases in salaries for state or county personnel. We have assumed a three percent annual increase in salaries through the third year of statewide operation.

Based on these and other assumptions provided in Appendix C, we estimate total welfare automation costs (excluding Los Angeles County) at $805 million. A comparison with the department's December 1993 estimate is provided in **Table 2**, on the next page:

Table 2
Comparison of Costs Estimated
by Ernst & Young and the Department of Social Services
(Millions of FY 1994/95 dollars)
(Excludes L.A. County)

	Ernst & Young	Department 1993 SPR	Difference
1. DSS, DHS, and County Staff	$119	$105	$14
2. HWDC Staff	94	82	12
3. Host Hardware	235	134	101
4. Site Hardware	89	67	22
5. Software	39	21	18
6. Contract Services	96	94	2
7. Case Conversion	87[a]	46	41
8. Training	38	36	2
9. Site Preparation	7	5	2
10. Other	1	2	(1)
Total	**$805**	**$592**	**$213**

(a) Case conversion costs include $24 million to reconcile data in case files, plus $63 million to convert reconciled cases into the automated system. Costs to reconcile cases are specifically excluded from the department's estimate because counties are responsible within current funding to supply a fully documented case.

The Department May Have Overstated the Benefits of Welfare Automation

The Legislature required the department to submit a report on or by August 1, 1984, detailing its plans for welfare automation. In this initial report, the department planned to have welfare automation implemented by June 1990. Providing an automated system to 57 counties (excluding Los Angeles) may not occur until the year 2000, 16 years after the Legislature initiated welfare automation. Delays in implementing welfare automation mean that the state and counties are losing the benefits planned for automation, which the department estimates are $156 million per year. These assumed annual benefits, outlined in the December 1993 SPR, are:

	Annual Savings
❑ Reductions in county staffing and administrative costs	$66 million
❑ Fewer mistakes in calculating payments to welfare recipients	51
❑ Reductions in county data processing costs	39
Total (excluding Los Angeles County)	$156 million[10]

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[10] The welfare automation effort primarily is providing automated eligibility determination and benefit calculation, tied in with a central data base of persons known to welfare. The primary benefits from automating eligibility determination and benefit calculation are reducing costs to deliver the service and reducing the number of mistakes made; savings in county data processing costs reflect the transfer of data processing activities to ISAWS, which costs are reflected in the costs for ISAWS.

We have serious concerns as to whether annual cost savings assumed by the department can be achieved, even if all counties were provided the ISAWS application today. The key question is how much counties can further pare their costs of administering welfare, considering the tremendous efforts already made by counties to reduce costs. During the last five years, counties have not sat on the sidelines waiting for welfare automation. Instead, counties have made significant changes in how and what work is done. Changes include reorganizing eligibility workers into teams to better manage and serve welfare recipients, streamlining or eliminating some time consuming recertification activities, and, in one county, doing minimal intake work on new recipients and not assigning these new cases for follow-up work.

As a result of these significant efforts, counties have cut staffing and administrative costs statewide by 27 percent over the last five years.[11] During the same period, eligibility workers throughout the State managed to increase the number of welfare cases each handled by 23 percent, even while the total number of cases went up 75 percent, and the number of federal, state, and county rules regarding eligibility and benefits nearly doubled. Total cost savings statewide were $425 million during 1993/94 alone, as compared with 1989/90 costs (after adjusting for salary increases for eligibility workers).

Several counties told us that it will be difficult to reduce costs further, even with ISAWS, primarily because ISAWS will require eligibility workers to take all actions mandated by state and federal regulations. Sacramento County is on record stating that it would have to hire 136 more full-time workers if it had to perform all work mandated by welfare rules. Also, counties indicated to us that union contracts for their eligibility workers contain restrictions which could prevent them from further reducing costs. For example, a potential restriction is on the use of generic workers who handle all three major welfare programs, rather than the pre-NAPAS business model of specialists who handle only one program (e.g., AFDC only). Also, union terms may cap the maximum number of cases one worker may be allowed to handle, potentially limiting further efficiency gains.

To determine cost savings and efficiency gains already achieved by counties, we obtained county-specific information from the department for fiscal years 1989/90 and 1993/94. This information included the number of welfare cases by program, full time equivalent (FTE) of county eligibility workers and supervisors, and all welfare costs in every county. Costs include salaries and fringe benefits for all eligibility workers and supervisors, and all other costs to fully administer welfare, including clerical and administrative support, director and management personnel, data processing, PCs, other office equipment, office space, and supplies. **Table 3** on the next page, shows that costs per case declined throughout the State, as well as for selected groupings of counties. **Appendix B** to this report provides details of costs for each county.

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[11] The county costs and savings are expressed in 1993/94 dollars.

Table 3
Fully Loaded Administrative Costs per Welfare Case[a]
(Combined AFDC, Food Stamps and Medi-Cal)
(FY 1993/94 Dollars)

	Fiscal Year 1989/90[b]	Fiscal Year 1993/94	Percent Reduction
Napa County	$ 726.11	$ 503.99	31%
Merced County	602.39	272.99	55%
Los Angeles County	652.36	415.46	36%
WCDS Counties[c]	602.14	464.60	23%
ISAWS Counties	467.44	364.31	22%
Other Counties	493.52	428.57	13%
Statewide	**$ 586.71**	**$ 431.04**	**27%**
Statewide (excluding Napa and Merced)	$ 586.17	$ 431.80	26%

(a) Actual costs are shown here, not budgeted costs.
(b) Cost per case for fiscal year 1989/90 reflects the number of workers and overhead cost ratio for 1989/90, and salary per worker in fiscal year 1993/94.
(c) Welfare Case Data System consortium of 19 counties, representing 40 percent of cases in the state. For this table, one WCDS county, Marin County, is included in the ISAWS county statistic.

In 1989/90, Napa County had the eighth highest cost in the state; 12 counties smaller than Napa County had lower costs per case. In December 1991, NAPAS was accepted and fully operational in the county. By 1993/94, the county reduced its costs by 31 percent, to $504 per case, to the 12th highest cost in the state. To determine savings after NAPAS was implemented, we subtract the 26 percent statewide decline in costs (excluding Napa and Merced County) from Napa County's 31 percent to get an adjusted 5 percent reduction. Multiplying 5 percent times the $726.11 cost per case in 1989/90, and applying this to the number of cases handled in 1993/94, Napa County realized net annual savings of $231,000 in 1993/94, or about $36 per case.

However, the $231,000 in annual savings could be offset by other costs to fix or maintain NAPAS. These include: (1) a fix to the degradation in response times in Napa County, (2) a pro rata share of rules maintenance costs, and (3) the cost of a full-time programmer now on staff to maintain interfaces with NAPAS. We witnessed delays between screens of up to 39 seconds, which workers indicated had been normal "for some time." A software fix subsequently reduced delays between screens to an average of 8 to 9 seconds, ranging up to 14 seconds. Though neither the state nor its contractors have pinpointed the remaining problem, Unisys indicated to us that a newer and faster mainframe computer may be needed in Napa County. Costs for a

mainframe could exceed $1 million, eliminating the savings realized by Napa County.

Merced County's 1989/90 costs for administering welfare were $602 per case, the 24th highest statewide. In December 1992, MAGIC was accepted and fully operational. The county cut its costs 55 percent by 1993/94, the largest reduction statewide. At $273 per case, Merced County's costs are fourth lowest in the state. After adjusting for reductions achieved statewide, Merced County still reduced costs by 29 percent in fiscal year 1993/94, resulting in a $5 million savings during 1993/94. This translates to savings of $175 per case.

It appears that all administrative cost savings projected by the department for ISAWS may not be achievable, based on savings achieved by Napa County, the only fully operational and experienced county using the ISAWS application. In fact, the department has been unable to produce a cost/benefit analysis of NAPAS, even though it is required to do so by the federal government as an original condition of approving funding for NAPAS.

The department also says it is unable to produce a cost/benefit analysis of nine enhancements it proposes for NAPAS, saying it is unable to do so until fiscal year 1996/97. The U.S. Department of Health and Human Services, which oversees AFDC and Medicaid (Medi-Cal in California), told the department that this is unacceptable, and is requiring the department to estimate expected staff or program dollar savings to justify the investment. The department already has spent $3.1 million of $5.7 million planned on these nine enhancements.[12]

In this report we are careful not to attribute administrative cost savings since fiscal year 1989/90 directly to NAPAS or MAGIC. It is not possible to determine precisely which savings correlate to the systems and which do not. We looked at statewide savings in every county, not just two, and are reporting actual reductions in administrative costs statewide, measured in 1993/94 dollars. Even though we subtract out statewide reductions in costs, what is left in both Napa County and Merced County may or may not be directly attributable to the systems. We are attempting to show, for the first time, what savings are in today's dollars since implementation of the two systems.

The second largest savings expected from welfare automation is a reduction in mistakes made in determining benefits for AFDC, food stamps, and Medi-Cal. Total welfare payments in California were $18 billion during 1993/94.[13] Any reduction in mistakes by even a small percentage could save taxpayers millions of dollars. California's most recent error rates for AFDC (3.6 percent in 1992) and food stamps (9.1 percent in 1993) were both below national averages and below standards set by the federal government. This record reflects strong

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12 These nine enhancements are: central benefits issuance, print distribution, calendaring Printer Control Language 5.0, retroactive processing of rules, interface with the income eligibility verification system (IEVS), transitional child care, interfaces with other state agencies, and graphical user interface.

13 Medi-Cal payments exclude prepaid health plans. Source: Department of Health Services.

efforts by counties to find and eliminate the causes for agency caused errors.

By definition, a fully functional automated system, with up-to-date eligibility factors and benefit rules, should not make any mistakes in determining benefits. The only errors made should be from key entry or because the welfare recipient provides incorrect information. We believe that error rates can be reduced by automation.

However, the department has never measured statistically valid error rates in Napa County, Merced County, or any of the ISAWS counties. As a result, the department has no empirical evidence of whether error rates for Napa County or Merced County have improved with NAPAS or MAGIC, or will improve with ISAWS. Without reliable samples of welfare cases in these counties, it is impossible to measure any change in error rates before and after automation, and even more difficult to determine what portion of reduced errors are attributable to automation versus better quality control by the county.

It was not until the December 1994 SPR that the department included estimates for the resources and time to measure program error rates in the ISAWS counties in an ISAWS planning document. The department is requesting 12 full-time department employees, 4 full-time county employees, and funds for the Office of Audits and Evaluation (Department of Finance) to measure these error rates. Total costs are $1.2 million in fiscal year 1994/95 and $1.4 million in 1995/96.

The state conducts a random sample of cases statewide in order to determine error rates for California. Determining error rates require the State follow strict federal guidelines for random sampling, measurement, and reporting. Guidelines provided by the federal government to the states do not accurately measure the dollar impact of errors. The error rates measured for AFDC do not count mistakes made in underpaying what a welfare recipient is due. In the case of food stamps, underpayments are measured, but rather than canceling each other, underpayments are added to overpayments. Cutting down on mistakes for AFDC could actually increase dollar payments if welfare recipients are paid the full benefit allowed. Likewise, reducing error rates for food stamps could offset overpayments and underpayments, resulting in no change in dollar payments. Reducing mistakes made by workers will result in savings if the mistakes made now result in more overpayments than underpayments, and if payments are no longer made to individuals who are not eligible.

Although the measures for AFDC and food stamp error rates are inconsistent, they are important for managing welfare programs. However, they must be used correctly to fairly evaluate the project's impact on the State's General Fund.

The department expects the third largest benefit from statewide automation to be reductions in county data processing costs. The department estimates annual savings of $39 million after centralized mainframes are implemented in Sacramento and running all the software needed to determine eligibility and calculate benefit payments.

software needed to determine eligibility and calculate benefit payments. At that time, counties would no longer need to use their own data processing operations.

Unfortunately, counties do not believe costs of their operations will disappear. In its survey of all counties for the January 1993 *SAWS Evaluation Report*, the department found that 27 counties felt that local data processing costs would increase, not decrease, if a state operated welfare automation alternative were implemented, that is, if welfare processing did not run on the local processor. Many counties run non-welfare systems, such as education and public safety systems, using the same hardware and operating software as the welfare systems. The welfare divisions pay a portion of the operating and maintenance costs for the hardware and software. In many cases, counties own their own equipment, have long-term leases, or have contracts with service vendors. If welfare is moved to a proprietary system which runs only on Unisys hardware, then existing equipment costs may not go down as much as the State expects.

The California Association of County Data Processors (CACDP) told department management that there would be an approximate $50 million loss of business to county data processing centers from welfare automation, and as much as two thirds of this revenue will be very difficult for county government to offset over the next five years by means of reduced costs or additional business. The CACDP further believes that "the decision to centrally operate welfare automation is believed by several counties to result in a significant downsizing of their data processing operation that will result in a serious loss of county government capability and flexibility. For those counties, that is a potentially serious policy issue that must be handled sensitively."

An ISAWS Approach is Expected to Lose Money For Nearly Ten Years

Ignoring the $100 million already spent on welfare automation development, total investment in welfare automation through fiscal year 2003/04 could be $805 million, in today's dollars. These are based on assumptions presented earlier and in Appendix C of this report. Annual administrative cost savings and program benefits through 2003/04 could be approximately $923 million. It takes 9.5 years for the project to pay for itself, not counting $100 million already spent through June 1994. The department's December 1994 estimate of costs and benefits for the 14 ISAWS counties shows cumulative costs over 81 months exceed the projected benefits, when costs and benefits are expressed in today's dollars. An ISAWS based approach to automating welfare is not economically viable, and exposes the General Fund to significant financial risk.

The Legislature should expect that costs of statewide automation be more than offset by savings from lower administrative costs, reduced error rates, and lower data processing costs. To determine these savings, we began with the same annual savings for administrative costs, error rate reductions, and data processing that the department presented in its December 1993 SPR from 1994/95 through 2002/03. The department assumed annual cost savings ramp up each year during statewide implementation, and level at $156 million per year for three years of operation. Although we expressed earlier our significant concerns that

benefits estimated by the department may be overstated, we did not reduce projected benefits to prepare an alternative cost/benefit analysis. In fact, we increased the department's projected annual benefits by 34 percent to account for: increase in caseload since the department submitted its projection (27 percent); increase in caseload over the next ten years (4 percent); and increases in salaries and benefit payments per case (4 percent).

This puts projected benefits at $210 million per year at full operation, and $923 million over 10 years. The possibility that a project of this size and complexity may take nearly 10 years to recover the public's investment, not counting $100 million already spent, indicates that statewide automation based on ISAWS will continue to expose the State's General Fund to significant risk.

Neither the department nor the federal government have ever determined what the expected return on technology investment is for statewide welfare automation or ISAWS. Doing so requires a careful reexamination of costs and benefits, including actual costs and benefits for Napa County and the ISAWS counties. The state's practice of measuring project returns based on payback periods gives erroneous signals on the value of the project. The method does not measure costs or savings in constant dollars, and ignores all costs which occur after the payback period, such as hardware replacement costs ignored by the department in its September and December 1994 SPRs. Discounted cash flow projections, using net present value of costs and savings provide a more rigorous measure of a project's net return, and allows projects to be compared with each other and over time.

In response to problems states have had in performing cost/benefit analysis, the U.S. Department of Health and Human Services (DHHS) (AFDC and Medicare) has improved its approach to cost-benefit analysis and provided a draft document for states to review and use the approach. The methodology allows an examination of a project's life-cycle costs and benefits, and recommends using constant dollars to determine a project's return on investment. The DHHS will provide technical assistance on tracking of actual systems costs and savings, so that efficiencies of the systems can be reported.

ISAWS Costs More Than Other California Welfare Automation Systems

Costs to develop NAPAS, the precursor of ISAWS, is significantly higher than other California welfare automation projects. The cost for ISAWS is much less than NAPAS, reflecting the experience gained by the department, much lower hardware costs, and significantly more cases. Two other systems developed or planned in the State are: (1) MAGIC, which was the other pilot for welfare automation developed by Merced County and operational December 1992, and (2) LEADER, the system being developed by Los Angeles County. In order to make a fair comparison of costs among ISAWS, NAPAS, MAGIC, and LEADER, we determined the costs for different activities, then excluded fixed costs and costs of conversion (Los Angeles County conversion is primarily automated, unlike Napa County and Merced County):

	Cost	Included in Comparison
Fixed Costs		
❑	One-time development	No
❑	Annual maintenance of welfare rule changes	No
Variable Costs		
❑	Case conversion	No
❑	Host and site hardware	Yes
❑	Annual operations and maintenance (3 years)	Yes
❑	User training	Yes
❑	Site preparation	Yes

We then determined total costs for three years of cases in order to compare each system. As shown in **Exhibit 1-1**, at the end of this chapter, the costs of ISAWS is $88 per case, much lower than NAPAS costs, and greater than MAGIC costs. Total costs of NAPAS for hardware, user training, site preparation, and three years of maintenance was $272 per case. The 1994/95 annual maintenance and operations costs for NAPAS are $1.2 million.[14]

By contrast, Merced County's costs, excluding development, conversion, and rules maintenance, are $73 per case. More significant, annual costs to maintain and operate the MAGIC are $1.2 million in 1994/95 for nearly five times as many cases and three times the number of eligibility workers as Napa County.

Although ISAWS costs are significantly lower than NAPAS projected, they are higher than MAGIC, and significantly higher than the full projected costs of LEADER. It should be noted that the same two vendors which developed mainframe-based NAPAS (now ISAWS) were awarded the contract to develop LEADER, but have proposed a significantly different client/server approach in Los Angeles County at an extremely competitive price. The primary saving in costs shown in Exhibit 1-1 is the cost of local site hardware, including the personal computers and local area networks. The PCs, which will put at each worker's desk the program logic needed to determine if a person is eligible for welfare and what the benefit payment is, are being supplied at approximately $850 each.

Finally, the experience of the Unisys and Deloitte & Touche team, and the up-front planning by the county, is reflected in the proposed 42-month schedule to get the system up and running countywide. It should be noted that the vendor bid to develop and maintain LEADER includes 48,000 hours per year for Deloitte & Touche to keep the software up-to-date with current eligibility and benefit rules. This is slightly more than the 46,000 hours now spent by Deloitte & Touche to maintain the ISAWS software. Merced County now contracts with its vendor, Andersen Consulting, for annual rules maintenance, providing for 20,820 hours.

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[14] Maintenance and operations of computer equipment and resources. This does not include keeping the application software current with all welfare policies and rules.

Exhibit 1-1

Comparison of California Automated
Welfare System Operating Costs

Welfare System	Responsible Partners	Total Operating Costs [a]	1993/94 Nonduplicated Cases[c]	Total Operating Costs ÷ Nonduplicated Cases x 3

ISAWS	❑ State of California
	  – Department of Social Services
	  – Health and Welfare Data Center
	❑ Unisys Corporation
	❑ Deloitte & Touche
		$57,200,000 (estimated)[b]	216,036	$88

NAPAS	❑ Napa County ❑ Unisys Corporation ❑ Deloitte & Touche	$5,200,000	6,364	$272
MAGIC	❑ Merced County ❑ Anderson Consulting	$6,400,000	29,060	$73
LEADER	❑ Los Angeles County ❑ Unisys Corporation ❑ Deloitte & Touche	$52,200,000 (estimated)	947,543	$18

[a] Costs shown are in constant 1994/95 dollars and include three years of operation. Costs include equipment acquisition, user training, and maintenance and operations. Costs exclude one-time system development and case conversion, and annual maintenance of welfare rules changes.

[b] Source: December 23, 1994 Special Project Report, less costs totaling $49.3 million, plus unreported costs of $1.5 million. Costs excluded from the December 1994 SPR for purposes of this exhibit include: all DSS and Health and Welfare Data staff during the three years of implementing ISAWS, all Unisys and consulting technical support services, software, modifications to the software, network installation and maintenance, equipment maintenance during the three years of implementing ISAWS, and case conversion. Costs for ISAWS also exclude annual costs for the SAWS Branch, which are approximately $3.2 million annually.

[c] Nonduplicated cases are the only type of cases the department maintains historical and current data. One welfare recipient receiving public assistance from two programs may have two "duplicated" cases but be counted as just one "nonduplicated" case. The department estimates 300,000 duplicated cases in the 14 ISAWS counties.

Chapter 2 The Department of Social Services' Approach to Statewide Welfare Automation Is Unlikely to Succeed

The department selected the pilot system developed by Napa County as the single, statewide solution for welfare automation. The Napa Automated Public Assistance Control System, or NAPAS, is being enhanced by the department and provided to 14 small and medium-sized counties as interim SAWS (ISAWS).

There are serious concerns about the viability of ISAWS as a statewide system. It was never designed to be implemented statewide and it has experienced major performance problems in small scale pilots. ISAWS may not accommodate a high volume of transactions and case records. Response times on the system have been much greater than originally planned, though the department has since reduced these times by installing more hardware and making a fix to the software. However, the key function of the software, determining an applicant's eligibility and calculating benefits, still takes between two and five minutes, well above the 10 seconds originally required for 95 percent of processes initiated on the system.

ISAWS is not a good choice for statewide welfare automation. It is based on a proprietary software application which cannot be procured competitively. The proprietary software, known as MAPPER, was designed to develop reports, not for a conversational and heavy transaction application, such as ISAWS. It is inefficient at storing case data and requires significant overhead resources. Finding persons knowledgeable on MAPPER is very difficult. The vendor which maintains the NAPAS and ISAWS application software had to conduct a worldwide search for one MAPPER programmer, and is requesting funding for between 8 and 10 more programmers to add to an existing staff of 29 MAPPER programmers.

In 1993 the department announced its new strategic direction for welfare automation in California. Three fundamental elements of its new strategy are in conflict with NAPAS, the chosen solution. The department decided to:

❑　　Implement one welfare system statewide - NAPAS is a county-operated system

❑　　Pursue a distributed client/server architecture - NAPAS is a centralized mainframe system

❑　　Pursue an open systems strategy - NAPAS uses a proprietary application language, MAPPER, that runs only on proprietary Unisys equipment.

The department concluded that only "a low risk set of minor enhancements" were needed to ready NAPAS for statewide rollout, though the department has since spent $3.3[1] million on enhancements, and is asking for $2.6 million more. Napa County performed a benchmark of NAPAS to ensure it could run in a county the size of San Diego with acceptable performance, but no statewide benchmark was done. In preparing projections of statewide hardware and software needs, the department assumed processing capacity equivalent to Napa County would produce equivalent performance.

However, preliminary results of the second pilot of NAPAS in 14 counties (called ISAWS) indicates these assumptions may have been flawed. With 15 percent of ISAWS cases on the system, and with one-third of the planned mainframe processing power, serious response time problems occurred. No one has determined the exact cause of the problems. For the time being, a software fix, additional processing power, and offloading of processing during peak periods have alleviated the problem. The department doubled its original estimate of the mainframe capacity needed for ISAWS, to a six instruction processor CPU. There are no guarantees from either the hardware or software vendors that these six instruction processors will be sufficient to service all fourteen ISAWS counties with acceptable performance.

When the department chose NAPAS for statewide automation, it also announced its intent to pursue a distributed client/server strategy (e.g., one based on a network of personal computers served by a larger, single computer). NAPAS and ISAWS are centralized mainframe systems. All of the screens seen by a user on a workstation, all data for welfare cases, and all of the software (logic) for using the system are maintained entirely on the mainframe. The department then proposed a restructuring of ISAWS, then spent $479,000 to test a graphical user interface (GUI) of two minor welfare functions, attempting to move some of the screen presentation and program logic to the workstation. The department continues to request funds to continue this GUI effort, although this enhancement is not needed to use ISAWS. There is no estimate of the total cost of this pursuit, there is no guarantee it will work, and the department has not determined benefits from GUI, though required to do so by federal agencies.

In 1993, the department announced its intent to pursue an "open systems strategy," one which provides inter-operability of products and transfer of data and applications across different computing environments. Such a strategy not only requires a distributed architecture, but a portable, i.e. non-proprietary, system. ISAWS is a proprietary system. At its core is a proprietary application language and database management system called MAPPER, which is owned by Unisys and can only run on Unisys mainframes. To deal with this issue, the department pursued two additional rewrites of the ISAWS system in an effort called MPSAWS (multiple platform SAWS). Due to technical limitations and uncertainties, one of these options was abandoned and a rewrite of ISAWS for an open distributed platform then was suggested.

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[1] Actual expenditures for enhancements are $3.1 million; constant 1994/95 expenditures are $3.3 million.

The department, in an attempt to make ISAWS fit its new strategic goals, has proposed at least three different attempts to rewrite it. Trying to retrofit a proprietary mainframe application and make it an open distributed application may be more difficult than starting from scratch.

The ISAWS Eligibility Determination and Benefit Calculation Process Is Much Slower Than Originally Planned

Eligibility determination and benefit calculation (EDBC) is an on-line transaction[2] used by each eligibility workers when processing both intake and continuing cases. EDBC is run after case data or changes to case data are entered into the system. After running EDBC, the system informs workers if a client is eligible to receive aid and, where appropriate, the amount of aid. EDBC is a frequently used and resource intensive transaction. It represents only seven percent of the volume of ISAWS production transactions, but uses 40 percent of the system processing power. Therefore, during peak periods, transactions must compete for system computing resources, resulting in a backlog of transactions waiting to be processed and a degradation in response time. This has resulted in EDBC transaction times of up to two hours prior to February 6, 1994, when a third mainframe processor was added, and between two and five minutes after. According to the original NAPAS RFP, the maximum average response time which must be met for 95 percent of complex processing transactions is 10 seconds.

Processing EDBC transactions through overnight batch submissions which are run when no workers are using the system on-line is an option currently being tested by the department in Napa County and some ISAWS counties. The introduction of batch processing is an effort to reduce the volume of EDBC on-line requests during peak usage periods and, thereby improve response time. Effects resulting from this option, however, must be closely monitored because, as indicated by a customer reference provided by Unisys, MAPPER is not appropriate for heavy batch processing and that using it in this way could diminish performance. Thus far, Napa County has substantially improved response time by batch processing EDBC requests for continuing cases.

The response time problem has been fixed, in part, by purchasing and installing a third instruction processor (IP) on the mainframe. The approximate cost of this IP is $2 million. The department does not know how many IPs it will take to ensure acceptable response times when all 300,000 ISAWS cases are converted, plus 3.5 years of case history. Our concern is with the unknown number of IPs which may be ultimately needed to handle current and historical welfare cases, and the costs of these IPs.

ISAWS Is Based on a Centralized, Proprietary Mainframe Architecture

The original ISAWS technical architecture consisted of a centralized mainframe processor with a proprietary operating system and central processing unit (CPU) connected to local dumb terminals. At the core of the NAPAS system is MAPPER, a fourth-generation language and database management system, that is owned and marketed exclusively by

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2   A transaction is roughly equivalent to the work processed by the system between the time and end-user hits the enter key on a screen and the system provides a return response.

Unisys Corporation. Therefore, ISAWS can run only on a Unisys mainframe with a Unisys operating system. Use of proprietary hardware and software effectively prevents open procurement if the department were to implement the system statewide.

ISAWS is stable and reliable. System failures in Napa County are rare. Only one system failure occurred in 1994. However, because all processing and data reside on a remote mainframe, all workers using the mainframe would be prevented from processing cases should such a failure occur.

ISAWS is an on-line, conversational application. Each time the enter key is depressed, data is sent to and processed by the mainframe. Local terminals act as windows to the mainframe for users. The system can run entirely on non-intelligent workstations; personal computers are unnecessary. Data management, data presentation, and application logic all are executed on the mainframe.

ISAWS Utilizes MAPPER Which Is Optimized to Process Reports Not Execute Transactions

MAPPER was originally developed in 1965 as a report writing application that runs on Unisys mainframes. In February 1990, Unisys characterized MAPPER as "specifically designed for inexperienced users and enables them to build reporting and inquiry applications. It can be used to store and access information, and to create or modify reports." It became very popular in the early to middle 1980's as a report builder.

Although end-users tend to like the conversational features of MAPPER, Unisys generally recommends another Unisys product, LINC, when building conversational applications (such as NAPAS), especially if the volume of transactions is high. MAPPER is optimized for reading information not updating it. MAPPER programs are not built around business logic; they are built around forms. As a member of the Deloitte & Touche/Unisys vendor team stressed to us, "MAPPER is a report processing product, not a record processing product."

MAPPER Has High Data Storage and Processing Overhead

MAPPER data are stored in print format and arranged to create report and screen forms. This means that there is a great deal of empty space, which must be stored and which cannot be compressed. Each welfare case in the ISAWS system requires, on average 274,386 bytes of disk space. This is four and a half times larger than a case in the MAGIC system, which utilizes a relational data structure. Response times are affected by the amount of time it takes to read through all the data in a case to get to the information needed. The disk storage requirements for 1.9 million cases statewide is approximately 521 gigabytes[3]. At a cost of $5,000 per gigabyte, it would cost $2.6 million in disk capacity to store active cases statewide. This does not include the space required to store the mandated 3.5 years of case history.

Each copy of MAPPER also requires an additional overhead of more than 2.7 billion bytes of disk storage. It is not clear how many eligibility workstations one copy of MAPPER can support with acceptable response times. Napa County uses one copy of MAPPER, 35 eligibility workers,

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[3]   One gigabyte is approximately one billion bytes.

and 1.4 transactions per second, but has experienced high response times. The Commonwealth of Virginia has 26 MAPPERs, 23 users per MAPPER, and 1.2 transactions per second per MAPPER, with acceptable response times.

At 35 users per MAPPER copy, state implementation of ISAWS would require 398 copies of MAPPER at $5.4 million for MAPPER disk overhead; at a more probable 23 users per copy, state rollout would require 606 MAPPERs at $8.2 million for MAPPER disk overhead. This does not include the cost of MAPPER itself at approximately $400,000 per site license[4], or any associated system overhead. Nor does it take into account county partitioning strategies or growth.

According to the Gartner Group, an operational cost is incurred when MAPPER is used in a conversational application. When MAPPER is used to update information, there is approximately a 40 percent processing overhead above what a CICS and COBOL[5] system might use. There is approximately a 30 percent processing overhead above what an ADABASE and NATURAL system uses, such as Merced County's automated welfare system uses. The high overhead associated with MAPPER implies bigger processors, more disk drives, and more copies of MAPPER to deal with the impact of the high overhead on response time.

MAPPER's Ability to Handle California Statewide Welfare Volumes Is Unproven

We know of no other MAPPER application running with the transaction volumes required by statewide welfare automation in California. The ISAWS counties, with just 15 percent of their cases on the system, are processing over half a million production transactions per day. The Commonwealth of Virginia, the largest MAPPER reference Unisys supplied us with, is processing 1.2 million transactions per day with a third more processing power than ISAWS currently has, and five times the number of MAPPER copies.

This raises some doubt whether the planned number of processors and copies of MAPPER will be able to support the 14 small ISAWS counties, which represent only eight percent of the state's welfare cases. Estimates for the amount of mainframe capacity needed have gone from two processors (Unisys model 9222) to three processors (9322) to four (9422) and now to six (9633) processors to handle ISAWS county volumes.

The Gartner Group claims MAPPER cannot compete well in an update mode (such as ISAWS) with other tools that handle more than one transaction per second. Unisys has run benchmarks which indicate that MAPPER systems similar to ISAWS should be able to run upwards of 11 transactions per second with response times meeting NAPAS requirements (i.e., less than five seconds for simple transactions, ten

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4 A MAPPER site license allows a data center to use as many copies of MAPPER as needed on one physical processor; for ISAWS this is a Unisys 2200. It would require multiple processors to handle the statewide volumes.

5 A CICS and COBOL system represents a traditional IBM compatible mainframe system with a commonly used on-line transaction processor and third-generation language A MAPPER system does not have a specialized transaction processor and uses a fourth-generation language which is not as efficient as a third-generation language.

seconds for complex transactions). However, the benchmarks were done in a laboratory setting and not in a "real world" situation. Given recent experiences with slow response times, it is unclear what effect MAPPER is having on response times.

While response time has improved, it is yet to be shown whether the system, at a reasonable cost, can handle a full load of ISAWS cases, complete with the required case history, at greater than 1.4 transactions per second and acceptable response times. The department does not know if its current plans for mainframe resources is enough for servicing ISAWS counties at the required response times.

In addition to these concerns, the Deloitte & Touche/Unisys team and HWDC informed us that the ISAWS system cannot effectively do ad hoc reporting. This is partially due to physical limitations in the MAPPER system. MAPPER processes reports, not records. It has a physical limitation of 256 characters in each row of a report. This maximum row length is very small in comparison to a relational database such as MAGIC uses. Thus, in the ISAWS system, multiple rows and reports must be used to store all the necessary case information. Within a report(s), which corresponds to a particular case, a column does not contain the same information for every row in the database. Thus, to locate data, one must exclude in the search all rows that do not contain the data desired. This makes ad hoc reporting difficult if not impossible, because ad hoc reporting relies on the ability to easily locate data.

MAPPER Is Not Widely Used

In 1993, Unisys claimed there were 5,000 installations of MAPPER worldwide. This compares with millions of COBOL and CICS installations. Since then, according to the Gartner Group, the number of MAPPER installations has been shrinking. The Gartner Group considers MAPPER to be a "fringe tool." In order to support the ISAWS application, Deloitte & Touche had to search throughout the world to find qualified MAPPER programmers.

County, State, and Federal Government Support for MAPPER Is Fading

Government support for MAPPER also is waning. Los Angeles County, though signing a contract with Unisys for its welfare system, rejected the use of MAPPER for LEADER because the County considers MAPPER to lack the required performance. According to another California county, the department told them it does not plan on supporting the MAPPER version of SAWS in the long-run. The department told us they do plan to support MAPPER in the long-run. The federal government indicated to us that it believed California was using MAPPER only as a vehicle to build a model for SAWS. Finally, because MAPPER is a proprietary product, i.e. it can only run on Unisys hardware with a Unisys operating system, it does not provide for the mandated requirement to offer an open competitive environment.

The Hours and Costs for Rules and Regulations Maintenance, and Ongoing Systems Maintenance, for NAPAS Is High

The design of the ISAWS application integrates data and regulations with the program logic. Therefore, as the volume and complexity of welfare rules increase, it becomes more difficult to maintain the regulations. Also the risk that a change in one area of the system will impact another area of the system is increasing. According to an example provided by the department, the number of system modules potentially impacted by a single change may have tripled since NAPAS was first developed. It is not surprising that the department is seeing a gradual increase in the backlog of rules and regulations changes, and an increase in cost to handle these changes.

In fiscal year 1994/95, the department is planning between 110,000 and 119,000 hours to maintain the software. Approximately 40 percent of these hours are for the software vendor, just over half for state staff, and 10 percent for county staff. This is equivalent to approximately 60 people working full time to modify the software to keep it current with welfare law. For comparison purposes, approximately 28,400 hours are needed annually in Merced County to maintain its software current with welfare rules.

Due to a significant backlog of maintenance change requests, including 139 mandatory rule and regulation changes, workers in Napa County and the 14 ISAWS counties cannot meet Legislatively-mandated goals to accurately verify eligibility, compute benefits, or treat program recipients equitably and consistently. In addition, retroactive processing has only been available since June 1994, and some of the regulations relevant for retroactive processing have not, nor is it intended they will be, put into the system.

To work a case in Napa County, using NAPAS, an average of 164 transactions are submitted. The higher the number of transactions, the more mainframe processing capacity is needed, and the more traffic contends for network and transmission capacity. For comparison purposes, an average of 50 transactions are needed per welfare case using MAGIC.

The fiscal year 1994/95 expected cost of ongoing maintenance and operations of NAPAS is $1.2 million dollars in Napa County (not including staff costs or rules maintenance). This is an average cost of $189 per case. These costs increased 23 percent between 1993/94 and 1994/95.

Since Implementation of NAPAS, Napa County Has Improved Customer Service and Eligibility Worker Productivity

Since implementing NAPAS, Napa County has improved service delivery time and, therefore, can offer more prompt eligibility verification, timely disbursal of benefits, and timely treatment of recipients when compared to the County's operations before NAPAS. Prior to system implementation, clients waited to receive non-emergency benefits, on average, 45 days after submitting their initial aid application. In fiscal year 1993/94, after NAPAS implementation, recipients waited, on average 24 days to receive non-emergency benefits after submitting their initial aid application. This is a 47 percent decrease in waiting time.

The county has been able to eliminate perhaps 400 of manual forms and reports through welfare automation. Finally, while pre-programmed

reports are available for collecting management information, users and county managers do not have access to ad hoc reporting. In some ISAWS counties, a workstation must be dedicated at the end of each month to printing pre-programmed management reports.

Napa County also reduced staff turnover, though the rate is still a concern to the county. Before NAPAS, eligibility worker turnover was 40 percent. After implementing NAPAS, turnover is 28 percent.

After NAPAS was implemented, Napa County has realized several additional business benefits. The county has increased productivity when measured by cases per full time equivalent (FTE) eligibility worker. In fiscal year 1989/90, the average monthly caseload for Napa County workers was 123 cases. In fiscal year 1993/94, Napa County workers increased their average monthly caseloads to 182, a 48 percent increase since fiscal year 1989/90, and eight percent higher than the statewide average of 169 cases per worker for fiscal year 1993/94.

Napa County also has seen efficiency gains in training time. Prior to implementing NAPAS, training time needed for eligibility workers to carry a full caseload for a single program was six months. Training time after NAPAS implementation remains at six months, but this is for training generic eligibility workers who are responsible for processing multiple welfare programs and household cases.

NAPAS is designed to allow workers freedom to choose how they will navigate through the system. This freedom, however, results in less guidance for workers who still must be knowledgeable of, and proficient in, welfare rules and regulations.

Napa County Built NAPAS to Transition to Generic Eligibility Workers and Improve Processes

Napa County sought to make several business process improvements with the development and implementation of NAPAS. First the County expanded the scope of responsibilities of eligibility workers from handling a single program and serving individual recipients to handling several different welfare programs and serving households. This permitted recipients in the same household to use a single application and a single intake interview for all programs of interest. This improvement eliminated most duplication of information previously collected when clients applied for multiple programs, and reduced time spent scheduling and interviewing.

Another business process improvement is Napa County's use of clerical workers rather than eligibility workers to perform the initial applicant screening interview. The purpose of this initial interview is to collect program eligibility information in very broad terms and identify immediate needs. The applicant returns to the office for an intake interview at a later date. The County designed the system to incorporate screening guidelines to assist workers and clerical staff in conducting the screening interview.

ISAWS Is Designed to Interface with Important State and Local Agency Data Repositories

As NAPAS is installed in each of the pilot ISAWS counties, the state implementation team modifies it to provide, either by a direct on-line link or a referral, many of the interfaces requested by counties as identified from the results of the Department's 1992 All-County Questionnaire. This includes seven of the top ten most frequently cited local and state agency interfaces.

No SAWS Proposed Solution Is Ready for Statewide Rollout

The application used by workers in Napa County delivers the intended services and relieves eligibility workers of the need to know all welfare rules. However, we have serious concerns with the long-term effectiveness of the underlying software, the difficulty the department has in keeping the application current, and the resulting costs of delivering the application to the eligibility worker. Given significant concerns related to system benefits, costs, technology, and maintenance, no department proposed solution is currently ready for statewide implementation.

The implications resulting thus far from the ISAWS pilot project for the department's statewide automation strategy are discouraging. The department has yet to demonstrate that its current strategy is:

❑   Cost-effective or efficient

❑   Technically and functionally viable in the largest counties in the state, excluding Los Angeles County

❑   Able to accommodate frequent rule and regulation changes

❑   Capable of handling the required 3.5 years of case history without compromising day-to-day operations.

The success of welfare automation in California depends on the department's ability to address these issues.

Chapter 3 MAGIC and LEADER Compare Favorably With NAPAS

At about the same time Napa County piloted NAPAS, Merced County developed and implemented a pilot it named the Merced Automated Global Information Control System, or MAGIC. MAGIC also was designed as a county system, and has not been benchmarked or proven to work as a statewide system. MAGIC is a highly open, distributed client/server architecture. The system is exceeding the performance of NAPAS in the areas of maintainability, system operations, performance, openness, and operability. Merced County also has reduced administrative costs since 1989/90 to a greater extent than proportional savings in Napa County.

Los Angeles County received permission from the federal government to develop its own system distinct from the rest of California welfare automation. The system, as proposed, is a highly open, distributed client/server architecture. If the system is developed according to the performance guarantees proposed, and if it is within the price bid by the selected vendor, it also will outperform NAPAS in the areas of maintainability, system operations, performance, openness, and operability, plus provide greater benefits per dollar spent.

We were not asked to evaluate a welfare determination and benefit calculation system developed by Tulare County, called CLEAN (Client Entry Assistance Network). The system interfaces to the Welfare Case Data System (WCDS), an automated system used by 19 counties in the State, of which Tulare is one. Originally, Tulare County intended the system to be a SAWS pilot. The State did not select the system to be a SAWS pilot, but the County went forward with system development using only local funds. When it was implemented in 1989, CLEAN was considered state-of-the-art technology. The technology is now dated, but Tulare County still achieves welfare administrative costs, which at $280 per case, are well below the state average of $431 per case.

Since Implementation of MAGIC, Merced County Has Met Important 1984 Legislative Objectives

Before Merced County began developing the system, it established objectives for MAGIC. These objectives included, among others, the objectives set forth in the 1984 legislation Senate Bill 1379 for welfare automation in the state. The 1984 SAWS legislation requires that a welfare system provide:

❑ Prompt and accurate verification of eligibility, and accurate computation and timely disbursal of benefits

Before welfare delivery was automated in Merced County, a prospective client had to wait from 30 to 45 days from the time he/she applied for welfare to when the County issued benefits. The time to benefit issuance has been decreased to between one

and four days using MAGIC, provided the client has the needed verification.

❏ Equitable, timely, and consistent treatment of recipients within each program

Before implementation of MAGIC, a welfare recipient in Merced County had to apply for each welfare program separately, often providing much of the same information at each interview. Consistency and equity was based upon the knowledge of each individual eligibility worker performing the interview. With MAGIC, the recipient can talk to one person and apply at the same time for all applicable programs.

MAGIC contains an "expert system" which incorporates the State welfare rules and regulations within it. The expert system guides the eligibility worker interviewing the welfare recipient through the system based on the unique situation of that applicant. Based on applicant information, the system knows what question(s) need to be asked next, displays the proper screen, and ensures the eligibility worker provides the required response. Because the system automatically applies applicant input against the State welfare rules and regulations at each step in the process, consistency of application is ensured.

❏ Reduction in administrative complexity

The county eliminated over 400 manual forms. Most significant, total county administrative costs, including salaries, maintenance, and overhead, declined 55 percent since implementation of MAGIC (fiscal year 1989/90 versus fiscal year 1993/94 costs).

❏ Collection of management information

Although state and federal agencies have restricted funding for MAGIC since June 1993 to only system rules and regulations maintenance, Merced County funded its own development of an executive information system that interfaces with MAGIC. This system collects and orders information stored in MAGIC and produces ad-hoc, on-line reports and graphs illustrating key performance indicators at a detailed and summary level. Management uses the information to determine and analyze problem areas, to evaluate caseload assignments and workloads, and to manage total administrative costs.

Since Implementation of MAGIC, Merced County Has Improved Customer Service and Eligibility Worker Productivity, and Decreased Costs

Issuance of immediate need benefits declined fourfold as a percentage of all cases. Merced believes this is a result of the shortened time to benefit issuance. Welfare recipients can receive help before their situation becomes desperate.

Much of the County savings have been in avoided and reduced staff costs. Turnover of eligibility workers decreased from approximately 30 percent before MAGIC to eight percent in 1994. With a previous training cycle of six months to learn one welfare program, eligibility workers

found the job "too complicated to learn." Now employees can handle a full caseload including all welfare programs within three to four months. Because the system applies the appropriate welfare rules, workers do not have to know each of the 6,000 rules nor the daily changes to them. Workers can now focus more attention on client service.

The average number of cases handled by each eligibility worker increased by 92 percent since 1989/90, before MAGIC. During 1993/94, Merced County eligibility workers handled an average of 273 cases, 62 percent more than the statewide average of 169 cases per worker. Increased staff efficiencies contribute to savings in Merced County's fully loaded administrative costs. Other administrative costs include system maintenance and operations, which will be discussed later, plus facilities, supplies, and all other overhead. Statewide, counties reduced fully loaded administrative costs per case 26 percent between 1989/90 and 1993/94, as shown in **Appendix B**. Merced County reduced their costs per case by 55 percent. The additional 29 percent reduction over and above the statewide average resulted in an estimated $5 million savings for Merced County in 1993/94.

Merced County Sought to Enhance MAGIC's Performance By First Improving Existing Welfare Processes

MAGIC has a distributed client/server architecture[1]. A client/server environment promotes a radically different way of doing business. The traditional mindset of simply automating current processes no longer works. Also, current welfare processes in California evolved over time, and as a result many of them no longer added any real value. Automating a non-value added process simply allows you to not add value faster. By combining automation with process improvement, a synergy of function and system design can be achieved which is difficult or impossible otherwise, and which results in greater benefits.

Merced County management made the decision to review, improve, and reorganize existing welfare processes to focus on achievable benefits and to take advantage of the efficiencies and power of client/server automation. By moving to a generic worker, Merced reduced duplicate interviews, reduced worker and recipient time, increased uniformity, and allowed consolidation of information across programs. Putting the knowledge base in the computer has reduced the County's time required to train an eligibility worker, and has allowed the worker to spend more time on customer service.

Merced County also uses MAGIC to impose time management and scheduling controls. Most manual forms have been eliminated and the remaining ones redesigned. Merced County prints a scannable barcode and the welfare check on the monthly CA7 income forms, which a recipient must fill out and send in to retain continuing welfare eligibility. This has reduced the number of recipient claims that CA7 forms have not been received.

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[1] Client/server is characterized by a two or three tier architecture, where one portion of an application runs on a platform, often a mainframe, which is responsible for coordination, and one portion runs on a platform, usually an intelligent workstation, responsible for presentation. The purpose of client/server is to logically distribute information among individuals, workgroups, and others who may need it.

The Hours and Costs for Rules and Regulations Maintenance, and Ongoing Operations in Merced County are Reasonable

Within the expert system welfare rules are separated from computer logic and held in tables. As a result, the effort needed to maintain rules and regulations in the system is minimized. This is reflected directly in the annual cost to maintain welfare rule changes. In fiscal 1994/95 Merced County will spend $2.8 million for vendor rules maintenance. Maintaining the software current with changes in welfare law takes approximately 28,400 hours each year, including approximately 20,800 hours for the vendor and the remaining for county staff. In addition to rules maintenance, annual system maintenance and operations costs have been low, at $1.2 million in 1994/95, or approximately $41 per case.

No money has been spent on enhancements to MAGIC since Spring 1993, when federal and state funding for MAGIC was restricted to rules and regulations maintenance and system operations. Despite the fact that Merced County has been unable to enhance MAGIC since 1993, it remains a functionally rich system. No in-depth independent review of MAGIC's functionality appears to have been performed since 1991. At that time Ernst & Young conducted a review for the department, concluding that MAGIC meets or would meet all pertinent federal, state, and county requirements.

MAGIC Incorporates Many of the Leading Practices of Client/ Server Computing Environments

MAGIC, like most client/server systems, is a heterogeneous mix of hardware and software that is designed in layers or tiers. MAGIC consists of three tiers: (1) a mainframe computer, which serves as the primary repository for data, (2) a minicomputer database server, which holds the current day's cases as well as local data, and (3) a workstation application server, which performs all the processing necessary to determine welfare eligibility and compute benefits. The workstation handles most of the screen presentation, as well.

Like MAGIC, leading client/server applications distribute, and often replicate, data across the tiers, to bring the data most frequently accessed and updated as close to the user as possible. For many of the same reasons, processing is distributed across the system tiers. MAGIC is designed so that less urgent processing is performed batch, or overnight, and occurs on the mainframe, while processing that is needed immediately is done in a real-time, conversational mode on the workstation.

Like MAGIC, most client/server applications, are well suited to on-line, interactive processing due to the distribution of data and processing. Because most of the eligibility worker's processing is conducted on the workstation, response times should be consistent throughout the working day, and the activities of one eligibility worker will have little impact on those of other eligibility workers. For example, during peak periods, eligibility workers submit EDBC (eligibility determination and benefit calculation) transactions at the same time. Although these are processor intensive, because they run on the workstation, there is no contention for network or processing resources and, therefore, no response time degradation.

Client/server applications generally use relational databases, because they provide direct, quick access to data, and are extremely flexible. MAGIC

also employs two relational database[2] management systems, ADABAS on the mainframe and INGRES on the mini-computer.

The various tiers communicate with each other through integrated local area and wide area networks. This leading practice allows the eligibility worker to access information wherever it resides without having to know its location.

The MAGIC Architecture is Highly Portable

MAGIC's multi-tier architecture is highly open. That is, it would be relatively easy to transfer the MAGIC application from one technical environment to another. There are, however, a few areas where greater openness could be achieved. For example, ADABAS, which is considered a relational database, does not use standard Structured Query Language (SQL)[3] database calls, and as such is not compatible with a wide range of third-party tools. AION, an expert system[4] product used in MAGIC on the workstation, is not considered open, but there are a limited number of expert systems to choose from. DesqView, although popular at the time MAGIC was developed, is now being replaced in the marketplace as a workstation operating system standard by Microsoft's Windows NT and IBM's OS/2. Both the maintenance of software and the acquisition of computer equipment for MAGIC can be competitively bid, allowing vendors to participate in the bidding of diverse combinations of software and hardware.

MAGIC is a Stable, Efficient System that is Relatively Easy to Maintain

Merced County project managers measured key success indicators before and after implementation, such as error rates, staff turnover, service delivery levels, immediate need issuance, and cases per eligibility worker. Managers established benchmarks for response time. Standards for the development, testing, and installation of changes were set up. Vendors who are experienced in government computer systems and client/server technology were hired. End-users were involved early on and continue to be used in the prioritization, design, and testing of changes to welfare rules and regulations.

As a result, the MAGIC system is very stable. Rules and regulations changes are released once a month, and emergency changes are rare. The system has remained accessible and running 99.7 percent of the time.

By distributing eligibility determination and benefit calculation to the workstation and today's cases to the fileserver, the risk of a single point of failure is eliminated. If the mainframe should go down, the application processing the eligibility worker requires is still available on the

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[2] A relational database includes a collection of relations or tables of data elements with cross references.

[3] A fourth-generation language (4GL) defined to access and manipulate relational databases.

[4] The expert system treats rules and data as objects. It employs an algorithm for evaluating if/then statements, guiding the eligibility worker through only those screens that are needed for a particular case.

workstation. The eligibility worker can key in new cases and work on cases downloaded the night before. If the fileserver goes down, cases can be retrieved from the mainframe, although with some degradation in response time. If the workstation goes down it can quickly be swapped out with another one.

The combination of a relational database, a transaction processor, and an expert system have enabled MAGIC to exhibit several system efficiencies. Efficient use of disk storage space results in an average case, complete with case history, requiring 60,000 bytes of disk space. Guidance through the system by the expert system keeps transactions to an average of 50 per case. These factors contribute to a response time between screens of 0 to 10 seconds, and 25 seconds to download a case from the mainframe. These response times are within the response times required in the original MAGIC Request for Proposal.

MAGIC Is a Fully Functional System

Los Angeles County hired a third-party reviewer to evaluate MAGIC functionality against the County's planned welfare system, LEADER (Los Angeles Eligibility, Automated Determination, Evaluation and Reporting System). This comprehensive review did not uncover any major defects in MAGIC's system functionality.

Merced County did receive some criticism of MAGIC for the way it handles mass changes. However, Merced County has been successful in every MAGIC mass update so far. Because Merced County releases changes to MAGIC once a month, and because each case is worked once a month, mass changes are normally handled by applying the change to the case as it is worked. Each case is flagged until the change is applied to it to ensure complete application of the change. In July 1992, Merced did choose to handle the AFDC grant roll-back[5] as a mass change on the mainframe and was successful. Los Angeles County's review of MAGIC for the LEADER project indicated MAGIC meets requirements in this area.

MAGIC Is a Viable Alternative for Counties Today

MAGIC is a viable option for welfare automation in other California counties. Although it is anticipated that MAGIC can be run in another county, it has, in fact, only run in Merced County. The original State mandate required that MAGIC be developed as a county-operated solution. Neither Merced County nor its contractor, Andersen Consulting, has determined MAGIC's viability as a single statewide system. The department expressed concerns about MAGIC's viability as a statewide welfare system in the January 1993 *SAWS Evaluation Report*. The department identified nine significant architectural enhancements needed to MAGIC before it could be implemented statewide. Nevertheless, none of these concerns would preclude MAGIC from running in an individual county or a consortium of counties.

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5　A general reduction in allowable benefits paid to eligible recipients.

LEADER Can Be a Viable Option for Welfare Automation

The Los Angeles County Department of Public Social Services developed the General User Requirements for LEADER (Los Angeles Eligibility, Automated Determination, Evaluation, and Reporting System) in 1987. The County updated the document annually. In January 1992, Los Angeles County received a "1115 Waiver" from the federal government permitting federal funding for a separate system in Los Angeles County as a demonstration project.

Since the original requirements were developed in 1987, the major changes made by the County to the LEADER strategy have been in the expected technical solution, not in business requirements. LEADER was originally conceived as a centralized mainframe-based system. Today, the proposed client/server system still utilizes a mainframe as the database server, but most of the eligibility worker functionality resides on the worker's workstation.

Given California's Twenty-Year History of Efforts to Automate Welfare, Los Angeles County LEADER Project Staff Had No Faith in the State's Ability to Provide a Statewide System

Historically, Los Angeles County had two reasons for pursuing a separate strategy and not joining the department's strategy:

❏ Los Angeles County had a desperate need for a system, but given the track record of the State with welfare automation (e.g., SPAN), Los Angeles County could not take the chance of further delay or failure. Los Angeles County wanted to be responsible for its own performance. Therefore, it applied for the "1115 waiver."

❏ Los Angeles County wanted to take advantage of the enhanced federal funding which was available at the time funding was sought.

Further, with regard to the department's strategy of providing a state-operated and maintained system, Los Angeles County LEADER project staff told us that several of the cost estimates (e.g., conversion costs) were not valid for Los Angeles County and that they therefore had no confidence in the validity of the reported costs for statewide automation, as described in the January 1993 *SAWS Evaluation Report.*

The Proposed Solution for LEADER Is Both Advanced and Cost-Effective

LEADER has a distributed, client / server architecture in which:

❏ The county is divided into district offices, each with a local area network (LAN) supporting workstations and printers

❏ A wide area network (WAN) connects each district's local area network to the central mainframe. (There are 49 DPSS facilities; other facilities, including Department of Health, bring the total to 70 facilities)

❏ Each user will have a state-of-the-art workstation with a graphical user interface (GUI)

❑   Workstations will perform most eligibility worker functionality

❑   Local servers on the LAN's will provide the users with static data, such as "help" information, computer-based training, and on-line policy manuals

❑   Case data and a central county index of persons known to welfare will be held on the centralized mainframe

❑   On-line access will be provided to the State's central client index.

Because much of the eligibility worker's processing is conducted on the workstation, response times should be consistent throughout the working day, and the activities of one eligibility worker will have little impact on those of other eligibility workers. The central mainframe still provides a potential single point of failure, as no eligibility workers can operate on a case without first retrieving it from the central data base. However, the trade-off is a simple, scalable, and maintainable architecture. Further, it is the vendor's responsibility, under defined penalties, to provide the required availability.

LEADER May Provide Greater Benefits, at a Lower Cost than ISAWS, for 35 Percent of the State's Caseload

Unisys proposed a fixed-price solution for development, implementation, and four years of maintenance and operation totaling $85.66 million. Because this fixed price would be paid by the County through fiscal year 2002/03, the discounted present value of this bid is $76.3 million in 1994/95 dollars.

For this fixed fee, the UNISYS proposal provides the following features:

❑   Guaranteed availability and response times with defined penalties for non-performance

❑   Fully designed, tested, and functioning software application

❑   Local site hardware for 11,000 users (LANs, workstations, printers) which will belong to Los Angeles County at the end of the four year Facilities Management contract

❑   Training of all users by the vendor until the system is fully rolled-out, and a permanent computer-based training (CBT) program available to users at any time

❑   "State of the art" workstations when the system is rolled-out. It should be noted that these workstations are part of the overall solution which includes guaranteed response times

❑   Welfare rule maintenance from the time the system is piloted to the end of the four-year Facilities Management period. The bid assumes 4,000 hours per month at $76/hour or $3.6 million annually. This is 2,000 hours more in one year than the same vendor provides for NAPAS rules maintenance

❑   Automated processes for converting existing cases to LEADER

❑   Integration of the County's General Assistance program.

In addition to vendor costs incurred, Los Angeles County expects to spend $32.6 million (1994/95 dollars) to develop and operate LEADER for four years. The total system cost for development and four years operations equals $109 million in 1994/95 dollars.[6]

After Full Implementation, Los Angeles County Expects to Achieve Annual Savings of $83.5 Million

Los Angeles County hired planning contractor, EMS, which among other tasks, evaluated types of errors which LEADER would reduce and their relative proportions to Los Angeles County's caseload. EMS calculated savings as follows:

❑   Reduced errors in AFDC, food stamps, Medi-Cal, and general relief benefit payments

❑   Increased recoveries of AFDC and food stamps overpayments

❑   Increased collections of AFDC-related child support

❑   Elimination of current systems operational charges

❑   Avoidance of third-party liability costs.

These projected savings, totaling $83.7 million are derived in part from improvements in various quality control measures. Los Angeles County anticipates error reduction to result from an improvement primarily in agency caused errors as opposed to client caused errors. The predicted change in each type of error rate and the effective dollar savings are based on 1992 error rates, payments, and caseloads.

The annual projected savings of $83.7 million are sufficient to recover the $109 million of development and operating costs within one and a half years of full operation. According to the LEADER proposal, it will take approximately 3.5 years to develop the system. Therefore, it will take approximately five years from start of development to recover the full costs of development and implementation.

Of note are potential cost savings not assumed by the County. Neither savings from facilities management and application maintenance, nor from administrative (staffing) savings, are included in the calculation of potential LEADER benefits. The actual difference between the current fees charged by Los Angeles County's Internal Service Division to Los Angeles DPSS for facilities management and application maintenance ($18 million per year) and the fixed price equivalent charged by UNISYS ($6.8 million per year) is $11.4 million per year.

The projected annual benefits of $84 million for LEADER represent 35 percent of the cases statewide. By comparison, annual benefits of $156 million projected by the department for statewide automation (December 23, 1994 SPR) are 65 percent of cases.

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[6]   Total vendor and county costs, including just three years of operation, are $104 million.

The County has not yet signed a contract and the cost for LEADER may differ from the amount bid by the vendor. As a benchmark, ISAWS is estimated to cost $105 million for eight percent of the State's cases. This cost includes three years of operation but no software development or rules maintenance. Total Los Angeles County costs and the vendor bid for LEADER is $104 million for 35 percent of the state's cases. This LEADER cost not only includes three years of operation, but all software development and three years of rules maintenance.

Los Angeles County Has Made Beneficial Use of the Private Sector

Los Angeles County has utilized the private sector in three beneficial ways:

❑ Contracted with a planning vendor. Los Angeles County considers the use of a firm in this way to be the best of all the helpful advice received from the federal government

❑ Intention to contract LEADER system with guaranteed service levels for a fixed price

❑ Contracted with external specialist attorneys for the negotiation and contracting process.

Los Angeles County Solicited a Business Solution Rather than Dictating One

Los Angeles County did not tell the vendor how to build the system (although standards, such as the use of relational data base management systems, were specified in the RFP). Rather, the County demanded a level of service, leaving the competitive private sector to provide the most cost-effective technical solution. This follows closely with recommendations made by the Governor's Task Force Government Technology Policy and Procurement in its August 1994 report. This report calls for a major overhaul of how the state buys and implements information systems.

The Proposed LEADER Contract Shares Risks with the Vendors

The LEADER contract defines response time requirements, a formula for availability calculations, and computation of damages for failure to meet time-based performance standards. The contract provides for response times for most transactions to range from two to three seconds 95 percent of the time, with no transaction to exceed 18 seconds. The vendor must provide a stable system, which is available to on-line users 98 percent of the time Monday through Saturday from 5:45 a.m. to 9:00 p.m. Further, it is the vendor's responsibility to distribute software changes (such as new eligibility rules) in a timely fashion.

Commitment of Department Resources Throughout Life-Cycle Development of LEADER Is Essential

Los Angeles County's LEADER system may be a viable statewide solution, assuming the project is managed to the contract, achieves the planned schedule, and meets performance requirements specified in the County's RFP and the vendor's proposal. Los Angeles County requires guidance in the interpretation of policy and the best approaches to implementing that policy. It is not sufficient for the department to be involved only during acceptance. The department's commitment will be required during the early design phase. In this manner, agreement on approaches can be achieved early in the design process when changes are both less costly and less time-consuming.

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MAGIC and LEADER May Cost Less, Provide Greater Benefits, and Perform Better Than NAPAS

The following is a comparison of the NAPAS, MAGIC, and LEADER systems across several measures including costs, maintainability, performance, and openness. We relied on the best data available from the department and the counties to prepare these conclusions. It is important to note that LEADER is a proposed system, not an existing system such as NAPAS and MAGIC. Therefore, the actual results of LEADER may differ from the proposal, and such differences could be significant.

In this section, we discuss the NAPAS system in Napa County and the ISAWS system in the 14 ISAWS counties together whenever possible. Though each county is running exactly the same application, the technical environment differs between Napa County and the ISAWS counties, because Napa County is running NAPAS on its own processor. Some statistics presented in the following discussion include the ISAWS counties and are footnoted accordingly. The reader should understand that the results of the NAPAS system in Napa County cannot automatically be extrapolated to the ISAWS counties or statewide. The costs and benefits of any system, including NAPAS, MAGIC, and LEADER, would likely be different on a statewide basis than those that were present in this chapter because of economies of scale, changes in hardware costs, implementation of a statewide network, and unique requirements of each county's operating and fiscal programs.

Based on the comparisons, other solutions to welfare automation exist in California. Based on actual experience in Merced County, and upon a review of the proposed LEADER systems, these two California alternatives cost less, provide greater benefits, and may perform better than NAPAS. Though NAPAS appears to a user to do what it is intended to do and has reasonable response times now, our concern with NAPAS relates to its design as a county-based, centralized system, using a single vendor's proprietary platform, and to the department's migration plans for NAPAS.

NAPAS Was Less Expensive to Develop and Pilot Than LEADER or MAGIC, but Provides Fewer Benefits

As can be seen from **Figure 3-1**, at $8.7 million and $13.7 million respectively, NAPAS and MAGIC cost significantly less to code, test and pilot in one site than LEADER will at $42.1 million. These costs include the computer hardware and software to develop and pilot the system. NAPAS costs include the costs of personal computers purchased for eligibility workers because these costs could not be identified separately. For Merced County, the cost of 200 personal

computers are not included. In the case of LEADER, only the costs of piloting to the initial pilot welfare office is included, because one office in Los Angeles County is more comparable to implementation in Napa County or Merced County than county-wide implementation in Los Angeles County, which consists of 49 welfare offices. The costs of case conversion and training are not included in these costs, because they tend to be relative to the size of the county and would not allow a fair comparison between the cost of developing each system.

Figure 3-1

Welfare Application Development Cost
(Millions of 1994/95 Dollars)

(a) NAPAS and MAGIC development costs do not include significant architectural or functional enhancements needed to implement one system statewide, nor any cost for integrating County General Assistance prgrams. LEADER does include these enhancements and costs.

(b) LEADER estimated development costs do not include any costs for foster care programs. NAPAS and MAGIC do include foster care programs.

Expected benefits for LEADER after the system is fully operational are estimated at $88 per 1993/94 case. These LEADER benefits are based on error rate reductions, increased welfare payment collections, and eliminated current data processing costs. Los Angeles County does not assume any savings in administrative costs (e.g., worker salaries and all overhead costs). Administrative costs savings in Napa County since NAPAS was implemented are $36 per case. Cost savings in Merced County after MAGIC was implemented are estimated at $175 per case in 1993/94. Napa and Merced County savings are net of state average annual savings achieved by all other counties. **Figure 3-2**, on the next page, compares annual benefits.

Figure 3-2

Welfare System Annual Benefits Per Case

(a) Savings from error rate reduction are not included for Napa County or Merced County because there has been no statistically valid measure of error rates in either county.
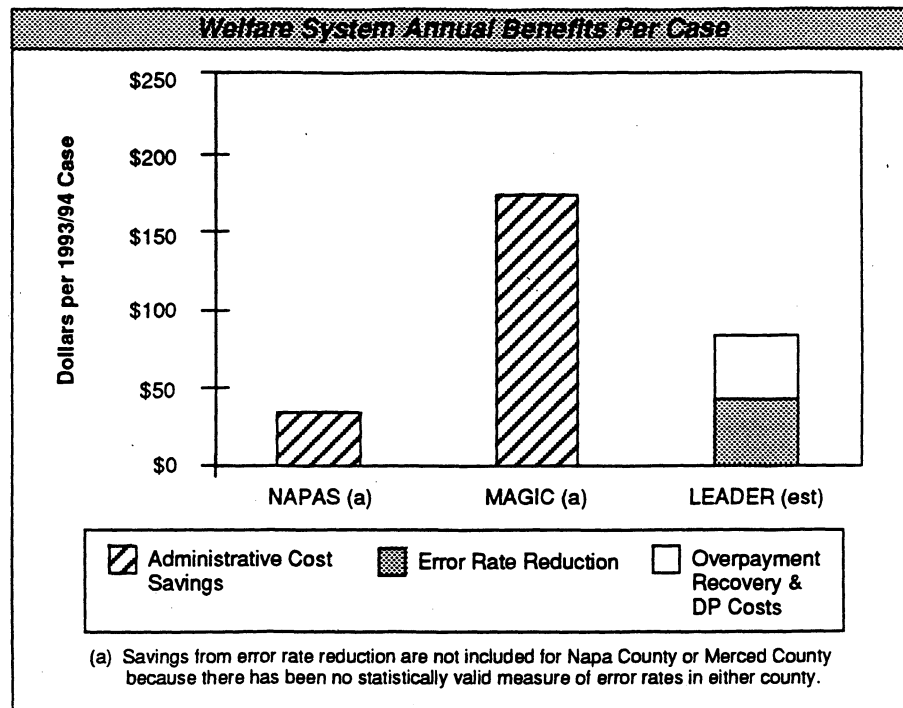
Comparing benefits over three years in relation to total costs for the system including three of operations provides insight to the effectiveness of the system. LEADER produces $4.82 of savings per dollar spent per case, much greater than either NAPAS at $0.13 per dollar cost or MAGIC at $2.39 per dollar cost. MAGIC and LEADER produce, or may produce, greater benefits than costs; NAPAS does not. The relationship of benefit dollars to total costs per case is illustrated in **Figure 3-3**, below.

Figure 3-3

Welfare Benefits per Case for Each $1 In Total Costs Per Case Over Three Years
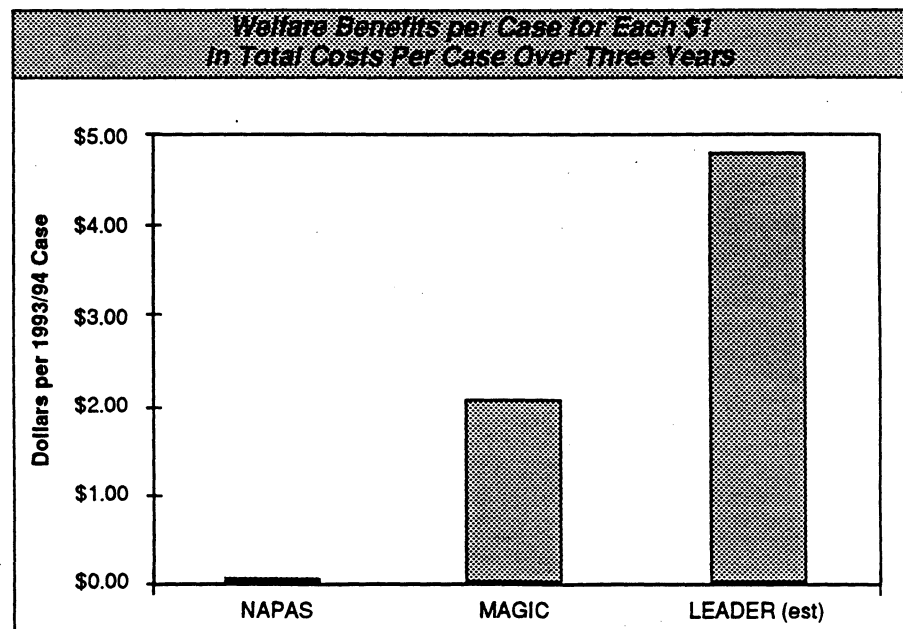
The MAGIC System is Less Expensive and Easier to Modify Than NAPAS and Possibly LEADER, but LEADER May be Less Expensive to Operate

Deloitte & Touche will provide rules and regulations maintenance for NAPAS/ISAWS for $3.9 million in 1995. Merced County's contract with Andersen Consulting provides rules and regulations maintenance during fiscal year 1994/95 for $2.8 million. Unisys/Deloitte & Touche will begin rules maintenance for LEADER, if the system is finished on schedule, in 1999 at an annual cost of $3.6 million.

In addition to vendor activities, state and county staff help with rules maintenance, including design and acceptance testing of changes. These additional activities are budgeted at $2.9 million for NAPAS in 1994/95, and $0.3 million for MAGIC. It is not known what Los Angeles County costs may be. **Table 1**, below, shows the total NAPAS rules maintenance costs at $6.8 million, MAGIC at $3 million, and LEADER costs estimated at $3.6 million (county and state costs are not included in the LEADER estimate).

A backlog of undeveloped rule and regulation changes has accumulated for both MAGIC and NAPAS. As Table 4 indicates, NAPAS has a backlog of approximately 200 changes, which the department believes will take about 49,000 hours or an estimated $3.0 million to resolve. Merced County estimates it will take $1.0 million dollars to complete its 31 undeveloped rules and regulations.

Table 1
Maintainability of Welfare Automation Systems

Maintainability	NAPAS	MAGIC	LEADER
Annual System Maintenance and Operations Costs per Case	$189(a)	$41	$5(b)
Annual Hours to Maintain Rules(c)	119,487(a)	28,394	48,000(d)
Annual Cost to Maintain Rules(c) (millions)	$6.8(a)	$3.0	$3.6(d)
Rules Backlog as of December 1994	139(a)	31	N/A
Estimated Cost to Resolve Backlog (millions)	$3.0(a)(e)	$1.0	N/A

(a) These costs and hours are for Napa County and all ISAWS counties
(b) Assumes 1999/2000 year rates converted to 1994/95 dollars and 1994/95 cases
(c) Includes state, county, and vendor
(d) Includes vendor only
(e) Includes cost to fix all 200 MCRs, including 139 rules, and approximately 60 non-rule changes

Merced County Has Improved Service Levels

Eligibility workers in Napa County and Merced County are handling more cases. **Table 2**, on the following page, shows that Napa County averages 169 cases per worker, while Merced County averages 273 cases per worker. Workers also are handling cases more quickly. Elapsed

times between initial applicant screening and benefit issuance went from an average of 45 days in each county in 1989/90, to between 1 and 24 days in Napa County in 1993/94, and one to four days in Merced County. Merced County believes the shortened delivery time for benefits has been instrumental in reducing the percent of immediate need cases granted from 6.1 percent to 1.5 percent.

Table 2
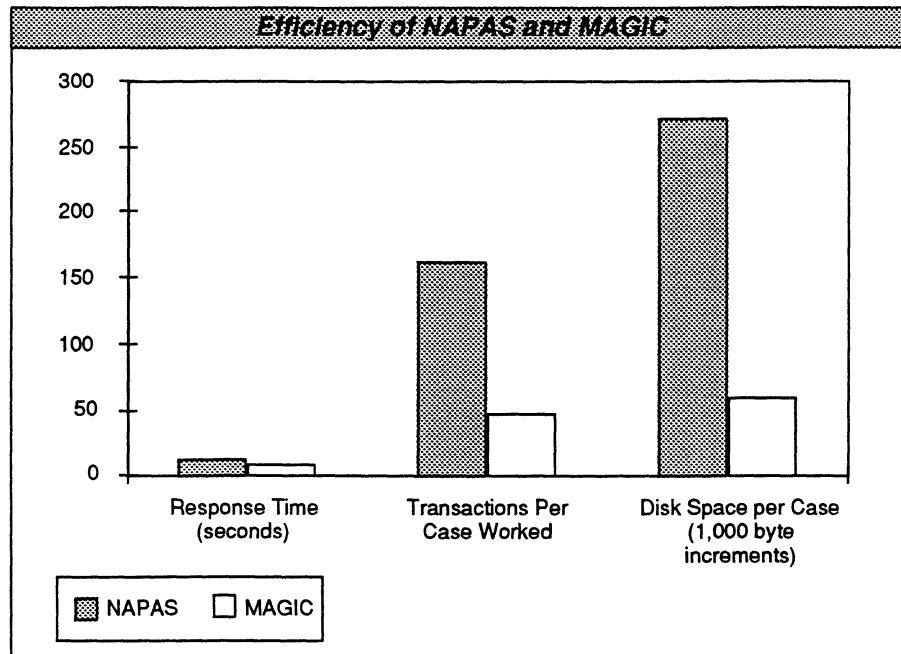## Performance of Welfare Systems in Automated Counties

Performance	System Average or Goal	Napa County	Merced County	Los Angeles County
Non-duplicated Cases per Eligibility Worker 1993/94	169	182	273	N/A
Time to Benefit Issuance	30-45 days	1-24 days	1-5 days	N/A
Immediate Need Cases Granted as a Percent of Total Applications	N/A	13.1%	1.52%	N/A

MAGIC Is An Efficient System

Response times for NAPAS and ISAWS prior to February 1995 was poor. Actions taken by the department have improved response times to under 10 seconds for screen-to-screen transactions. EDBC is still taking between two and five minutes. In Merced County, screen-to-screen response times range from instantaneous to 10 seconds. EDBC takes up to 2 minutes to run in Merced County. An EDBC runs on an individual's workstation in Merced County, so there is no contention for processing resources, as there sometimes is with the NAPAS/ISAWS system, which is run on a central mainframe. Response times now are nearly the same in Napa and Merced County, except for EDBC. Los Angeles County is requesting guarantees that LEADER response times be under three seconds for more than 95 percent of transactions; exception transactions must not exceed 18 seconds.

MAGIC appears to make more efficient use of processing time and disk storage space as shown in **Figure 3-4**, on the next page. To work a case in Napa County an average of 164 transactions are submitted. An average of 50 transactions are needed per case in Merced County. Further, an average case in the NAPAS/ISAWS system requires 274,000 characters of data, while an average case in the MAGIC system requires 60,000 characters of data.

Figure 3-4

Efficiency of NAPAS and MAGIC

(Bar chart with Y-axis from 0 to 300 in increments of 50)

Categories:
- Response Time (seconds)
- Transactions Per Case Worked
- Disk Space per Case (1,000 byte increments)

Legend: ▨ NAPAS ☐ MAGIC

The MAGIC System Distributes Presentation, Processing Logic, and Data To A Greater Degree Than Either NAPAS or LEADER

Distribution is a matter of degree, not a yes/no condition. What must be determined is the appropriate distribution of computer hardware and software between the end user (eligibility worker) in the counties and the State. The purpose of the hardware and software is to provide a technical platform to run the automated system, which in turn supports the business process.

The Gartner Group provided a model for discussing types of client/ server systems which is applicable to this topic. **Exhibit 3-1**, following this page, provides a graphical summary of this continuum. Distribution is classified based on three architectural components of a system:

❏ Presentation management (screens seen on workstation)

❏ Application processing

❏ Data management.

Each of these architectural components may be distributed separately or in conjunction with the others. Moving from left to right across Exhibit 3-1:

❏ The left most architecture represents no distribution of presentation, processing logic, or data. This is a fully centralized architecture and is not a part of the Gartner Group spectrum. The NAPAS/ISAWS system fits the centralized model.

❏ The second architecture represents a basic "screen scraper" adaptation of a centralized system in which some presentation management, all data management, and all application processing

Exhibit 3-1

Evolution of the Electronic Welfare Workplace
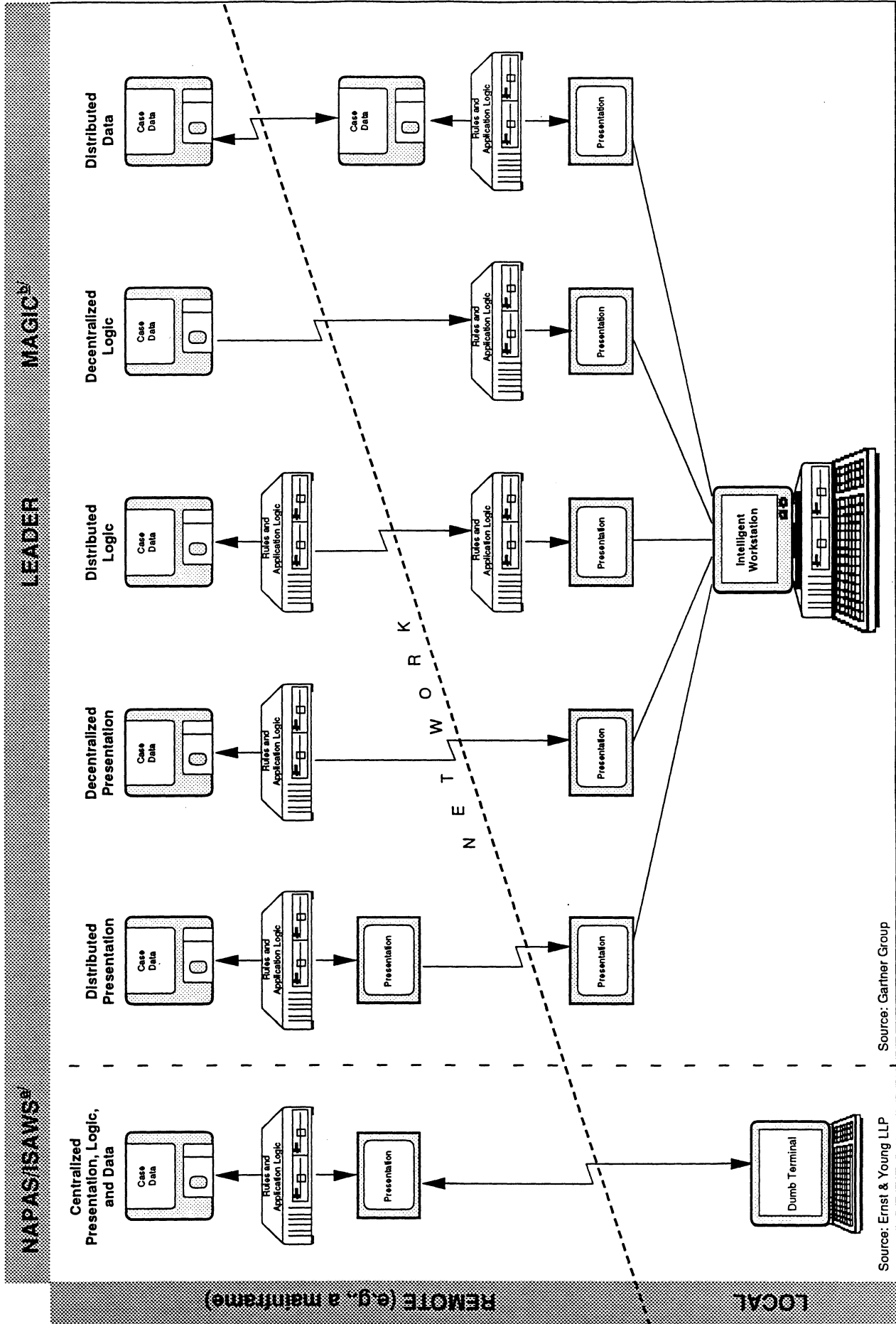
Source: Ernst & Young LLP

Source: Gartner Group

a/ ISAWS uses intelligent workstations as a dumb terminal.
b/ For MAGIC, some application logic is performed on the mainframe, and some data reside on the fileserver.

logic are performed on the central mainframe. Only the reformatting of text into a graphical form is processed on the local workstation.

❑ The third architecture is similar to the second, except all presentation management is on the workstation. Application processing and data management are still centralized.

❑ In the fourth architecture, screen presentation management is local. Some processing logic is centralized and some localized. Database management is centralized. The proposed LEADER system best fits this model. All eligibility worker functionality is done at the workstation, other processing, like client correspondence and management reporting, is done at the mainframe.

❑ In the fifth architecture, both presentation (screen) management and application processing are conducted local to the user. Data management is still centralized.

❑ In the last architecture, presentation management and application processing are local to the user, whereas database management (and the data itself) is spread between local servers and, possibly, a central site. In this situation, cases particular to a county would be held in that location, whereas statewide data, such as the central index of all applicants known to welfare, would be held at the state, but available to, and updateable by, all counties. MAGIC is a hybrid of this last architecture and the fourth architecture. MAGIC splits processing as LEADER does between the workstation and the mainframe, but MAGIC also distributes one day's cases to the fileserver. This movement of data to the fileserver is not a true distribution of data, because it is a duplication of data on the mainframe.

The spectrum of sophistication, and technical risk, increases from left to right in Exhibit 3-1. Systems of the form on the left side of the diagram are typical of older technology. Those of the form on the right side of the diagram are less common today, but increasing as the maturity and acceptance of distributed tools increases.

The distribution of screen presentation, application logic, and data management is a decision which should be left up to the vendor submitting a qualifying bid. The state should not require that any one of these three functions be either centralized or decentralized. The key in procuring a solution to welfare automation is whether the solution meets the business needs of counties and the state, and does so at a cost-effective price.

There is a requirement to sometimes allow counties access to case or client information in other counties to transfer a case to another county or to verify an applicant's status in other counties. The need to share case or client data must be carefully analyzed before a decision is made to store either centrally, and a role of the department is to provide for this transfer.

Exhibits 3-2, 3-3, and **3-4,** following this page, show the way processing logic and data are distributed across the technical architectures of NAPAS/ISAWS, MAGIC, and LEADER, respectively. NAPAS/ISAWS is a fully centralized system with all presentation, processing logic, and data management done on a mainframe. MAGIC and LEADER follow the guidelines above, distributing processing to the workstation and performing a few functions, such as file clearance, on the mainframe.

NAPAS/ISAWS, MAGIC, and LEADER all have central data repositories for case and client data, although Merced County replicates daily cases on the fileserver. Merced County has incorporated redundant data into its design of MAGIC by downloading a copy of the current day's cases to the fileserver. Whereas fully distributing the case files might be preferable, Merced County has had few problems with data integrity.

NAPAS is Highly Proprietary

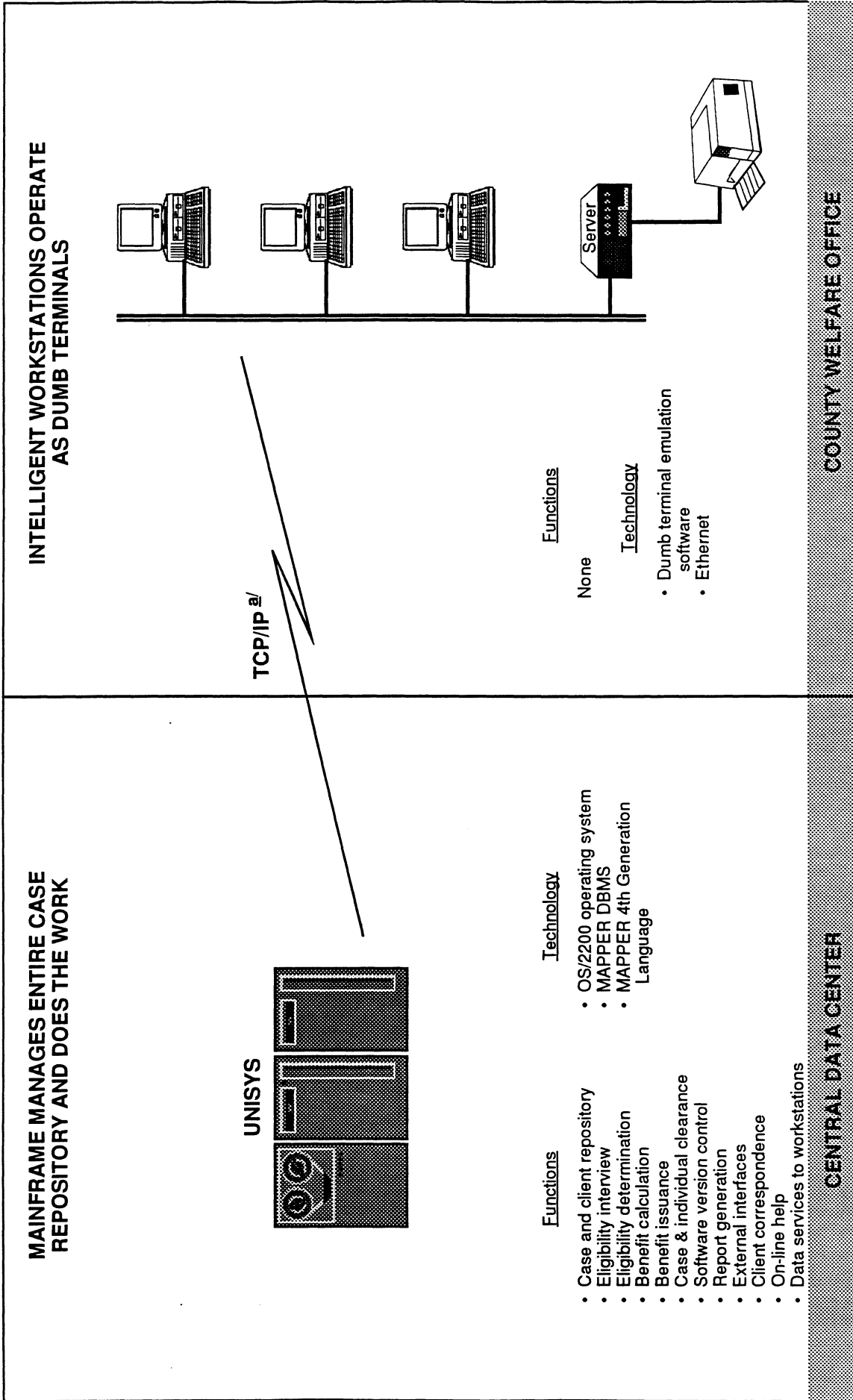There are many definitions of openness. Two of the most common are:

❑ A system is "open" if it is possible for any interested party to participate in a bid, with no advantage given to any one participant

❑ A system is open if a software package that works on one computer will work on all others of the same standard class.

While both definitions are applied in this section, emphasis is given to the former because the ability to openly procure systems is a requirement of state systems. The systems include a mix of mainframes, file servers, and workstations. We look at the openness of all three below.

Table 3, following the exhibits, is a summary of the following findings:

❑ NAPAS is more proprietary than either MAGIC or LEADER on the mainframe, because of MAPPER. NAPAS, while it is fully centralized and does not have a separate workstation tier, can connect to dumb terminals or personal computers.

❑ The mainframe portion of MAGIC is under many, but not all, definitions open. Though it runs on an IBM-compatible mainframe, and third-party vendors can certainly compete in an open procurement for MAGIC, IBM controls the standards. For the same reason, the VM or MVS operating system is not always considered open, because it runs only on an IBM compatible mainframe. MAGIC uses a VSAM database management system, which is open. It also uses a management system called ADABAS, which has a relational structure, which is open. Nevertheless, ADABAS does not use standard query database calls, which limits the use of third-party tools with ADABAS. Natural, a fourth-generation language used with ADABAS, is proprietary, but MAGIC also uses the COBOL application language, which is open.

Exhibit 3-2

ISAWS Technology Architecture

INTELLIGENT WORKSTATIONS OPERATE AS DUMB TERMINALS

MAINFRAME MANAGES ENTIRE CASE REPOSITORY AND DOES THE WORK

TCP/IP a/

Server

UNISYS

Functions

None

Technology

- Dumb terminal emulation software
- Ethernet

COUNTY WELFARE OFFICE

Functions

- Case and client repository
- Eligibility interview
- Eligibility determination
- Benefit calculation
- Benefit issuance
- Case & individual clearance
- Software version control
- Report generation
- External interfaces
- Client correspondence
- On-line help
- Data services to workstations

Technology

- OS/2200 operating system
- MAPPER DBMS
- MAPPER 4th Generation Language

CENTRAL DATA CENTER

a/ Transmission Control Protocol/Internet Protocol

Exhibit 3-3

MAGIC Technology Architecture

MAINFRAME MANAGES ENTIRE CASE REPOSITORY

IBM Compatible

Functions
- Historical case repository
- Benefit issuance
- File clearance
- Report generation
- External interfaces

Technology
- MVS or VM/VSE
- ADABAS
- CICS
- COBOL
- NATURAL

CENTRAL DATA CENTER

FILESERVERS HOLD TODAY'S WORK

Functions
- Data services to workstations
- Software version control

Technology
- HP-UX 9.0
- Ingres
- C

TCP/IP a/

REMOTE OR LOCAL SITE

INTELLIGENT WORKSTATIONS DO THE WORK

Server

TCP/IP a/

Functions
- Eligibility interview
- Eligibility determination
- Benefit calculation
- Client correspondence
- On-line help inquiry

Technology
- DOS
- DesqView
- AION Development System
- C and COBOL

COUNTY WELFARE OFFICE

a/ Transmission Control Protocol/Internet Protocol

Exhibit 3-4

LEADER Technology Architecture

MAINFRAME MANAGES ENTIRE CASE REPOSITORY

UNISYS

Functions
- Case and client repository
- Benefit issuance
- Case and individual clearance
- Report generation
- External interfaces
- Client correspondence
- User help

Technology
- OS1100 operating system
- RDBMS relational database
- COBOL
- Data Central
- LINC

CENTRAL DATA CENTER

FILESERVERS HOLD STATIC DATA

Functions
- Software version control
- Static data & table lookup
- Regional print distribution

Technology
- Windows NT
- Sybase SQL Server
- COBOL
- C

REMOTE OR LOCAL SITE

INTELLIGENT WORKSTATIONS DO MOST OF THE WORK

Server

Functions
- Eligibility interview
- Eligibility determination
- Benefit calculation
- Report viewing
- Computer-based training
- On-line manual viewing

Technology
- DOS
- MS-Windows
- Powerbuilder
- GUI
- Microfocus COBOL
- Focus
- Ethernet

COUNTY WELFARE OFFICE

TCP/IP a/

TCP/IP a/

a/ Transmission Control Protocol/Internet Protocol

❑   LEADER, like NAPAS/ISAWS can only run on a Unisys mainframe with a Unisys operating system, and is closed. The database management system for LEADER, RDBMS, is open, but runs under proprietary Unisys software called Data Central. LEADER uses COBOL, which is an open application language.

Table 3
Mainframe Openness

	Hardware	Operating System	Database System	Application Language
NAPAS	●	●	●	●
MAGIC	O	◗	◗	◗
LEADER	●	●	◗	O

● Proprietary   ◗ Partially Open   O Open

As shown in **Table 4**, below, both MAGIC and LEADER have open fileserver platforms. Both systems run under UNIX, which is considered truly open, because it is based on independent standards that are not controlled by any one vendor. This also is true for both hardware and the operating systems. Both Ingres (MAGIC) and Sybase (LEADER) are open database management systems. Both systems use "C" language, which is open. In addition, LEADER utilizes COBOL.

Table 4
File Server Openness

	Hardware	Operating System	Database System	Application Language
NAPAS	N/A	N/A	N/A	N/A
MAGIC	O	O	O	O
LEADER	O	O	O	O

● Proprietary   ◗ Partially Open   O Open

Table 5, on the next page, illustrates that LEADER's workstation platform is more open than MAGIC's. MAGIC uses an expert system, and no industry standards have yet been established for expert systems. As a result expert systems tend to be proprietary, such as AION on MAGIC. Desqview, while not proprietary, is no longer a leader in operating systems as it used to be and there are fewer third party vendors creating software for it. The hardware and primary software (DOS, Windows, and GUI) used by LEADER at the workstation is considered open.

Table 5
Workstation Openness

	Hardware	Operating System	Database System	Application Language
NAPAS	N/A	N/A	N/A	N/A
MAGIC	O	◗	N/A	O
LEADER	O	O	N/A	O

● Proprietary   ◗ Partially Open   O Open

Table 6, below, provides an overall openness of each system. Because NAPAS/ISAWS runs entirely on a Unisys mainframe and software platform, and this platform is closed, the system is considered highly proprietary; it would not be possible for any other interested party to participate in an open bid for NAPAS, without advantage being given to Unisys. LEADER and MAGIC represent a combination of open and closed elements. MAGIC could be competitively bid, without giving any one vendor an overall advantage. Vendors dealing in IBM-compatible hardware and software would have an advantage over others. It would be difficult to bid on LEADER without the involvement of Unisys, because LEADER's mainframe hardware and operating system is tied so closely to this one vendor.

Table 6
Overall Openness

	Hardware	Operating System	Database System	Application Language
NAPAS	●	●	●	●
MAGIC	O	◗	◗	◗
LEADER	◗	◗	◗	O

● Proprietary   ◗ Partially Open   O Open

ISAWS Provides Eleven of the Eighteen Most Requested Interfaces

As the NAPAS/ISAWS system is implemented in each ISAWS county, the department assists that county in building related interfaces to county systems. Where county system interface files exist, they are being retrofitted to meet the ISAWS interface standard. In a few cases, where no automated system exists in the counties, referral reports are printed to be used with the manual system in place. Of the 18 interfaces counties requested most frequently during the 1992 All-County Survey conducted by the department in 1992, ISAWS currently provides 11. NAPAS provides five county interfaces within Napa County. MAGIC provides Merced County with six of the top requested interfaces.

Both NAPAS/ISAWS and MAGIC Are Highly Reliable Systems

Both NAPAS/ISAWS and MAGIC have had very few system problems. The respective data centers have been able to provide upwards of 99 percent availability of the systems. Los Angeles County believes reliability of LEADER also will be high, because it plans to require the vendor to meet specific performance standards in the contract. If NAPAS/ISAWS were to fail, all workers would be impacted because no eligibility worker in the entire system would be able to work on the system if the mainframe were to fail.

If the mainframe were to fail on the MAGIC system, workers could continue, to work continuing cases, on the fileserver for up to a day, and input new cases, because application processes reside on the workstation. If the fileserver for MAGIC went down, it would affect only the eligibility workers using that fileserver. If a workstation went down, only one eligibility worker would be affected, and only until another welfare workstation could be located.

The impact of workstation failure is the same for LEADER as it is for MAGIC. Inasmuch as little work is done on the fileserver, failure of the server on the LEADER system also would have minimal effect. Some static table data would have to be looked up manually. However, because all data will reside on the mainframe, a system failure on the mainframe would make it impossible to work continuing cases. New cases could be entered if new cases could be temporarily stored on the fileserver or workstation. Hence, of the three systems, the impact of failure overall on the MAGIC system is the smallest.

Exhibit 3-5, following this page, presents a summary and comparison of the three welfare automation systems, NAPAS/ISAWS, MAGIC, and LEADER. The exhibit displays indicators of system cost, maintainability, performance, openness, operability, and system reliability.

Exhibit 3-5

Automated Welfare System Characteristics

Characteristic	System Average or Goal	NAPAS	MAGIC	LEADER
Development Cost				
Application Development (d)	N/A	$8,721,939	$13,731,162	$33,400,000
County Cost				
Total County Administrative Cost per Case 1993/94	$431 average	$504	$175	$415.46
Maintainability				
Annual System Maintenance and Operations per Case (e)	N/A	$189	$41	$5 (b)
Annual Hours to Maintain Rules (e)	N/A	119,487 (a)	28,394	48,000 (c)
Annual Cost to Maintain Rules (e)	N/A	$6,845,320 (a)	$2,899,793	$3,648,000 (c)
Rules Backlog as of December 1994	0	139 (a)	31	N/A
Estimated Cost to Resolve Backlog	0	$3.0 million (a)	$1.0 million	N/A
Performance & Efficiency				
Non-duplicated Cases per Eligibility Worker 1993/94	169 average	182	273	194
Response Time (Screen to Screen)	0-10 seconds	4-14 seconds	0-10 seconds	2-3 sec. for 95% transactions, 18 sec. max.
Number of Transactions per Case Worked	N/A	164	50	N/A
Number of Bytes of Disk Space per Case	N/A	274,386 (a)	60,000	N/A
Immediate Need Cases Granted as a Percent of Total Applications (f)	Not available	13.1% (a)	1.52%	N/A
Time From Intake to Benefit Issuance	30-45 days	1 - 24 days range	1-5 days range	N/A
Openness				
Hardware	Yes	No	Yes	Partially
System Software	Yes	No	Partially	Partially
Database Management System	Yes	No	Partially	Partially
Application Language	Yes	No	Partially	Yes
Operability				
New Eligibility Worker Time to Handle Full Caseload	N/A	6 months	3-4 months	N/A
Eligibility Worker Formal System Training	N/A	6-8 weeks	6-7 weeks	1 week
Eligibility Worker Turnover	Not available	28%	8%	N/A
System Help	N/A	Online	Online	Online
Reliability and Availability				
Percentage of Time System is Available	>99%	One incident in 1994	99.70%	Ongoing service levels required of vendor in proposed contract
Number of Unexpected Interruptions in Processing (system abnormal ends)	N/A	Less than 10 since June 1991	3 in 1st quarter 1995	N/A
Impact of Failures				
Mainframe	N/A	All eligibility workers - no work done on the system (a)	All eligibility workers - unscheduled cases unavailable	All eligibility workers - no case retrieval
Midtier	N/A	N/A	Local welfare - case retrieval from mainframe only	Local welfare office - static data unavailable
Workstation	N/A	N/A	Individual eligibility worker	Individual eligibility worker

(a) These figures shown are for Napa County and all ISAWS counties.
(b) Assumes 1999/2000 year rates converted to 1994/95 dollars and 1994/95 cases
(c) Includes vendor only
(d) Costs have been adjusted to reflect 1994/95 dollars and do not include conversion or training costs.
(e) Includes State, county, and vendor
(f) AFDC, Family Group, and Unemployed

Chapter 4 The Department Of Social Services Has Mismanaged Statewide Welfare Automation

The Statewide Automated Welfare System (SAWS) project is the largest information technology project ever undertaken by the state. Also, this is the first time the Department of Social Services (department) has been directly responsible for developing, installing, converting, and operating any information technology project even near this size. Efforts to automate welfare operations statewide go back as far as 1966, all without success. As the department has said, it is their "ability to manage and complete the complex logistical, organizational, and cultural changes that will ultimately determine the success of SAWS." Unfortunately, on a wide number of criteria, the department has not been successful at meeting their own criteria:

❑ The department has failed to implement welfare automation, has no formal vision for the project, and has not projected a date for when welfare automation will be implemented statewide

❑ The department has never established measurable objectives for automation, making it difficult to hold anyone responsible for not completing statewide automation

❑ The department has not developed performance measures to evaluate the effectiveness and efficiency of interim SAWS (ISAWS)

❑ The department has not reported costs to-date, and is unable to easily do so with its accounting system

❑ The 1993 evaluation of alternative systems which resulted in the selection of NAPAS as the single statewide system was flawed

❑ The backlog of required modifications to the NAPAS/ISAWS software to keep it current with welfare rules and other changes may take up to $3 million to resolve. Counties are expressing serious concerns with the management of ISAWS implementation, and feel like "passengers" rather than "partners" in ISAWS.

Without a clear, consistent, and documented strategic plan, development becomes impossible to manage, benefits from automation are lost, counties fear that welfare automation may never materialize, and the project's scope continues to change ad hoc. The situation creates a significant risk exposure to the State's General Fund for on-going and increasing costs for welfare automation planning work and ISAWS implementation activities. Without clear timelines, costs, and

assignment of responsibilities, it is not possible for the department to determine whether clear progress is actually being made on welfare automation.

Though staff at the department are dedicated, hardworking, and well-intentioned, six changes in the department's welfare automation project director in the last eight years has disrupted planning, management, monitoring, and communications on the project. Annual reports to the Legislature are up to two years late, often tied up in the agency secretary's office, and do not comply with statutory reporting requirements. There is a lack of leadership, clear authority, and accountability for what needs to be done to implement welfare automation.

Stakeholders in welfare automation have compelling, and at times conflicting, interests and have not reached consensus nor accepted a viable and cost-effective SAWS strategy. A significant factor contributing to delays is the conflict between these stakeholders: counties, the state, the federal government, and the vendor community:

- ❏ Counties want control of operations, want to use existing staff and equipment, and want to ease their caseload burden

- ❏ The state would like to have single system maintenance and receive as much federal funding as possible

- ❏ Federal agencies have vacillated on the number of systems they would allow, but do want the most cost-effective solution

- ❏ Highly competitive vendors want a share of this very large procurement.

It is very difficult to convince 58 different counties, with 58 different ways of providing welfare services, to adopt to one way of doing things. Stakeholders have not reached a consensus nor accepted a viable and cost-effective SAWS strategy.

After 10 years and $100 million, the department has automated only two small counties. As a result of poor management, we estimate that statewide implementation is 10 years behind schedule and 16 years after the Legislature initiated welfare automation. The project is significantly over budget and may not produce the benefits expected from automation. After adjusting the department's own estimates to reflect fiscal year 1994/95 dollars, the ISAWS project will not pay for itself in the 7.5 years the department projects costs and benefits, and this does not include $100 million already spent through fiscal year 1993/94. Counties are not being provided tools critical to effectively and efficiently deliver welfare services, and are struggling with limited budgets to meet their responsibilities while welfare cases and the rules governing them continue to increase. The U.S. Department of Health and Human Services has advised the department that they would like to see welfare automation implemented by 1998. It is possible that this federal agency could suspend funding if the state does not meet an agreed upon schedule.

The Department Did Not Follow Through on Its Original Plan to Develop Welfare Automation

In a 1983 report to the Legislature, the department encouraged the Legislature to adopt its proposed automation approach. Specifically, the department recommended that the state proceed with the automation of California's county-administered welfare system in a manner that takes advantage of existing county systems and county computer centers that are already equipped and staffed for operating the welfare system. The department planned to develop the system in modules, and provide a completed module to selected counties. Each county consortium would maintain their own host computer site, and all processing, with exception of some statewide reporting and file matching, be performed at county consortium sites.

As presented in **Appendix A** to this report, the department made numerous and significant changes over the years to how welfare automation would be deployed, in response to county concerns and to federal conditions for receiving enhanced funding.

❏ In 1985, the department planned to provide counties four or five options for automation

❏ By 1989, the number of system options available to counties was reduced to two, while Los Angeles County obtained state and federal approval to develop its own system. Two counties, Napa and Merced, began work on alternative pilot systems, Napa being Unisys compatible and Merced being IBM compatible. The department envisioned that once the two systems were effectively implemented, the remaining 55 counties could select from the system which best fit their needs

❏ In late 1991, the department decided to stop all SAWS work and evaluate the two pilot systems being developed, though not to pick one system over the other

❏ In 1993, the department then selected NAPAS as the single statewide solution to be implemented statewide within three years

❏ Two months later, the department proposed ISAWS to pilot NAPAS in 13 counties as an interim step to test the costs, benefits, and performance of welfare automation

❏ In 1994, the department then proposed MPSAWS, a multi-platform concept to demonstrate if NAPAS could run on different operating environments

❏ In July 1994, the federal government met with department officials to discuss conditions for gaining federal agreement with the department's proposed new, MPSAWS vision for welfare automation. These agencies held off putting their conditions in writing to allow time for the department to formally respond to the conditions. The department has not done so

❑ In November 1994, the federal agencies then demanded the department submit for federal review a significantly revised vision statement which addresses each federal condition, and to document the counties' commitment to the state's overall strategy.

The U.S. Department of Agriculture believes "that support for the central core vision of the CDSS appears to be fading." The federal agencies' conditions now limit the strategy to no more than four system projects (Los Angeles being one), each consisting of a consortium of counties, with the state maintaining overall management and project oversight. At that time, the U.S. Department of Health and Human Services stated that it would "not approve funding for activities which begin to implement a yet-to-be agreed upon project strategy or vision." The U.S. Department of Agriculture (Food and Nutrition Service) stated that it will "continue only financial support for welfare automation at the level necessary to sustain progress toward implementation of the automation plan for a single statewide system that was agreed to in 1993" with the selection of NAPAS. In other words, because the department has not produced a strategic plan, the federal government is approving funding now for only the NAPAS and ISAWS system.

A major driver of the course taken by the department over the last ten years was the federal government's conditions to receive enhanced funding for welfare automation. Some of the development activities were eligible for a larger contribution (up to 90 percent for AFDC related costs) from the federal government if the state met certain conditions. As described in **Appendix F** to this report, while the department vigorously pursued enhanced funding, the federal government changed the conditions from multiple systems to a single statewide system.

The department never did receive enhanced funding for welfare automation, and delays in agreeing upon an approach was a cause. The 1986 Advance Planning Document (APD) identifies which activities and costs are eligible for enhanced funding. The department expected the federal government to contribute $39 million over the normal federal share of costs. Because of delays in the project, the department lost the opportunity for enhanced contributions from the federal government.

In 1995, the Department of Finance approved the $94 million September 12, 1994 Special Project Report for ISAWS, subject to a number of conditions. Department of Finance requested the department to present a fully developed strategic vision to the federal government. Department of Finance expressed its concern that federal agencies did not approve the expansion of ISAWS, following the department's inability to adopt a vision for welfare automation. Department of Finance is concerned that this situation creates major risks for the General Fund.

The Department Has Done an Inadequate Job of <u>Planning</u> for Statewide Automation

During our brief review of the department's management activities, we found the following examples of poor planning by the department:

❑ There is no project charter or strategic plan. Such a charter or plan would define the scope of statewide automation and what the project is committed to deliver, as well as costs, timelines, resources, controls, and standards within which the project is to be completed. Without this charter or plan, it is difficult to keep the project on a consistent course within the boundaries of the strategy, to understand when the project will be implemented, or to assign and manage the resources needed to implement the plan. Without such plans, the department must manage by "event" rather than by plan; the result is a project that is late, over budget, and unable to deliver promised benefits.

❑ There are no measurable objectives established for ISAWS, nor are there sufficient performance measures tied to goals and objectives. Objectives developed by the department include words such as "improve" and "achieve" but do not mention by how much or by when. Without measurable or time-specific targets, objectives are vulnerable to the broadest or narrowest interpretation. The lack of measurable objectives, coupled with the high turnover in the welfare automation Branch Chief, makes it difficult to hold an individual or the department accountable for project success or failure.

❑ There is no risk assessment plan. Such a plan would describe areas of concern that might prevent the department from achieving project objectives, and present a plan to minimize the likelihood and impact of a known risk factor to the project. In its 1994 report, the Governor's Task Force on Government Technology Policy and Procurement places the ability to manage and mitigate risk at the center of redefining the public's trust in the state's ability to manage information technology projects. Without such a plan, the department is unable to anticipate risks and reduce their impact on statewide automation.

❑ The department has not prepared a revised budget estimate or workplan for statewide automation. As a result, the Legislature does not have adequate information on what welfare automation has or will cost.

❑ Though ISAWS has diverted activities away from statewide welfare automation, there are still nearly 40 positions authorized at the statewide welfare automation Branch doing statewide welfare automation planning. With no statewide welfare automation efforts, it is unclear what the responsibility of this Branch is.

❑ The department has used outdated data and made mistakes in preparing cost estimates of statewide automation and ISAWS.

The Department Has Done an Inadequate Job of Implementing Statewide Automation

As examples of poorly managing the implementation of statewide automation, we noted the following:

❑ The two primary products from the first ten years of effort and $100 million are automated welfare systems in two counties, Napa and Merced. These two counties account for one percent of all cases statewide. Some ISAWS work began in 1993/94. A third product is an expanded Medi-Cal Eligibility Data System (MEDS) file, which already existed in 1984. This file, which tracks all persons "known to welfare," was expanded to include non-assistance food stamp population who are not Medi-Cal eligible. This addition to MEDS should reduce the potential for fraud in food stamps. An estimate of this potential reduction has not been prepared by the department.

❑ The department spent several years developing other products for SAWS which were either not used or which were ineffective. These included developing modules of SAWS, such as automated eligibility determination, then providing these modules to selected counties. This strategy was abandoned around 1988 with the selection of Napa and Merced Counties as pilots for SAWS. The department also continued work on program logic statements (which document welfare rules in a format suitable to be coded into computer programs) and "side-by-side" documents (which examine regulations in all three federal welfare programs to chart and remove duplication). Both Napa County and Deloitte & Touche (the vendor for NAPAS) said they did not use either of these documents as a programming tool.

❑ The department places responsibility for welfare automation too low in the department hierarchy to command authority and focus accountability. SAWS is a high risk project and demands the full-time attention of at least a Deputy Director in the department. In March 1993, the Food and Nutrition Service also expressed concern to the department that the welfare automation project manager was too low in the organization to have the "implicit and expressed authority to successfully manage the statewide implementation of welfare automation."

❑ The department has changed the welfare automation project manager six times in the last eight years. This disrupts leadership on the project, as well as planning, monitoring, and communications.

❑ The department is spending money on unneeded enhancements to NAPAS and ISAWS. Approximately $227,000 was spent on an abandoned effort to centralize the printing of warrants. Another $479,000 has been spent on a graphical user interface to NAPAS and ISAWS, an enhancement not needed to effectively use the system. Nearly $2.7 million was requested for eight other enhancements for which the federal agencies recently stopped further funding.

❑   Solutions are not developed in partnership with expert vendors who may be able to implement welfare automation more quickly than the state can. In Chapter 3, we discuss Los Angeles County as a good example for the state of how a large welfare automation project can be effectively planned and competitively priced to maximize the public's return on investment in the project.

❑   Up until late 1994, no single person was assigned responsibility for ensuring that a given public policy rule change is made to the software supporting eligibility workers. Recent changes by the department are designed to clarify responsibilities for rules changes and to improve the performance of its maintenance change operations.

❑   Some counties feel frustrated because they no longer are involved in welfare automation planning or implementation. Without continued, active involvement of counties the project has lost direction, sponsorship, and support.

❑   The implementation schedule for ISAWS slipped from 15 months to 27 months during 1994, as documented in the department's September 1994 Special Project Report.

❑   According to county ISAWS managers, the department's procedures to notify counties of new software releases is inadequate. Counties tell us that they are not regularly informed of changes made to ISAWS, and so are not always prepared to handle the changes. Also, the system which tracks and responds to County requests to modify the system is difficult to use. Department responses to user requests are difficult to track, are unclear, and are sometimes incomplete.

❑   The department is spending $4.6 million in unnecessary equipment by supplying personal computers for ISAWS counties instead of the required "dumb" terminals. In addition, the department also is purchasing software to make each personal computer run like a dumb terminal so it can be used for ISAWS. This strategy carried out statewide (excluding Los Angeles County) would cost $41 million more than is needed to use an ISAWS application statewide.

❑   If the PCs which the department is supplying counties are eventually used as a PC, there could be costs of up to $35,000 for each PC that is not planned for. These costs include upgrading the PC and its software, formal and casual learning, help desk hours consumed by the user, peer support, and network and support to communicate with other PCs and printers. These life-cycle costs of a PC were documented by the technology research firm Gartner Group, and published last year.

❑   The department purchased approximately $333,000 in equipment for 42 counties which are not being used for

statewide welfare automation. A PC, laser printer, and desktop software was provided to planners in 42 counties who are not involved with statewide welfare automation. This equipment effectively became gifts to counties.

The Department Has Done an Inadequate Job of <u>Monitoring</u> and <u>Evaluating</u> Statewide Automation

Our key concern is that the department does not track and report the system's costs. Neither the department nor federal agencies could tell us how much they spent on welfare automation, and neither stakeholder has monitored or reported total welfare automation expenditures to-date. Though required to do so by Section 10822 of the Welfare and Institutions Code, the department has never included the total costs of the system in any of its nine annual reports to the Legislature. This section requires that the department provide an annual report to the Legislature on March 1 each year, beginning 1985, that contains, among other information, the following:

❑   The effectiveness of the system as measured by dollar error rates

❑   The costs and savings of the system

❑   The fiscal impact of the system on the administration of such public assistance programs.

None of the information above has been presented in any of the nine annual reports submitted.

The department also splits the planning for welfare automation into three separate federal or state planning documents, making it difficult to understand the total scope and cost of work being conducted by the department, Health and Welfare Data Center (HWDC), UC Davis, counties, and vendors. We found no state or federal management reports of actual project-wide costs to-date, nor any reports tracking budgeted to actual full costs of the department's welfare automation efforts. We found no evidence that the Department of Finance or the federal control agencies ever asked for, or received, any reports of what has been spent to-date or how actual costs compare with originally budgeted amounts. Without a comprehensive budget management and reporting process for welfare automation, it is nearly impossible to control costs, measure progress, and manage risk.

Further, the department has not established metrics to determine whether welfare automation is performing. These metrics could include costs, return on the public's investment in the project, baseline and planned error rates, and timing. As an example, error rates for Napa County and Merced County have not been measured before or after implementation to determine whether either system has "ensured accurate computation" of benefits. Without good metrics, the department has not been able to manage the project to a reasonable cost, time frame, and benefits.

The Department's ISAWS *Evaluation Plan* is Flawed

The department has prepared the *Interim System Evaluation Plan* to assess the viability of ISAWS. The department positions the plan as an open-ended information gathering exercise. It does not aim to challenge current thinking and assumptions, but rather to confirm past assumptions. Nor does it set measurable performance targets for either the state or the counties. The department did not take the opportunity to increase the benefits achieved from the pilot.

The primary purpose of the ISAWS evaluation is to:

> "**confirm** cost and benefit statewide assumptions and to **document** important implementation and technical strategies lessons learned (sic) which will be used for the procurement of vendor services to support the statewide implementation of welfare automation."

The goals of the evaluation are stated as follows:

> "Information will be periodically released that will:

> ❑ Confirm or be used to modify assumptions used for cost estimating purposes

> ❑ Confirm effectiveness and appropriate mix of requested implementation services and strategies

> ❑ Confirm state and county roles and responsibilities

> ❑ Provide technical information for use by potential bidders in the RFP process

> ❑ Confirm or be used to modify statewide benefits assumptions

> ❑ Assess impact of service delivery on client."

Conducting such a large implementation evaluation solely for the purpose of confirming estimates and assumptions is unusual. ISAWS, by its nature as an interim system, is introducing delay, and its evaluation plan does not compensate for this delay by exploiting the opportunity to capture, share, and review findings, or resolve issues at a working-level county forum. It is noticeable that of the 64 phased activities in the evaluation schedule, counties are responsible for none of them. This lack of a customer focus creates distrust and cynicism, as well as fear that the product will not be delivered.

The evaluation plan should have specified:

❑ The decisions to be made

❑ The information requirements necessary for those decisions

❑ The resources necessary to capture the information.

Otherwise, there is a risk that the ISAWS implementation will be conducted without advancing the knowledge or reducing the concern associated with ISAWS statewide.

The *Evaluation Plan* Does Not Specify a Single Goal, Objective, or Target, Which Would Result in an Unequivocal Recommendation to Continue With, or Cease, Statewide Implementation of ISAWS

There is no "litmus test" for success. The ISAWS evaluation plan does not describe what information is missing, nor what questions need to be answered before the state can make a determination to proceed, nor on what basis the cost/benefit case would justify statewide implementation. Because it is unclear what conditions are required for success, ISAWS may become just another step in an inevitable misguided direction as sunk costs continue to accumulate. Given that this direction includes a sole-source procurement with no penalties for unacceptable results, that inevitability could be costly.

Further, the evaluation plan contains the following assumption:

> "The evaluation plan must be completed to the extent possible within existing CDSS and DHS [Department of Health Services] departmental resources."

Consequently, there is no assurance that the plan per se will be completed, or result in all the information necessary for decision making being captured, as the department may have to curtail fact gathering to match resources.

The Broad Category of Financial Data to be Collected is Complete and Well Conceived

If the financial analysis section of the evaluation plan is implemented, it will result in answering the question, "How much does it save?" The county cost data being collected includes the same information we presented in Chapter 1 where we discuss county administrative costs and savings. For four years, beginning fiscal year 1989/90, and at six months after completion of each county's case conversion, the department plans to determine among other statistics, total county administrative costs per case, EDP development costs, maintenance and operations costs, case per worker, support ratio (overhead costs), changes in salaries, and training costs. This information will provide a good measure of county costs and savings. The plan is not clear for what period of time the post-conversion county costs will be measured. The department also plans to collect information about efforts made in each county to improve the efficiency of eligibility functions separate from welfare automation.

The department must ensure that it measures savings in real dollars (adjusted for inflation) in order to capture a more accurate picture of county administrative cost savings. Also, the evaluation plan is not clear on how non-county costs of ISAWS will be measured (e.g., department staff), nor how the savings in county costs will be compared with the costs of ISAWS. Without defining these measures and methodologies in the plan, the department has not determined how it will determine the state's return on investment in ISAWS.

The department selected four counties (San Bernardino, Ventura, Santa Cruz, and Trinity) to evaluate at the same time as each interim county to identify if any of the changes which have occurred in the interim

counties are possibly the result of factors other than automation. The control group, if randomly selected, should provide a good benchmark for the process improvement questions being asked in the evaluation plan. However, because the full cost and caseload of every county in the state already is collected by the department, it would be fairly easy to include all counties when benchmarking statewide changes in administrative and overhead costs.

The Broad Category of Technical Strategies Data to be Collected Confirms That the State is Taking Full Responsibility for the Risks Associated With the ISAWS Implementation

The department does not specify a service level agreement which the vendor must meet, nor test the validity and impact upon the business of the established levels. Rather, the state is asking a number of questions about availability of "the Host CPU" and other technical components such as printers and local area networks. Curiously, these questions are generally irrelevant for the following reasons:

❑ Vendors maintain a history of such statistics on all components, and the state does not need to duplicate this effort

❑ The statistics gathered will apply only to the current vendor (Unisys) of a proprietary system

❑ It is the performance of the system as a whole, not its components, that is important and relevant to the user.

If the department demanded a service level agreement from the vendor, it would be the responsibility of the chosen vendor to correctly configure a system in order to achieve the necessary response times. The ISAWS places the responsibility and risk on the state to configure a system from the components.

Finally, if targeted response times are not being met, of the department's evaluation question of "was the processing capacity of the host CPU sufficient to meet target response times?" implies the solution: buy more hardware. In this situation, the department and HWDC have taken on the role and risks of a system integrator.

The ISAWS evaluation plan persists with the SAWS strategy of a centralized, state-controlled welfare system, without allowing a control group of non-ISAWS counties to try alternative interim solutions. If the current SAWS strategy changes, the results from the technical questions will be of limited value. In the past, changes in strategic direction have resulted in delay while further information is collected and alternative approaches are tested. Had the previous two pilots in Napa County and Merced County been correctly formulated, ISAWS would have been unnecessary. If the welfare automation strategy were to change from a mainframe-based strategy, the ISAWS technical evaluation would be irrelevant.

The Department Does Not Have a Reliable Measure of Error Rates for Napa or Merced County

Mistakes are made by county staff when determining benefits paid to welfare recipients. Because total welfare payments are billions of dollars each year, even a slight improvement in error rates can result in millions of dollars in savings to the state. Counties have in place procedures and processes to help minimize these errors.

Of the annual savings from welfare automation projected by the department, one-third is assumed to be from reducing the number of mistakes made by eligibility workers. Yet the department has not, and is not, developing the statistical data needed to measure error rates in either Napa County or Merced County. Consequently, neither we nor the department know whether the automated systems are achieving reduced error rates.

Although considerable state staff and funds are spent each year collecting error rate information in most counties, the department cannot provide an accurate or statistically valid error rate for any county except Los Angeles. The department admits it cannot rely on the information it does collect for monitoring or managing mistakes made in specific counties other than Los Angeles County. Without reliable information, the department is ineffective at providing feedback to counties on what their error rates are, although the department expends considerable resources to collect the information. Without any valid measures of error rates (except for Los Angeles County) the department is unable to determine if Napa County and Merced County have reduced error rates since implementation of their automated systems.

To evaluate error rates in the ISAWS counties, the department plans to sample 9,825 "pre-conversion" cases, 1,505 "post-conversion" Phase I cases, and 8,320 post-conversion Phase II cases. Phase II cases will be sampled if results of Phase I are not statistically significant. This sample size appears excessive, considering the manual effort and cost to do a case review, and considering how the results will be used. The number selected is apparently needed to determine statistically valid error rates in the 14 ISAWS counties as a group, using a high (95 percent) confidence level for the results. Because the results of the sample are to be used to confirm savings from reduced error rates, but not to impose any sanctions, it may not be necessary to establish such a high confidence level.

Also, the effort to determine post-conversion error rates for the two largest ISAWS counties, Kern and San Joaquin, are duplicating other department error rate measurements. Beginning in October 1995, the department will begin conducting random samples of cases in the state's 19 largest counties, including Kern County and San Joaquin. These new plans will produce, for the first time, statistically valid error rates in 18 of these counties (Los Angeles already has valid error rates). Therefore, the ISAWS evaluation plan would duplicate efforts in the two largest ISAWS counties.

The Department has Done an Inadequate Job of Communicating to Project Stakeholders

It appears to be difficult for the department to provide a complete and representative assessment of ISAWS. Reports to the Legislature provide no indication of the significant cost overruns or delays in implementing welfare automation. Recent statements by the department that the

"product works" give no clue of what it is costing to "make it work," nor that the project may not pay for itself until the next century.

An objective of communicating is to keep people informed. Progress reports should be complete, concise, and realistic, reporting both success and failure. The purpose of these reports should be to: (1) report progress toward objectives, as measured against project plans, (2) report an evaluation of the progress, as measured against criteria in an overall welfare automation charter, and (3) report problems, issues, and concerns as appropriate to the proper parties. Reports and updates should also warn of foreseeable problems, their probability, and their likely impact. Nothing is ultimately gained by just telling people what they want to hear.

Examples of poor communications which we encountered during this review include the following:

❏ The department's welfare automation progress reports to the Legislature fail to meet Legislative requirements and commonly followed business practices for managing, evaluating, reporting, and adjusting project plans. These reports lack concise tables, presented at the front of the reports, showing original and revised costs, benefits, and schedules. These reports have been up to two years late; the reports due March 1, 1994 and 1995 have not yet been provided to the Legislature.

❏ The department's welfare automation planning reports, which include Advance Planning Document Updates, Feasibility Study Reports, and Special Project Reports, do a poor job of communicating to stakeholders because they are poorly organized, use confusing terms, bury key progress indicators in the body of the report, and are not consistently presented.

❏ Section 4945 of State Administrative Manual requires a copy of the SPR be submitted to Legislative Analyst's Office and to the Department of Finance. The department provided the Legislative Analyst's Office an official copy of the December 20, 1994 SPR one month late, delaying and restricting the analysis of the department's budget request for fiscal year 1994/95.

❏ The department did not respond to the September 16, 1994, letter from the Welfare Case Data System Consortium which described all of their concerns with NAPAS and ISAWS. The reason provided us is that the letter was not officially addressed to the department, but rather "cc'd" at the bottom of the letter. When a consortium of 19 counties representing 40 percent of the state's cases is raising a number of concerns, the department should at least provide a response acknowledging receipt of the letter and some type of response to their concerns.

❏ In the March 10, 1993 Planning APD, the department says an in-depth analysis was done in the January 1993 *SAWS*

Evaluation Report. The January 1993 *SAWS Evaluation Report* says its evaluation is not "in-depth"

During interviews with Napa County, all ISAWS counties, and the two MPSAWS counties, there was a general feeling that the state was not listening to their concerns, and that formal meetings with the state were not meaningful to counties. Counties have become frustrated with the department's inability to deliver welfare automation, and will not assume the risk of the project (the County Welfare Directors Association of California's support welfare automation on the condition that it is provided for free to the counties). Counties are frustrated because they need automation now, but the choice offered to them is limited and alternatives, such as MPSAWS, are not real.

These frustrations reflect the tremendous diversity of needs in a large state and would be a difficult aspect for any all-county system. However, because of poor communications, the department loses credibility with the counties, federal agencies, the Legislature, and vendors supplying the system. A high degree of lack of trust has developed because of the department's statements often conflict with their actions and progress.

The Department's Evaluation of NAPAS and MAGIC Was Flawed

The department conducted an evaluation of NAPAS and MAGIC in 1992, and issued its report January 1993. The department's evaluation was conducted by three teams -- financial analysis team, functionality team, and technology team. The financial analysis team's primary objectives were to analyze each alternative's costs and benefits and the ability to secure enhanced funding for the alternative from federal agencies. The team did not concern themselves with business needs.

The functionality team looked at error reduction, end user acceptance, and benefits. It addressed business needs only superficially. The department stated "an in-depth system-to-system comparison of business functions and rules was not an objective of the SAWS Evaluation."

Proponents argued that the Merced Automated Global Information Control System (MAGIC) had greater functionality. The functionality team was aware of some major areas where this was true, such as the ability to perform retroactive processing, but discounted them as minor enhancements. Retroactive processing is applying a new or revised welfare law which affects how cases should have been determined in the past. Retroactive processing was not implemented and running in ISAWS until June 1994 at a cost of $426,078.

Without a detailed functional comparison of NAPAS and MAGIC, the department was not able to meet one of the evaluation report's primary business objectives to "achieve accurate and uniform application of policy statewide." The functionality team assumed that benefits from both NAPAS and MAGIC were equal, and concluded that end-user acceptance was equal when the current state of development of the MAGIC system was taken into account.

The technology team looked at tactical (short-term, limited need) rather than strategic (long-term, business need) issues. The department did not incorporate its strategic business goal of achieving open, client/server systems in its decision for an automated statewide welfare system. The technology team concluded that, in the short term, MAGIC was neither technically nor functionally ready for statewide implementation, but that a statewide centralized operation of NAPAS provided operational and maintenance savings.

On the three pages which follow, we identify specific examples of how the department's January 1993 evaluation was flawed. We do not comment on whether NAPAS was the correct choice at the time of the evaluation, or whether the department actually planned to select one system over the other going into the year-long evaluation process. What is important is that flaws noted here tend to lean the evaluation towards NAPAS and away from MAGIC. The department also failed to reevaluate the decision when it immediately began adding costs to NAPAS after its selection in January 1993.

The 1993 *SAWS Evaluation Report* Measured Costs Incorrectly

The department chose NAPAS because it was the lowest cost alternative and "ready," but then immediately increased the cost by 150 percent, or $3.1 million. The department also decided to use personal computers rather than dumb terminals, increasing NAPAS costs by another $37 million for statewide implementation (excluding Los Angeles County).

The department underestimated the cost of application enhancements needed for NAPAS to be implemented statewide. According to the evaluation report, "NAPAS is presently technically and procedurally ready for implementation in other counties. Only a low risk set of minor application enhancements are needed prior to further implementation. NAPAS, either as a county or state solution, would meet the welfare automation goals and requirements and can be readied for implementation in other counties immediately following award of a contract."

The department estimated the cost of these enhancements at $2 million. However, three weeks later the department submitted baseline enhancement costs of $3.1 million to the federal government in its January 1993 Advanced Planning Document Update (APDU). The department then asked for an additional $2.6 million for enhancements in the 1994 APDU, bringing total enhancement costs to $5.7 million. One of these enhancements, putting actual processing logic on a PC, actually brings NAPAS one step towards a MAGIC-type system.

Because NAPAS is mainframe-based, only non-intelligent workstations are required to use the system. However, the department is now equipping all workers with a personal computer rather than a dumb terminal, then bought software to make each PC work like a dumb terminal. In its 1993 evaluation report, the department assumed PCs for MAGIC cost $2,660 more than the dumb terminals for NAPAS. As a result, the department concluded that workstations for NAPAS would cost $37 million less than MAGIC, when in fact there would be no difference in these costs.

Methods Used by the Department to Evaluate MAGIC and NAPAS Were not Uniform

Aside from the timing issue of NAPAS completion and MAGIC development, the department's evaluation itself is not uniform. The department failed to evaluate the two pilots on the same basis, with the same level of detail. The department conducted its analysis of MAGIC differently than it conducted its analysis of NAPAS in several ways:

❑ An "Operational Analysis" of MAGIC was conducted, but not of NAPAS. The analysis was undertaken as a result of the problems MAGIC was having at the time. This analysis looked at opportunities for technical failure and worst-case impact of such a failure, but did not examine the probability of the failure occurring within a stable MAGIC system. Without a comparable analysis of NAPAS, MAGIC appeared to be higher risk than it has actually turned out to be. For example, the January 1993 evaluation report stated that if a problem occurred with a mainframe database update "All offices in the county would be unable to complete any mainframe on-line system work until the problem is fully resolved." What the analysis failed to mention is that very little of the MAGIC on-line processing is mainframe-based. Most of the work which an eligibility worker needs to do resides on the workstation and would not be affected. However, if data became inaccessible on the mainframe in the NAPAS system, no eligibility worker using the system could do any work, because all of the on-line data for all workers resides in one place, the mainframe

❑ Having developed nine architectural enhancement recommendations for MAGIC, the department hired Virginia-based MITRE to do a two-week independent assessment of the evaluation team's recommendations for the MAGIC system. Because no enhancements had been recommended at that time for NAPAS, no independent assessment of NAPAS was done

❑ Merced County was required to supply and justify mainframe utilization statistics, which show what percent of the computer was being used for production activities. However, the department did not require Napa County to do so.

MAGIC Was Criticized for its Open Client/Server Architecture, While Recommendations Were Made to Use an Open Client/Server Architecture

In its final report on welfare automation for the department, MITRE strongly recommends an open client/server solution. The MITRE report also states, "it is critical that SDSS conduct an open competition."

MITRE explained that an open client/server architecture can provide benefits which are important for distributed interactive business processes, such as welfare. However, the architecture necessary to support these processes is by nature more complex, consisting of multiple hardware layers and locations or tiers, and many different technical components in each tier.

Throughout the evaluation report, the department examined many technical aspects of welfare systems, such as how well the pilot can

meet performance requirements, or how well the application system can be maintained. In making the decision between NAPAS and MAGIC, the complexity of these technical aspects was repeatedly the deciding factor, not a consideration of the technical architecture and how it fits into the overall strategic direction, nor the business benefits to be gained using one architecture over another.

In its evaluation report, the department stated that, "due to MAGIC's architectural design, it contains many more points for system failure and this contributes to system instability." The department is criticizing MAGIC because it is a client/server system. The department then, in the implementation plan contained within the evaluation report, proposed elements of a client/server technology for NAPAS including intelligent workstations and distributed processing.

The Department Misrepresented Its Own Evaluation Team's Assessment

In its detailed analysis, the evaluation team wrote "assuming completion of both systems, the end-user team was divided in terms of preference for one system over the other." But in the executive summary section, the report stated "the end-user review supported an overall preference for NAPAS." The perceived "overall preference for NAPAS" was one of the department's deciding factors in selecting NAPAS as the single statewide system.

MAGIC Was Penalized by the Department for its Lack of Readiness

MAGIC was still being developed when the department conducted its evaluation. The MITRE report indicated the need for additional piloting of MAGIC. However, the MITRE "assessment was to be performed in the context of SDSS's primary business concern, which is to begin realizing an estimated $17.5 million per month SAWS administrative savings as expeditiously as possible. Thus any delays in implementation, such as the construction of a pilot, is not advisable." Delays in the ability to implement MAGIC were given in the executive summary as one of the main reasons the department did not choose MAGIC. By March of 1993, the department found it necessary to pilot NAPAS via ISAWS to show its transferability to another county.

The Department Ignored County Preferences and Needs Expressed in the All County Survey

A few relevant findings came out of the All-County survey conducted by the department:

❑ The All-County survey was not included in the justification for selecting NAPAS as the statewide welfare automation system

❑ Twenty-eight counties representing 38 percent of the state's caseload preferred NAPAS, 27 counties representing 62 percent of the caseload preferred MAGIC

❑ Counties were not involved in the choice of a centrally operated, single statewide system. The department asked counties for their preferences regarding the three locally operated alternatives for automated welfare, but never asked how they viewed state operated welfare.

☐   In 1992, counties had approximately 23 percent of the processor and disk capacity to run MAGIC, but only 2.6 percent to run NAPAS. The department glossed over the advantage this gives MAGIC in meeting county needs by stating opportunities exist to use existing computer systems. In fact, statewide rollout of ISAWS (NAPAS) did not use any existing data processing hardware resources in the counties.

Since the 1993 Evaluation, MAGIC has Exceeded the Department's Expectations, While NAPAS Has Often Failed to Meet Expectations

Below are remarks concerning NAPAS and MAGIC from the evaluation report, and each system's status today:

☐   "The Evaluation Team believed that even if the MAGIC System were fully functional, the time required to complete a given function was longer with MAGIC than with the NAPAS system. If this perception is true, worker productivity would be lower with MAGIC than with NAPAS."

–   Napa County 1993/94 -- Cases per eligibility worker are 182, a 48 percent increase since 1989/90.

–   Merced County 1993/94 -- Cases per eligibility worker are 272, a 92 percent increase since 1989/90.

☐   "The MAGIC expert system offers the opportunity to provide for rapid rule changes. However, this is negated by MAGIC's lack of a fully integrated application development environment that would provide for code development, system and application testing, migration and version control of all objects." [Generally, this is addressing maintenance of the system.]

–   NAPAS 1994/95 -- Annual rules maintenance including vendor, state, and county staff costs are estimated at $6.8 million. Changes are released weekly and emergency fixes are released daily.

–   MAGIC 1994/95 -- Annual rules maintenance including vendor and county staff costs are $3 million. Changes are released monthly, and emergency fixes are rare.

☐   "The results of this study did not confirm any advantage to MAGIC in the ability to reduce errors as fewer errors were discovered in the use of NAPAS."

–   NAPA 1993/94 -- Error rates are unknown; Napa County does not measure error rates.

–   MAGIC 1993/94 -- The department reports that Merced County error rates are down since 1989/90, but its estimates are not statistically valid.

☐   The MAGIC system exhibited a "wide range of workstation response time (sub-second to minutes)."

- NAPAS December 1994 -- We observed screen-to-screen response times between 4 and 39 seconds. This has since improved to between 1 and 14 seconds.

- MAGIC December 1994 -- We observed screen to screen response times between 0 and 10 seconds.

❑ "NAPAS provides much quicker access and interaction with the case record."

- NAPAS December 1994 and February 1995 -- Retrieving a case from the mainframe can take from 20 seconds to 2 hours.

- MAGIC December 1994 -- Retrieving a case from the file server takes 5-10 seconds; from the mainframe 25-30 seconds.

❑ "NAPAS on-line screen navigation provides much greater flexibility and freedom of movement between the various screens. . . The restrictions in the MAGIC system design were intentional and are not a limitation of the technology."

- NAPAS 1995 -- The eligibility worker must decide which screens to use. There is some duplication of required data on screens. An eligibility worker submits, on average, 164 transactions per case.

- MAGIC 1995 -- The expert system guides the eligibility worker through only those screens that are needed for a particular case. An eligibility worker submits, on average, 50 transactions (approximately the number of times the end user hits the enter key) per case.

❑ "The information [in the MAGIC system] is not readily available to ad hoc reporting tools for the purposes of management information. More of the NAPAS data is readily available directly by ad hoc reporting tools and facilities."

- NAPAS 1995 -- The author of NAPAS, Deloitte & Touche, and the Health and Welfare Data Center, told us that ad hoc reporting cannot be done on the NAPAS system. The end-user can view data using pre-formatted, canned reports.

- MAGIC 1995 -- Merced County has an on-line executive information system with graphical capability, which reads the MAGIC database.

The department's December 1994 SPR shows costs and benefits of ISAWS over two time periods. Total costs of ISAWS for July 1993 to April 1997, are estimated at $105 million comparable to prior statewide SPRs. Total costs for July 1993 to November 2000, are estimated at $120 million, which shows that cumulative benefits from ISAWS exceed cumulative costs during the eighth year.

Though costs provided in the December 1994 SPR are 40 percent higher than estimates provided one year earlier, the department has not included a number of other significant costs. This is in violation of Section 4945.2 of the State Administrative Manual, which requires the SPR to provide sufficient information for the executive branch, control agencies, and the Legislature to determine the nature and extent of future project oversight requirements. This section also requires projected costs through the end of the project, which the SPR does not do. The department will eventually need to issue another SPR and request more money for ISAWS.

The following activities and equipment are excluded from the December 1994 SPR:

One-Time Costs

❑   Fixing response time degradation in Napa County and ISAWS counties (unknown costs). In the original design documents for NAPAS, Napa County and the department established standards for the maximum average acceptable response times for specific processes, and required that these response times be met "95 percent of the time when the specified process is initiated" (NAPAS RFP, page 80). Maximum response times, measured from the point in time the process is initiated through the point in time the desired output is produced, are four seconds for a simple inquiry, five seconds for complex inquiry or simple processing, and ten seconds for complex processing.

Eligibility workers in Napa County experienced unacceptable delays of up to 39 seconds between computer screens. The department has since made a change in the software and operating procedures to reduce these delays to between 1 and 14 seconds. We observed response times of between one and six seconds in the two largest ISAWS counties. San Joaquin County reported delays of between 15 and 20 seconds at mid-morning and mid-afternoon, prior to mid-February. This improved to between 3 and 8 seconds during the last week of February.

A final eligibility determination and benefit calculation (EDBC) is made for each applicant, and can be done on the screen or in nightly batch mode. Before February 6, 1995, counties reported delays of between 15 minutes and 2 hours for EDBC. We observed response times for on-line EDBC of between 2 and 2.5 minutes, after mainframe capacity was increased 50 percent on February 6, 1995. Unisys reports response time as between two and five minutes. These delays between screens for EDBC process occurred even though the Health and Welfare Data

Center (HWDC) had installed 33 percent of the total planned mainframe power for ISAWS, yet only 15 percent of ISAWS workload was using the system.

The response time between screens is critical because it can accumulate to thousands of hours over the year. Hundreds of millions of screens would be brought up and viewed by eligibility workers during a year, and delays of any kind between screens could add thousands of hours to the time needed to handle all cases.

This is perhaps the most significant, unreported cost. The department, (HWDC), and the ISAWS vendors have been unable to pinpoint all causes of the problem and fix them. As a result, the cost to fix ISAWS response time is unknown.

❑ Replacing host mainframes and personal computers ($6.5 million). The December 1994 SPR budget for ISAWS includes host and site hardware purchases of $26 million. However, the department did not include any costs to replace the mainframe in Sacramento or the personal computers (PCs) being provided each eligibility worker. The typical practice of industry, as well as the HWDC, is to size and purchase mainframe equipment to meet today's needs, upgrade over the next three years, and fully replace in three to four years. Similarly, PCs generally are upgraded over time and replaced every three or four years. The department planned for these replacements in its earlier December 1993 SPR for full statewide implementation of welfare automation, reflecting the need to upgrade and replace computer equipment that is purchased to handle the level of welfare cases this year. We assume the ISAWS host and site hardware would be replaced in five years, and that the cost to do so would be 25 percent of the original purchase price, or $6.5 million.

❑ Additional workstations being supplied to counties ($900,000). The department is increasing the ratio of PCs to eligibility workers and their supervisors from 1.25 to 1.5 at a cost of $2,263 for each workstation. The justification given us is to equip training areas, screening rooms, receptionists, fraud investigators, county fiscal staff, and county help desks. Using the department's December 1994 SPR estimate of 1,531 eligibility workers and supervisors, this change may cost over $900,000.

❑ Costs to prepare manual welfare cases for conversion to the automated system ($2.1 million). Seven of the ISAWS counties now have data on how many hours and what level person is needed to convert a manual file to ISAWS. The total cost is $41 per case, or $7 per case higher than the department's estimate. These costs were specifically excluded from the department's estimates. They were excluded because counties are responsible within current funding to supply a fully documented case. Total additional costs for 300,000 cases could be $2.1 million.

❑ County-staffed help desks ($600,000). ISAWS counties we visited are developing their own help desk functions because customer assistance provided by the state's help desk is inadequate. County complaints include users having to wait hours to reach a live operator on the state's help desk when calling about highest priority items (such as when a welfare recipient is waiting for immediate need determination), having to initiate call backs to the help desk days later when no one from the state returns their phone calls, and not enough "experts" to meet all needs. Training each help desk operator takes approximately seven weeks, at a salary cost of approximately $3,600, plus approximately $1,000 each for training. There may be 20 people per year trained at the counties, for an annual cost of $92,000. Staffing the help desks with 20 people may cost $1.2 million. Some of this cost may not be incremental, because supervisors now helping eligibility workers could switch to "help desk" functions after ISAWS. We assumed one-half of this cost, or $600,000, is not included in the SPR

❑ Eliminating the existing backlog of maintenance change requests ($3 million). As of December 1994, there were approximately 200 outstanding items on the ISAWS Maintenance Change Report, including new or revised eligibility and benefit rules, as well as changes to the system requested by users. Deloitte & Touche, the ISAWS maintenance vendor, stated that its existing contract for rules maintenance did not specifically include people or hours to address this backlog. The department estimated that 49,000 hours are needed to resolve all of these changes, and believe that about one-half of these hours were needed for Deloitte & Touche, and the other half for state and county staff. Using current hourly costs for vendor, state, and county staff, we estimate an average hourly rate of $61. Total costs to eliminate the backlog could be $3 million.

❑ Developing user and training manuals for ISAWS (unknown cost). According to the department, 3 of the 14 system manuals for ISAWS have been or are being developed. Costs for the remaining 11 manuals are not included in the SPR and are not known.

❑ Providing counties now serviced by Butte County with check printing capabilities (unknown cost). Butte County now prints welfare checks for all six counties in its consortium. Because Butte County is one of the 14 ISAWS counties, the county no longer will be printing checks for the 5 remaining Butte consortium counties after December 1995. The cost to provide this capability is not in the SPR and is not known.

Recurring Annual Costs

❑ Rules maintenance $6.8 million per year. The December 1994 SPR does not include the cost to keep the application up-to-date with federal and state rules regarding welfare eligibility factors and benefit calculations. The September 1994 federal planning

document for NAPAS contains these other costs. The department is authorized 39 positions in fiscal year 1994/95 to maintain ISAWS, at a annual cost of $2.6 million. The vendor which developed NAPAS will be paid $3.9 million in 1995 for rules maintenance work. Finally, Napa County will incur costs of $300,000 to test changes made to the software application to ensure changes work and do not unintentionally affect other parts of the system. Approximately 10 percent of the total $6.8 million cost may be for non-rules maintenance, though the department refers to the entire amount as rules maintenance.

❏   SAWS project support costs are budgeted for in separate federal planning document at $3.2 million per year. The December 1994 SPR does not include the 37.6 authorized positions at the department plus 2 county staff positions for managing welfare automation. These include the welfare automation branch chief, project administration staff, and technical staff providing personal computer support to the SAWS Branch.

Table 1, below, presents a revised estimate of $166 million for current department welfare automation activities. This is $61 million more than what the department presented to the Legislature in its December 1994 SPR.

Table 1
Projected Costs of Current Welfare Automation Activities
(Millions of 1994/95 Dollars)

	Department Estimate	Additional Costs
1. December 20, 1994 SPR (ISAWS, 58 months)	$105,000,000	
2. Response-Time Degradation		Unknown
3. Hardware Replacement		6,500,000
4. Additional Workstations		900,000
5. Case Conversion		2,100,000
6. County Help Desks		600,000
7. Elimination of Backlog		3,000,000
8. User/System Manuals		Unknown
9. Check Printing		Unknown
10. Rules Maintenance ($6.8 million/yr, 58 months)		32,900,000
11. SAWS Branch ($3.2 million/yr, 58 months)		15,500,000
Total	$105,000,000	$61,200,000
Total ISAWS Costs, Including Additional Costs		**$166,200,000**

A final problem with past budget estimates for welfare automation and ISAWS has now been resolved by the department. The department did not include in prior budgets any projected changes in the number of welfare cases or eligibility workers. Also, the number and type of welfare policy rules continues to increase, at an average rate of one per day. The December 1994 SPR includes an estimated ten percent escalation in welfare cases. However, the Legislative Analyst Office points out in their review of the December 1994 SPR that the assumed ten percent increase in cases is inconsistent with assumptions in the Governor's Budget for caseload growth for AFDC (3.6 percent) and Medi-Cal (4.5 percent).

The Health and Welfare Data Center Improperly Acquired Computer Equipment

The Public Contract Code, Section 12102, allows for sole source contracts if the goods or services proposed are the only ones that can meet the state's need or in cases of emergency where the immediate acquisition is necessary for the protection of the public health, welfare, or safety. However, we found that the Health and Welfare Data Center (HWDC), on behalf of the department, improperly acquired computer equipment without obtaining competitive bids. Specifically, the HWDC sought and obtained permission from the Department of General Services for a sole source contract with Unisys Corporation for computer equipment. Approximately 83 percent of the equipment costs included in the contract was for equipment that could only be obtained from Unisys and was therefore a justifiable sole source procurement. However, the HWDC also improperly included in this contract approximately $3 million of personal computer (PC) equipment that was readily available from other sources.

We compared the prices for the PC equipment included in the Unisys contract to the prices for the same or comparable equipment available through the Department of General Service's California Computer Source at the time the contract was awarded. We found that the HWDC paid Unisys at least $119,000 more for this PC equipment than it would have if it had acquired the same or comparable equipment from the California Computer Source. The savings may have been even greater if the HWDC sought competitive bids for this equipment.

The HWDC, in a letter to the Department of General Services, justified the inclusion of the PC equipment in the sole source contract with the following justifications:

❑ Provide for quick implementation of ISAWS (for the first 180 days)

❑ Workstations and printers for SAWS are generic MS-DOS based machines, therefore Unisys will not gain a competitive advantage for follow-up business for either the ISAWS or statewide procurement

❑ A single supplier for all components for the first 180 days will enhance a smooth and rapid deployment of ISAWS

❑ Unisys would provide the workstations (PCs) at a lower price than the most recent state procurement for equivalent equipment.

Two of the justifications listed above appear to be for the convenience of the HWDC and the department. Moreover, none of the justifications listed above meet the Public Contract Code criteria for a sole source contract. Nevertheless, the Department of General Services provided the HWDC written approval to contract for this equipment from Unisys without obtaining competitive bids.

Chapter 5 Recommendations

In this chapter we describe the following recommendations to the Legislature in order to move forward with implementing statewide welfare automation:

❑ The Legislature should limit welfare automation funding until certain conditions are met

❑ The department should competitively bid the statewide implementation of welfare automation

❑ The department should improve its management of welfare automation

❑ The Legislature should consider continued independent review of welfare automation.

The Legislature Should Limit Welfare Automation Funding Until Certain Conditions Are Met

Fundamental changes in the approach to welfare automation are being suggested in this report, and the role and size of the department in delivering the system will need to be redefined and clarified. Also, the department does not know with certainty the actual processing requirements to implement ISAWS, the exact implementation status and full costs to-date of each ISAWS county, nor what it will cost in the future to complete ISAWS implementation. Until this information is known, the department and the Legislature cannot determine whether the ISAWS approach to welfare automation can succeed. Therefore, the legislature should limit funding for all department welfare automation activities in fiscal year 1995/96 to six months (through December 31, 1995), until the following conditions are met:

❑ Determine the department's role, functions, staffing levels, and funding for welfare automation

❑ Provide an updated estimate of the number of active and historical cases that will need to be maintained on the system and the number of workers that will be using the system (concurrent peak-period users) for all 14 ISAWS counties over the next three years

❑ Establish performance standards for all significant functions of ISAWS, including response times and system availability as established in the original NAPAS Request for Proposals

❑ Request Unisys Corp. and Deloitte & Touche to provide a firm price quote for all hardware and software services necessary to

fully implement and run ISAWS in the 14 counties for each of the next three years, including production, development, and training

❑   Review and assess the costs and benefits of proceeding with full implementation of ISAWS in all 14 counties, limiting implementation of ISAWS to only those counties for which implementation would be the best alternative, or discontinuing support for ISAWS altogether

❑   After the optimal level of ISAWS is determined, negotiate contract guarantees with the hardware and software vendors specifying a level of performance for the projected caseload of the ISAWS counties at a fixed price. The contract should provide for monetary penalties for non-performance and incentives for superior performance

❑   Prepare and submit a cost/benefit analysis of the operational NAPAS (Napa County).

The Department Should Competitively Bid the Statewide Implementation of Welfare Automation

The state now bears the full risk for implementation of ISAWS; ISAWS cannot be competitively bid and the history of cost/benefits in Napa County does not justify an automatic roll-out of ISAWS to other counties in California. Other California welfare systems compare favorably with the ISAWS approach. At the same time the department is determining the status of ISAWS, it should begin development of a statewide implementation RFP to competitively bid a cost-effective solution for welfare automation. This process should include the following:

❑   The department should issue a Request for Information (RFI) within the next three months describing the business needs of the state and counties regarding statewide welfare automation. The purpose of the RFI is to determine county and vendor interests and concerns regarding this procurement.

❑   The department should develop and issue a competitive implementation RFP from qualified vendors, interested in providing the State with a statewide welfare automation system outside Los Angeles County or for each one of the consortiums identified by the department. The implementation RFP should consider the following conditions:

•   The vendor design should incorporate state oversight of rules specification, system standards, and system reporting requirements

•   Focus on business results rather than the detailed technical specifications of a pre-determined solution. Do not narrowly constrain the implementation RFP with numerous project controls and pre-determined solutions

•   Encourage vendors to propose innovative approaches to meeting business needs and thereby share responsibility for the solution

- Allow the design of the proposing vendor's system architecture to determine:
  - The degree to which presentation, processing logic, and data are distributed or centralized
  - The location(s) of system operations
- Share risks with vendors:
  - Institute metrics to measure performance. Define how measurements will be taken
  - Institute vendor business based performance measures with both incentives and penalties
- Require significant milestones that define manageable and quickly accomplishable phases:
  - No milestone or phase should require more than 12 months to complete
  - Each milestone or phase should have a deliverable with a measurable benefit
  - At the end of each milestone or phase a decision should be made whether to proceed to the next phase
  - The decision should be based on how well the solution of the just completed phase meets business needs
  - The cost, schedule, and benefits of the next phase should be reassessed when the previous phase ends
  - Funding should be tied to each phase
- Encourage openness of the proposed solution, that is, whether system components being proposed are proprietary or not

❑ The evaluation of the proposal response from vendors should not be based solely on cost. Although cost is an important factor, credit should be given for the ability to provide a value proposition. In evaluating proposal responses the department should:

- Make a selection based on the best solution and the best value for the State, not just the lowest cost
- Incorporate the vendor's history of past management performance in meeting cost, schedule, and performance goals into the decision process

❑ With implementation of a statewide RFP or RFPs, the department should discontinue pursuit of a multiple platform SAWS.

To ensure that the department addresses the problems identified in our report, it should take the following actions:

❏ Establish a strategic plan for welfare automation that includes specific goals, measurable objectives, milestones, and time tables for all significant activities

❏ Establish measurable objectives for welfare automation that meet goals established by the Legislature, are derived from the department's strategic plan, and are stated in such a way that it is easy to verify their achievement during and at the end of the project

❏ Develop a meaningful and comprehensive project budget that includes all state, county, and vendor activities and costs, then track all cumulative expenditures against this budget

❏ Elevate the SAWS project director position to the deputy director level. The primary responsibility of this position is to plan and implement statewide welfare automation (as defined in Section 10815(a) of the Welfare and Institutions Code). The position would manage directly all planning, administrative, and support positions now within the SAWS Branch, and coordinate all activities of the Health and Welfare Data Center and other state departments which may have a role. The position will require someone with a proper mix of program, organizational, and change management skills, and who has sufficient tactical and strategic information technology experience

❏ Reduce the risk of the welfare automation project by instituting the following reforms:

   • Establish a project schedule which has deliverables planned at least monthly
   • Measure progress each quarter towards measurable objectives and deliverables
   • Prepare a risk assessment plan which identifies areas of risk, the probability of occurring, and its consequences. The plan should provide a pre-planned response designed to minimize or eliminate the impact of known risks
   • Share risks with vendors on the project
   • Hold specific individuals responsible for producing deliverables and managing risk

❏ Consolidate and report to the Legislature the projected costs of welfare automation. This includes activities and costs now separately reported for project support (Advance Planning Document), ISAWS (Special Project Report), rules maintenance (NAPAS Advance Planning Document update), Health and Welfare Data Center, and U.C. Davis. This consolidated budget estimate also should clearly identify the number of authorized and filled positions for both state and county staff assigned to the project

❑ Prepare quarterly and annual progress reports to agency and the Legislature which comply with statutes and which provide a complete, concise, and realistic assessment of welfare automation. The purpose of these reports should be to: (1) report progress toward objectives, as measured against project plans, (2) report an evaluation of the progress, as measured against criteria in an overall welfare automation charter, and (3) report problems, issues, and concerns as appropriate. Reports and updates should also warn of foreseeable problems, their probability, and their likely impact

❑ Ensure that cost/benefit analyses for welfare automation include, at a minimum: (1) current caseload and staffing estimates, (2) projected changes in the number of cases and eligibility workers, and (3) inflation adjustments. It should be noted that the Department of Finance's instructions for cost/benefit analyses do not currently allow estimates to be adjusted for inflation.

❑ The metric for all cost/benefit analyses should be the net present value of the project. Total benefits and costs should be discounted back to today's dollars, and the difference between total benefits and total costs, the net present value, should be determined. If still required to do so by the Department of Finance, the department also should report the payback period. It should be noted that doing so ignores all costs after the payback period and can lead to an erroneous conclusion about the true efficiency of the project

❑ If the decision is made by the department to continue with ISAWS, it should:

  • Modify the *Interim System Evaluation Plan* to include the following:
    -- Measurable objectives or targets which allow the department to make a clear decision to continue with, or cease, ISAWS
    -- Methodology to determine full non-county costs of ISAWS
    -- Methodology for conducting the cost/benefit analysis
  • Review the random sample design for determining changes in error rates for ISAWS counties, and confirm that sample design is truly valid and efficient

❑ Provide non-intelligent workstations to ISAWS counties rather than the personal computers now planned

❑ Abandon plans to provide a graphical user interface on the NAPAS application being used for ISAWS

❑ Prepare and submit to the Legislature a cost/benefit analysis for the proposed $2.5 million for eight enhancements to ISAWS

☐   Comply with State Administrative Manual requirements for submitting Special Project Reports to the Legislative Analyst's Office and the Department of Finance

☐   Retain the services of a quality advisor to assist the department in areas where it does not have the expertise, and with the development of project deliverables which meet the needs of the counties. The department already has determined the need for this advisor in its December 1993 Special Project Report for statewide implementation of welfare automation

☐   The Health and Welfare Data Center and the Department of Social Services should ensure that all goods and services are obtained through a competitive procurement process unless the procurement meets the sole source criteria of the Public Contract Code and a sole source procurement is in the best interests of the State

☐   The Department of General Services should ensure that it only grants permission for a sole source procurement when all of the goods or services included in the proposed procurement meet the criteria of the Public Contract Code.

The Legislature Should Consider Continued Independent Review of Welfare Automation

Item 8855-001-001, Provision 2, of the 1994/95 Budget Act required a review of welfare automation by a consultant hired by the Bureau of State Audits. This provision called for an independent review of various aspects of welfare automation including, but not limited to the following activities:

☐   . . . "participate in the evaluation process, including the evaluation methodology, establishment of benchmarks, data gathering, and analysis of the results"

☐   "Participate in developing , and conducting the evaluation of, any additional SAWS demonstrations that the Department of Social Services may undertake"

☐   "Work with the department on the development of criteria and specifications for the procurement necessary for statewide SAWS implementation"

☐   "Report on its activities and findings every four months."

The Legislature should consider whether the independent reviewer envisioned in the budget provisions cited above should continue evaluating statewide welfare automation. Earlier in this chapter, we recommend that the Legislature limit funding for all welfare automation activities to six months until certain conditions are met. These conditions require that the department conduct a great deal of critical analysis and report the results back to the Legislature. Given the department's history of inadequate reports to the Legislature on welfare automation, the Legislature should determine whether an independent entity should conduct the following activities:

❑ Determine whether the department's caseload and system user estimates for the 14 ISAWS counties are reasonable

❑ Determine whether it is most cost effective to complete implementation in all 14 ISAWS counties, limit implementation to only those counties in which implementation is the best alternative, or discontinue support for ISAWS altogether

❑ Determine whether the HWDC and the department renegotiated their contracts with the hardware and software vendors and whether these contracts provide price and performance guarantees, monetary penalties, and incentives for the vendors, and adequately protect the interests of the State

❑ Review and assess the department's role, functions, staffing levels, and funding for welfare automation

❑ Review and assess the department's strategic plan, project objectives, and detailed workplans

❑ Review and assess any RFPs developed by the department for statewide implementation

❑ Review and assess all cost/benefit analyses prepared by the department

❑ Prepare quarterly and annual progress reports on welfare automation activities.

Appendix A   Chronology Of Statewide Welfare Automation

As early as 1966, the California Department of Social Services (department) began efforts to standardize and automate welfare delivery systems within the State. Several attempts were made between 1966 and 1974 to accomplish one or both of these objectives; however, each failed due to a variety of factors, including poor planning, county opposition, conflict among vendors, and legislative criticism.

In 1979, responding to a report prepared by DSS, the Legislature passed Assembly Bill 8 (Chapter 282 of the Statutes of 1979) which required the Department to implement "in all counties by July 1, 1984, a centralized (welfare) delivery system." The intended system had many objectives; however, generally the hope was to improve the delivery of public assistance to recipients while achieving substantial cost savings through equipment and personnel reductions at the county level. DSS recommendations contemplated a system where the delivery of welfare benefits would be a county administered, state supervised process.

During fiscal year 1979/80, the DSS established a separate division to define, design, develop, and implement the system. In January 1981, the newly created division issued a Feasibility Study Report on the Statewide Public Assistance Network (SPAN) recommending that the statewide system be patterned after the Welfare Case Management Information System (WCMIS) being developed in Los Angeles County. The FSR indicated that development of SPAN would cost $197 million (1994/95 dollars), and annual production and maintenance costs would be $57 million (1994/95 dollars). Assuming two years of operation, costs were estimated at $311 million.

Within four months, DSS informed the Legislature that the SPAN design was being modified to include features from both WCMIS and the Welfare Case Data System being used at that time by 14 California counties. After having witnessed the acquisition of two mainframe computers (both used) and three separate attempts at the SPAN system design without success, the Legislature elected to cut off funding for SPAN in the fiscal year 1982/83 budget.

Dissatisfied with the progress of the SPAN project, the Legislature directed the California Auditor General to engage the services of a private consulting firm to review and revise the original SPAN Feasibility Study Report. A consulting firm was engaged by the Auditor General and they submitted their report to the Legislature during its deliberations on the 1983/84 budget. In July 1983, the Legislature rejected the recommendations of the revised Feasibility Study Report and directed DSS and the Legislative Analyst to evaluate the consultant's report and to identify other options for automating welfare in California.

In its 1983 evaluation report to the Legislature, DSS recommended that the State proceed with automation of California's county-administered welfare system in a manner that takes advantage of the existing county systems and the county computer centers that are already equipped and staffed for operating the welfare system.

The DSS called the proposed new system SAWS, the Statewide Automated Welfare System. Following the department's recommendations, the Legislature then passed Senate Bill 1379 in 1984 to develop and implement SAWS beginning July 1, 1984. This bill amended some of the language in Assembly Bill 8, while retaining most of the original language. Prior language stipulating a target completion date for implementing the system was removed, and the date for submitting a detailed work plan to the Joint Legislative Budget Committee was changed to August 1, 1984. Although there were some changes to the language of the original legislation, the overall system goals, objectives, and requirements remained essentially the same as established by AB 8.

The DSS issued what was characterized as a conceptual Advanced Planning Document (APD) dated June 8, 1984. The stated objective of the APD, which was sent to various federal agencies, was to obtain enhanced funding for SAWS beginning in 1984. This APD was never approved by federal agencies.

The detailed work plan required by the 1984 Legislation was delivered by the DSS to the Joint Legislative Budget Committee on August 1, 1984. In this plan, the DSS indicated that the SAWS approach would include the standardization of public assistance systems by proceeding with the automation of county administered welfare systems based on functional standards and requirements developed by the State. This 1984 DSS plan specified that SAWS would be implemented in all 58 counties by June 1990. This plan did not provide an estimate of costs to implement SAWS statewide.

In 1985, Senate Bill 802 passed which stipulated that the Department would pay any increased administrative costs incurred by a county resulting from implementation of SAWS. This provision was repealed in 1994 by Assembly Bill 836 which committed the Department to pay the county share of the development, maintenance, and operating costs for only the first 12 months of implementation.

In a meeting with federal officials in June 1985, DSS obtained verbal representation that the SAWS concept would qualify for enhanced federal funding if the State would limit the number of county options to four of five systems. Enhanced funding meant that instead of the normal 50 percent, federal agencies would pay a much larger portion of SAWS costs (90 percent for AFDC and Medi-Cal, 75 percent for food stamps).

In December 1986, DSS prepared a detailed Advance Planning Document and again submitted to various federal agencies to be approved for enhanced funding. The APD proposed a system which would include a local delivery capability with the counties selecting from among a limited number (four or five) of systems. Five options

were identified by DSS and were presented to, and approved by, county welfare administrators.

This 1986 draft APD called for implementation of SAWS by December 1992, two and one-half years after the date established in DSS's 1984 plan provided to the Legislature. The 1986 APD contained the first estimate to develop, implement, and operate SAWS. Total costs were estimated at $554 million (1994/95 dollars). These costs included two years of full operations. This APD was not approved by federal agencies. Though not made known at the time, federal agencies now say this 1986 APD was not approved because: (1) it did not qualify for enhanced funding, (2) it lacked a statewide architecture vision, and (3) the proposed technology and development approach did not make sense.

Over the next several years, DSS continued to develop functional standards and requirements for SAWS while vigorously pursuing enhanced federal funding. During this period, the County of Los Angeles obtained federal and state approval to develop its own system as a federal demonstration project.

By early 1989, the number of system options available to the remaining 57 counties had been reduced from five to two. Federal agencies approved matched funding for Napa and Merced Counties to award vendor contracts and begin development for two pilot systems. Napa County began work on NAPAS, the Napa Automated Public Assistance System, to be operated on Unisys mainframe equipment. Merced County began work on MAGIC, the Merced Automated Global Information Control system, an IBM-compatible system. The DSS anticipated that once the two systems had been effectively implemented, the remaining 55 counties could select from one of the two alternatives the system that best fit their needs.

In November 1991, with development nearly complete, DSS elected to stop all SAWS activities and perform an in-depth evaluation of the two pilot systems. A primary reason for the evaluation appeared to be the federal funding agencies' condition that enhanced funding would not be available unless a single system was used statewide (excluding Los Angeles County). An Evaluation Task Force was formed which included participants from various state, federal, and county agencies. The DSS concluded that the NAPAS system centrally supported and operated, provided the best solution to statewide automation of welfare in California. The MAGIC system no longer was considered a SAWS solution, and funding for anything but routine rules maintenance was stopped.

In March 1993, federal agencies approved the SAWS (NAPAS) Advance Planning Document and in July 1993, the State Department of Finance approved the Feasibility Study Report to implement the latest version of SAWS. DSS anticipated that planning and procurement for the project would take approximately two years.

Several small counties expressed concern about meeting the increasing demands of rising caseloads and complex welfare rules during the period preceding actual statewide implementation. By December 1993, federal and state approval had been obtained for the planning and

implementation of Interim SAWS (ISAWS) in 14 counties. These counties account for eight percent of welfare cases in the state. It was anticipated that ISAWS would provide an immediate solution to those counties with the most pressing needs for automation, confirm the costs and benefits of NAPAS before rolling it out statewide, and provide a first step towards implementing NAPAS (SAWS) statewide.

The Health and Welfare Data Center (HWDC) currently is responsible for implementing ISAWS in 14 counties. To accomplish this, HWDC purchased Unisys mainframe and personal computer equipment on a sole source procurement. The ISAWS software is run using MAPPER, a proprietary Unisys operating system.

In order to address concerns regarding sole-source procurement of SAWS statewide, DSS encouraged counties to propose demonstration projects to determine if NAPAS could be used with different systems. The effort, known as multi-platform SAWS (MPSAWS), is intended to create a more competitive environment for statewide roll-out of SAWS. The DSS also believes that MPSAWS would promote alternatives to support an open procurement, reduce the costs of statewide SAWS implementation, and meet additional counties' needs for automation prior to statewide implementation of SAWS. Eleven counties submitted nine proposals to demonstrate alternatives to the mainframe-based SAWS solution selected by DSS.

The Omnibus Budget Reconciliation Act of 1993 eliminated enhanced federal funding for all welfare automation projects effective April 1, 1994. This eliminated the federal agencies' requirements that SAWS be a single, statewide system.

In the 1994/95 Budget Act, the California Legislature requested an independent, objective assessment of the current status of SAWS. This report responds to the Legislature's mandate.

Appendix B Summary of County Welfare Caseload and Costs, Fiscal Years 1989/90 and 1993/94

This appendix presents data used to estimate administrative costs and savings for all counties in the state. The tables presented here show welfare cases, staffing levels, and costs for each county in California for fiscal years 1989/90 and 1993/94. Fiscal year 1989/90 was selected to capture data before the Department of Social Services' automated welfare system pilots in Napa and Merced Counties were implemented. The 1993/94 data include costs of maintenance and operations of automated systems, including those in Napa and Merced Counties, but do not include the maintenance of welfare rules and regulations. Rule and regulation maintenance generally should be a fixed cost regardless of the number of counties or cases on the system, and, therefore, is better associated with a particular system rather than allocated to counties which benefit from the maintenance.

Exhibit B-1, at the end of this appendix, provides total average monthly cases, full-time equivalent workers, and cases per worker in each county. **Exhibit B-2**, following Exhibit B-1, provides total administrative costs in each county. Costs are based on average eligibility worker salaries in each county but are not shown in this exhibit. All information on cases, FTEs, salaries, and support ratios were provided to us by the Department of Social Services.

The following are definitions of terms used in the two exhibits for fiscal years 1989/90 and 1993/94:

❑　　**Total Average Monthly Cases** include nonduplicated intake and continuing cases for Aid to Families with Dependent Children (AFDC), food stamp, and Medi-Cal programs

❑　　**Total Eligibility Worker Full Time Equivalents (FTEs)** include actual eligibility worker and eligibility worker supervisor hours

❑　　**Average Monthly Cases per Full Time Equivalents (FTE)** are calculated by dividing total average monthly cases by total eligibility worker FTEs

❑　　**Fully Loaded Administrative Costs** are calculated by multiplying eligibility worker 1993/94 salaries (to compare constant costs) by the number of FTEs, then multiplying by the

State's calculated support ratio for each county.[1] The support ratio includes costs such as employee benefits, clerical assistance, equipment, supplies, facility expenses, and other overhead expenses, and is determined for each county by the State for each fiscal year

❑   **Costs per Case** are calculated by dividing fully loaded administrative costs by total average monthly cases

❑   **Savings** are estimated by subtracting costs per case in 1993/94 from costs per case in 1989/90, and then multiplying by the total average monthly cases in 1993/94. Total savings statewide were estimated using this same methodology.

During the last five years, counties have made significant changes in how and what work is done. Changes include reorganizing eligibility workers into teams to better manage and serve welfare recipients, streamlining or eliminating some time consuming recertification activities, and, in one county, doing minimal intake work on new recipients and not assigning these new cases for follow-up work.

As a result of these significant efforts, counties have cut staffing and administrative costs statewide by 27 percent over the last five years, after adjusting for salary increases. During the same period, eligibility workers throughout the State managed to increase the number of welfare cases each handled by 23 percent, even while the total number of cases went up 75 percent, and the number of federal, state, and county rules regarding eligibility and benefits nearly doubled. Total cost savings statewide were $425 million during 1993/94 alone, as compared with 1989/90 costs.

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[1]   Because support ratio is equal to the number of dollars of overhead for each one dollar of worker salary, the actual calculation of total costs is: FTEs * salary (1993/94) * (1 + support ratio).

Nonduplicated Welfare Cases and Staffing Levels, by County
Fiscal Years 1989/90 and 1993/94

Type of Computer System (a)	County	Total Average Monthly Cases			Total Eligibility Worker FTEs			Average Monthly Cases per FTE		
		FY 89/90	FY 93/94	Percent Change	FY 89/90	FY 93/94	Percent Change	FY 89/90	FY 93/94	Percent Change
WCDS	Alameda	66,192	101,237	52.9%	493.39	566.53	14.8%	134.2	178.7	33.2%
	Alpine	98	108	10.2%	0.84	0.54	-35.8%	116.2	199.4	71.6%
	Amador	954	1,666	74.6%	10.42	11.35	8.9%	91.5	146.7	60.3%
ISAWS	Butte	13,011	18,336	40.9%	73.60	105.35	43.1%	176.8	174.0	-1.6%
	Calaveras	1,827	3,260	78.4%	13.99	17.33	23.9%	130.6	188.1	44.0%
ISAWS	Colusa	1,226	2,107	71.9%	8.12	12.43	53.2%	151.1	169.5	12.2%
WCDS	Contra Costa	32,711	51,675	58.0%	282.95	338.21	19.5%	115.6	152.8	32.2%
	Del Norte	2,095	3,249	55.1%	14.96	19.12	27.8%	140.0	169.9	21.4%
	El Dorado	4,838	7,673	58.6%	38.55	51.05	32.4%	125.5	150.3	19.8%
WCDS	Fresno	65,496	93,734	43.1%	342.66	334.68	-2.3%	191.1	280.1	46.6%
ISAWS	Glenn	1,918	2,657	38.5%	13.81	15.40	11.5%	138.9	172.5	24.2%
	Humboldt	8,955	12,417	38.7%	74.35	78.25	5.2%	120.4	158.7	31.8%
	Imperial	11,580	22,329	92.8%	51.98	83.68	61.0%	222.8	266.8	19.7%
	Inyo	1,277	2,038	59.6%	9.05	11.32	25.0%	141.1	180.1	27.6%
ISAWS	Kern	38,084	62,864	65.1%	273.21	338.71	24.0%	139.4	185.6	33.1%
ISAWS	Kings	7,992	12,487	56.2%	52.38	61.13	16.7%	152.6	204.3	33.9%
	Lake	4,565	6,891	51.0%	32.81	38.50	17.3%	139.1	179.0	28.7%
ISAWS	Lassen	1,972	2,332	18.3%	12.06	14.35	18.9%	163.5	162.6	-0.6%
LEADER	Los Angeles	500,801	947,544	89.2%	3,379.24	4,897.28	44.9%	148.2	193.5	30.6%
ISAWS	Madera	7,316	13,477	84.2%	49.83	61.01	22.4%	146.8	220.9	50.5%
ISAWS	Marin	5,621	9,874	75.7%	37.03	56.27	52.0%	151.8	175.5	15.6%
	Mariposa	875	1,284	46.7%	8.18	8.78	7.4%	107.0	146.3	36.7%
ISAWS	Mendocino	6,530	8,602	31.7%	52.20	65.65	25.8%	125.1	131.0	4.7%
MAGIC	Merced	15,396	29,060	88.8%	108.21	106.64	-1.5%	142.3	272.5	91.5%
	Modoc	782	1,152	47.3%	5.33	7.22	35.4%	146.7	159.6	8.8%
	Mono	295	522	76.9%	3.75	3.79	0.9%	78.6	137.9	75.4%
	Monterey	17,104	28,975	69.4%	128.21	205.36	60.2%	133.4	141.1	5.8%
NAPAS	Napa	4,220	6,364	50.8%	34.41	34.97	1.6%	122.6	182.0	48.5%
WCDS	Nevada	2,809	4,655	65.7%	23.31	31.69	36.0%	120.5	146.9	21.9%
WCDS	Orange	72,319	167,707	131.9%	619.31	1,174.52	89.6%	116.8	142.8	22.3%
WCDS	Placer	6,368	11,060	73.7%	49.16	75.03	52.6%	129.5	147.4	13.8%
ISAWS	Plumas	1,077	1,396	29.6%	8.35	7.64	-8.4%	129.0	182.6	41.6%
	Riverside	49,085	95,681	94.9%	378.11	642.92	70.0%	129.8	148.8	14.6%
WCDS	Sacramento	67,570	102,084	51.1%	617.64	744.51	20.5%	109.4	137.1	25.3%
	San Benito	1,937	2,961	52.9%	14.66	19.70	34.4%	132.1	150.3	13.8%
	San Bernardino	82,424	150,491	82.6%	670.83	1,242.86	85.3%	122.9	121.1	-1.5%
WCDS	San Diego	113,637	186,754	64.3%	893.74	1,233.38	38.0%	127.1	151.4	19.1%
WCDS	San Francisco	43,183	71,926	66.6%	266.80	403.08	51.1%	161.9	178.4	10.2%
ISAWS	San Joaquin	36,470	51,883	42.3%	242.88	260.89	7.4%	150.2	198.9	32.4%
WCDS	San Luis Obispo	7,590	13,992	84.3%	70.40	112.64	60.0%	107.8	124.2	15.2%
WCDS	San Mateo	18,860	29,230	55.0%	124.06	186.73	50.5%	152.0	156.5	3.0%
WCDS	Santa Barbara	15,294	29,944	95.8%	111.29	183.97	65.3%	137.4	162.8	18.5%
WCDS	Santa Clara	56,637	101,591	79.4%	435.91	650.31	49.2%	129.9	156.2	20.2%
WCDS	Santa Cruz	9,448	17,905	89.5%	62.93	117.15	86.2%	150.1	152.8	1.8%
ISAWS	Shasta	11,665	15,484	32.7%	87.99	78.73	-10.5%	132.6	196.7	48.3%
	Sierra	203	293	44.3%	4.07	4.74	16.4%	49.9	61.9	24.0%
	Siskiyou	3,599	4,870	35.3%	24.86	26.18	5.3%	144.8	186.0	28.5%
WCDS	Solano	13,326	21,706	62.9%	105.38	135.36	28.4%	126.5	160.4	26.8%
WCDS	Sonoma	13,561	22,049	62.6%	109.06	128.72	18.0%	124.3	171.3	37.8%
	Stanislaus	25,736	41,737	62.2%	183.17	223.25	21.9%	140.5	187.0	33.1%
	Sutter	4,430	6,455	45.7%	34.84	39.82	14.3%	127.2	162.1	27.4%
ISAWS	Tehama	4,224	6,372	50.9%	25.59	35.78	39.8%	165.1	178.1	7.9%
	Trinity	927	1,346	45.2%	8.01	7.40	-7.7%	115.7	182.0	57.3%
	Tulare	31,730	48,912	54.2%	170.94	278.75	63.1%	185.6	175.5	-5.4%
WCDS	Tuolumne	2,449	3,708	51.4%	18.79	28.39	51.1%	130.3	130.6	0.2%
	Ventura	21,727	44,177	103.3%	190.28	344.17	80.9%	114.2	128.4	12.4%
WCDS	Yolo	7,139	12,459	74.5%	67.16	104.99	56.3%	106.3	118.7	11.7%
ISAWS	Yuba	6,846	8,166	19.3%	48.84	59.68	22.2%	140.2	136.8	-2.4%
	TOTAL	1,556,001	2,730,908	75.5%	11,274	16,128	43.1%	138.0	169.3	22.7%

(a) WCDS: Welfare Case Data System
ISAWS: Interim SAWS

NAPAS: Napa Automated Public Assistance System
MAGIC: Merced Automated Global Information Control System

LEADER: Los Angeles Eligibility Automated Determination, Evaluation, Eligibility, and Reporting System

Nonduplicated Welfare Cases and Fully Loaded
Adminsitrative Costs, by County
Fiscal Years 1989/90 and 1993/94 (a)

Type of Computer System (b)	County	Total Average Monthly Cases			Fully Loaded Administrative Costs			Costs per Case			Savings	
		FY 89/90	FY 93/94	Percent Change	FY 89/90	FY 93/94	Percent Change	FY 89/90	FY 93/94	Percent Change	Per Case	Total
WCDS	Alameda	66,192	101,237	52.9%	$39,237,180	$45,700,188	16.5%	$592.78	$451.42	-23.8%	$141.36	$14,310,862
	Alpine	98	108	10.2%	79,056	50,136	-36.6%	806.69	464.22	-42.5%	342.47	36,987
	Amador	954	1,666	74.6%	749,232	646,896	-13.7%	785.36	388.29	-50.6%	397.07	661,519
ISAWS	Butte	13,011	18,336	40.9%	4,470,480	5,320,080	19.0%	343.59	290.14	-15.6%	53.45	980,059
	Calaveras	1,827	3,260	78.4%	895,584	1,033,044	15.3%	490.19	316.88	-35.4%	173.31	564,991
ISAWS	Colusa	1,226	2,107	71.9%	495,240	715,584	44.5%	403.95	339.62	-15.9%	64.33	135,543
WCDS	Contra Costa	32,711	51,675	58.0%	26,846,376	29,199,372	8.8%	820.71	565.06	-31.1%	255.65	13,210,714
	Del Norte	2,095	3,249	55.1%	771,264	904,860	17.3%	368.15	278.50	-24.4%	89.65	291,273
	El Dorado	4,838	7,673	58.6%	3,193,080	4,362,648	36.6%	660.0	568.57	-13.9%	91.43	701,542
WCDS	Fresno	65,496	93,734	43.1%	19,157,196	17,568,096	-8.3%	292.49	187.43	-35.9%	105.06	9,847,694
ISAWS	Glenn	1,918	2,657	38.5%	771,396	886,704	14.9%	402.19	333.72	-17.0%	68.47	181,925
	Humboldt	8,955	12,417	38.7%	3,398,784	3,800,484	11.8%	379.54	306.07	-19.4%	73.47	912,277
	Imperial	11,580	22,329	92.8%	3,140,904	4,786,272	52.4%	271.24	214.35	-21.0%	56.89	1,270,297
	Inyo	1,277	2,038	59.6%	852,888	888,456	4.2%	667.88	435.95	-34.7%	231.93	472,673
ISAWS	Kern	38,084	62,864	65.1%	21,191,112	25,466,544	20.2%	556.43	405.11	-27.2%	151.32	9,512,580
ISAWS	Kings	7,992	12,487	56.2%	3,100,272	3,524,340	13.7%	387.92	282.24	-27.2%	105.68	1,319,626
	Lake	4,565	6,891	51.0%	1,864,140	1,932,456	3.7%	408.35	280.43	-31.3%	127.92	881,497
ISAWS	Lassen	1,972	2,332	18.3%	658,692	868,824	31.9%	334.02	372.57	11.5%	-38.55	-89,899
LEADER	Los Angeles	500,801	947,544	89.2%	326,700,084	393,663,636	20.5%	652.36	415.46	-36.3%	236.9	224,473,174
ISAWS	Madera	7,316	13,477	84.2%	2,518,224	3,173,256	26.0%	344.21	235.46	-31.6%	108.75	1,465,624
ISAWS (c)	Marin	5,621	9,874	75.7%	3,047,496	4,528,728	48.6%	542.16	458.65	-15.4%	83.51	824,578
	Mariposa	875	1,284	46.7%	549,264	555,228	1.1%	627.73	432.42	-31.1%	195.31	250,778
ISAWS	Mendocino	6,530	8,602	31.7%	3,141,840	3,906,828	24.3%	481.14	454.18	-5.6%	26.96	231,910
MAGIC	Merced	15,396	29,060	88.8%	9,274,452	7,933,152	-14.5%	602.39	272.99	-54.7%	329.4	9,572,364
	Modoc	782	1,152	47.3%	311,412	393,444	26.3%	398.23	341.53	-14.2%	56.7	65,318
	Mono	295	522	76.9%	307,608	279,264	-9.2%	1,042.74	534.99	-48.7%	507.75	265,046
	Monterey	17,104	28,975	69.4%	10,140,684	14,900,736	46.9%	592.88	514.26	-13.3%	78.62	2,278,015
NAPAS	Napa	4,220	6,364	50.8%	3,064,188	3,207,396	4.7%	726.11	503.99	-30.6%	222.12	1,413,572
WCDS	Nevada	2,809	4,655	65.7%	1,700,484	2,167,704	27.5%	605.37	465.67	-23.1%	139.7	650,304
WCDS	Orange	72,319	167,707	131.9%	44,876,316	80,299,584	78.9%	620.53	478.81	-22.8%	141.72	23,767,436
WCDS	Placer	6,368	11,060	73.7%	3,734,628	5,625,108	50.6%	586.47	508.60	-13.3%	77.87	861,242
ISAWS	Plumas	1,077	1,396	29.6%	460,164	389,376	-15.4%	427.26	278.92	-34.7%	148.34	207,083
	Riverside	49,085	95,681	94.9%	30,949,512	47,664,504	54.0%	630.53	498.16	-21.0%	132.37	12,665,294
WCDS	Sacramento	67,570	102,084	51.1%	43,715,076	51,083,724	16.9%	646.96	500.41	-22.7%	146.55	14,960,410
	San Benito	1,937	2,961	52.9%	837,768	1,078,500	28.7%	432.51	364.24	-15.8%	68.27	202,147
	San Bernardino	82,424	150,491	82.6%	40,062,720	67,130,844	67.6%	486.06	446.08	-8.2%	39.98	6,016,630
WCDS	San Diego	113,637	186,754	64.3%	55,441,584	78,425,256	41.5%	487.88	419.94	-13.9%	67.94	12,688,067
WCDS	San Francisco	43,183	71,926	66.6%	29,464,788	35,875,296	21.8%	682.32	498.78	-26.9%	183.54	13,201,298
ISAWS	San Joaquin	36,470	51,883	42.3%	15,789,732	17,965,044	13.8%	432.95	346.26	-20.0%	86.69	4,497,737
WCDS	San Luis Obispo	7,590	13,992	84.3%	5,506,188	8,664,024	57.4%	725.45	619.21	-14.6%	106.24	1,486,510
WCDS	San Mateo	18,860	29,230	55.0%	15,791,616	17,797,368	12.7%	837.31	608.87	-27.3%	228.44	6,677,301
WCDS	Santa Barbara	15,294	29,944	95.8%	9,279,144	14,201,316	53.0%	606.72	474.26	-21.8%	132.46	3,966,382
WCDS	Santa Clara	56,637	101,591	79.4%	48,790,980	62,905,908	28.9%	861.47	619.21	-28.1%	242.26	24,611,436
WCDS	Santa Cruz	9,448	17,905	89.5%	5,552,220	8,770,356	58.0%	587.66	489.83	-16.6%	97.83	1,751,646
ISAWS	Shasta	11,665	15,484	32.7%	5,950,428	5,060,556	-15.0%	510.11	326.82	-35.9%	183.29	2,838,062
	Sierra	203	293	44.3%	303,684	325,404	7.2%	1,495.98	1,110.59	-25.8%	385.39	112,919
	Siskiyou	3,599	4,870	35.3%	1,411,728	1,780,452	26.1%	392.26	365.60	-6.8%	26.66	129,834
WCDS	Solano	13,326	21,706	62.9%	8,599,176	10,490,820	22.0%	645.29	483.31	-25.1%	161.98	3,515,938
WCDS	Sonoma	13,561	22,049	62.6%	8,058,768	9,653,808	19.8%	594.26	437.83	-26.3%	156.43	3,449,125
	Stanislaus	25,736	41,737	62.2%	12,931,836	16,227,120	25.5%	502.48	388.79	-22.6%	113.69	4,745,080
	Sutter	4,430	6,455	45.7%	1,853,460	2,075,220	12.0%	418.39	321.49	-23.2%	96.9	625,490
ISAWS	Tehama	4,224	6,372	50.9%	1,419,072	1,803,408	27.1%	335.95	283.02	-15.8%	52.93	337,270
	Trinity	927	1,346	45.2%	610,608	469,008	-23.2%	658.69	348.45	-47.1%	310.24	417,583
	Tulare	31,730	48,912	54.2%	7,001,520	13,700,424	95.7%	220.66	280.10	26.9%	-59.44	-2,907,329
WCDS	Tuolumne	2,449	3,708	51.4%	1,072,092	1,748,868	63.1%	437.77	471.65	7.7%	-33.88	-125,627
	Ventura	21,727	44,177	103.3%	14,800,416	24,099,732	62.8%	681.20	545.53	-19.9%	135.67	5,993,494
WCDS	Yolo	7,139	12,459	74.5%	4,411,740	6,658,068	50.9%	617.98	534.40	-13.5%	83.58	1,041,323
ISAWS	Yuba	6,846	8,166	19.3%	2,614,968	2,786,520	6.6%	381.97	341.23	-10.7%	40.74	332,683
	TOTAL	1,556,001	2,730,908	75.5%	$912,920,544	$1,177,119,972	28.9%	$586.71	$431.04	-26.5%	$155.67	$425,120,448

(a) All costs are shown in 1993/94 dollars.

(b) WCDS: Welfare Case Data System   NAPAS: Napa Automated Public Assistance System   LEADER: Los Angeles Eligibility, Automated Determination,
    ISAWS: Interim SAWS   MAGIC: Merced Automated Global Information Control System   Evaluation, and Reporting System

(c) Marin County is a WCDS county which is converting to ISAWS.

Appendix C Projected Costs And Benefits Of California Welfare Automation

Projected 10-Year Costs and Benefits for SAWS

Exhibit C-1, at the end of this appendix, provides a ten-year projection of costs and benefits for an ISAWS approach to statewide automation. It is assumed that the last (57th) county is automated during fiscal year 1999/00, and that interface development concludes the following year. This is similar to the timing assumed in the Department's December 23, 1993 Special Project Report for SAWS, except that we have delayed implementation one-year. The department assumed the conversion of ISAWS counties would begin in fiscal year 1993/94, and be completed in fiscal year 1995/96. We assume conversion of ISAWS counties begins fiscal year 1994/95 and is completed in fiscal year 1995/96.

Costs shown in Exhibit C-1 do not include Los Angeles County. Assumptions used to develop these projections are provided below

Welfare Caseload and Eligibility Workers

The total number of non-duplicated cases statewide in fiscal year 1994/95 is assumed to be 2.9 million, or five percent greater than the number of cases reported by the Department for 1993/94. Of the total caseload in 1994/95, we assume 1.9 million cases in the 57 counties which would be automated, excluding the one million cases in Los Angeles County. We assume 227,000 nonduplicated cases in the 14 ISAWS counties. The number of cases is assumed to grow four percent per year.

Because many welfare recipients receive benefits from more than one program, and because some counties create multiple (or "duplicated") case files for these applicants, then the total number of physical cases is greater than the number of nonduplicated cases. For 1994/95, we assume 300,000 duplicated cases for ISAWS counties and 2.5 million duplicated cases statewide (excluding Los Angeles).

The total number of eligibility workers and their supervisors in fiscal year 1994/95 is assumed to be 19,268 statewide, or 13,939 in all counties except Los Angeles. This includes 1,583 workers in the 14 ISAWS counties. These estimates are the "budgeted" figures provided by the department to each county for this current fiscal year.

Case Conversion Schedule

Not all counties are converted in the first year of the projection period, so not all related costs for hardware, software, conversion, and training

costs occur in the first year. We assume all counties are converted by fiscal year 1999/00, with all 14 ISAWS counties converted by 1995/96. The remaining 43 counties (excluding Los Angeles) are converted over the next four years. The schedule for conversion is shown below as the proportion of statewide cases (excluding Los Angeles) converted each year:

1994/95	3%	(first seven ISAWS counties)
1995/96	8	(remaining seven ISAWS counties)
1996/97	11	
1997/98	24	
1998/99	25	
1999/00	29	
Total	100%	

As assumed by the department in its last projection of SAWS, we also assume that there are remaining consultant and interface development costs in the year after the final county is converted. Therefore, full operations begin fiscal year 2001/02.

Department of Social Services and Health and Welfare Data Center Staff Costs

Staff costs for both the department and the Health and Welfare Data Center are based on estimates provided in the department's Special Project Reports dated December 23, 1993, and December 20, 1994. Both of these reports contained projections for ISAWS, and the first report contained a projection of SAWS costs. We determined the percentage change in staff costs for the two ISAWS cost estimates, then applied this relative change to the SAWS staff cost estimate from the first SPR.

Host Hardware Costs

Costs are based on **non-duplicated** cases, and assumes host hardware costs average $64 per case. Replacement of host hardware occurs after five years, at 25 percent of the original cost. Maintenance of host hardware is assumed to cost 10 percent of the purchase price. These assumptions are designed to simplify the projection of host hardware costs.[1]

Site Hardware

Site hardware includes personal computers, printers, and printer servers. We assumed the ratio of PCs purchased to the number of eligibility workers will be 1.5 to one. The average price paid for each PC for ISAWS counties is $3,481, which is the actual average already paid.

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[1] Though the results may not change significantly, another method to estimate host hardware costs is to build up a hardware configuration, based on cases converted and prices for hardware components.

For remaining counties, we assume the price paid declines each year by 25 percent.

We examined current Health and Welfare Data Center purchase orders for printers and servers to develop assumptions on this equipment. A $2,686 eight pages per minute printer for every five PCs is assumed, and a $2,606 print server for every three printers is assumed. High speed, 30 pages per minute printers also are being purchased. We assumed that these $30,554 high speed printers will be purchased, at a ratio of 7.7 printers for every 100,000 cases. For every two high speed printers, we assume that one $8,012 printer server is needed. Finally, we assume one $500 desktop printer is purchased for each county.

Site hardware is assumed replaced after five years, at 25 percent of the original purchase price. Maintenance of site hardware is assumed to cost eight percent of the purchase price of the hardware.

Network Costs

Network costs are based on estimates provided in the department's Special Project Reports dated December 23, 1993, and December 20, 1994. Both of these reports contained projections for ISAWS, and the first report contained a projection of SAWS costs. We determined the percentage change in network costs for the two ISAWS cost estimates, then applied this relative change to the SAWS network cost estimate from the first SPR. Network maintenance and operations costs are equal to the projections which the department presented in the December 23, 1993 SPR.

Interest on Hardware, Software, and Network Purchases

Purchases of hardware, software, and network are assumed financed at six percent over four years. This is the same assumption used by the department in both the December 23, 1993 and December 20, 1994 SPRs.

One-time Site Preparation

These costs are based on a $310 per site hardware device. This is the average of site preparation costs assumed by the department.

Consulting Services, Interface Development, Unisys Technical Support, Single System Maintenance, and Quality Assurance

All of these costs were taken directly from the department's own estimates in the December 23, 1993 SPR.

Ergonomic Equipment

Ergonomic workstation equipment is assumed for each workstation purchased. The total cost is assumed to be $36 per workstation.

Case Conversion

The cost to convert each **duplicated** case is assumed to be $41. This is based on the experience of six of the seven ISAWS counties which have historical data on case conversion activities and costs. The seventh county, Mendocino County, had costs nearly 2.5 times higher. Because we could not verify why this cost might be high, we excluded it from the other six in calculating an average conversion cost per case.

Training Costs

Estimates of training costs are comprised of two components:

❑ Costs to develop training facilities. We used the department's own estimates of $2,030,136.

❑ Costs to train each worker. We assumed $2,838 per worker, which is the average price per worker assumed by the Department in its December 23, 1993 SPR.

Elimination of Rules Maintenance Backlog

As of December 1994, there were approximately 200 maintenance change requests to the application software. According to the department, approximately 49,000 hours are needed to resolve this backlog, one-half from the current software maintenance vendor, the remaining hours split between state and county staff. Using current hourly costs for vendor, state, and county staff, we estimate a weighted average cost of $61 per hour.

Projected 10-Year Costs for LEADER

Exhibit C-2, following Exhibit C-1, presents a summary of the Los Angeles County LEADER costs. Costs are presented in both actual year dollars and in constant 1994/95 dollars. A discount rate of three percent is assumed to discount future year dollars to constant dollars.

Costs for the vendor were obtained from the September 22, 1994, proposal from Unisys Corp. Costs for the County were obtained from the County's LEADER Project Manager. County costs include costs since fiscal year 1991/92 and projected costs through 2002/2003. For purposes of this exhibit, we adjusted upward all County costs for fiscal years 1991/92 through 1994/95 by historical changes in inflation, and show the total in fiscal year 1994/95.

Exhibit C-1

Projected Annual Costs and Benefits of Welfare Automation

CATEGORY	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	2003/2004	TOTAL	PRESENT VALUE
CDSS Staff	$9,724,687	$9,529,560	$7,247,472	$10,918,298	$11,245,847	$11,583,222	$11,930,719	$12,288,639	$12,657,298	$13,037,017	$110,162,759	$95,750,646
CDSS Staff for ISAWS Evaluation	0	1,221,000	1,221,000	0	0	0	0	0	0	0	$2,442,000	$2,336,346
CDSS Non-staff Support	8,600,055	3,027,006	2,224,277	1,311,470	1,311,470	1,311,470	1,311,470	1,311,469	1,311,469	1,311,469	$23,031,625	$21,337,278
HWDC Staff	890,724	2,585,861	4,096,059	6,914,035	7,121,456	4,693,001	3,926,670	4,044,470	4,165,804	4,290,778	$42,728,858	$37,119,161
HWDC Administrative Overhead	728,927	1,457,853	3,135,753	8,169,453	8,169,453	7,076,063	6,711,600	6,711,600	6,711,600	6,711,600	$55,583,902	$47,458,686
HWDC Occupancy and Utilities	158,273	337,779	655,508	1,536,494	1,536,494	1,260,861	1,168,983	1,168,983	1,168,983	1,168,983	$10,161,341	$8,711,217
HWDC Supplies	70,620	141,240	141,240	141,240	141,240	35,310	0	0	0	0	$670,890	$626,082
Host Hardware	4,635,200	10,277,796	15,626,097	32,500,644	34,268,145	38,754,509	0	0	0	0	$136,062,391	$122,962,214
Host Hardware Replacement (1st time in 5 yrs)	0	0	0	0	0	1,436,912	3,162,399	4,774,641	9,866,267	10,339,526	$29,579,745	$23,483,080
Host Hardware Maintenance	463,520	1,027,780	1,562,610	3,250,064	3,426,815	4,019,142	316,240	477,464	986,627	1,033,953	$16,564,215	$14,644,531
Host Software	1,019,744	2,261,115	3,437,741	7,150,142	7,538,992	8,842,113	695,728	1,050,421	2,170,579	2,274,696	$36,441,271	$32,217,966
Host Software Maintenance	71,382	158,278	240,642	500,510	527,729	618,948	48,701	73,529	151,941	159,229	$2,550,889	$2,255,258
Site Hardware: Workstations and 8PPM Printers	3,015,677	6,938,069	7,421,578	12,329,281	12,062,977	10,057,245	0	0	0	0	$51,824,827	$47,423,521
Site Hardware: 17PPM/30PPM	200,441	443,787	673,797	1,399,640	1,474,003	1,665,126	0	0	0	0	$5,856,794	$5,293,274
Site Hardware: Desktop Printers	8,212	10,949	9,581	19,161	12,318	17,793	0	0	0	0	$78,014	$71,701
Site Hardware Replace: Workstations and 8PPM Prtrs	0	0	0	0	0	753,919	1,734,517	2,646,577	5,196,949	5,912,512	$16,244,474	$12,888,845
Site Hardware Replace: 17PPM/30PPM	0	0	0	0	0	56,902	125,231	189,077	390,703	409,444	$1,171,357	$929,929
Site Hardware Replace: Desktop Printers	0	0	0	0	0	2,053	2,737	2,395	4,790	3,080	$15,055	$12,152
Site Hardware Maintenance	257,946	849,371	1,497,767	2,597,614	3,681,558	4,427,854	3,985,429	3,564,076	2,911,625	2,333,684	$26,106,924	$22,284,766
Network	253,372	506,744	825,515	4,477,255	5,261,974	3,999,444	668,388	0	0	0	$15,992,692	$14,305,722
Network Maintenance and Operations	234,946	707,316	895,012	1,907,166	3,183,949	4,029,481	4,141,865	4,141,865	4,141,865	4,141,865	$27,525,330	$23,095,869
Interest on Hardware/Software/Network(4 years@ 6%)	547,959	1,649,008	2,915,568	5,566,297	7,538,452	9,035,492	6,288,782	3,887,822	2,732,923	2,331,705	$42,494,008	$36,855,365
One-Time Site Preparation	287,661	655,183	997,025	1,952,722	2,220,939	2,126,382	5,799	0	0	0	$8,245,711	$7,462,938
Consulting Services	1,367,200	2,050,800	477,431	5,946,740	7,501,516	5,990,073	1,001,062	0	0	0	$24,334,822	$21,920,865
Interface Development	393,280	589,920	137,335	1,710,601	2,157,838	1,723,066	287,959	0	0	0	$6,999,999	$6,305,616
UNISYS Technical Support	96,000	192,000	192,000	192,000	192,000	48,000	0	0	0	0	$912,000	$851,088
Ergonomic Equipment	25,898	59,584	90,914	178,524	203,105	194,692	0	0	0	0	$752,717	$681,216
Case Conversion	3,733,765	7,960,685	11,654,923	23,375,256	23,796,530	26,014,967	0	0	0	0	$96,536,126	$87,423,786
Training	3,391,241	3,131,449	4,778,057	9,382,428	10,674,286	10,232,125	0	0	0	0	$41,589,586	$37,831,796
Single System Maintenance	0	0	0	9,100,000	9,100,000	9,100,000	9,100,000	9,100,000	9,100,000	9,100,000	$63,700,000	$53,441,017
Quality Assurance	0	0	337,546	2,597,866	3,131,009	2,983,074	2,111,700	1,943,522	1,943,522	1,943,522	$16,991,761	$14,423,230
Elimination of Rules Maintenance Backlog	3,000,000	0	0	0	0	0	0	0	0	0	$3,000,000	$3,000,000
TOTAL FOR YEAR	$43,176,730	$57,770,133	$72,492,448	$155,124,901	$167,480,095	$172,089,239	$58,725,979	$57,376,550	$65,612,945	$66,503,063	$671,570,708	$805,405,161
CUMULATIVE TOTAL BY YEAR	$43,176,730	$100,946,863	$173,439,311	$328,564,212	$496,044,307	$668,133,546	$726,859,525	$784,236,075	$849,849,020	$916,352,083		
PRESENT VALUE COSTS	$43,176,730	$56,087,508	$68,331,085	$141,961,259	$148,803,895	$148,445,689	$49,182,083	$46,652,386	$51,795,465	$50,969,060	$805,405,160	
CUMULATIVE TOTAL OF PRESENT VALUE COSTS	$43,176,730	$99,264,238	$167,595,323	$309,556,582	$458,360,477	$606,806,166	$655,988,249	$702,640,635	$754,436,100	$805,405,160		
December 1993 SPR Benefits												
Administrative Cost Savings	$0	$2,080,926	$8,323,704	$9,435,495	$25,542,411	$47,280,987	$63,534,363	$65,916,677	$65,916,677	$65,916,677	$353,947,917	$291,340,313
Error Rate Reductions	$0	$1,690,321	$6,761,284	$7,728,421	$20,275,574	$36,215,518	$49,137,759	$51,216,092	$51,216,092	$51,216,092	$275,457,153	$226,820,051
County Data Processing Savings	$0	$1,054,839	$4,219,357	$4,858,300	$14,408,245	$26,953,959	$37,684,651	$39,595,260	$39,595,260	$39,595,260	$207,965,131	$170,857,763
TOTAL OF BENEFITS	$0	$4,826,086	$19,304,345	$22,022,216	$60,226,230	$110,450,464	$150,356,773	$156,728,029	$156,728,029	$156,728,029	$837,370,201	$689,018,127
Adjusted Benefits: 34% increase	$0	$6,467,000	$25,868,000	$29,510,000	$80,703,000	$148,004,000	$201,478,000	$210,016,000	$210,016,000	$210,016,000	$1,122,078,000	$923,285,889
PRESENT VALUE BENEFITS	$0	$6,278,641	$24,383,071	$27,005,830	$71,703,570	$127,669,551	$168,734,653	$170,762,227	$165,788,570	$160,959,776		
CUMULATIVE TOTAL OF PRESENT VALUE BENEFITS	$0	$6,278,641	$30,661,712	$57,667,542	$129,371,112	$257,040,663	$425,775,316	$596,537,543	$762,326,113	$923,285,889		

* Costs taken from December 23, 1993 SPR for SAWS, then adjusted (if necessary) by a factor calculated as the change in ISAWS costs from the December 23, 1993 to the December 20, 1994 SPR.

Exhibit C-2

Projected Annual Costs of LEADER
(Includes Vendor and County Costs)

CATEGORY	1994/1995	1995/1996	1996/1997	1997/1998	1998/1999	1999/2000	2000/2001	2001/2002	2002/2003	TOTAL
Vendor Bid										
LEADER Deliverable Price Summary Total	$0	$9,326,145	$10,784,916	$10,178,177	$8,106,589	$0	$0	$0	$0	$38,395,827
LEADER Project Facility Related Price Total	0	4,939,642	1,190,240	2,498,244	940,005	0	0	0	0	9,568,131
Local Office Hardware/Software Utilization Fixed Rate Price Total	0	0	0	331,778	2,067,937	2,235,857	2,235,857	2,235,857	1,117,929	10,225,215
LEADER Facility Management/Operation & Telecommunication Fixed Rate Price Total	0	0	$0	221,570	2,137,192	2,668,596	2,935,452	3,229,002	1,691,382	12,883,194
LEADER Application Software Maintenance Modifications and/or Enhancements Fixed Rate Price	0	0	0	0	1,824,480	3,648,960	3,648,960	3,648,960	1,824,480	14,595,840
TOTAL FOR YEAR	$0	$14,265,787	$11,975,156	$13,229,769	$15,076,203	$8,553,413	$8,820,269	$9,113,819	$4,633,791	$85,668,207
CUMULATIVE TOTAL BY YEAR	$0	$14,265,787	$26,240,943	$39,470,712	$54,546,915	$63,100,328	$71,920,597	$81,034,416	$85,668,207	
PRESENT VALUE OF COSTS	$0	$13,852,079	$11,292,572	$12,105,239	$13,387,668	$7,381,595	$7,382,565	$7,409,535	$3,656,061	$76,467,314
CUMULATIVE PRESENT VALUE	$0	$13,852,079	$25,144,651	$37,249,890	$50,637,558	$58,019,153	$65,401,718	$72,811,253	$76,467,314	
County Costs										
TOTAL FOR YEAR (a)	$2,937,189	$2,945,363	$2,959,407	$8,212,782	$8,411,262	$3,493,042	$2,886,907	$2,886,907	$1,443,454	$36,176,313
CUMULATIVE TOTAL BY YEAR	$2,937,189	$5,882,552	$8,841,959	$17,054,741	$25,466,003	$28,959,045	$31,845,952	$34,732,859	$36,176,313	
PRESENT VALUE OF COSTS	$3,040,484	$2,859,947	$2,790,721	$7,514,696	$7,469,201	$3,014,495	$2,416,341	$2,347,055	$1,138,885	$32,591,825
CUMULATIVE PRESENT VALUE	$3,040,484	$5,900,431	$8,691,152	$16,205,848	$23,675,049	$26,689,544	$29,105,885	$31,452,940	$32,591,825	
Vendor and County Costs										
TOTAL FOR YEAR	$2,937,189	$17,211,150	$14,934,563	$21,442,551	$23,487,465	$12,046,455	$11,707,176	$12,000,726	$6,077,245	$121,844,520
PRESENT VALUE OF COSTS	$3,040,484	$16,712,026	$14,083,293	$19,619,935	$20,856,869	$10,396,090	$9,798,906	$9,756,590	$4,794,946	$109,059,139

(a) County costs for fiscal years 1991/92 - 1994/94 are accumulated and shown in fiscal year 1994/95.

Appendix D   Welfare Case Data System Joint Committee Concerns with NAPAS and ISAWS

California Counties Have Concerns Regarding NAPAS and ISAWS Functionality

The Welfare Case Data System (WCDS) consortium, a group of 19 counties accounting for 40 percent of the state's welfare caseload, and who have a common automated welfare system, expressed concerns in a September 1994 letter with NAPAS and ISAWS' lack of functionality in several areas. These concerns are listed below in italics. Following each is a summary of the response prepared by Napa County, the only fully operational county on ISAWS, and the developer of NAPAS. These responses were provided in December 1994.

According to WCDS consortium, *NAPAS and ISAWS does not provide:*

❑ *Limitation on number of warrants generated*

NAPAS and ISAWS does not have a limit on the number of warrants generated for a case, but there are limits on the dollar amount of each warrant issued, by type of program.

❑ *Full incorporation of eligibility rules and edits*

NAPAS and ISAWS incorporates all rules required by the State. Edits are utilized in the system by field/screen so that incorrect data is noted at the time it is input. This allows the correction of that data immediately. (We note in this report the significant backlog of rules changes not yet made to the system.)

❑ *Printing of documents in languages other than English and Spanish*

Currently the NAPAS and ISAWS application provides for the printing of documents in English and Spanish. The system has mechanisms to support the remaining five state-recognized languages if enhanced.

❑ *Requirements for workers to check Income Eligibility Verification System (IEVS) when processing applications*

The worker can initiate a nightly batch transaction to IEVS/PVS during applicant registration. An enhancement request provides responses on-line from the IEVS Recipient System to NAPAS and ISAWS.

❑ *An automatic eligibility determination and benefit computation run when an overpayment occurs*

EDBC does not do overpayment calculation or establishment of overpayment claims. It determines eligibility and benefit amount. It is inappropriate or a misunderstanding of the complete claim process to request EDBC to establish claims.

❏ *An address matching feature showing families living together or ability to search cases by address*

No request has been made for an address matching feature, but the application has been set up so that it can easily be enhanced to do so.

❏ *A simple identification number system for cases, clients, workers, etc.*

Identification numbers utilized in NAPAS and ISAWS include a Case Number, a Client Identification Number, and a Worker Number.

❏ *An integrated central index of clients in other public assistance programs (e.g. GA, Home Support Services, Children's Services)*

This is serviced from the Statewide Client Index - Napa County will use this from mid-January 1995.

❏ *Interfaces with:*
  • *Food Stamps Employment & Training* - System produces information for manual referral
  • *Food Stamps Automated Issuance & Reporting* - No interface
  • *GAIN information System* - No interface
  • *Social Services Reporting System* - Planned interface
  • *General Assistance/General Relief* - No interface.

❏ *Printing of immediate need warrants*

The system provides immediate need warrants via the over-the-counter sub-system.

❏ *Generation of non-welfare payments (e.g., for child care and GAIN)*

Foster care payments are supported. There is no Federal or State funding appropriated for non-welfare functionality.

❏ *Support of an on-line directory of eligibility workers*

The NAPAS and ISAWS system contains an on-line directory of eligibility workers, referred to as the User table. The table itself is accessible only to the NAPAS and ISAWS county coordinator.

❑ *Ability to always take action when it should, rather than sending alert messages*

The system is a tool to be used by the eligibility worker. No action is taken in the system without worker authorization. As eligibility is so complex, a worker must be making decisions on each and every action.

❑ *Ability to do mass case updates*

The NAPAS and ISAWS system has successfully completed every mass change due to state mandated requirements since 1991.

❑ *Worker and case association*

The worker and case relationship is defined thus: a worker is assigned a caseload, and a case is assigned to the caseload of a worker. There is no direct association between a worker and a case.

❑ *Ability to modify Notice of Action language to meet county requirements*

As a result of a court ruling, it was the State mandate to not allow modifications to system generated Notice of Actions. Where counties have flexibility is in client letters. That functionality is in the Notice of Action Generation subsystem.

❑ *Ability to track aid by special program and/or type of payment*

NAPAS and ISAWS supports extensive Management and Fiscal reporting capabilities to allow tracking of aid by special program and/or type of payment.

❑ *Census tract and case association*

The system stores all the necessary information required to generate reports that provide information related to census tract and case association.

NAPAS and ISAWS does not meet all of the concerns raised by the WCDS Counties. However, these concerns must be considered in the context of what is appropriate for a statewide automated welfare system. On some occasions, Napa and the ISAWS Counties utilize somewhat different functionality than that of the WCDS Counties, but are seeking to achieve the same broader welfare goals. Given the existing requests for NAPAS and ISAWS enhancements, the cost-effectiveness of additional functionality should be determined before it is included in the system.

Appendix E Multiple Platform SAWS (MPSAWS)

The Department Has Valid Concerns Regarding the Openness of NAPAS

A significant problem with NAPAS is that it uses proprietary hardware and software. The State cannot purchase the system in an open and competitive procurement, precluding a statewide roll-out of NAPAS. The department originally planned to address this concern in its Request for Proposals for statewide welfare automation it was preparing in 1993. Options were to be provided in the RFP upon which vendors could base their proposals. Portation and code conversion, along with implementation of NAPAS in its native environment, were to be included in the RFP. However, all statewide planning activities, including development of the RFP for statewide implementation, were suspended in December 1993 with approval of the first phase of ISAWS. This resulted in significant delays in providing welfare automation to the remaining 43 counties.

In March 1993, the department issued an Interim System Policy which, among other provisions, included a component for demonstration projects designed to provide vendors an opportunity to gain experience with the NAPAS application prior to statewide procurement. Proposals were solicited from counties, and three proposals were ultimately approved. During Spring 1994 budget hearings, the concept was named multiple platform SAWS, or MPSAWS. The MPSAWS concept is not a multiple system concept, but rather based on porting NAPAS software code, or converting NAPAS code so that it can run on hardware and software platforms other than the proprietary Unisys equipment and software. All versions of the application would continue to be maintained by the State to ensure uniform policy application statewide.

The department believes that "issues concerning policy uniformity and duplicate maintenance costs which existed with two disparate systems would not occur under the MPSAWS proposal." In other words, only one system would need to be maintained by the State, not two. The department considers such a concept to be a single statewide system.

California Counties Have Concerns Regarding NAPAS/ISAWS Functionality and Openness

The department requested proposals from counties to demonstrate MPSAWS, and recommended three for implementation: Alameda, El Dorado, and Santa Clara:

❑ Alameda County proposed to convert NAPAS code for one function of SAWS into COBOL in DB/2 (a relational database), and convert the remaining SAWS functions. Total one-time costs were estimated at $19,662,929

❑ El Dorado County proposed to port NAPAS code to a personal computer client/server architecture. Total one-time costs were estimated at $1,578,453

❏   Santa Clara County proposed to port NAPAS code to MAPPER
     C, and deploy the system in a distributed UNIX environment.
     Total costs were estimated at $19,679,352.

Total one-time costs of these three projects is $41 million.

Since submitting its 1993 proposal, Alameda County has discovered it
will be impossible to convert NAPAS code to COBOL code. NAPAS
code does not parallel business logic statements. COBOL does.
Alameda county would have to use program comments and system
specifications, which would result in a "disparate" system.

Santa Clara County has since modified its proposal, and is proposing an
open SAWS environment, which they call OSAWS. A major factor in
its decision to change its proposal was the numerous technical
limitations of migrating from the current ISAWS (MAPPER code) to its
originally proposed MPSAWS (MAPPER-C code). Due to perceived
technical limitations of MAPPER-C, Santa Clara County has proposed
using the basic SAWS design but eliminating the MAPPER language.
As conceived, the Santa Clara County demonstration project approach
to SAWS is still only a concept and does not have a stable system
design technology at this point.

We conducted interviews with officials from Alameda County, Santa
Clara County, Department of Social Services, and Federal agencies.
The MPSAWS proposals have not yet been approved for any funding
by either the State or Federal government, although $5 million in
federal funds and $5 million in State funds have been set aside for
MPSAWS.

MPSAWS Is Now a Concept

MPSAWS is not a strategic alternative; it is merely a concept to migrate
a statewide automated welfare system design (NAPAS) to other
technical environments. Common data processing industry system
design and definition practices produce documents which define the
functional system design specifications. The department's strategy of
seeking proposals from counties for demonstration projects does not
produce system design documentation. No system design and definition
documents exist for MPSAWS as these systems are only additional
ideas for implementing NAPAS.

The absence of MPSAWS system design documentation makes it
impossible to determine the extent to which NAPAS' functionality
would be retained, enhanced, or modified by the proposed MPSAWS
demonstration projects.   Both counties proposing MPSAWS
demonstration projects have identified additional functionality that
would be required to implement SAWS in their counties.   This
additional functionality, and the provision for county specific
enhancements, make the MPSAWS systems different from the SAWS
design that they propose to use as their "base" design, contrary to the
department's assertion of only one system solution. The funding of the
design and development of MPSAWS would create additional
implementations of automated welfare systems in California, both of

which are being conceived as systems suitable for future statewide roll out.

MPSAWS Could Delay Statewide Welfare Automation

The two county proposals to fund the development of two additional systems as alternatives for a statewide roll-out of NAPAS, may significantly delay statewide welfare automation, and may significantly add to the cost of automation. Alameda County proposes to implement MPSAWS and potentially become a consortium provider for multiple counties using MPSAWS. Neither Alameda nor Santa Clara County believes that ISAWS (NAPAS) is a viable option for WCDS counties. Santa Clara County believes a redesigned version of MAGIC could be implemented sooner than the effort required to develop and implement MPSAWS. Santa Clara County would rather consider redesigned versions of MAGIC or LEADER than newly designed systems of MPSAWS or OSAWS development efforts.

To wait for the implementation and full operation of either MPSAWS project in a demonstration county in order to perform a system assessment to determine the applicability of MPSAWS for a statewide roll-out may add several years to the statewide roll out of welfare automation. Neither of the two proposed demonstration projects have a start date, and neither has been funded. The department has postponed any decision on MPSAWS until its assessment of LEADER is completed.

Even if started, they represent major, multi-year system development and implementation projects that would be subject to the potential costs, delays, and risks of any major automation development project. There is no assurance that either proposed MPSAWS system would be available within the currently estimated time frames.

Even though the MPSAWS proposal uses advanced computer technology with potential development time savings, the technologies proposed are unproven in similar large scale, welfare processing environments. The technologies proposed are also new technical environments for large systems in the demonstration counties.

Appendix F   Influence of the Federal Government on Welfare Automation Strategy

The Department Vigorously Pursued Enhanced Federal Funding for SAWS, While the Federal Government Continuously Moved the Target

Since 1984, the department vigorously pursued enhanced funding for a welfare automation approach which initially included multiple systems. Enhanced funding is the additional contribution from the Federal government above a normal 50 percent share of welfare automation project costs. The Federal agencies appeared to continually change their requirements of California to receive enhanced funding, first limiting States' choice of approach (e.g., using a system already developed in another state and avoidance of "non-proven" technology such as expert systems), then removing these conditions. According to department reports to the Legislature, federal agencies were inconsistent in their policies regarding enhanced funding and changed their stance several times since 1984. These reports note the following changes in the Federal funding agencies' policies:

❏   In June 1985, the Office of Family Assistance[1] modified its policy which previously provided funding only for single statewide systems. The OFA decided that the welfare automation project could qualify for enhanced funding if California would limit the number of software systems statewide to no more than four or five. The OFA wanted assurances that welfare automation would not allow development of as many as 58 different systems.

❏   A General Counsel opinion validated that Federal laws and regulations did not preclude enhanced funding for California's proposed 1987 multiple systems approach for welfare automation. The department did not obtain the OFA policy decision or the General Counsel opinion on welfare automation in writing because "OFA was concerned that by formally documenting this policy and opinion, it would encourage similar requests from other states."

❏   After resubmission of its draft Advance Planning Document in December 1986, the Family Support Administration (formally the OFA) told the department at a meeting that "California's approach would not qualify for enhanced funding and identified a new approach that would qualify for enhanced funding - three systems operated at three different state-operated sites."

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[1]   In August 1986, the OFA was renamed the Family Support Administration (FSA), within the Department of Health and Human Services. The FSA later was renamed the Administration for Children and Families (ACF).

❑ On February 18, 1987, it received a written policy decision from FSA which stated that enhanced funding can only be approved for a single statewide system statewide. At the same time, the Food and Nutrition Service stated it's approval is based on FSA's approval, and the Health Care Financing Administration (HCFA) stated enhanced funding was only available for a single, statewide system. The department stated that this new FSA policy is not viable in California because it is contrary to the State administrative policy calling for local control of the administration of welfare programs and does not recognize the significant investments counties have made in their existing data centers.

❑ Sometime in 1988, the FSA then indicated that an exception to its policy of requiring a single statewide system for enhanced funding might be made for Los Angeles County because of its size. As a result Los Angeles County submitted (and obtained approval in January 1992) an Advanced Planning Document requesting enhanced funding.

❑ In November 1990, FNS abandoned its earlier position that enhanced funding would be approved for welfare automation only if the Administration for Children and Families (formerly the FSA) approved enhanced funding. The FNS established new conditions allowing for enhanced funding for two systems, plus Los Angeles County.

❑ In early 1991, ACF provided the department with two sets of conditions for enhanced funding for the AFDC program; one set for two systems (plus Los Angeles County), and one set for a single statewide system (plus Los Angeles County). The department concluded that the conditions for the two systems were not viable.

❑ The Omnibus Budget Reconciliation Act of 1993 terminated enhanced funding after April 1, 1994. The Federal agencies no longer are demanding a single, centralized automated welfare system.

In its March 1, 1989 annual report to the Legislature, the department noted that enhanced funding from the Family Support Administration (FSA) is not likely, with possible exception of the Los Angeles County system. According to the department, this was an about-face in policy, and appeared to be based on FSA "reinterpreting regulations" which were previously interpreted to allow enhanced funding for the welfare automation concept of multiple, county operated systems.

We received conflicting information during our interviews with Federal agency representatives when we asked about the availability of enhanced funding. Department of Health and Human Services representatives (AFDC and Medi-Cal) told us that enhanced funding always was available only for a single statewide system. The Department of Agriculture (food stamps) told us enhanced funding was available for more than one system if the State met a set of conditions

that would constitute a detailed, comprehensive, cost-effective and viable statewide approach.

The department, at times, vigorously pursued enhanced funding for a welfare automation approach which included multiple systems. We believe that federal agencies failed to understand how California operates welfare delivery, and ignored the political realities of a large, county-operated welfare program. The department did understand California's system and pursued enhanced funding for at least six years for a county-based or multiple systems approach. Negotiations with Federal agencies were drawn-out, and either became an excuse for the department, or caused delays in agreeing upon a solution. Evaluation of alternatives, and selection of NAPAS as the single statewide system, was done in direct response to federal conditions for enhanced funding.

Federal Agencies Do Not Provide or Require Measurable Objectives for Welfare Automation Projects

Federal oversight practices have further complicated the project when determining automation objectives and progress made towards objectives. The Federal government does not have consistent, measurable objectives for welfare automation projects and does not hold states strictly accountable for achieving state-imposed objectives. A 1992 General Accounting Office report documents how ineffective federal oversight has permitted costly automated system problems. The report states:

> "HHS [the Department of Health and Human Services] and USDA [Department of Agriculture] have not determined whether installed automated systems are working as intended and providing improvements, although federal law and regulations emphasize that this be done. Automating eligibility determinations was supposed to reduce administrative costs and mistakes. However, despite providing hundreds of millions of dollars for these automated systems, the federal government does not know if such benefits have been attained because HHS and USDA have not measured how automation has improved the AFDC, Medicaid [Medi-Cal] and Food Stamp programs" (*Ineffective Federal Oversight Permits Costly Automated Systems Problems*, General Accounting Office, May 1992).

DEPARTMENT OF SOCIAL SERVICES
744 P Street, Sacramento, CA 95814

April 13, 1995

Kurt R. Sjoberg
California State Auditor
Bureau of State Audits
600 J Street, Suite 300
Sacramento, California 95814

Dear Mr. Sjoberg:

Subject: BUREAU OF STATE AUDITS (BSA) DRAFT AUDIT REPORT
ENTITLED, " THE DEPARTMENT OF SOCIAL SERVICES'
APPROACH TO WELFARE AUTOMATION IS TOO COSTLY AND
UNLIKELY TO SUCCEED"

Ms. Sandra R. Smoley, Secretary of the Health and Welfare Agency, has asked me to respond to the above named BSA draft audit report. I have enclosed the department's detailed responses to the audit. I believe that these responses show that the major findings of your report, especially those related to our management of welfare automation, are unwarranted. I therefore urge you to reconsider the major findings of the report.

I am concerned that the report may leave the incorrect impression that we are wasting money in our administration of welfare. As the report shows, California has actually reduced its administrative cost per case by 26 percent in the last five years. With regard to automation, it is important to note that the investment in the Statewide Automated Welfare System (SAWS) amounts to only one percent of the total expenditures for welfare administration over the ten years for which you reviewed costs, and *only 16 percent of the total expenditures for welfare automation during the period.*

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I am also concerned that the report seems to understate the achievements of the SAWS project. For example, the finding that we have "only automated two small counties" overlooks the following very important SAWS accomplishments: (1) the development of the statewide central data base, which has been fully operational for over six years, and which has greatly reduced fraud by preventing individuals from using the same identification in various counties; (2) the development of NAPAS and MAGIC, the two SAWS pilots; (3) the implementation of ISAWS in 9 counties, an accomplishment of which I am especially proud since it represents the greatest leap of progress in statewide welfare automation in the history of the state; and, (4) the successful RFP and bid process in Los Angeles County of the LEADER system, which is substantially based on NAPAS/SAWS.

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I agree that ISAWS will probably take longer to pay for itself than we would ideally like. However, we have accomplished a great deal by reducing the cost per case in ISAWS from the $243 level identified for NAPAS, the system on which it was based, to $85 dollars per case. We hope to reduce costs even more prior to continued implementation of SAWS.

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* Our comments on the response from the Department of Social Services begin on page K-1.

I would urge you to reconsider the recommendation that ISAWS funding be limited to six months, pending the development of various estimates and documents by the department. This recommendation will surely be received with shock and grave concern by the 14 ISAWS counties that have already implemented or made plans to implement the system. I am confident that the Legislature will have the wisdom not to put these counties in limbo. I believe that we can address the issues raised in the report adequately over the next few months, and thus, will not need to wait the six months you recommend to make a commitment to the continuation of ISAWS. (6.)
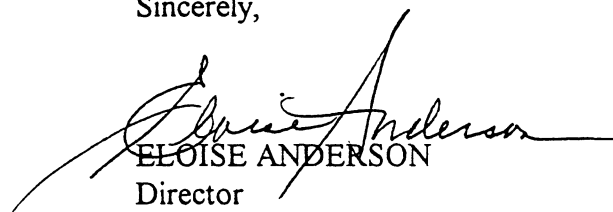
Finally, I am concerned with your recommendation to issue an RFP to automate 42 counties. I feel that our approach, which is to conduct a thorough cost benefit analysis before making a final commitment to proceed with further expansion, is more prudent. While we agree that it is important to use an open and competitive bid process to move forward with welfare (7.) automation, we believe that this can be accomplished in the context of a cautious and deliberate expansion of SAWS, which would avoid the risks associated with a bid of the magnitude that your recommendation would require.

Thank you for the opportunity to respond to the draft audit report. If you have any questions about our responses, please contact me.

Sincerely,

ELOISE ANDERSON
Director

Enclosure

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Chapter 1

"Over $100 million has been spent by the department and federal funding agencies through June 30, 1994, yet only two small counties representing one percent of cases statewide are completely automated."

This statement leaves the impression that the expenditures for the development of the SAWS over the past ten years have had little value. In reality, the investment in SAWS, which represents about one percent of California's expenditures for welfare administration over the last ten years, has paid many dividends. Two working models of SAWS are currently operating in eleven counties and five additional counties will become operational by September 1995. Also, the Los Angeles County automation project (LEADER) is based to a large extent on the work products produced by the SAWS project. A statewide central data base of all persons "known to welfare" was installed and has been operating in all 58 counties over the past six years and ensures that no recipient can apply for and receive aid under the same identification in multiple counties. SAWS project staff have also prepared and negotiated the approval of Advanced Planning Documents (APDs), Feasibility Study Reports (FSRs), and Special Project Reports (SPRs) providing the federal and state funding authorizations to move forward with automation in California.

(5.)

(3.)

Actual expenditures during the ten years 1984 through 1994 were $91.9 million. This includes $21.9 million to develop/implement/operate NAPAS, $20.3 million to develop/implement/operate MAGIC, $8.4 million to develop/implement/operate the Central Data Base, with the balance representing ten years of state staff and consulting services critical to the ongoing successful activities of the SAWS project, including planning activities for the ISAWS Counties. The Auditor applied an inflation adjustment to this figure in developing the $100 million cost figure.

Over the same period of time, various governmental agencies involved in funding the public assistance programs benefiting from SAWS (AFDC, Food Stamps, and Medi-Cal) spent $8.3 billion to administer these programs in California's fifty-eight counties. This included $550 million for various electronic data processing systems required to support all of these programs' administrative activities. The governmental agencies incurred these expenditures in an effort to ensure that the $117 billion in program benefits that were distributed during this period went to the people for whom they were intended and in the amount required by law.

Clearly, the expenditures to develop MAGIC, NAPAS, the Central Data Base, and LEADER represent a significant investment. However, the SAWS investment represents only 16 percent of the total expenditure for welfare automation, and one percent of the costs of welfare administration.

"In December 1994, there was a backlog of over 200 required changes to the system. . . not counting new changes in welfare rules being added at a rate of one per day."

Department staff informed the Auditor that there were 200 required changes in the backlog. However, change requests go through an analysis and screening process before becoming actual maintenance workload items. The results of the screening process for the 200 items were:

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1. 52 change requests were closed as unnecessary;
2. 10 change requests were suspended because they were not documented properly;
3. 78 were scheduled into a quarterly software development schedule starting with the third quarter of 1995 and ending with the fourth quarter of 1996; this scheduling was based on the regulatory effective dates and the counties business needs to fully transition to ISAWS not on the existence of a backlog;
4. 4 change requests were considered as ongoing since they relate to system table maintenance;
5. 56 were identified as critical transitional and regulatory changes that must be implemented.

Thus, the backlog inventory is actually 56 items, not 200.

"The Department Consistently Underestimates the Costs of Statewide Welfare Automation."

The department has accurately prepared the SAWS Project's economic analyses in accordance with current state Administrative Manual (Section 4929.1) and Office of Information Technology (OIT) requirements. Unfortunately, since 1986 welfare caseloads have increased by 110 percent. Caseload growth is the main reason that automation costs have increased. To the extent that we have identified changes in plan that have increased costs, we have presented the changes in the appropriate approval documents.

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Table 1 - "Expected Costs of Statewide Welfare Automation."

Table 1 describes a cost overrun of $458 million dollars, which represents the difference between the department's 1986 APD and the Auditor's estimate of $1,009 million to implement ISAWS in 57 counties and LEADER in Los Angeles.

It is inappropriate to infer from Table 1 that the "overrun" reflects on the management of the SAWS Project. The "overrun" in part is due in large part to the 110 percent increase in welfare caseloads that has occurred since we submitted the 1986 APD-U. Welfare caseload growth obviously cannot be controlled by the SAWS Project. Finally, the table implies that the department plans to roll out ISAWS to every county (except Los Angeles). The very purpose of ISAWS is to gather data. We certainly expect that this data will suggest changes and improvements to the system, some of which will potentially reduce costs. Moreover, the department is committed to modifying ISAWS so that it can run on non-Unisys hardware to enable an open and competitive bid for expansion beyond the current ISAWS counties.

(10.)

(11.)

"There appears to be a number of reasons why expected costs for statewide automation are much greater than the department's original estimate. The department has made major changes in strategic direction for welfare automation, and currently has no formal strategy on how and when welfare automation will be implemented. There is no current definition of what welfare automation is or what it will look like, and no one involved with directing or managing welfare automation has established measurable objectives for the project."

We disagree with this finding. The cost "overrun" of $445 million noted on Table 1 represents an increase of 82 percent. During the period depicted on the table, the caseload grew by 110 percent. We do not understand how the Auditor could have overlooked such a major reason for cost growth in favor of the more subtle "reasons" enumerated in the report.

(9.)

(10.)

"The department's first estimate for welfare automation was $554 million, and was submitted in a 1986 APD for approval by federal funding agencies. This document was never approved, though the federal government has continued to pay for almost half of the costs in the first ten years of welfare automation development."

The 1986 the SAWS APD was submitted with the intent of obtaining enhanced federal funding for the SAWS project. At the same time, APDs from the two SAWS pilot counties, Napa and Merced, were in the federal review/approval

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process. The federal control agencies did not respond to the SAWS APD as it did not comply with their position that enhanced funding was available only to a single statewide system. The APDs from the two SAWS pilot counties were subsequently approved by the federal agencies.

Even prior to 1986, the SAWS project has never been without federal funding authorizations. As was stated in the Auditor's Report, the 1986 SAWS APD was not approved primarily because it did not qualify for enhanced funding. However, SAWS project activities have always been authorized using several funding vehicles. The state staff involved with SAWS since 1986 have primarily been authorized through approval of the SAWS administrative budget. Federal funding authorizations for SAWS pilot county activities have been approved through NAPAS and MAGIC APD/APD Updates. All SAWS funds expended have the appropriate state and federal agency approvals.

"We have serious concerns as to whether annual cost savings assumed by the department can be achieved, even if all counties were provided the ISAWS application today."

We believe that our estimates of savings are reasonable. The Auditor accepts (12.) savings levels for MAGIC and LEADER that are similar in magnitude to our estimates of the benefits of ISAWS. Nothing in the Auditor's report provides any evidence that there are significant differences between the three systems in regard to their impact on error rates, overpayment collections, or administrative savings.

"Cutting down on mistakes for AFDC could actually increase dollar payments if welfare recipients are paid the full benefit allowed....Reducing mistakes made by workers will result in savings if the mistakes made now result in more overpayments than underpayments, and if payments are no longer made to individuals who are not eligible."

The report mistakenly portrays all AFDC and Food Stamp errors as permanent misexpenditures, concluding that reduced underpayments could result in an increase in program expenditures. Both programs require that overpayments be recovered by a variety of administratively complex processes, and that underpayments be restored. While 100 percent of all underpayments discovered can be restored, only about 55 percent of overpayments can be recovered. Also, underpayments are more likely to be discovered because clients will report them, while some overpayments are never discovered. Therefore, elimination of errors in the first place should always result in net savings. In addition, providing the correct level of program expenditure in the

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first instance will avoid unnecessary administrative expenditures for corrective actions and reduce the potential for federal fiscal sanctions.

"ISAWS Costs More Than Other California Welfare Automation Systems."

This finding is based on the data presented in Exhibit 1-1. It is true ISAWS costs more than some other systems -- MAGIC and LEADER -- but the Auditor fails to note that ISAWS is substantially less costly than the system on which it is based -- NAPAS.   (13.)

The improvement in cost-per-case that the state achieved in taking the NAPAS system and using it as the base for ISAWS is an important achievement not mentioned in the audit report. Further, the Auditor makes no mention of LEADER as being a SAWS-based system. In reality LEADER will use the same   (5.) data elements and data mapping as NAPAS and will use exactly the same program logic in its core function, the Eligibility Determination/Benefit Calculation (EDBC) module. The similarity of the NAPAS/ISAWS EDBC logic to that proposed for LEADER is illustrated by the fact that the LEADER vendor -- Unisys/Deloitte-Touche -- has recently proposed to translate the NAPAS/ISAWS EDBC component from the MAPPER language in which it is currently programmed to the more open COBOL language that will be used in LEADER.   (14.) This translation will be done as part of the ISAWS maintenance activities within the current allocations with the Deloitte-Touche contract.

It is the department's position that LEADER is a potential next generation of   (5.) SAWS. Thus, we are encouraged by the figures presented in Exhibit 1-1. They should be interpreted to show that SAWS is on the right track, moving from a relatively high Napa County cost per case to a significantly lower ISAWS cost, and with a prospect of moving to a much lower per case cost in LEADER. It is important to note, however, that LEADER is not yet a reality, unlike NAPAS, MAGIC, and ISAWS, all of which are currently functioning systems. Thus it would be premature to conclude with certainty that its costs per case will be as low as displayed in Table 1.

In any event, the Auditor fails to give SAWS any credit for the development of the LEADER project. Like the Auditor, we are very much encouraged by Los Angeles County's successful RFP and bid process. However, we think it should   (5.) be noted that the winning bid in the LEADER procurement is based on SAWS.

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Chapter 2

"There are serious concerns about the viability of NAPAS as a statewide system. It was never designed to be implemented statewide and it has experienced major performance problems in small scale pilots."

The viability of NAPAS as a statewide system is being tested in ISAWS. The results to date are outstanding: response times are fast, users are happy, and the cost per case has been reduced by two-thirds. Of course, we recognize that ISAWS will need changes to be viable statewide, notably a more open architecture. Moreover, we anticipate learning important lessons that will guide the improvement of SAWS from the ISAWS evaluation, which will be complete in March 1997.

(15.)

"NAPAS may not accommodate a high volume of transactions and case records. Response times on the system have been much greater than originally planned, though the department has since reduced these times by installing more hardware and making a fix to the software. However, the key function of the software, determining an applicant's eligibility and calculating benefits, still takes between two and five minutes, well above the 10 seconds originally required for 95 percent of processes initiated on the system."

We disagree with this finding. The NAPAS/ISAWS system meets the requirements of the original Napa contract. In most instances, the requirements are exceeded as measured by the original yardsticks (using current welfare populations rather than those originally contracted for, it must be stressed). In Section 7.1.22 to 7.1.29 of the Napa General User Requirements dated August 18, 1989, the response times required for 95 percent of processing are as follows:

		Maximum Average Response Time
1.	Simple Inquiry	4 seconds
2.	Complex Inquiry	5 seconds
3.	Single Processing	5 seconds
4.	Complex Processing	10 seconds

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As can be seen in the following chart, 96 percent of all transactions are completed in five seconds or less. The chart clearly demonstrates that by any standard, response time for the ISAWS counties (as measured at the workstation) exceeds the original Napa service level requirements.

Actual Measurements of Transactions As of April 3 - 6, 1995   (16.)

0 - 1 Seconds	20 % Completed
1 - 2 Seconds	71 % Completed
2 - 3 Seconds	88 % Completed
3 - 4 Seconds	93 % Completed
4 - 5 Seconds	96 % Completed

These actual figures are snapshots at peak month activity levels. A transaction is defined as the elapsed time from the depression of the transmit key on the workstation, to the time the response is received at the workstation.

There appear to be misconceptions about the definition of Eligibility Determination and Benefit Calculation (EDBC) processing. As EDBC requirements vary widely from case to case, the performance criteria were set up per component. "Complex Processing" relates to each element (e.g., Food Stamps Income rule-driven calculation), not to the entire EDBC procedure. It is extremely difficult to define performance in widely different circumstances. Furthermore, if an eligibility worker needs to run EDBC on-line for a complex case, the worker can easily switch to another case and work on it while EDBC is running on the complex case.

"In preparing projections of statewide hardware and software needs, the department assumed processing capacity equivalent to Napa County would produce equivalent performance."

The department disagrees with the Auditor's finding. The department recognized that it would not be possible to project any statewide capacity estimates based on a county the size of Napa. Consequently, the department initiated Interim SAWS, which in addition to meeting other objectives, was to acquire sufficient capacity data from the ISAWS counties to perform adequate capacity modeling. Also, ISAWS will provide better data so that vendors can bid appropriate   (17.) capacity and configurations in a statewide competitive bid. This approach is presented in the department's August 23, 1993 SPR, page 29, Section 7, 'Interim County Selection'. State and federal funding for the ISAWS project was obtained partly based on the requirement to acquire adequate information for the statewide system.

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"With 15 percent of ISAWS cases on the system, and with one-third of the planned mainframe processing power, serious response time problems occurred. No one has determined the exact cause of the problems."

The department disagrees with the Auditor's finding. The response time problems were a result of a miscalculation as to when the third processor would be needed. At the time of the audit, SAWS was configured with two instruction processors (IPs), one-third of the planned mainframe processing power. An instruction processor is the main engine doing work in the computer. The system will ultimately be configured with six IPs.

The performance model used by the state was based on data in the Napa County System. Based on workload projections established using the Napa model, the state planned to install the third IP in March 1995. In December 1994, the SAWS system at HWDC had only been in production for five months. However it became very apparent in late December 1994 that counties were experiencing poor response times and that a third IP would be needed sooner than expected.

The state did not anticipate the high level of Central Processing Unit (CPU) resource consumption this early in the project for two reasons:

1.   During the training and conversion period, the nature and level of work performed, (and therefore system usage) are difficult to predict accurately. The ISAWS capacity model and IP schedule was based on the Napa model, which reflected "normal" patterns of usage, unlike the more intense usage patterns we have experienced during implementation.

2.   Eligibility worker training on the new system placed a higher level of demand on the system than expected. January, in particular, was a very heavy training month, with 10 daily classes of 15 trainees each and each trainee performing transactions that are atypical of the normal worker profile.

Data now shows that in counties such as Glenn and Colusa, in which conversion is complete, workers have become experienced and use the system more efficiently. There has been a significant decrease in processing resource requirements and a reversion to the "normal" patterns of usage predicted by the Napa model. The Napa model used an experienced worker profile that did not include conversion. In addition, the high levels of user (eligibility worker) training will decrease by October 1995 and have reduced system impact thereafter. The solution of the response time problems experienced in December 1994 and January 1995 was to add the third processor early. The third processor was added on February 5, 1995. With the three Instruction Processors (IPs) currently

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operating, the counties are experiencing response times well within service level objectives.

The Auditor states that in January 1995, unacceptable response times were being experienced in the counties with only 15 percent of the projected total caseload on the system. The fact of the matter is that although only 15 percent of the caseload was on the system, approximately half of the workers had been trained and were using the system. A disproportionate amount of resources are used by workers during training modes and while they are learning more efficient ways to use the system.

An additional factor to consider with ISAWS is that the first counties had only been in production since August 8, 1994, six short months before the audit was conducted. This was from the time the first case was added to the system. This is an important point because even though SAWS had been in operation in Napa County for several years before being rolled out to the 14 counties, the difference between the operation of a system the size of Napa County and a system the size of ISAWS is not trivial. In fact, the caseload size of ISAWS is larger than that of twenty-two states. As standard practice, all systems go through a shake out period to detect and correct system problems. The performance audit conducted at this stage of system implementation did not provide an accurate measure of system performance.

Today, we have over 1,000 workers on the system, approximately 53 percent of the total, using 50 percent of the expected IP capacity. With approximately 900 more workers coming onto the system, coupled with the planned delivery of three additional IPs, we believe we are in excellent position to continue to meet service level objectives established for this system.

"There are no guarantees from either the hardware or software vendors that these six instruction processors will be sufficient to service all fourteen ISAWS counties with acceptable performance."

"The department does not know how many IPs it will take to ensure acceptable response times when all 300,000 ISAWS cases are converted, plus 3.5 years of case history."

"While response time has improved, it is yet to be shown whether the system, at a reasonable cost, can handle a full load of ISAWS cases, complete with the required case history, at greater than 1.4 transactions per second and acceptable response times. The department does not know if its current plans for mainframe resources is enough for servicing ISAWS counties at the required response times."

HWDC is currently delivering service within acceptable levels, which follows our updated capacity plan. We have no reason to believe that our estimates for mainframe performance are flawed. Our capacity plan is based on continuous improvements in the performance of the hardware and software and the change in our workload mix as we finish conversion and training.

The department agrees with the finding regarding performance guarantees and will pursue guarantees from the vendors that the six instruction processors will be sufficient to service all fourteen counties. As part of all successful system implementations, an important activity is to monitor and assess all aspects of system performance and make any necessary improvements. In September 1994 the state assembled a dedicated Run Time Improvement (RTI) team to provide additional resources to the performance improvement effort. The RTI team is focused on the following key areas:

(18.)

- Eligibility Determination and Benefit Computation (EDBC)
- Management Reporting
- Data Organization
- System Software
- Hardware

EDBC

EDBC accounts for approximately seven percent of system transactions but consumes 40 percent of system resources. This function is an obvious target for system improvements. EDBC performance improvements will be achieved in two ways. The first is batch EDBC, which is already in pilot in three counties. This operational improvement shifts resource consumption to off-shift hours when processor cycles are available. Most EDBC is not done with the client on hand, and it is therefore not necessary to run real-time. Counties appreciate the flexibility to defer EDBC processing (it is elected at their option) to accommodate operational efficiency needs, such as processing SAWS-7s. We expect batch EDBC to significantly reduce prime shift utilization of processor resources.

The second improvement to EDBC is to rewrite this function in a compiled language. Currently EDBC is written in MAPPER, and although this is an acceptable performer, writing it in a compiled language could provide a very significant improvement in processor resource, and improve the competitive nature of the ISAWS solution.

(14.)

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Management Reporting

Management reporting is a high consumer of non-prime shift system resources, particularly at the end of the month. The RTI task force is recommending a number of changes to the structure of management reporting, primarily to provide multi-threaded processing capability. Preliminary estimates show an expected reduction in elapsed time from approximately two and one-half (2 1/2) hours down to approximately 45 minutes.

Data Organization

Data organization involves keeping only the most current information immediately accessible. Although this will not immediately affect the SAWS system in the ISAWS counties, it will help Napa County which has at least three years of history that must be processed in the system. The ISAWS counties will benefit from this change in future years as their case history grows.

System Software

The system will be made more efficient by installing MAPPER version 38, which is currently in test. This is an upgrade to the existing MAPPER software now running. Response time improvements will be realized through this new version of MAPPER.

Hardware

Current estimates call for a total of six IPs to be installed to support the 14 ISAWS counties. To date, three IPs have been installed. The remaining three IPs will be installed at appropriate points along the implementation timeline.

"The introduction of batch processing is an effort to reduce the volume of EDBC on-line requests during peak usage periods and, thereby improve response time. Effects resulting from this option, however, must be closely monitored because, as indicated by a customer reference provided by Unisys, MAPPER is not appropriate for heavy batch processing and that using it in this way could diminish performance."

The Auditor's finding is incorrect. NAPAS and ISAWS use off-shift batch processes very efficiently and effectively to process large amounts of client data in processes such as mass change EDBC. Even the heavy use of individual EDBC requests during the day, processed at night, will have a beneficial effect on prime shift on-line performance and minimum effect on machine performance during the batch window. Furthermore, even if the batch processes were run

during peak user time, they can be set to a lower priority than on-line work and would not effect the on-line performance running at higher priority.

"We know of no other MAPPER application running with the transaction volumes required by statewide welfare automation in California."

"This raises some doubt whether the planned number of processors and copies of MAPPER will be able to support the 14 small ISAWS counties, which represent only eight percent of the state's welfare cases."

"Unisys has run benchmarks which indicate that MAPPER systems similar to NAPAS should be able to run upwards of 11 transactions per second with response times meeting NAPAS requirements (i.e., less than five seconds for simple transactions, ten seconds for complex transactions). However, the benchmarks were done in a laboratory setting and not in a "real world" situation. Given recent experiences with slow response times, it is unclear what effect MAPPER is having on response times."

We feel that the Auditor's analysis concerning both the number of processors and copies of MAPPER is incorrect. We are confident that the sizing for ISAWS, based on our performance planning, is correct and will process the projected workload.

(19.)

The Auditor cites the Gartner Group as claiming that MAPPER cannot compete well in an update mode with tools that handle more than one transaction per second. The Auditor's findings question Unisys-supplied MAPPER benchmarks and the effect MAPPER may have on ISAWS' ultimate ability to handle more than 1.4 transactions per second under full load at the required response times. Current information is available in ISAWS that negates the very premise that MAPPER (and hence ISAWS) has performance issues with more than one update transaction per second. The aggregate ISAWS system is running 26 transactions per second and the largest single MAPPER is running 14 transactions per second within the required response times.

Additionally, Unisys MAPPER benchmark data supplied to the Auditor showed a capability of 52 transactions per second (TPS) on a 2200/922, not 11 transactions per second as cited. The Auditor's questions are based upon a "laboratory setting" for the benchmark, since all industry standard benchmarks (i.e., TPC-A etc.) are done in environments where results can be duplicated. The Unisys benchmark is reflective of a complex application profile such as ISAWS, and is substantiated by actual ISAWS performance measurements.

G-14

"The proprietary software, known as MAPPER, was designed to develop reports, not for a conversational and heavy transaction application, such as NAPAS. It is inefficient at storing case data and requires significant overhead resources."

The department disagrees with these findings.

First and foremost, MAPPER is an application development language that is used extensively to develop large successful applications such as NAPAS (ISAWS). MAPPER is used by 73 percent of the nearly 3,000 Unisys 1100/2200 mainframe customers as an on-line transaction processing application tool as well as the report writing and end-user computing tool cited by the Auditor.

In addition, the Auditor appears to have misunderstood the basic structure, characteristics, and functional capabilities of MAPPER. MAPPER is structured in reports, but that is not "forms" or "stored in print format" as described by the Auditor. The MAPPER report is a <u>table of data</u> much like a relational database table, which uses functions to process data within the table or between tables.

⟨20.⟩

Since its announcements of Open MAPPER on UNIX and Windows, Unisys has positioned MAPPER as a decision support tool, since a number of comprehensive relational database products are already fiercely competing in that market. The Patricia Seybold Group Inc. views MAPPER as two tools, decision support and enterprise rapid application development. As cited by the Auditor, LINC is also a Unisys application development tool that is recommended for high volume conversational applications. However, the selection of MAPPER for Napa County was made in the context of the best 1100 tool in 1989. MAPPER was then, and continues today to be both a conversational application and a rapid application development and maintenance tool for the ISAWS welfare environment.

"Finding persons knowledgeable on MAPPER is very difficult."

"In order to support the ISAWS application, Deloitte & Touche had to search throughout the world to find qualified MAPPER programmers."

These statements are incorrect. Deloitte & Touche has, over the life of the NAPAS and SAWS projects, contracted with individuals who have come from various parts of the world. At any given time, the SAWS project might employ people from the United States, Asia, India, Europe or Latin America. This is not because MAPPER programmers are difficult to find. The Unisys registry of MAPPER service and training providers contains more than fifty independent firms in the United States which specialize in MAPPER consulting and

programming services. Some of these have been engaged by the SAWS project from time to time. Beyond these, the SAWS project has called heavily upon services provided by several firms who specialize in providing contract programmers. These firms draw upon a world wide talent pool when they respond to requests for assistance. As a result, the SAWS project has never had difficulty in finding candidates or filling open positions.

"Finally, because MAPPER is a proprietary product, i.e., it can only run on Unisys hardware with a Unisys operating system, it does not provide for the mandated requirement to offer an open competitive environment."

The statement that MAPPER only runs on Unisys equipment is incorrect. MAPPER also runs under the UNIX operating system and is licensed to run on SUN, IBM RS 6000, MS Windows and any SCO UNIX. Also, Unisys has, at the state's request, agreed to license and port MAPPER to any vendor's platform.

21.

"To deal with this [proprietary] issue, the department pursued two additional rewrites of the NAPAS system in an effort called MPSAWS (multiple platform SAWS). Due to technical limitations and uncertainties, one of these options was abandoned and a rewrite of NAPAS for an open distributed platform then was suggested."

The statement that there were technical limitations and uncertainties that prevented the rewrite of NAPAS for MPSAWS is incorrect. There are no technical limitations to rewriting NAPAS to run on another platform. If this were true, then other states would not be able to transfer a welfare system from one state to another, which in fact is routinely done.

22.

"Each welfare case in the NAPAS system requires, on average 274,386 bytes of disk space. This is four and a half times larger than a case in the MAGIC system, which utilizes a relational data structure."

The Auditor's report implies that the difference in data storage requirements is the direct result of MAGIC's use of a relational data structure. This is an incorrect conclusion for several reasons.

MAGIC does not store detailed client data in the relational ADABAS database. Only summary client data is stored in ADABAS. Detailed data is stored in proprietary VSAM files. Consequently, the perceived difference in case sizes could be the result of the Auditor not counting all client data in their MAGIC case size calculation. The NAPAS database stores extensive historical detail about

clients. This allows NAPAS to recompute overpayments or underpayments accurately from historical data. It is unclear from the Auditor's report how much detailed historical data is contained in the MAGIC database.

The difference in case data storage requirements cannot, under any circumstances, be explained by differences in technology. The department disagrees with the Auditor's finding that MAPPER has high data storage overhead. MAPPER stores data in industry standard ASCII format, the same format used by personal computers, UNIX systems, and most minicomputers. Even if numeric data were compressed, data storage would only be reduced by 10 to 20 percent. Using non-compressed data formats allows NAPAS and SAWS data to be more accessible to other open systems.

With regard to MAGIC, it appears that the Auditor must have overlooked that MAGIC actually stores case data redundantly in the ADABAS summary database, in the mainframe VSAM detail files, and on the file server. If MAGIC tracks the same amount of information about welfare recipients as NAPAS and SAWS, some of it would have to be stored in three different places simultaneously, thus increasing, perhaps significantly, the amount of data storage required in MAGIC. The conclusion that NAPAS and SAWS are wasteful of data storage when compared to MAGIC is erroneous.

"At a cost of $5,000 per gigabyte, it would cost $2.6 million in disk capacity to store active cases statewide."

We disagree with the Auditor's finding. It assumes that all disk storage would be (13.) purchased in 1994. In fact, this would not be the case. Disk storage would be purchased, as required, over the entire life of the project. As a result, SAWS would experience savings as the cost of disk storage goes down. It is significant to note that the cost of disk storage has come down over 40 percent in the last two years. Disk storage cost has comparably decreased on mainframe computers and is expected to continue decreasing in cost.

"It is not clear how many eligibility workstations one copy of MAPPER can support with acceptable response times. Napa County uses one copy of MAPPER, 35 eligibility workers, and 1.4 transactions per second, but has experienced high response times. The Commonwealth of Virginia has 26 MAPPERs, 23 users per MAPPER, and 1.2 transactions per second per MAPPER, with acceptable response times."

The Auditor's report stated it was not clear how many workstations one copy of MAPPER can support to maintain adequate response times. They went on to

say that Napa has one MAPPER with 35 users and poor response time and the Common Wealth of Virginia has 26 MAPPERs with 23 users per MAPPER. They further stated that at 35 users per MAPPER, statewide SAWS would require 326 copies of MAPPER and at 23 users per MAPPER, statewide SAWS would need 606 copies of MAPPER.

The department disagrees with the Auditor's findings regarding the number of MAPPERs used in Napa County and the Commonwealth of Virginia and their relation to performance (transactions per second), number of users and workstations which can support "acceptable response times".

Sites that use MAPPER systems to support operations configure the number of MAPPERs based upon organizational requirements. The number of MAPPERs does not correspond to the throughput of the application. The example cited for the Commonwealth of Virginia system appears to be inaccurate. The Commonwealth has 6 production MAPPERs to run the ADAPT system which are configured to represent the 5 statewide regions and one umbrella MAPPER for statewide functions. Each of the five regional MAPPERs will serve on average 50,000 cases and between 500 and 600 users.

(24.)

The largest ISAWS county will have 60,000 cases and over 400 users in a single MAPPER. The following table represents the average transactions and number of users for the larger ISAWS counties for March 1995.

County	MAPPER Region	Transactions	Number of Users
San Joaquin	1	239,309	293
Mendocino	2	843,19	96
Kern	3	198,483	265
Kings	4	27,445	56
Madera	5	92,206	109

These current numbers refute the conclusions made in the Audit report.

Rather than proliferating MAPPERs, we are moving towards putting more counties into an individual MAPPER. Mendocino County will be joined by Yuba. The four smallest ISAWS counties (Colusa, Glenn, Lassen and Plumas) are already sharing a single MAPPER region.

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"In addition to these concerns, the Deloitte & Touche/Unisys team and HWDC informed us that the ISAWS system cannot effectively do ad hoc reporting. This is partially due to physical limitations in the MAPPER system."

The statement that ISAWS cannot do ad hoc reporting due to physical limitations in the MAPPER system does not tell the complete story. There are no physical limitations in the MAPPER system. SAWS was designed as a real-time, on-line processing system to meet the requirements for the eligibility workers to do their work in a timely manner. The decision was made early in the development process to limit the use of ad hoc reports against the production database during normal business hours and to formalize the request for ad hoc reports so that they could be scheduled at non-peak times. This decision was made so that users would not be adversely affected by having these reports running against the production database.

A data extraction process which will allow users to run ad hoc reports is planned to be completed no later than July 1, 1995.

"In 1993, Unisys claimed there were 5,000 installations of MAPPER worldwide. This compares with millions of COBOL and CICS installations. Since then, according to the Gartner Group, the number of MAPPER installations has been shrinking. The Gartner Group considers MAPPER to be a fringe tool.

The department disagrees with this finding. Of the Unisys base of nearly 3,000 1100/2200 customers, 73 percent use MAPPER and would hardly consider MAPPER a fringe tool. We cannot explain the Gartner view that MAPPER installations are shrinking since MAPPER sales have increased five percent in the Unisys mainframe world and 80 percent in the faster growing UNIX segment of the market since 1992. While 5000 installations may not equal the COBOL base, there are more than adequate qualified MAPPER resources available to support ISAWS.

CICS installations number in the thousands rather than millions; however, there is no doubt that significantly more COBOL programmers are available than MAPPER programmers. If this is the intent of the finding we agree, but we question what system the contractor is suggesting for SAWS if COBOL and CICS are the only skills needed. The MAGIC system requires dozens of software products some of which have very small installed bases and limited resources available. LEADER will be based on mainstream products but will still require various skilled resources to design and develop.

"Government support for MAPPER also is waning."

"According to another California county, the department told them it does not plan on supporting the MAPPER version of SAWS in the long-run."

The department disagrees. Los Angeles continues to use MAPPER even though LEADER will be constructed using other software tools. Other government entities also continue to use MAPPER extensively. For example, the state of Virginia is implementing their statewide welfare system in MAPPER based on a transfer of SAWS. Pennsylvania, New York, and Texas all use MAPPER extensively. This finding is misleading because it implies that support for MAPPER by other government entities impacts the future of SAWS. Over the coming years, SAWS will evolve to incorporate new technologies as appropriate, including some technologies provided or suggested by LEADER. In the meantime, SAWS will continue to operate effectively based in MAPPER.

(23)

"Each copy of MAPPER also requires an additional overhead of more than 2.7 billion bytes of disk storage."

It is unclear in the report how the Auditor arrived at this conclusion. However, current system and workspace overhead for all MAPPERs serving ISAWS counties averages less than 30 million bytes per MAPPER. This is 99 percent less than reported by the Auditor, consequently all costs computed using 2.7 billion bytes of disk storage are incorrect. For example, the $5.4 to $8.2 million estimated for disk storage in Chapter 2 of the audit report would actually be $54,000 to $82,000.

(25)

"The system can run entirely on non-intelligent workstations; personal computers are unnecessary. Data management, data presentation, and application logic all are executed on the mainframe."

The state purchased and deployed personal computers for the following strategic and tactical reasons:

(26)

- Avoid having multiple terminals on each desktop to access multiple systems.

- Enable open systems architecture, for example, the use of TCP/IP, which is becoming an industry standard for exchanging information between different computer systems.

- Enable access to the Statewide Client Index (SCI) and Medi-Cal Eligibility Data System (MEDS).

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- Enable access to the statewide Child Welfare System/Case Management System (CWS/CMS), the Statewide Automated Child Support System (SACSS), and the Los Angeles Eligibility Automated Determination Evaluation and Reporting (LEADER) system.

- Enable access to other county systems.

- Increase worker productivity.

One of the perceived major weaknesses with the NAPAS version of SAWS was the proprietary nature of the solution. Personal computers were considered to be an important component in meeting the objectives specified above. Personal computers are not proprietary, allow for a Graphical User Interface, and more importantly, help provide the required any-to-any connectivity and architectural openness.

CALIFORNIA DEPARTMENT OF SOCIAL SERVICES
RESPONSE TO BUREAU OF STATE AUDIT REPORT

Chapter 3

"Since Implementation of MAGIC, Merced County Has Met Important 1984 Legislative Objectives."

We agree with this finding. It should be noted, however, that NAPAS is also meeting the objectives in the 1984 Legislation. NAPAS and MAGIC were developed with the same state requirements, which resulted in systems that are nearly identical in their functional results.

"MAGIC is an open, distributed, client/server architecture."

According to the audit report, MAGIC is not an open system. As defined in Chapter 3 of the report, MAGIC does not meet the definitions of "open." It will not allow for "any interested party to participate in a bid, with no advantage given to one participant" nor is Magic a software package that will "work on all other (computer systems) of the same standard class." Specifically: (27.)

- MAGIC uses an IBM compatible mainframe at its top tier. Although there are three vendors that sell IBM compatible mainframes, the operating system is owned, controlled, and sold exclusively by IBM. The report states that VSAM, the database management system is open, which is incorrect. VSAM is not a database management system, it is a data file manager. It is not open; it is owned by IBM and can only be acquired as part of IBM's operating systems. There is also a database management system, called ADABAS, used on MAGIC's mainframe but it, and its fourth generation language, NATURAL, is also proprietary.

- The middle tier of MAGIC uses a Hewlett Packard (HP) minicomputer running the HP/UX operating system. The database on the middle tier is INGRES which is proprietary. Furthermore, the interfaces which carry data down from the mainframe each morning and back up again each night, and the interfaces which send data back and forth to the workstations were custom-built for MAGIC and will not work on "other computer systems of the same standard class."

- The bottom tier of the MAGIC system are personal computers (PC's). These PC's run Microsoft's DOS operating system but do not run Microsoft's

Windows. Instead they run a proprietary product owned by IBM called Desqview which computer industry analysts consider a dead-end product. Finally, every workstation requires a proprietary artificial intelligence product called AION.

Finally, in stating that MAGIC is distributed, the report assumes that the distributed model is inherently better than the alternative. This is not necessarily true. It is a model to which some systems are slowly migrating. In high volume transaction oriented environments, distributed systems are risky and unproved.

(28.)

"MAGIC is a viable alternative for counties today."

The audit report is simplistically correct in its conclusion that MAGIC could be transferred "as is" to run in another county. The department, however, believes this conclusion is misleading. MAGIC works in Merced county, but there are known issues and potential problems. The state and another county could not ignore these issues when considering the further implementation of MAGIC. Contrary to what the audit implies, the transfer of MAGIC to run in another county would, almost certainly, require an additional investment of public funds.

"MAGIC and LEADER May Cost Less, Provide Greater Benefits, and Perform Better than NAPAS/ISAWS."

The department does not agree with this statement. MAGIC currently appears to be less expensive than ISAWS because: 1) Funds have not been spent in Merced to make MAGIC transferable to other counties; and, 2) ISAWS is currently at the most costly point in its lifecycle, and per case costs should drop as more cases are brought into ISAWS.

On the other hand, LEADER is SAWS. The LEADER proposal is built on the SAWS model for California welfare automation and it reflects the type of refinements that could be expected for the full implementation of SAWS. The proposal for LEADER benefits dramatically from the work completed to date on ISAWS. The full implementation of SAWS will, in turn, benefit dramatically from the implementation of LEADER.

(5.)

For example: 1) The proposal for LEADER includes using the same hardware as ISAWS, which means that the same infrastructure used for ISAWS could be used in the future to run LEADER, 2) LEADER will have identical data elements and entity relationships in its database; this will allow case data to be exchanged or converted automatically from ISAWS counties, and 3) LEADER will use the same eligibility determination and benefit calculation logic as ISAWS.

(29.)

"After Full Implementation, Los Angeles County Expects to Achieve Annual Savings of $83.5 Million."

We concur. However, we believe that systems such as NAPAS, ISAWS, and MAGIC would generate a similar level of benefits. The Auditor seems to attribute the Los Angeles savings estimate to unique characteristics of LEADER. This assumption seems unwarranted, since the basic business process and eligibility rules incorporated in NAPAS, ISAWS, MAGIC, and LEADER are very similar.

If LEADER will save $83.7 million in Los Angeles, which the Auditor seems ready to accept, then MAGIC or NAPAS would also save $83.7 million. No where in the report does the Auditor support his contention that the savings, whether administrative or benefit reduction, should vary based upon some unique characteristic of any of the given options. In conducting our review to determine the potential benefits of SAWS we recognized that the impacts might vary substantially from county to county dependent upon the unique circumstances presented in that county.

"NAPAS was less expensive to develop and pilot than LEADER and MAGIC, but provides fewer benefits."

We concur that NAPAS was less expensive to develop than the other SAWS projects. However, we disagree that it provides fewer benefits. As indicated above, there is no reason to conclude that there are significant differences in benefits between these systems. (30.)

"Both NAPAS/ISAWS and MAGIC are highly reliable Systems, but the Impact of Failure is Greater in NAPAS/ISAWS."

We disagree. The audit report indicates that a multiple tier architecture lessens (13.) the impact of systems failure. On the contrary, the three tiered approach introduces more areas of vulnerability. In Merced, if the middle tier minicomputer is down, the workers are not able to work on scheduled cases. This is equivalent to the mainframe being down in NAPAS. And an outage in the middle tier minicomputer can also cause data integrity problems. In four years of processing, the NAPAS system has experienced no data integrity problems and fewer than ten unexpected interruptions. According to the Auditor's report, MAGIC experienced data integrity problems and three outages in the first quarter (31.) of 1995 alone.

Chapter 4

"The department has not reported costs to-date, and is unable to easily do so with its accounting system. . . .Our key concern is that the department does not track and report the system's costs."

It is inappropriate for the Auditor to conclude that the department does not track or report costs simply because of the complexity of our cost accounting system. This statement is correct in that our accounting system is designed to track legislative appropriations for each fiscal year. It is not well suited to reporting cumulative costs of long term projects. However, we will take steps to improve our automation project cost reporting system.

The department provides all past year and projected expenditures in the annual Governor's Budget. The annual year-end Financial Statements also report all past-year expenditures and accruals. Total SAWS Project expenditures have always been included in the departmental totals.

"Without clear timelines, costs, and assignment of responsibilities, it is not possible for the department to determine whether clear progress is actually being made on welfare automation."

We disagree. The Feasibility Study Reports (FSRs), Special Project Reports (SPRs), Advance Planning Documents (APDs), and other necessary reports have provided projected impact of the system, schedules, timelines, and resource needs.

(32.)

The SAWS Branch tracks costs by approval document, funding source, state and federal fiscal year, and cost item. This information is used for project management purposes and state and federal approval document reporting. State and federal regulations and policies dictate how project costs are reported and department accounting records are kept in accordance with these requirements. Costs are reported consistent with approved project documents.

"[The department] has not complied with Legislative and administrative reporting requirements.... Annual reports to the Legislature are up to two years late, often tied up in the agency secretary's office, and do not comply with statutory reporting requirements."

Welfare & Institutions Code 10822 specifies the contents of the Annual Report and requires that the costs and savings of the system be reported on an annual basis. The Annual Reports have advised the Legislature that this reporting requirement is contingent upon statewide implementation and can only be meaningfully discussed in future annual reports.

All such costs are reported by the department and thoroughly reviewed by the Legislature during the annual budget process. Also, since both FSRs and SPRs are public documents with copies released to the Legislative Analyst's Office, the department feels it has met its commitment of providing information to the Legislature.

"Counties are expressing serious concerns with the management of ISAWS implementation and feel like 'passengers' rather than 'partners' in ISAWS."

The above statement seems to contradict the actual cooperation and partnership ISAWS counties have demonstrated since the beginning of ISAWS implementation. The success of ISAWS county implementation clearly demonstrates the effectiveness of the partnership between the state and counties at all levels of implementation, including setting project-wide implementation priorities and strategies, developing county implementation teams and plans, and prioritizing maintenance of the SAWS application.

The ISAWS county welfare directors have met each month with representatives from Social Services, Health and Welfare Agency Data Center, Health Services and occasionally the Department of Finance and the federal agencies. These meetings have been used to plan, coordinate and report on implementation issues and activities. In these meetings ISAWS counties express their opinions on significant implementation issues, describe common county implementation needs and requirements, and agree as a group on implementation policies and strategies. A few examples of the significant issues which have been discussed, resolved and agreed to by consensus in these meetings are:

• Schedule of county implementations and subsequent schedule changes to accommodate county needs and to maximize the use of project resources.

- Use of county conversion funds to develop an automated MEDS download to assist counties with case conversion.

- Revision of the workstation allocation formula to accommodate county interview rooms, ongoing county training needs, eligibility workers, eligibility supervisors, and support staff. The county welfare directors agreed by consensus to the new formula as an equitable and fair distribution of workstations. After Social Services committed the funding for the workstations, several of the counties were willing to return some of the less critical workstations in order to accommodate unmet critical workstation needs of the other ISAWS counties.

The ISAWS county implementation teams consist of county staff and ISAWS project staff. Each county has a state funded county project manager to manage county resources assigned to the implementation project and an ISAWS project coordinator to manage the ISAWS project resources assigned to the county. Using implementation guides provided by the ISAWS project staff, the county implementation teams develop county specific implementation strategies and plans. County project managers and ISAWS project coordinators meet each month with ISAWS project management to discuss successful implementation strategies and critical county needs.

Within the SAWS maintenance process, counties express concerns and identify priorities for what needs to be in or added to the system. Counties participate in the maintenance process by sending representatives to the weekly On-line County User Meeting and/or monthly Priority Setting Group Meeting. At the On-line County User Meeting, which is attended by SAWS Maintenance staff, County Representatives, and Program Representatives, the counties:

- Identify issues with the system.

- Analyze and review Maintenance Change Requests (MCRs), including the validation of assumptions about county operations.

- Receive information on the current SAWS maintenance workload and scheduled implementation dates for system changes.

- Receive Program interpretations on specific issues.

At the Priority Setting Group Meeting, which is attended by County Representatives, Program Representatives, and SAWS Maintenance staff, the counties:

- Identify county operational impacts and discuss with Program Representatives the initial priority for changes to the SAWS application or the subsequent adjustment of priorities.

- Combine MCRs for a more timely release of changes to the SAWS application, or close MCRs because the changes are not needed.

These are only a few examples of the cooperation which has existed between counties and the state during implementation of ISAWS. As is noted above, the partnership of county and state exists at all levels of ISAWS implementation ranging from project-wide management to individual county implementations and to coordination of changes to the SAWS application. Although some counties may have expressed concerns and frustrations about specific implementation and maintenance issues present at the time of the audit interviews, this should not be the basis for concluding that a partnership between the state and counties does not exist.

"The Department Did Not Follow Through on Its Original Plan to Develop Welfare Automation."

The department disagrees with the report's general conclusions that the CDSS has mismanaged statewide welfare automation and with this finding in particular.

The audit, through this finding, suggests the department has mismanaged welfare automation because we have made significant and numerous changes in our approach to automation over the many years of the project. The suggestion here is that those changes should not have been made and that the department's approach to automation today, regardless of any other factors, circumstances, or influences, should be the same as the plan for automation articulated in the 1983 report to the Legislature.

Instead, the department has done an effective job of managing welfare automation and, during the last few years in particular, accomplished more than at any time in the program's history. Appropriate changes have been made to strategies and plans in response to actual circumstances. All the changes have been thoroughly analyzed, discussed and documented. The justifications have been reviewed and approved, following existing procedures and policies, by all the appropriate stakeholders including the counties, federal agencies, state

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control agencies, and the California Legislature. The actions taken by the department represent prudent and sound management practices.

"Though ISAWS has diverted activities away from statewide welfare automation, there are still nearly 40 positions authorized at the Statewide Welfare Automation System Branch doing statewide automation planning. With no statewide welfare automation efforts, it is unclear what the responsibility of this Branch is."

Although provided with information on both the SAWS Branch organizational structure and its work responsibilities, the audit incorrectly suggests 40 positions are authorized for, but not doing, statewide planning. The Statewide Automated Welfare System Branch is not engaged in statewide planning activities beyond those associated with identifying a strategy for statewide SAWS. There are currently 87.2 positions authorized for the SAWS Branch. Of these 32.7 positions support application maintenance, 25.5 positions support the implementation of ISAWS, 2.25 positions are engaged in reviewing county automation requests including the LEADER project, and the remaining, 26.75 positions, provide project support through the development of approval documents (i.e., APDs, FSRs, and SPRs); federal and state budget request documents; fiscal tracking of project expenditures; approval for payment, monitoring, and modification of contracts, Interagency Agreements, and county Memorandums of Understanding; preparation of required reports, and the development of procurement documents and involvement in the procurement process.

(33.)

"The department is spending money on unneeded enhancements to NAPAS and ISAWS. Approximately $227,000 was spent on an abandoned effort to centralize the printing of warrants. Another $479,000 has been spent on a graphical user interface to NAPAS and ISAWS, an enhancement not needed to effectively use the system."

The Auditor did not fully review the reasons for not moving forward with the Central Benefit Issuance (CBI) enhancement. Nor did the report identify all the pertinent actions taken on the graphical user interface (GUI) enhancements.

An enhancement was planned, as a result of the SAWS evaluation, for a CBI component to SAWS because CBI was a requirement for enhanced funding. When enhanced funding was discontinued and adequate benefits could not be identified in current county costs for benefit issuance, the CBI effort was stopped. However, the department is pursuing a local benefit issuance process

in the ISAWS system. The analysis that was performed for CBI is currently being used to assist in the development of the local benefit issuance process.

A business case for a GUI prototype was identified and requested in the 1993/94 NAPAS APD-U. This enhancement was approved by the federal government. A review of the graphical user interface prototype was performed and a decision made that the business case for continuing beyond the prototype had not been achieved. The department discontinued the GUI effort with county and federal concurrence.

The actions taken by the department in both these areas were business justified and appropriately approved, performed, and evaluated.

"Up until late 1994, no single person was assigned responsibility for ensuring that a given public policy rule change is made to the software supporting eligibility workers."

We disagree with this finding. The department has had a single lead or managerial staff responsible for the maintenance of the application software since the state assumed responsibility for this activity.

(34.)

In April 1993, the state contracted with Napa County's NAPAS Project Director, to lead the maintenance process at the state level. She remained in this capacity until September 1993, when a Data Processing Manager was recruited to manage the Application Support Unit of the SAWS Branch.

As further acknowledgment of the importance of this single person responsibility, in October 1994 a Bureau Chief was added to the SAWS Branch organizational structure to manage the rule change process for the department.

"The implementation schedule for ISAWS slipped from 15 months to 27 months during 1994, as documented in the department's September 1994 Special Project Report."

We disagree with this finding. ISAWS has had an excellent track record of staying on schedule. The fifteen month ISAWS implementation schedule was developed for estimating purposes and incorporated into the December 1993 SPR. This estimate occurred before the department actually began implementation planning with each of the ISAWS Counties. The result of that detailed planning, was a twenty-seven month implementation schedule, which, except for minor adjustments, is being adhered to and is the basis of estimates contained in the September 1994 and December 1994 SPRs.

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"Conducting such a large implementation evaluation [for ISAWS] solely for the purpose of confirming estimates and assumptions is unusual."

We agree that it would be unusual to conduct such a large evaluation solely to confirm estimates and assumptions. ISAWS is not just an evaluation, but the first incremental step toward statewide automation. The evaluation is needed to ensure that we learn as much as possible about costs, benefits, and implementation issues prior to taking the next step. The report criticizes the department for not doing risk assessment. In the department's judgment, ISAWS itself is the most prudent risk management process.

"The Department's ISAWS Evaluation Plan is Flawed....Does not have an evaluation plan for ISAWS which would result in an unequivocal recommendation to continue with or cease ISAWS."

The ISAWS Evaluation Plan states that the evaluation should answer the question "Does the interim system cost/benefit analysis support the business case for the implementation of SAWS?" Participation in the development of the ISAWS Evaluation Plan was extensive. Further, after the review and the resultant agreement, the many agencies involved in the development of the evaluation plan and the state and federal agencies responsible for its approval, agree that the ISAWS evaluation plan is an excellent document to guide the answer to that aforementioned question.

"It is noticeable that of the 64 phased activities in the [ISAWS] evaluation schedule, counties are responsible for none of them."

Counties were not only heavily involved in the development and review of the ISAWS Evaluation Plan, but are responsible for many elements of the evaluation methodology as indicated in the plan. Although the counties are not listed in the "Evaluation Schedule" as the "Responsible Group," they are shown as contributors to the ISAWS evaluation under "Method" in that schedule. Additionally, the counties are listed as "Team Members" and as contributors under "Planning" and "Evaluation" in Appendix B of the ISAWS Evaluation Plan, as well as being mentioned within the methodologies in Appendix C of the ISAWS Evaluation Plan. It should also be noted that the Auditor did not directly question the SAWS Project unit members who have responsibility for coordinating the ISAWS Evaluation.

"...there is no assurance that the [ISAWS Evaluation] plan per se will be completed, or result in all the information necessary for decision making being captured, as the department may have to curtail fact gathering to match resources."

We disagree with this finding. The department developed the ISAWS evaluation plan with the expressed intention of answering all the pertinent questions about statewide automation and does not intend to withdraw from that effort.

"The department has never measured statistically valid error rates in Napa County, Merced County, or any of the ISAWS counties."

We agree that more reliable information is required to measure error rate changes. It is for this reason that the ISAWS Evaluation Plan includes a quality control review component which was specifically designed to provide significantly more reliable information.

"Sample size [of the ISAWS QC Evaluation] appears excessive."

We do not agree that the sample size is excessive. Earlier the Auditor (35) expressed the importance of "reliable samples of welfare cases" to measure changes in error rates. The department also believes that reliability of findings is important. For this reason, a power level of .80 was selected to provide a high level of certainty that the quality control review would accomplish the evaluation objective (i.e., to detect a 20 percent universe error rate reduction at the .05 level of statistical significance). With smaller sample sizes than those used in the ISAWS evaluation plan there would be less certainty (i.e., power less than .80) that the evaluation objective would be accomplished.

It also should be noted that confidence level is not the appropriate sample size criterion to use in evaluating negative error rate changes. The critical criterion is the ability (i.e., power) of the statistical significance tests to detect a 20 percent reduction in the universe error rates. The power level of .80 was used in determining the ISAWS evaluation plan sample sizes. This means that with these sample sizes 80 times out of 100 the significance test based on sample results would detect a 20 percent error rate reduction in the pre and post conversion universes. Much greater sample sizes are needed to meet the power criterion than the confidence level criterion.

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"The effort to determine post-conversion error rates [for the ISAWS Evaluation] for the two largest ISAWS counties, Kern and San Joaquin, are duplicating other department error rate measurements."

We disagree with this finding. Based on the ISAWS evaluation design, sample sizes larger than those under the Quality Control Restructure are needed to detect a 20 percent to 40 percent error rate reduction. The sample size under Quality Control Restructure would not be sufficient to meet the sample size criterion (power level of .80). The Quality Control Restructure Plan requires that approximately 50 cases (AFDC and Food Stamps) be completed monthly in each of these counties. The ISAWS Evaluation Plan requires post-implementation completed reviews of a minimum of 250 cases in each of these counties, and, if a significant error reduction is not demonstrated, an additional 1,100 cases must be completed.

In addition to the number of cases, the sampling periods under the ISAWS Evaluation Plan and Quality Control Restructure are different. The ISAWS post conversion samples are selected from a single sample month while the samples for Quality Control Restructure are selected from an annual sampling period. For ISAWS, a single sample month, shortly after the end of conversion, was selected to minimize the potential that other factors (e.g., regulation changes) would impact quality control review findings.

"...the department decided [in the SAWS Evaluation during 1992] to... evaluate the two pilot systems being developed, though not to pick one system over the other."

We disagree with this finding.   (36.)

The SAWS Evaluation Plan, in 1992, identified five alternatives which would be considered: Allow either NAPAS or MAGIC to be operated at the county level; Select MAGIC as the statewide system to be operated by a service bureau at the state level; Select NAPAS as the statewide system to be operated by a service bureau at the state level; Select MAGIC as the statewide system to be operated at the county level; and, Select NAPAS as the statewide system to be operated at the county level. Therefore, the intent of the department was to evaluate five alternatives which could result in the selection of one system over the other.

The SAWS Evaluation during 1992 was in fact conducted by three teams which addressed functionality, technology and financial issues. These teams independently gathered and analyzed findings and drew conclusions in their respective areas. Each team independently concluded that, at the time, NAPAS

as the statewide system operated by a service bureau at the state level was the best strategy for implementing welfare automation statewide.

"The [SAWS Evaluation financial analysis] team did not concern themselves with business needs...."

The department disagrees with this finding. While others during the 1992 SAWS Evaluation were responsible for reviewing business needs, the financial team objectively assessed each alternative from a cost and benefit perspective. ⟨36⟩

"The [SAWS Evaluation] functionality team...addressed business needs only superficially. The department stated 'an in-depth system-to-system comparison of business functions and rules was not an objective of the [1992] SAWS Evaluation.'"

We are concerned that this finding conveys the impression that the evaluation inappropriately gave short shrift to the business needs review. In fact, since both systems were designed based on state mandated standards, including the required level of business functionality, and as the state had been assured by the two counties that their pilot systems were in compliance with these requirements, a functionality comparison was not considered necessary as part of the 1992 SAWS Evaluation. Instead, the business functionality team focused on user acceptance, administrative savings, error reduction, completeness of functionality available in other counties, impact on county organizational structures, training requirements, user documentation and impact on application maintenance.

"The department also failed to reevaluate the decision when it immediately began adding costs to NAPAS after its selection in January 1993 [following issuance of the SAWS Evaluation Report in January 1993]."

The SAWS Evaluation Report took six months to complete and its final distribution occurred in January 1993. During that six months, the department was developing detailed implementation strategies and plans and refining costs. The costs that were added to NAPAS results from this detailed planning process.

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"The department failed to evaluate [in the SAWS Evaluation] the two pilots on the same basis, with the same level of detail. The department conducted its analysis of MAGIC differently than it conducted its analysis of NAPAS...."

During the technology review portion of the SAWS Evaluation, many problems were discovered with MAGIC which did not exist with NAPAS. In order to fully understand the nature and severity of the problems and to identify potential remedies, it was necessary to further evaluate the findings around MAGIC. These problems and their identified solutions led to the conclusion that MAGIC would be expensive to correct, was not ready to be transferred, and would significantly delay statewide implementation. So severe were the problems that the federal agencies indicated that MAGIC, once corrected, would have to be re-piloted in another county before any consideration would be given to it as a transfer system for California. These findings and conclusions were also confirmed in an independent review by the MITRE Corporation.

"MAGIC Was Criticized for its Open Client/Server Architecture, While Recommendations Were Made to Use an Open Client/Server Architecture [as part of the SAWS Evaluation]."

The department recognized the value of the client/server architecture; however, the department was unable to select the client/server alternative because MAGIC was not yet fully operational in Merced County. The SAWS Evaluation also concluded that NAPAS, a traditional mainframe architecture, could be implemented with networking capabilities. As a result, the Implementation Plan included in the SAWS Evaluation Report indicated "Intelligent workstations, a wide area network and local area networks will be consistent with those proposed for the Child Welfare Services Case Management System and will best position SAWS to take advantage of current and emerging information and communications technologies." Even with the decision to pursue this strategic direction the MAGIC solution was still more costly that the NAPAS solution.

As mentioned above, despite the attractiveness of the client/server environment, MAGIC was not yet fully operational in Merced County. In addition to the other technology problems discovered during the SAWS Evaluation, MAGIC's client/server architecture included pervasive proprietary components which minimized some of its architectural benefits. However, the SAWS Evaluation Report notes that the implementation of MAGIC was a remarkable achievement for the state of technology in 1989. It was also recognized that MAGIC provided many valuable lessons and much information as a prototype of a client/server model for welfare automation. It is important to note that today MAGIC works well in Merced County.

"The Department Misrepresented its Own Evaluation Team's Assessment [in the SAWS Evaluation]."

We disagree with this finding. The Auditor has apparently taken two statements from the SAWS Evaluation Report and compared them to each other out of context. One of the statements was from the executive summary, the other from an appendix. We believe that the two statements are consistent. In any event, such an inconsistency would not be appropriately categorized as misrepresentation.

"The Department Ignored [in the SAWS Evaluation] County Preferences and Needs Expressed in the All County Survey."

We disagree with this finding. The SAWS Evaluation was an open, inclusive, and comprehensive process that included the major stakeholders from a variety of state, federal, and county agencies. Representatives of all stakeholders approved the evaluation schedule, process, methodology, findings, conclusions and recommendations. The All-County Questionnaire which included a question regarding system preference was part of the data gathering process for the SAWS Evaluation. As a result, counties had to rely on their own knowledge and perceptions of the systems and did not have the benefit of the SAWS Evaluation findings. At the conclusion of the SAWS Evaluation, the California county welfare department and data processing directors unanimously backed the decisions resulting from the evaluation, as documented in letters received from the County Welfare Directors Association and California Association of County Data Processors.

(36.)

(37.)

"NAPAS 1995 -- The author of NAPAS, Deloitte & Touche, and Health and Welfare Data Center, told us that ad hoc reporting cannot be done on the NAPAS system."

The statement that ISAWS cannot do ad hoc reporting due to physical limitations in the NAPAS system does not tell the complete story. There are no such physical limitations in the NAPAS system. SAWS was designed as a real-time, on-line processing system to meet the requirements for the eligibility workers to do their work in a timely manner. The decision was made early in the development process to limit the use of ad hoc reports against the production database during normal business hours and to formalize the request for ad hoc reports so that they could be scheduled at non-peak times so that users would

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not be adversely affected by having these reports running against the production database.

A data extraction process which will allow users to run ad hoc reports should be completed no later than July 1, 1995.

"A final eligibility determination and benefit calculation (EDBC) is made for each applicant, and can be done on the screen or in nightly batch mode....We observed response times for on-line EDBC of between 2 and 2.5 minutes, after mainframe capacity was increased 50 percent. . . . yet only 15 percent of ISAWS workload was using the system... The response time between screens is critical because it can accumulate to thousands of hours over the year.... This is perhaps the most significant, unreported cost. The department, (HWDC), and the ISAWS vendors have been unable to pinpoint all causes of the problem and fix them. As a result, the cost to fix ISAWS response time is unknown."

The department disagrees with this finding. The department is currently delivering service within acceptable levels, which is tracking to our updated capacity plan. We have no reason to believe that our estimates for mainframe performance are flawed. Our capacity plan is based on continuous improvements in the performance of the hardware and software and the change in our workload mix as we finish conversion and training. In addition the department is pursuing performance guarantees from the vendors that six instruction processors will be sufficient to service all 14 counties with acceptable response times.

There appears to be misconceptions about the definition of EDBC Processing. As EDBC requirements vary so widely from case to case, the performance criteria were set up per component. "Complex Processing" relates to each element (e.g. Food Stamps Income rule-driven calculation), NOT to the entire EDBC procedure. Furthermore, if a worker needs to run EDBC on-line for a complex case, the worker can easily switch to another case and work on it while EDBC is running on the complex case.

The Auditor states that in January 1995, unacceptable response times were being experienced in the counties with only 15 percent of the projected total caseload on the system. The fact of the matter is that although only 15 percent of the caseload was on the system, approximately half of the workers had been trained and were using the system. A disproportionate amount of resources are used by workers during training modes and while they are learning more efficient ways to use the system.

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An additional factor to consider with ISAWS is that the first counties had only been in production since August 8, 1994, six short months before the audit was conducted. This was from the time the first case was added to the system. This is an important point because even though SAWS had been in operation in Napa County for several years before being rolled out to the 14 counties, the difference between the operation of a system the size of Napa County and a system the size of ISAWS is not trivial. In fact, the caseload size of ISAWS is larger than that of 22 states. As standard practice, all systems go through a shakeout period to detect and correct system problems. The performance audit conducted at this stage of system implementation did not provide an accurate measure of system performance.

Today, we have over 1,000 workers on the system, approximately 53 percent of the total, using 50 percent of the expected IP capacity. With approximately 900 more workers coming onto the system, coupled with the planned delivery of three additional IPs, we believe we are in an excellent position to continue to meet service level objectives established for this system.

"The Public Contract Code, Section 12012, allows for sole source contracts if the goods or services proposed are the only ones that can meet the state's need or in cases of emergency where the immediate acquisition is necessary for the protection of the public health, welfare, or safety. However, we found that the Health and Welfare Data Center (HWDC), on behalf of the department, improperly acquired computer equipment without obtaining competitive bids....We found that the HWDC paid Unisys at least $119,000 more for this PC equipment than it would have if it had acquired the same or comparable equipment from the California Computer Source."

The department disagrees with the finding that it improperly acquired equipment without obtaining competitive bids. The Auditor claims that personal computers could be acquired at the California Computer Source (CCS) at less cost than the sole-source personal computers. The workstations at CCS did not have the necessary software nor could CCS deliver the computers to the appropriate counties because the 50-mile radius restriction. Also, CCS personal computer prices did not include the cost of installation and testing provided by the sole source vendor. Consequently, the department did not pay more for the sole-source personal computers.

(38.)

The department disagrees with the finding that the Department of General Services granted to HWDC a sole source justification that does not meet the Public Contract Code criteria. The Public Contract Code also stipulates that State Administrative Manual (SAM) regulations apply to sole-source procurements. SAM allows the director of the Department of General Services

(39.)

to determine that the state's interests are better served by an exemption to the competitive bid process. The cost of a competitive bid process for that equipment would likely have exceeded the $119,000 savings presumed in the finding.

"Two of the justifications listed above [by HWDC in a letter to the Department of General Services] appear to be for the convenience of the HWDC and the department. Moreover, none of the justifications listed above meet the Public Contract Code criteria for a sole source contract."

The HWDC disagrees. The sole source procurement was undertaken solely to expedite rapid implementation of the counties so that the necessary information could be obtained for the statewide procurement. (40.)

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CALIFORNIA DEPARTMENT OF SOCIAL SERVICES
RESPONSE TO BUREAU OF STATE AUDIT REPORT

Chapter 5

"The Legislature should limit welfare automation funding until certain conditions are met."

The department believes that implementing this recommendation would jeopardize the ISAWS counties. The first nine ISAWS counties are in production and have been actively converting cases and administering welfare differently in the ISAWS environment. Each county has made significant organizational changes and local investments designed specifically to support the automated environment. ISAWS is their future. This audit recommendation jeopardizes their future. If this recommendation were adopted, the five remaining counties, who have already made significant investments in ISAWS planning, might choose to withdraw from the project before they begin case conversion.

"The Department should competitively bid the Statewide Implementation of Welfare Automation."

The department does not agree with the recommended approach to welfare automation. We believe it requires too large a financial commitment too soon to a product and plan for implementation that is unknown. (41)

The Auditor's recommendation assumes there can be a cost-beneficial SAWS solution and, based on that assumption, would require the Legislature to immediately commit to a procurement valued at hundreds of millions of dollars. The recommendation also suggests that the current SAWS solutions that have been developed and are working successfully in several counties be essentially thrown away and that the state and counties start from scratch. This approach would seem to create significant and unnecessary risks for the state.

The department's approach is much more prudent and manageable and allows for open and competitive procurement. We believe the implementation of SAWS should be approached incrementally, so assumptions can be adequately tested, lessons can be learned and problems corrected and we can build on our experience and success. This is the approach the department used with ISAWS and the approach the department believes will result in a cost-beneficial statewide implementation of SAWS.

"The Legislature Should Consider Continued Independent Review of Welfare Automation."

The department recognizes this recommendation is intended for the Legislature, but it is important that we comment on the likely practical impact of adopting the recommendation. We must point out that continuing an independent review of welfare automation will require a significant resource commitment by the department. During the audit period, the department has used thousand of hours of staff time to provide information and support to the Auditor. This effort resulted in redirecting resources away from SAWS project activities. The diversion of staff would continue with a continuing review. In addition, it must also be noted that SAWS project resources are routinely being redirected to provide support and information for inquires from the Legislature, state and federal agencies and the media. We believe that the normal federal and legislative budget oversight processes provide ample review.

NAPA COUNTY

HEALTH & HUMAN SERVICES AGENCY

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TERRY LONGORIA
Director
ROBERT S. HILL, M.D.
Medical Director/Health Officer

April 12, 1995

Kurt R. Sjoberg, State Auditor
Bureau of State Audits
660 J Street, Suite 300
Sacramento, California 95814

Dear Mr. Sjoberg:

Please find enclosed Napa County's response to the portions deemed applicable to us of the Ernst & Young LLP Report on the CDSS Statewide Automated Welfare System. Thank you for allowing us this opportunity. Due to the limited time allowed for comments, our response is not as complete as we would like it to be. We remain willing to respond to any additional questions there may be.

Sincerely,

TERRY LONGORIA
Director
Napa County Health & Human Services Agency

NAPA COUNTY

RESPONSE

TO

CALIFORNIA STATE AUDITOR'S REPORT

ON

CDSS SAWS

April 12, 1995

1

ERNST & YOUNG REPORT APPEARS TO BE (1.)*
INACCURATE AND FLAWED

We do not believe there has ever been an automated system as poked, probed, examined, criticized, or analyzed as much as NAPAS, now SAWS. The non-Unisys world wants to convince us that a Unisys based solution, especially with an alleged "resource hog" like MAPPER, simply can't work. But the good news, **WHICH THE ERNST & YOUNG REPORT ALMOST IGNORES** is that NAPAS, now SAWS, can work and is working!

Perhaps it was the short timeline that caused the Ernst & Young study to be as **inaccurate and flawed** as it appears to be. It is of concern to Napa County that throughout the report, the evaluator turns NAPAS/ISAWS positives into negatives and MAGIC negatives into positives. The greatest irony of the report is that it gives the impression that LEADER, the Los Angeles automation project, is a completely functioning system when it hasn't gone beyond the conceptual stages. In fact a development contract has not yet been signed. This can be very misleading to the policy makers who are looking for an instant solution to the automation problem.

Napa County has always been and always will be interested in the automated system that can best work for its staff, the clients and the taxpayers. The State needs to get OUT of the business of supporting multiple systems and Napa supports that effort.

Merced County is a colleague - not a competitor. Our remarks will focus purely on the areas of inaccuracy in regard to the report of NAPAS/SAWS and will not attempt to focus on the difficulties experienced by the MAGIC project. Merced County has tried very nobly to bring up a new version of automation, and much has been learned in their attempts. It is hoped, however, that the State and Federal government would ask some tough hard questions and get some SOLID answers before totally changing the direction of SAWS. The areas of concern glossed over in the E&Y report would need to be fully addressed. Clearly, Anderson Consulting, the MAGIC development consultant, was unsure of the MAGIC architecture and transferability when it proposed a solution for the State of Nebraska.

2

* Our comments on the response from the Napa County begin on page L-1.

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THE MISSION OF NAPA COUNTY WAS TO DELIVER A SYSTEM THAT WORKED and could be transferable to other Unisys Counties. **WE DID THAT!** Napa did not promise to achieve cost savings in its development efforts. In every APD presented to the State and Federal government, the benefits of NAPAS were deemed to be at the point of transfer to other counties. SAWS and ISAWS allow these benefits to be realized. E&Y was provided copies of APDs and other documentation that put forth this concept and it was explained to them in oral interviews. The cost justification information in the evaluation is very misleading.

The State should respond to most of the confusion around costs and benefits caused by E&Y's report. As a County Welfare Director, I need to point out that there are more global savings that E&Y never assumed. Welfare does NOT exist in isolation. Ideally it is part of a **System of Services** to assist clients to **self sufficiency**. Some of the cost savings of automation include:

* Higher results in child support collections because (a) the interactive interview gathers better information than the manual mode (b) address changes and other case changes are automatically updated and sent to the Family Support Office. Napa County experienced a 33% increase in Child Support collections from 1989 to 1994.

* Better results in gathering third party information on Other Health coverage. Napa County CONSISTENTLY leads the state in this effort. SAWS assists in this process by not only gathering better data from the client, but also reporting it to the State in a more expeditious manner than a manual mode. Medical care is clearly the most costly of welfare programs and using third party insurance moves the liability of that expense from government to the private sector.

* More complete overpayment collections. SAWS tracks overpayments by case member as allowed by law. When family members transfer to other cases, the overpayments follow and grant adjustments automatically occur. Napa has seen a 30% increase in AFDC grant adjustment and a 40% increase in food stamp grant adjustments from 1993 to 1994. SAWS should be enhanced to assist with collections on discontinued cases as the County has NOT seen much of an increase in this currently non-SAWS function.

3

* Less time on frivolous fair hearings. Because the logic is built into the system, the county has confidence in the rules as applied. According to the Napa County Fair Hearing Coordinator NOT A SINGLE HEARING HAS BEEN LOST DUE TO INAPPROPRIATE APPLICATION OF THE RULES.

THESE ARE IMPORTANT AREAS TO CONSIDER, BECAUSE DELAYING FUTURE AUTOMATION WILL DELAY THE BENEFITS THAT COULD BE ACHIEVED.

NAPAS WAS CONSISTENT IN STATED EXPECTATIONS AND ACHIEVED GOALS OUTLINED IN THE ORIGINAL APD

Throughout the report the success of NAPAS/SAWS is understated. NAPAS was consistent in its expectations and achieved its goals. As outlined in the Advanced Planning Documents, some of the goals NAPAS sought to achieve included:

1. Uniform application of program policies and regulations

    GOAL ACHIEVED

    The System, not the worker, determines eligibility based on information provided directly by the client in an interactive interview. The worker, who needs to explain rules and regulations to the client, still must be fully knowledgeable of them - much like a tax accountant must still know tax law though using an automated tool.

2. Improved timelines of benefit issuance

    GOAL ACHIEVED

    The timeline for benefits is reduced to **HOURS rather than DAYS.** In non-emergency situations, if a client brings in needed verifications, they can receive benefits on **the same day as the interview.** This is a reduction from 45 days! The report indicates that NAPAS/SAWS takes longer than this.

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3. Standardization of operations

GOAL ACHIEVED

Training time has been reduced substantially, **workers are more flexible to move between caseloads because they are not "over-specialized"**. All workers have the capability of working multiple aid types.

4. Enhanced control and accountability for the expenditure of federal state and county funds

GOAL ACHIEVED

Quality control measures are built into the system. Supervisors can set parameters for case review. **Reports are generated directly from the system.**

5. Reduction in the opportunity for fraud to occur

GOAL ACHIEVED

Workers can carry more cases now, so the agency was able to **create a fraud unit that never existed before.** Additionally system controls and audit trails allow for controls of employee involved fraud.

6. Improved flow of information between the department and other federal, state and county agencies

GOAL ACHIEVED

On-line interfaces with the various systems including MEDS, Statewide Client Index, IEVS, IFD and SAVE provide timely information.

7. Increased access to client and case information

GOAL ACHIEVED

Administrative support staff (clerical and fiscal staff) indicated this to be one of the PRIMARY ADVANTAGES of the system to their job. The hunt for the lost physical case record is over! **Necessary information is on-line and**

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available to those who need it and who have security access to it. We have been able to move EWs into the community at more appropriate locations (such as hospitals, clinics, and treatment centers) and their supervisors still have access to full case information from the central office!

8. Enhanced capability to plan, organize and control operations through access to relevant, up to date information

GOAL ACHIEVED

Summary information is readily available to program managers and supervisors to help with program and staff planning.

9. Reduced learning period for new hires due to interactive nature of the system

GOAL ACHIEVED

New workers spend time learning eligibility rules and regulations - not how to complete forms.

10. Increased access to community resources for clients through automated referral process

GOAL ACHIEVED

A "Passport to Services" allows clients to more easily access other programs building to self sufficiency - such as college financial aids, housing authority, WIC referrals, etc.

RESPONSE TIME IMPROVED

There are some areas of the E&Y Report that need special attention. One of these is response time. There is absolutely no question that Napa County has been unhappy with response time and that this is an area that has needed great attention. The good news is that appropriate attention IS being paid to this area. The County has experienced great relief from the extreme problems of the system as viewed when E&Y visited Napa.

Two things have occurred recently which have dramatically improved the Napa response time. The first improvement was a communications fix whereby a new configuration was installed on the DCP so the transmissions are getting through much faster. **Screen to screen response time is now 2 to 3 seconds.**

The second improvement was an applications fix whereby EDBC can be run in batch for cases in which immediate results are not needed. This frees up the processing during the day so those cases that do have EDBC run on-line are meeting the response time limits. **The response time of 10 seconds for complex runs is also being met.**

There is no doubt that EDBC has the most complex runs. For each component of EDBC, the Driver, Non Financial, AFDC Resource/Income, Food Stamp Resource/Income and Medical Resource/Income sections the response time is met. **It was never the expectation that EDBC would run in totality in 10 seconds.** Two to three minutes is the expectation.

USER SATISFACTION

Napa County staff have echoed the SAWS Pause Evaluation results for user satisfaction. Not one Eligibility Worker or Clerical Worker or Fiscal Worker would want to go back to the old system we had. All are enthusiastic supporters of NAPAS/SAWS. When visiting other ISAWS counties who have come on-line, namely San Joaquin, Kern, Kings, Madera, Mendocino, Lassen, Glenn, Colusa, the same level of enthusiasm is heard from the workers. Workers state it is easier than the old way, it takes less time, it is more accurate, it does the vehicle valuation, it does the budget computes, it does Sneede for Medi-Cal and CMSP, it interfaces to MEDS - it is amazing what it does. Overpayment and overissuance calculations are easier, "I can do them in between interviews or phone calls as opposed to dedicated time as with the old system". Clerical and fiscal staff appreciate the access to information which is on-line versus

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waiting for the worker to give them the information/case or having to find the physical case record to look data up.

TRAINING

The statement that efficiency gains have been seen in training by Napa County is true. The conversion experience of one of the ISAWS counties is even more efficient. Hiring conversion workers is one option open to ISAWS counties. With experienced Eligibility Workers from another county, this ISAWS county provided one day of system training (which included time to review the old physical case record and other reports available from the old system) before having the EWs actually do conversion. These EWs are able to use SAWS to do case conversion with less than one day of system training.

SAWS PROCESSES AN APPLICATION IN APPROXIMATELY 1 1/2 HOURS

The statement that it takes 1 to 24 days to process a case in SAWS is misleading. The system processes a case from start to finish in approximately 1 1/2 hours, depending on the complexity of the case. A simple Food Stamp case can be done in 1/2 hour. A difficult Medi-Cal case for Long Term Care with a 30 month property spendown will take 2 1/2 hours. The typical AFDC case is the 1 1/2 hours. This time includes the interactive interview process. At the end of the interview if the client has provided all verifications required, the client can leave the office with all benefits in hand. The time frame referred to when asked the question of "Average amount of time between (1) Client aid request and Intake Interview and (2) Intake interview and Notice of Action" includes the amount of time the average client takes to return required verifications so a case can be finished. This time frame also includes the operational aspect of the typical welfare office experience of number of EWs to client requests for aid. Not all clients are seen on the same day they apply for aid by an EW. This is driven by the operational aspect of availability of staff schedules. Same day appointments are taken by clients with Immediate Need, Homeless, Expedited Food Stamp and/or Emergency Medical needs.

Client cooperation is outside the control of an automated system.
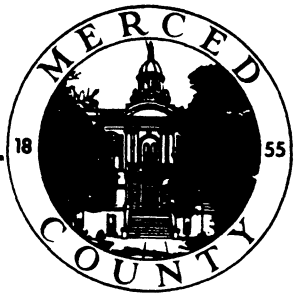
THE TOTAL DEVELOPMENT COST FOR NAPAS IS ③.
INACCURATE

The report states that the total development costs for NAPAS
Development was $12 million. This is inaccurate. The total
AUDITED costs for NAPAS development, which was conducted in
February 1994 by FNS (U.S. Department of Agriculture, Food and
Nutrition Services), were $7,989,960. During Fiscal Year 1993/94
there was an additional $3,144,995 added to the maintenance
contract with D&T for enhancements. These enhancements were
necessary to fill the demands anticipated by California counties
receiving the system. The enhancements would have been necessary
for the deployment of any statewide system and should not be
included in the total development costs of the NAPAS system.

IN CONCLUSION

Napa County has years invested together with CDSS in bringing
welfare automation to the State of California. The job of an
Eligibility Worker is too complex and costly to continue in a
manual environment. We remain committed to work in continued
partnership with the State of California, other counties and the
private sector to achieve the goal of statewide automation.
Anything which jeopardizes welfare automation moving forward to
other counties in California would be a step backward.

Please accept this report in response to the E&Y report of CDSS
SAWS. Because of the short timeframe in which we had to respond
our comments are not as complete as we would like them to be. We
remain willing to respond to any additional questions.

Eligibility Services
Social Services
Administrative Services
Project Planning
Refugee Services
Public Conservator

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MERCED, CALIFORNIA 95341-0112

JOHN CULLEN
Director

April 11, 1995

Kurt R. Sjoberg, State Auditor
Bureau of State Audits
660 J Street, Suite 300
Sacramento, CA 95814

Dear Mr. Sjoberg:

I have reviewed your report on the Department of Social Services Statewide Automated Welfare System (SAWS). I found the report's assessment of MAGIC to be very thorough and reflective of this system's impact on the operation of public assistance programs in Merced County. I am hopeful that your report will be useful to the Legislature in setting future direction for the automation of welfare in California. As per your request, the following are typos, minor corrections or clarifications to the draft report.

1. Exhibit I-2 - Sixth line should say CA 2 vs JA 2.

2. Page 1-17 - The last sentence should read "20,800 hours" versus the 27,552 hours listed. This correction would make it consistent with page 3-4, third paragraph.

3. Page 4-17, Bullet 2 - This sentence should read "The results of a survey conducted in the spring of 1991 indicated that 27 counties had a preference for the MAGIC system, five for the NAPAS system, and 23 counties indicated a preference for having the Health and Welfare Data Center serve as the service bureau that would run either MAGIC or NAPAS without identifying a preference for either system."

4. Page 3-25, Paragraph 2 - Sentence three should be deleted. If the file server goes down (which it never has), uploading and downloading of cases would not be possible.

Thank you for giving me the opportunity to comment on the report, and if additional information is needed, please call me at (209) 385-3000, extension 5300.

Sincerely,

John B. Cullen
Director

cmp

I-1

AN AFFIRMATIVE ACTION/EQUAL OPPORTUNITY EMPLOYER

EDDY S. TANAKA
DIRECTOR

COUNTY OF LOS ANGELES
DEPARTMENT OF PUBLIC SOCIAL SERVICES

12860 CROSSROADS PARKWAY SOUTH, CITY OF INDUSTRY, CALIFORNIA 91746 / TEL (310) 908-8400

April 13, 1995

Kurt R. Sjoberg
California State Auditor
Bureau of State Audits
660 J Street, Suite 300
Sacramento, California 95814

Dear Mr. Sjoberg:

DRAFT REPORT ON THE DEPARTMENT OF SOCIAL SERVICE's
STATEWIDE AUTOMATED WELFARE SYSTEM

Thank you for the opportunity to review the subject report. Our comments were provided in an earlier communication.

Very truly yours,

RENE J. CAMOU, CHIEF
LEADER Project

RJC:ES:cp

Appendix K

Comments on the Response From the Department of Social Services

To provide clarity and perspective, we are commenting on the Department of Social Service's (department) response to our report. Although the department disagrees with many of our observations concerning SAWS, we are pleased to note that the department now acknowledges that:

❑ ISAWS, as currently designed, is not a viable solution for statewide welfare automation

❑ Competitive procurement of SAWS is needed

❑ Vendors should be required to provide "performance guarantees."

Our comments on the department's specific concerns are numbered to correspond to those we have placed in its response.

1. We have considered the Director's concerns, however, as we point out in numerous examples throughout the report, we believe the department has mismanaged statewide welfare automation.

2. The 26 percent administrative cost savings are attributable to budget constraints and streamlining efforts by the counties, not the department's welfare automation efforts.

3. The department's claim is misleading. The central database was developed by the Department of Health Services and was already in existence at the time the department began its welfare automation efforts. The department added the non-assistance food stamp population to the database at a cost of $8.4 million.

4. The department's claim is misleading. ISAWS has not been implemented in nine counties. Only two counties have been fully implemented. The remaining seven counties are in various stages of implementation.

5. The LEADER system was independently procured by Los Angeles County through a competitive bid process which resulted in the selection of a proposal by Deloitte & Touche and Unisys Corporation. The fact that these are the same contractors for NAPAS/ISAWS is irrelevant. LEADER could have been a proposal from any vendor.

   ISAWS is not LEADER. The department is confusing high-level system requirements with hardware choices and the final implemented software code. The use of similar hardware is coincidental and was not a requirement of LEADER. Further, LEADER will not use MAPPER. ISAWS does use MAPPER, but was rejected as a solution for Los Angeles County for this and other reasons. LEADER, as well as any other

solution, must use the same data elements and welfare rules as ISAWS. However, it will not use the same program code as ISAWS.

6.   We believe that our recommendation regarding funding for the project is prudent. It provides the department with six months to prove its assertion that its approach to welfare automation is cost-effective for the 14 ISAWS counties.

7.   We are pleased that the department agrees that competitive procurement is important to a cost effective welfare automation project. However, the department has not provided any formal plan for competitively procuring welfare automation nor any explanation of how the proprietary ISAWS system could be competitively bid.

8.   The department is providing new data which we cannot validate. Nevertheless, using the department's new figures, there are 148 changes in the backlog, not 56. Moreover, the department seems to be minimizing the impact of the backlog of welfare rule changes on the ISAWS counties.

9.   We agree that the caseload has significantly increased since 1986. The fact that the department failed to anticipate caseload growth contributed to the department's underestimate. In addition, the department failed to accurately project increases in staffing, salaries, and mainframe capacity, and ignored significant implementation activities in its 1986 estimate.

10. Wording changed in the final report.

11. The department's response is inconsistent. The department first implies that it does not intend to roll out ISAWS to every county. The department then states that it is committed to modifying ISAWS so that it can be run on non-Unisys hardware to enable an open and competitive bid for expansion beyond the current ISAWS counties.

     We are pleased that the department is embracing competitive procurement. However, the department's approach differs from our recommendation. We propose a competitive procurement that will result in the selection of the most cost effective solution that shares risks with the vendors. The department's approach is to pre-determine the solution and competitively bid the procurement of equipment and maintenance. The department's approach will not ensure the selection of the most cost effective solution nor will it allow for sharing of risks with the vendors.

12. As we stated on pages 1-9 through 1-14 of our report, we believe the benefits of ISAWS may be overstated. The department has not provided any evidence to alleviate our concerns.

13. Text changed in the final report.

14. We are pleased that the department recognizes the need to abandon MAPPER for a statewide automated welfare system. However, by converting to COBOL, the department is presenting for the first time a major redirection of its welfare automation strategy. We believe that the department should not embark on this new approach for statewide welfare automation. Rather, as previously noted, we believe the department should competitively procure the solution for statewide welfare automation.

15. We are pleased that the department agrees with our conclusion that ISAWS is not a viable solution for statewide welfare automation as currently designed.

16.   The department is providing new data that we cannot validate. However, we observed response times of minutes, not seconds, in a number of counties. The department has not provided any explanation for the difference between the response times we observed and the response times they are reporting.

17.   The department again implies that it intends to competitively procure the hardware and maintenance for ISAWS as a statewide solution. However, we believe the vendors should be allowed to propose their solutions for statewide welfare automation and the state select the most cost-effective solution that meets the business needs and shares the risks with the vendors.

18.   We are pleased that the department now recognizes the need for performance guarantees from its vendors where none existed before. However, we do not believe that it should be done in such a narrow or piecemeal fashion as the department proposes.

19.   The department's response is inconsistent. In its response, the department twice acknowledges deficiencies in MAPPER and pledges to rewrite the ISAWS application into COBOL. The department then goes on to defend MAPPER over the next several pages of its response.

20.   The department is incorrect. MAPPER is not a relational database, and does not conform with any of the conditions for being a relational database. In fact, the inherent structure of data in MAPPER is one reason why it is so expansive to maintain welfare rules on ISAWS, and why an eligibility worker cannot do ad hoc reporting.

21.   MAPPER mainframe systems, such as ISAWS, can only run on Unisys mainframes. If it was in fact capable of running on other equipment, it would not be necessary to rewrite ISAWS into COBOL to run on other non-proprietary equipment as the department has indicated it intends to do.

22.   Santa Clara County officials told us that the county chose to abandon its planned reprogramming (portation) of NAPAS to MAPPER-C due to a number of technical concerns with MAPPER.

23.   Because of Los Angeles County's knowledge and experience with MAPPER, they chose not to use it for their LEADER project.

24.   The department is incorrect in its characterization of the Commonwealth of Virginia. The Virginia welfare system is not fully implemented. Also, the department refers to total users of ISAWS, not the number of workers actually using the system at the same time (or concurrent users). In fact, the department is unable to determine how many concurrent users there are from any county on an individual MAPPER.

25.   Unisys Corporation provided us with written documentation of the ISAWS implementation which shows 2.7 billion bytes of overhead per MAPPER.

26.   The department's justification for buying PC's is flawed and incorrect:

❑   Most eligibility workers would not have multiple terminals on their desks. Only a small percentage of county welfare workers need access to multiple social services systems;

❑   PCs are not necessary for open system architecture. Dumb terminals can be part of an open system architecture.

❑   PCs are not necessary to access the Statewide Client Index or the Medi-Cal Eligibility Data System. These systems can be accessed with dumb terminals.

❑   Eligibility worker productivity is not increased by the use of PCs for ISAWS over the use of dumb terminals.

27.   Text changed in the final report.

28.   The department is incorrect. We do not state nor assume in the report that the distributed model is inherently better than the alternative. In fact, on page 3-18 of the report, we state that the degree of distribution should be left up to the vendors submitting qualifying bids.

29.   ISAWS is not LEADER. The department is confusing high-level system requirements with hardware choices and the final implemented software code. The use of similar hardware is coincidental and was not a requirement of LEADER. Further, LEADER will not use MAPPER and was rejected as a solution for Los Angeles County for this and other reasons. LEADER, as well as any other solution, must use the same data elements and welfare rules as ISAWS. However, it will not use the same program code as ISAWS.

30.   The department is incorrect. As we discuss on page 1-11 and 1-12 of the report, Napa County realized $231,000, or $36 per case, in annual administrative cost savings after implementation of NAPAS. Merced County realized $5 million, or $175 per case, in annual administrative cost savings after implementation of MAGIC.

31.   The department is incorrect. We do not say that MAGIC has experienced data integrity problems.

32.   As stated throughout the report, the department has consistently failed to meet schedules, understated project budgets, and failed to accurately report project progress.

33.   This information contradicts information provided to us by the department's liaison for this review. We cannot determine the validity of the information provided by the department in its response.

34.   Our concern is not the department's assignment of a manager over the rules maintenance function. Rather, our concern is that the department did not assign a person to be accountable and responsible for ensuring that a given change was fully implemented.

35.   Because of the high cost involved, we are simply suggesting that the department should reassess its plan to review up to 19,650 cases to obtain error rate comparisons for ISAWS.

36.   Although the department disagrees with various minor points regarding the January 1993 Evaluation Report, the department does not address the major issues we raise. For example, the department does not address the cost of the PCs nor does it address the fact NAPAS was not ready for statewide implementation as claimed in the evaluation report.

37.   The department's response is misleading. The department fails to mention that the support of the County Welfare Directors Association was predicated upon receiving the system at no implementation or ongoing cost to the counties.

38. The department has missed the point. The purpose of the cost comparison of equipment obtained through the Unisys contract to the prices of equipment at the California Computer Source is for illustrative purposes only. Because the department failed to competitively procure this equipment, we will never know exactly how much the state could have saved through competitive bidding.

39. The department clearly does not understand the laws governing competitive procurement. The Public Contract Code does not stipulate that the State Administrative Manual (SAM) regulations apply to sole source procurements. The SAM simply states that the Director of the Department of General Services shall maintain appropriate criteria and procedures to ensure compliance with the code. Moreover, the SAM does not allow the Director of the Department of General Services to determine that the interests of the state are better served by an exemption to the competitive bid process. Instead, Section 5209 of the SAM states that a sole source procurement will only be allowed when (1) the goods or services are the only ones that meet the state's needs, or (2) the goods and services are needed in cases of emergency where necessary for the protection of the public health, welfare, or safety.

40. The HWDC also missed the point and clearly does not understand the laws and regulations governing the competitive procurement of information technology. The HWDC states that the sole source procurement was undertaken solely to expedite rapid implementation to the counties. As noted earlier, nothing in the Public Contract Code nor the SAM allows sole source procurements of information technology to "expedite rapid implementation."

41. The department does not understand our complete recommendation:

   ❑ The recommendation to competitively bid statewide welfare automation does not necessarily result in too large of a procurement. For example, the state could break the counties into consortia to be bid upon separately. In addition, as we recommend, the implementation could be accomplished incrementally, thereby limiting the state's financial commitment.

   ❑ The solutions proposed by the vendors will not necessarily be unknown to the department. Specifically, Unisys Corporation and Deloitte & Touche could propose some version of ISAWS or LEADER. Anderson Consulting could propose some version of MAGIC. Other vendors could propose versions of systems currently operating in the public domain.

   ❑ Rather than the state bearing all of the risk, our recommendation prudently requires the vendors to share the risks.

   ❑ Large procurements are possible. Los Angeles County competitively procured a system in a manner similar to our recommendation for a county that includes 35 percent of the state's caseload.

Appendix L

Comments on the Response From Napa County

To provide clarity and perspective, we are commenting on Napa County's (county) response to our report. Our comments on the county's specific concerns are numbered to correspond to the numbers we have placed in the county's response.

1. Although the county claims that the report appears to be inaccurate and flawed, it does not provide any evidence to support its claim.

2. None of the cost savings noted by the county are measured or claimed by the Department of Social Services.

3. The development costs reflected in our report are accurate. We used the same figures cited by the county and adjusted them to fiscal year 94/95 dollars.

4. We do not conclude nor state that MAPPER is not working for Napa County. We simply say, and the Department of Social Services now agrees, that MAPPER is not appropriate for statewide welfare automation.

cc: Members of the Legislature
       Office of the Lieutenant Governor
       Attorney General
       State Controller
       Legislative Analyst
       Assembly Office of Research
       Senate Office of Research
       Assembly Majority/Minority Consultants
       Senate Majority/Minority Consultants
       Capitol Press Corps