Policy Brief

State Information Technology: An Update

SUMMARY

Background

In June 1994, we issued a policy brief identifying serious flaws in California state government's use and management of information technology. We noted that these flaws were especially critical given the increasing dependence of state programs on information technology. Two subsequent independent reports confirmed the seriousness of the situation, and both the Legislature and the Governor took steps to address the various problems identified in our policy brief and the two other reports. This policy brief updates our June 1994 report in light of recent information technology developments in state government.

Findings

A significant reorganization of the state's information technology oversight authority is currently underway. However, many of the problems identified in the three 1994 reports remain unresolved. Consequently, many pending projects face significant risks in accomplishing their objectives. It is unknown how soon the reorganized oversight authority will be able to turn this situation around.

Recommendations

In order to ensure the resolution of the problems discussed in the three 1994 reports, we recommend that the Legislature:

- *Continue to closely monitor the state's information technology efforts and ensure that the administration addresses the issues raised in three oversight reports.*
- *Hold the new information technology oversight agency accountable, but remove barriers to fulfilling its mission.*
- *Direct the administration to implement a new cost allocation method to fund the new information technology oversight department.*

"The Legislature's response to the many information technology issues . . . has been both immediate and comprehensive."

THREE REPORTS REACH SIMILAR CONCLUSIONS

In June 1994, we issued *Information Technology: An Important Tool for a More Effective Government,* which identified a number of major problems in the state's use of information technology systems. Figure 1 summarizes those problems.

Two subsequent reports reached similar conclusions and made similar recommendations to those contained in our June 1994 policy brief. Specifically, on September 22, 1994, a task

Figure 1

Major State Information Technology Problems (June 1994 LAO Report)

☑ **State leadership**

- There is no centralized, effective leadership to chart and guide the state's course for its growing reliance on information technology.
- There is no statewide plan for information technology.
- Statewide standards do not exist in specific, key areas.

☑ **Statewide oversight**

- There is a redundancy of data maintained in separate computer systems.
- Costly database management systems proliferate and are replicated at various data centers.
- Noncompatible computing systems continue to proliferate.

☑ **Statewide coordination**

- There is no centralized, effective coordination of the state's many information technology activities.
- The proliferation of separately maintained computer networks continues.
- There is inadequate coordination of the activities of major data centers.

☑ **Effective uses of information technology**

- Despite the expenditure of billions of dollars to implement information technology, neither the executive, judicial, nor legislative branches of government can easily access the mountain of data stored in the state's computer files and convert it to useful information.
- Departments which are not sufficiently skilled in the uses of information technology are not provided adequate oversight, guidance, or help in their efforts to apply information technology.
- There is an insufficient base of state technical staff, and contractual efforts to supplement this staff are inconsistent.

force appointed by the Governor to review the state's use of information technology issued its report "Task Force on Government Technology Policy and Procurement." On December 7, 1994, the State Auditor issued a report on information technology entitled "The State Needs to Reengineer its Management of Information Technology." Figure 2 compares the findings and recommendations of these three reports.

LEGISLATIVE RESPONSE WAS COMPREHENSIVE

The Legislature's response to the many information technology issues which have been raised has been both immediate and comprehensive. Both the 1994 and 1995 Budget Acts include specific legislative direction for various information technology activities in 20 state agencies. In some instances, such as the Depart-

Figure 2

Improving the State's Use of Information Technology
Findings and Recommendations of Three Reports

Topic	LAO (6/94)	Governor's Task Force (9/94)	Bureau of State Audits (12/94)
Findings			
Insufficient statewide planning	✔	✔	✔
Insufficient statewide coordination	✔	✔	✔
Insufficient statewide leadership	✔	✔	✔
Recommendations			
Reorganize state information technology leadership	✔	✔	✔
Establish information technology advisory councils	✔	✔	✔
Consolidate information technology services	✔	✔	✔
Improve project risk assessment and oversight	✔	✔	✔
Train project managers	✔	✔	
Train contract managers	✔		✔
Break large projects into smaller components		✔	
Increase the use of pilot projects	✔	✔	
Reform the process for resolving protests of information technology contract awards	✔	✔	✔
Reform the process for acquiring consultants	✔	✔	

"... given the amount of time that has transpired since the state's information technology problems were made known—18 months—there has been relatively little progress made across state government in resolving these issues."

ment of Social Services, the Legislature provided specific direction for multiple major projects.

Legislative Committees Formed

In 1994, the Legislature established the Joint Legislative Committee on Information Technology in State Government to monitor the state's information technology infrastructure, conduct oversight hearings and investigations, and recommend legislation. Subsequently, this committee was replaced in the Senate by a Select Committee on Information Technology. In the Assembly, several policy committees were formed or expanded to address information technology issues, and a separate budget subcommittee was established to review information technology-related budgets.

Reform Legislation Enacted

The Legislature also enacted major information technology reform legislation—Ch 508/95 (SB 1, Alquist). This statute eliminates the Office of Information Technology (OIT) and replaces it with a new oversight department, the Department of Information Technology (DOIT). Chapter 508 specifies the authority of the new department and provides specific policy direction to it. Figure 3 summarizes the major features of Chapter 508.

Figure 3

Major Features of Recent Information Technology Reform Legislation (Ch 508/95, SB 1, Alquist)

- ☑ Eliminates the Office of Information Technology and creates the Department of Information Technology (DOIT), with expanded duties and authority. (See Figure 4 for details.)
- ☑ Establishes two information technology advisory bodies to provide advice to the DOIT. One advisory entity is comprised of senior state information technology managers; the other is comprised of nonstate government individuals.
- ☑ Establishes policy direction in key areas, including (1) public access to public information contained in state computer files, (2) development of a statewide strategy to facilitate computer-based information sharing among departments, and (3) improving the management of information technology projects.
- ☑ Limits the role of the Department of Finance regarding information technology projects to the approval of the expenditure of funds.

Figure 4

Department of Information Technology Major Responsibilities Under Ch 508/95 (SB 1, Alquist)

- ☑ Oversee the management of information technology in state agencies, with authority to suspend or terminate projects.
- ☑ Develop and implement a strategy to facilitate information sharing among state computing systems.
- ☑ Determine which information technology applications should be statewide in scope, and ensure that such applications are not developed independently or duplicated by state agencies.
- ☑ Develop and maintain a computer-based file, accessible to the Legislature, of all approved information technology projects.
- ☑ Develop statewide policies and plans that recognize the interrelationships and impact of state activities on local governments, including local school systems, private companies that provide services to state agencies, and the federal government.
- ☑ Requires the DOIT to submit the following reports (due date):
  - ◆ Progress toward compliance with the provisions of the measure (July 1, 1996).
  - ◆ A plan for implementing the recommendations of the Governor's Task Force on Government Technology Policy and Procurement (October 1, 1996).
  - ◆ A method whereby the public may electronically access nonconfidential information via state telecommunications networks (January 1, 1997).
  - ◆ A preliminary assessment of the feasibility of consolidating the state's information technology activities (July 1, 1997).

Figure 4 summarizes the major responsibilities assigned by Chapter 508 to the new DOIT.

CONSTRUCTIVE ACTIONS BY THE ADMINISTRATION

Since the airing of the state's information technology issues in the first half of 1994, the Governor and his administration have taken a number of constructive steps to address both the state's information technology situation in general, as well as specific information technology issues, as shown in Figure 5 (see next page).

ASSESSMENT OF THE CURRENT SITUATION

Much Remains To Be Accomplished

Clearly, it is going to take time to rectify the state's information technology situation, and we believe that the administration has taken some constructive steps in that direction. However, given the amount of time that has transpired since the state's information technology problems were made known—18 months—there has been relatively little progress made across state government in resolving these issues. Continuation of these problems will inhibit the ability of state departments to achieve an appropriate return on their investment of over $1 billion in new information technology applications.

We believe there are several factors that explain this lack of progress to date. First, it has taken longer than anticipated to recruit and hire the Chief Information Officer (CIO), who is the head of the DOIT. Secondly, there has been a delay in issuing a plan for implementing the recommendations contained in the Governor's Task Force on Governmental Technology Policy and Procurement. Although the Office of Planning and Research developed the implementation plan over a year ago, the administration has yet to release it.

Figure 5

Administration's Information Technology Actions

- ✔ Creation of the Governor's Task Force on Government Technology Policy and Procurement to identify obstacles to the state's successful implementation of information technology and make recommendations for overcoming them (May 11, 1994).
- ✔ Creation of the Governor's Council on Information Technology to develop a "blue print" for use of information technology by state and local jurisdictions to "reinvent" government (July 7, 1994).
- ✔ Issuance of Executive Order W-103-94, which put further restrictions on the ability of departments to acquire information technology on a sole source basis (August 17, 1994).
- ✔ Issuance of Executive Order W-120-95, which created a temporary Governor's Office of Information Technology and transferred to it responsibilities which had been assigned to the Office of Technology, pending legislation to establish a new, permanent information technology oversight authority (April 13, 1995).
- ✔ Transfer of project management responsibility for three major information technology projects from the Department of Social Services to the Health and Welfare Agency Data Center (May 22, 1995).
- ✔ The appointment by the Governor of a Chief Information Officer to lead the new Department of Information Technology (September 12, 1995).

On the positive side, we note that since the CIO assumed responsibility in November 1995, the DOIT has taken steps to address a serious information technology problem which has major fiscal and operational implications for many state departments. Currently, departments need to modify existing computer programs in order to accommodate the year "2000" in their data bases. If the existing computer code—which works only for years up to and including 1999—is not modified, a department's ability to perform its work could be adversely affected. Some departments have already had to patch together existing software on a temporary basis because existing applications carry future-year information. The problem is significant because total statewide costs to revise programs could exceed $50 million. Without standards to facilitate reprogramming, ongoing program maintenance, and the sharing of conversion tools, the long-

" . . . (several) projects continue to warrant legislative oversight because they face uncertain futures . . . . "

term cost could be significantly higher than necessary.

Individual Departments Take the Initiative

Despite the lack of progress in resolving many of the state's information technology problems, some departments are on their own implementing various recommendations made in the three information technology reports issued in 1994. For example, the Department of Corrections and the Public Employees' Retirement System (PERS) have employed quality assurance consultants to oversee the implementation of major information technology projects. Additionally, PERS has adopted a strategy to confirm, through a pilot, that its implementation methodology will be effective. The PERS is also breaking up the overall project into manageable and separately funded components. In the area of risk-sharing, both the Franchise Tax Board (FTB) and the Department of Housing and Community Development (HCD) have utilized recent changes in state contracting policy to pay the contractor out of either enhanced revenue collections (FTB) or reductions in program costs (HCD) resulting from the information technology project.

To the extent these individual departmental initiatives are successful, they may serve as useful models for information technology efforts in other departments. Clearly, the DOIT is the designated state agency to exploit the lessons learned from these initiatives as it develops statewide policies in response to Chapter 508.

Several Major Projects Still Need Close Review

In our June 1994 report, we identified several major information technology efforts which had experienced various implementation difficulties. These projects are listed in Figure 6 (see next page), along with four projects not listed in our 1994 report. These projects continue to warrant legislative oversight because they face uncertain futures as to when they will be completed, how much it will cost to complete them, and the extent to which anticipated benefits will be realized.

Clarification of Responsibilities Needed

In transferring state information technology oversight from the Department of Finance (DOF) to the DOIT, Chapter 508 specified a limited information technology oversight role for the DOF. Chapter 508 states that "The role of the Department of Finance regarding the approval of information technology projects shall be limited to the approval of expenditure of funds on information technology projects." Anticipating this reduced role, the Legislature, in the 1995 Budget Act,

Figure 6

Major Information Technology Projects Which Warrant Continued Oversight

☑ **Department of Corrections**

- ***Corrections Management Information System (CMIS).*** After significant cost increases and schedule delays, a contract for the initial phase of the system was awarded in 1995. The department's use of outside experts to help ensure the quality of work products delivered by the contractor may be a model for other state agencies for complex information technology projects.

☑ **Department of Social Services**

- ***Statewide Automated Welfare System (SAWS), Child Welfare Services Case Management System (CWS/CMS), Statewide Automated Child Support System (SACSS).*** As the result of continued significant implementation difficulties with these projects, the administration in mid-1995 transferred project management for these projects to the Health and Welfare Agency Data Center. Cost of SACSS may increase 71 percent (from $152 million to $260 million), according to recent estimates.

☑ **Student Aid Commission**

- ***Financial Aid Processing System (FAPS).*** Significant shortcomings in the current system remain unresolved and efforts to correct contract management problems through the letting of a new contract continue to lag.

☑ **Board of Equalization**

- ***Conversion to State Data Center.*** The conversion of board applications to the Stephen P. Teale Data Center has proven far more costly and time-consuming than anticipated originally, and the project remains in the implementation phase.

☑ **Department of Housing and Community Development**

- ***Mobile Home Registration and Titling.*** The new feasibility study report approved in May 1995 and an award of contract in July 1995 represent most recent efforts to overcome difficulties with automated system.

Continued

Department of Transportation

- ***New Database Structure.*** Despite the expenditure of over $10 million to implement new computer-based departmental administrative support systems, no major components have been fully completed.

California State Lottery

- ***Automated Instant Ticket Gaming System.*** The Lottery's 1993 termination of a contract awarded for expanded gaming capability resulted in protracted and costly litigation; a "reinstated" contract may cost the Lottery substantially more than the original contract. Many millions of dollars of anticipated additional gaming revenue which would have in part accrued to public schools have been lost in the process.

Department of General Services

- ***California Network System (CALNET).*** Since award of a contract in 1989 for a new statewide telecommunications system, this $100 million project has been marked by implementation delays and failure to recover costs through billings to customer departments. The department is in the process of determining the future of this system.

Franchise Tax Board

- ***Bank and Corporations Tax System.*** While board management believes its use of an alternative procurement method has been a valuable improvement over the state's traditional acquisition practice, the project is not yet fully operational and the net benefit of the alternative procurement method has yet to be determined.

Department of Motor Vehicles (DMV)

- **Modernizing Information Systems.** Bringing the DMV's computer-based information systems up to date could entail the expenditure of several hundred millions of dollars. Ultimate costs and benefits are unknown, the task is complex, and the DMV has no history of successfully executing a project of comparable scope or difficulty.

approved a DOF proposal to eliminate the OIT but retain ten of its positions. The purpose of these positions is to ensure that proposed technology projects are a good investment of state resources before project funding is included in the Governor's Budget.

Because the DOF has retained a measure of state information technology oversight due to its budget responsibility, departments are having to send information technology-related documents to both the DOF and the DOIT, and it is not clear to many departments as to the respective roles of the DOIT and the DOF regarding the review and approval of these documents. We expect that the two departments' information technology oversight roles will be clarified as the new CIO organizes and staffs the DOIT. Such clarification is important in order to facilitate the implementation of effective information technology systems.

Method of Funding The DOIT Is Inequitable

In the current and budget years, the DOIT's funding is being provided on an almost equal share basis by the General Fund, the Stephen P. Teale Data Center and the Health and Welfare Agency Data Center. The rationale for this method of funding appears to be twofold: (1) spread the cost of the services among those departments which use the data centers for information technology services and (2) minimize the use of new funds by redirecting existing funds from within the data centers.

This funding method is, however, inherently inequitable to the data centers and their client departments because it excludes a large number of departments which have major information technology programs, and presumably receive services from the DOIT but make relatively limited use of the two data centers, thereby contributing little or nothing to their support. Figure 7 illustrates this inequity by comparing the approximate information technology expenditures for the two data centers and selected other departments for the 1994-95 fiscal year. As can be seen in this display, many departments with substantial information technology expenditures pay relatively little, or nothing, to the Teale or Health and Welfare data centers.

WHAT SHOULD THE LEGISLATURE DO?

Figure 8 summarizes the actions we believe the Legislature should take to help ensure that its efforts in reforming the state's information technology approach produce the intended results.

Figure 7

Information Technology Expenditure Comparisons for 1994-95

(In Millions)

Department	1994-95 Estimated Expenditures[a]	Amount Paid to HWDC[b]	Amount Paid to Teale[c]
Corrections	$34	—	$5
Employment Development	102	$36	—
Equalization	23	—	3
Franchise Tax Board	68	—	—[d]
Health Services	138	17	—[d]
Health & Welfare Agency Data Center	101	NA	—
Highway Patrol	45	—	—
Justice	33	—	—[d]
Motor Vehicles	64	—	17
Social Services	113	2	—[d]
Stephen P. Teale Data Center	77	—	NA
Transportation	45	—	12
Water Resources	29	—	—[d]

[a] Source: Senate Select Committee on Information Technology in State Government.

[b] Health & Welfare Agency Data Center.

[c] Stephen P. Teale Data Center.

[d] Less than $100,000.

Figure 8

What the Legislature Should Do to Ensure Information Technology Reform Success

- ☑ Continue to closely monitor state information technology efforts and ensure that administration addresses issues raised in three oversight reports.
- ☑ Hold the new Department of Information Technology (DOIT) accountable to produce the results sought by Ch 508/95 (SB 1, Alquist) but remove barriers which will inhibit the ability of the new department to fulfill its mission.
- ☑ Direct the administration to develop a new, more equitable funding methodology to support the DOIT.

"... the Legislature needs to ensure that the issues and recommendations of the three reports issued in 1994 are addressed by the administration."

Close Monitoring Is Key

The Legislature invested a considerable amount of time and effort on both statewide and department-specific information technology issues in considering the 1994-95 and 1995-96 Budget Acts and enacting Chapter 508. Through budget actions and adoption of Chapter 508, the Legislature has provided both general and specific direction to the administration regarding the state's application of information technology. This investment of time and effort alone warrants continued vigilance by the Legislature to ensure that its directives are being followed.

As a starting point, the Legislature needs to ensure that the issues and recommendations of the three reports issued in 1994 (see Figure 2) are addressed by the administration. As we have indicated, aside from some individual department initiatives, relatively little progress has been made to date to address these issues on a statewide basis.

The Legislature should continue to monitor these issues through budget subcommittee hearings and information technology oversight committee hearings. We believe that it is important for the Legislature to remain an active player regarding state information technology programs until such time as its reforms have been implemented successfully and the state is found to be on a much sounder footing with respect to its information technology efforts. In this regard, the Legislature should consider reestablishing the joint oversight function which had been performed by the Joint Legislative Committee on Information Technology in State Government. This joint oversight function could be performed by establishing a joint oversight committee, or individual committees of each house could meet jointly to review information technology issues.

Hold the DOIT Accountable

For a number of reasons, the risks associated with information technology projects are greater now than was the case when the last major information technology reform legislation was enacted in 1983. These reasons include the increased dependence of state programs on information technology, the greater array of technological solutions, and the inability of many state departments to successfully implement projects on their own or to hire competent consultants who will ensure success. In recognition of these risks, Chapter 508 assigns specific responsibility to the DOIT to improve the state's success rate for project implementation, including providing assistance and direction to departments when necessary to assure project success. The Legislature can help ensure that the DOIT succeeds by holding it accountable for producing the intended results as reflected in Chapter 508.

At the same time, it may be necessary for the Legislature to remove barriers which may impede the DOIT from achieving the success both it and the Legislature desire. Such barriers could be identified by the DOIT itself or through the advisory bodies that Chapter 508 requires the Director of the DOIT to establish, or through external sources, including the Legislature. As noted above, both budget and technology oversight hearings should provide the Legislature an ongoing ability to hold the DOIT accountable, as well as to identify any statutory changes which may be required to remove barriers inhibiting the ability of the DOIT to fulfill its mission.

Additionally, the Legislature needs to closely monitor the implementation of Chapter 508 and make needed changes early. One of the primary reasons given by the OIT as to why it was not more active in helping to prevent project failures was that it did not have the specific statutory authority to intervene. In creating the DOIT, Chapter 508 has assigned to the new department a very specific oversight role (see Figure 4), including the authority to intervene in projects being implemented in departments. In addition, Chapter 508 requires the Director of the DOIT to recommend to the Governor and the Legislature " . . . changes needed in state policies and laws to accomplish the purposes of this chapter." In order to avoid the repetition of a situation where the DOIT may interpret its role differently than that intended by the Legislature in Chapter 508—yet not seek remedial legislation—it is important that the Legislature follow closely the implementation of Chapter 508 and advise the administration early as to any perceived shortcomings.

Develop More Equitable Method of Funding the DOIT

We believe that there are other options for allocating the cost to operate the DOIT which would be more equitable than the current method. As an example, the administration could use a pro rata model for funding the DOIT; such as assessing each state agency a share based on its annual information technology expenditures. Another possible option is direct billing of departments based on the amount of time the DOIT staff expend related to specific departmental projects. Alternatively, the pro rata charge and direct billing methods could be combined to provide a more equitable billing approach. Thus, we recommend that the Legislature direct the administration to develop a new, more equitable funding methodology for the 1996-97 fiscal year.

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