California State Auditor

BUREAU OF STATE AUDITS

Year 2000 Computer Problem:

The State's Agencies Are Progressing Toward Compliance but Key Steps Remain Incomplete

February 1999
98116

The first copy of each California State Auditor report is free.
Additional copies are $3 each. You can obtain reports by contacting
the Bureau of State Audits at the following address:

California State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, California 95814
(916) 445-0255 or TDD (916) 445-0255 x 248

OR

This report is also available
on the world wide web
http://www.bsa.ca.gov/bsa/

CALIFORNIA STATE AUDITOR

KURT R. SJOBERG
STATE AUDITOR

MARIANNE P. EVASHENK
CHIEF DEPUTY STATE AUDITOR

February 18, 1999 98116

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 requested by the Joint Legislative Audit Committee, the Bureau of State Audits presents its audit report concerning state agencies' progress in resolving computer system problems caused by the year 2000. This report concludes that 11 of the 14 agencies we believe provide the most vital services to Californians have not finished correcting the computer systems supporting those program services. Equally unprepared are almost two-thirds of all 462 state programs, which are not fully year 2000 ready because state agencies have not completed key remediation steps for computer systems supporting their programs. We further found that one of the State's large data centers does not have a complete strategy for testing its mainframe computer system, which could place hundreds of state clients at risk from the ill effects caused by year 2000 problems. Finally, the State lacks a clear picture of the year 2000 preparations for essential electrical and telecommunication utilities.

Respectfully submitted,

KURT R. SJOBERG
State Auditor

BUREAU OF STATE AUDITS
660 J Street, Suite 300, Sacramento, California 95814 Telephone: (916) 445-0255 Fax: (916) 327-0019

CONTENTS

SUMMARY

Audit Highlights . . .

Our second review of the State's readiness to deliver critical services at the change of the century revealed that:

- ☑ ***Key remediation efforts at 11 of 14 agencies that provide the most critical services still are not complete.***
- ☑ ***Similarly, almost two-thirds of all 462 state programs still have key tasks to complete.***
- ☑ ***Nearly half of all state agencies need to complete business continuation plans to ensure delivery of services in the event the year 2000 causes delays or failures.***
- ☑ ***One of the State's large data centers must take additional steps to protect its clients from year 2000 problems.***

Moreover, although electrical and telecommunication utilities are essential in delivering services to the public, no single entity is overseeing these utilities' year 2000 readiness.

RESULTS IN BRIEF

This is our second report on state agencies' progress in resolving the problems with their computer systems caused by the year 2000, or the millennium bug, as it is sometimes called. As we reported in August 1998, state agencies are making progress toward correcting critical computer systems to ensure the uninterrupted delivery of essential services to Californians; however, we are concerned that many of the 14 agencies that provide the most critical services are still not done. Eleven agencies have not completely tested their computer systems, nor have 7 corrected or replaced the embedded chips that control certain of their systems' computerized activities.

For example, the Employment Development Department estimates that it will not complete testing of the unemployment insurance system until September 1999. This critical system manages over $2.9 billion in annual payments to unemployed workers. In another instance, the Department of Corrections does not expect to correct and test embedded technology in the electrified fences at 23 prisons until September 1999. Such late completion dates may not give the agencies enough time to resolve unforeseen problems before January 1, 2000, which could cause financial hardship to or imperil the safety of Californians. Additionally, five agencies have not completely resolved critical issues with their data exchange partners.

Moreover, 14 of 20 computer systems at these vital agencies are mission-critical, or essential to core business functions and, according to a governor's executive order, should have been fixed by December 31, 1998, but were not. Worse yet, with less than 11 months until the new millennium begins, 11 agencies still have no business continuation plans if their computer systems are not corrected in time or fail to work. Equally unprepared are almost two-thirds of all 462 state programs because agencies still have critical tasks to complete, such as executing and documenting full system testing, correcting embedded technology, or remedying data exchange problems. Over half of all programs must also develop business continuation plans to cover the possibility that their remediation efforts might fail.

We further found that one of the State's two large data centers that support hundreds of state clients has a poor strategy to protect its clients from the ill effects caused by year 2000 problems. The Teale Data Center (Teale) lacks a year 2000 plan that addresses critical client services and has allocated few resources to year 2000 tasks in general. Although Teale has developed a time machine environment for testing a system's ability to function after December 31, 1999, it does not monitor its clients' use of this environment. Neither has Teale required clients to abandon noncompliant software that could corrupt data or destabilize its processing environment.

In contrast, the Health and Welfare Data Center (HWDC) has a comprehensive year 2000 plan that addresses critical client services and has devoted significant resources to executing its plan. The HWDC also encouraged its clients to perform year 2000 testing in its time machine environment and is monitoring client use to ensure its mainframe computers are year 2000 ready. In addition, the HWDC is precluding its clients from using software that is not year 2000 compliant.

With time running out and no potential for an extension, it is troubling to find so many computer systems that support such a large number of state programs—many delivering vital services to Californians—are still in need of some remediation before state agencies can ensure the risk of failure is minimal. What is more disturbing is that many of the same agencies that have not fully remediated the computer systems supporting their programs also have not completed business continuation plans to deliver services if their efforts are further delayed or fail to work.

Finally, of additional concern is the fact that no single entity is charged with overseeing the year 2000 readiness of electric and telecommunication utilities essential to the delivery of state and other public services. Instead, a variety of entities, including commissions, elected boards, and nonprofit organizations, regulate and monitor portions of the systems. For example, the California Public Utilities Commission is monitoring portions of the electrical industry and all of the telecommunication providers in California, but it just began these efforts and may not present results until at least April 1999. Further, although the North American Electrical Reliability Council is monitoring efforts on a national level, its reported results are preliminary and based on self-reported information.

RECOMMENDATIONS

To ensure that state agencies' systems are year 2000 ready and that California's vital services are not interrupted at the beginning of the new millennium, the governor or the Legislature should do the following:

- Appoint an independent quality assurance agent or independent verification and validation group to review critical systems supporting the 17 programs we believe are vital to California to validate that state agencies have found and corrected all date references in their systems.

  Until this appointed authority certifies that an agency has completed all testing, remediated embedded technology, and fully addressed all data exchange issues within its control, the governor or the Legislature should direct the Department of Information Technology or other governing body to deny the agency approval for any new information technology projects.

- Closely monitor the progress of the systems supporting state programs that have not completed efforts to resolve year 2000 problems. If progress appears to be falling behind completion milestones, the governor or the Legislature should consider what tasks remain, whether adequate resources are available to complete them, and take appropriate action to ensure successful completion. Such action could include assisting agencies in obtaining outside resources, such as consultants, or reallocating knowledgeable staff from other agencies.

- Monitor all agencies' efforts to ensure the completion of business continuation plans by June 30, 1999.

- Designate one authority to assess, oversee, and report on the year 2000 preparations of critical public utilities serving California, such as electricity and telecommunication services.

To affirm that its own computer systems will operate properly after January 1, 2000, Teale should monitor its clients' use of its time machine environment and consider further testing for those portions of the systems not tested by clients. Further, to ensure that its clients are given the opportunity to investigate whether they could be at risk of system interruptions, Teale

should notify the six clients that used an earlier software version in its time machine environment. Finally, to avoid the potential for data corruption and instability in its operating system, Teale should remove any noncompliant software products from its computers before January 1, 2000.

AGENCY COMMENTS

The governor's office (office) agreed with our findings and stated that the new administration is keenly aware of the challenges posed by the year 2000 problem. The office also stated that the governor will soon announce a plan that will address the issues identified in our report.

The Teale Data Center (Teale) agreed with our recommendation that it notify clients that used an earlier software version in its time machine. Teale disagreed with our conclusion that it lacked a successful strategy for its year 2000 remediation plan, but is researching methods available to monitor clients' use of its time machine. The Health and Welfare Data Center agreed with our findings but chose not to respond formally.

INTRODUCTION

BACKGROUND

The State faces a tremendous challenge as it prepares its computer systems for processing dates beyond December 31, 1999. Most computer systems are designed to use only the last two digits of a year because this convention conserves computer storage space that was once at a premium. However, on January 1, 2000, systems using two-digit date fields may produce invalid results or fail because they will read the date "00" as 1900 rather than 2000.

The year 2000 date recognition problem will affect many of the State's computer systems. Resulting errors could impair benefits eligibility, motor vehicle licensing and registration, or any other date-sensitive functions. The year 2000 problem also affects systems using embedded technology, such as computer chips to control or operate equipment, and those systems that depend on the exchange of data with other organizations, such as local counties or the federal government.

Many state and local agencies also receive computer hardware and software support for the applications they use in delivering program services from two state data service centers: the Health and Welfare Data Center (HWDC) and the Teale Data Center (Teale). The HWDC caters to the information technology needs of the State's health and human services agencies while Teale offers information technology services to all other agencies that need it. Both data centers provide extensive data telecommunications network services that allow their clients to do business electronically with other entities spread all over the State and offer sophisticated mainframe computer support and the use of Internet services. To assist clients in determining whether they have successfully freed their application programs from year 2000 problems, both data centers also offer isolated computer test environments, called time machines. These time machines provide a way for the two data centers' clients to test all application programs comprising their respective computer systems in a production environment by physically setting the internal clock of the data centers' computers to various dates occurring in both the current and future centuries.

Because of the magnitude of the problem and the potentially disastrous consequences to Californians, the former governor issued an executive order in October 1997 requiring all state agencies to identify and fix year 2000 problems in their essential computer systems no later than December 31, 1998. Essential or mission-critical systems are defined in the State Administrative Manual as so important that their failure would cause a significant negative impact on the health and safety of Californians, the fiscal or legal integrity of state operations, or the continuation of essential state agency programs.

To address this important issue, the former governor designated the Department of Information Technology (DOIT) to oversee, coordinate, and report on the efforts agencies are making to ensure that the State's computer systems are fixed to recognize the year 2000. DOIT requires agencies, departments, boards, and commissions (state agencies) under its purview to report the status of both their critical and noncritical computer systems and associated remediation efforts on a monthly basis.

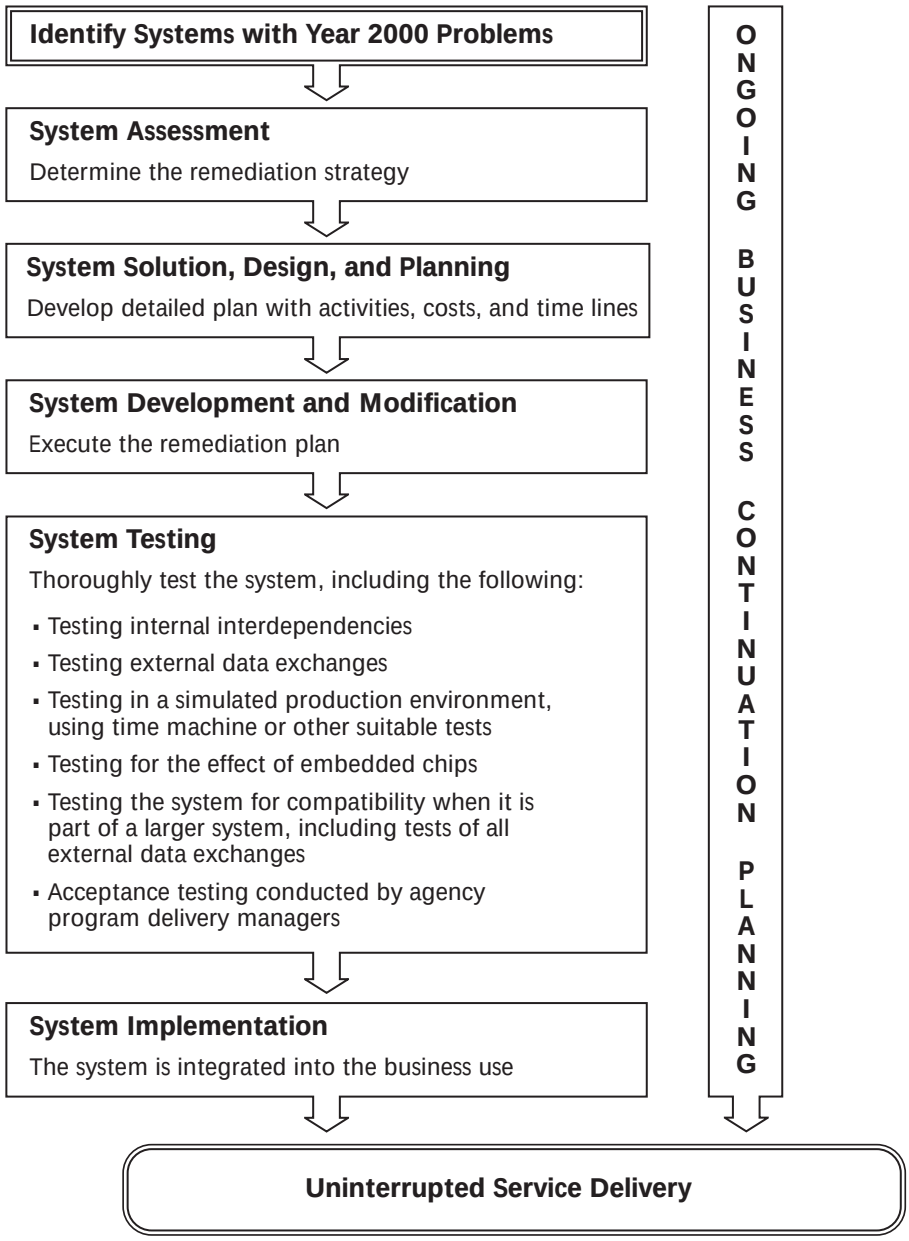
The new governor recognizes the significance of the year 2000 bug and proposed action. Specifically, the governor stated in his 1999-2000 budget, "The Administration will appoint a task force to immediately evaluate the State's mission-critical systems. The Administration will perform assessments to validate that mission-critical services have been identified and are ready to function smoothly in the new millennium. Should the evaluation uncover any significant concerns about any mission-critical activity, the Administration will recommend actions necessary to minimize the risk of failure and ensure that appropriate contingency plans are in place."

Figure 1 illustrates the typical remediation phases necessary to ensure that a computer system is fixed and thus ready to support an agency's uninterrupted delivery of services.

Most agencies have completed the first few remediation phases and are now working on the testing or implementation phase. Industry experts consider testing to be the most crucial and time-consuming phase, sometimes taking up to 70 percent of total project time and resources needed to fix a system. Each system component must be thoroughly tested, preferably in a time machine environment. Agencies must also exercise due diligence by adequately planning their testing activities and by retaining sufficient test documentation to demonstrate that the

FIGURE 1

Phases Necessary to Ensure Uninterrupted Service Delivery



agencies met test objectives. Additionally, each agency must correct problems with embedded technology and resolve any data exchange issues with other organizations.

While addressing these six phases, sound business practices dictate that each agency should develop an appropriate business continuation plan to back up their remediation efforts. Such

plans identify alternative procedures to ensure uninterrupted service delivery in the event that remediation efforts are not completed by January 1, 2000, remediation is unsuccessful, or data from external data-exchange partners corrupts a system.

STATE AGENCIES RELY ON ELECTRIC AND TELECOMMUNICATION UTILITIES

Nearly all state agencies use computer systems to deliver the services they provide. In turn, these computer systems are largely dependent on electric and telecommunication utility providers to operate. The utility industries, like state agencies, face the daunting task of making their respective infrastructures ready for the year 2000, including minimizing the risks of disruptions or outages in power and telecommunications caused by year 2000 problems. Private, investor-owned entities—for example, Pacific Gas & Electric and Pacific Telephone—or public entities, such as the Sacramento Municipal Utility District, supply California with electricity and telecommunications. State and federal agencies regulate many, but not all, utility providers. The California Public Utilities Commission (PUC) regulates investor-owned utilities but not public entities, which local officials, such as a city council, board of directors, or county board of supervisors, generally oversee. According to the PUC, its regulated utilities serve about 75 percent of the electricity customers and all telecommunication customers in California. The federal government also regulates utilities. For example, the U. S. Federal Communications Commission regulates interstate and international communications for wired and wireless telephone communications, and the U. S. Nuclear Regulatory Commission regulates nuclear power plants.

SCOPE AND METHODOLOGY

The Joint Legislative Audit Committee asked us to assess state agencies' year 2000 progress. We were primarily to determine the status of year 2000 remediation for agencies that have defined their systems as mission-critical and also to assess progress on selected systems that are not as critical. We also surveyed the progress of state agencies not required to report to DOIT. Finally, we determined the extent to which state agencies have addressed year 2000 threats caused by embedded technology.

To gain an understanding of the year 2000 problem and the measures the State is taking to ensure compliance, we reviewed applicable laws and other background information. We selected 14 agencies whose programs affect the immediate safety, health, or economic well-being of a large number of Californians. To choose the 14, we considered the number of residents their critical services would immediately impact and the likelihood that the services would be needed at the beginning of the millennium. We visited these agencies and assessed their progress toward year 2000 remediation for selected computer systems as of December 31, 1998. Table 3 in Appendix A lists the 14 agencies and 17 programs we identified and briefly describes their critical services. We also visited 2 state data centers that provide vital computer services to state agencies and assessed their remediation efforts.

Our focus was not to measure technical compliance with DOIT's reporting requirements, but rather to assess the status of systems critical in supporting program services vital to California at December 31, 1998. Therefore, for remediation to be considered complete for the systems supporting these vital programs, we considered three key steps: all planned testing must have been completed, threats from embedded technology must have been removed, and potential problems caused by data exchange partners must have been addressed.

In addition, we assessed whether the agencies had developed business continuation plans that would ensure the delivery of critical services should efforts to fix the computer systems be unsuccessful or not completed on time.

To gain a broader perspective on the overall readiness of the State's computer systems for the year 2000, we developed a questionnaire and surveyed all 140 agencies listed in the 1998-99 Governor's Budget. Collectively, these 140 agencies administer all of the 462 separate budgetary programs listed in the budget. We distributed two different surveys to gather information on agencies' awareness of the year 2000 problem and to assess their progress toward fixing their computer systems.

The first survey asked seven questions designed to measure the year 2000 readiness for the computer systems supporting each of the 462 programs administered by the 140 agencies. We focused these questions on four distinct areas: fixing and testing the systems, fixing threats from embedded technology, identifying

and fixing potential problems caused by data exchange partners, and establishing business continuation plans. Appendix B presents the results of this survey. To analyze this information, we separated the survey responses into three groups: those from agencies with mission-critical systems, those from agencies with only noncritical systems, and those from agencies that are not required to report to DOIT.

To assess whether the 45 agencies that are not required to report to DOIT will be ready for the year 2000, we used a second survey to obtain additional information. Specifically, we asked each agency whether it had a plan to become year 2000 compliant and a central person to implement the plan, and whether it made periodic progress reports. The results of this survey are shown in Appendix C.

Our assessment of agencies' progress differs from DOIT's monitoring. DOIT primarily monitors progress toward fixing systems designated by the agencies as mission-critical. In contrast, our first survey asked agencies to consider all systems that support each of their programs. We believe that our broad focus more accurately reflects the overall readiness of state agencies to provide the variety of services California depends upon.

Finally, we also assessed how state agencies will be affected by public infrastructure (electricity and telecommunications utilities) and determined what actions state regulators are taking to measure and report the year 2000 readiness of these critical utility providers. Specifically, we contacted the PUC and reviewed other infrastructure information. ■

CHAPTER 1

Many Agencies That Provide Critical Services to Californians Are Not Yet Year 2000 Ready

CHAPTER SUMMARY

The 14 agencies that administer what we believe are California's 17 most critical programs affecting public health and safety, revenue collection, and benefit payments have all developed comprehensive plans for making their computer systems free of year 2000 date problems. In doing so, most have identified and fixed the computer date recognition code and have tested, or plan to test, their systems' ability to accurately recognize dates after the new millennium begins. However, 11 agencies have yet to take one or more key steps to completely fix their systems. None of these 11 agencies have fully tested their computer systems, and many have not addressed the threats posed by embedded chips that control certain computerized activities or completely resolved critical issues with their data exchange partners. Although some agencies consider their systems fully remediated, we found these agencies' systems may not be ready to operate in the next millennium, which would interrupt services vital to Californians.

Furthermore, because their test plans were incomplete and they did not document test results, some agencies will not be able to quickly identify and correct problems should their systems fail, nor can they demonstrate they exercised due diligence in remediating their computer systems. Without sufficient test plans and documentation of the outcome of the testing, these agencies have little defense against lawsuits if a system fails.

Finally, while most of the agencies we visited indicated they are currently developing business continuation plans to ensure the uninterrupted delivery of critical services in the event remediation efforts fail or are delayed, only one had completed such a plan. Having a back-up plan becomes even more crucial if the agencies have not completed all fundamental steps to year 2000 readiness. In fact, seven of these agencies estimate they

will not complete business continuation plans sooner than June 1999—possibly too late to properly test and implement them.

BACKGROUND

State agencies are rushing to fix their computer systems prior to the new millennium. In our August 1998 report, which assessed the State's preparations for the year 2000, we voiced concerns about overly optimistic reports to the Department of Information Technology (DOIT) on the readiness of over 600 critical state computer systems. When the Legislature requested an additional review in June 1998, we assessed the importance of the services provided by the 140 agencies listed in the 1998-99 Governor's Budget and identified 14 with programs that deliver the most vital services to Californians. To select the 14 agencies, we considered which services affect the immediate health, safety, or economic well-being of large numbers of Californians. We also considered the number of people the services immediately impacted and the likelihood they would need the services at the beginning of the new millennium. We visited each of the 14 agencies and reviewed a sample of 20 systems that support the delivery of these most vital programs. The results of our on-site reviews are summarized in Table 1.

ALL 14 CRITICAL AGENCIES HAVE DEVELOPED COMPREHENSIVE YEAR 2000 PLANS, BUT MOST HAVE NOT COMPLETED KEY STEPS IN THE PLANS

Each of the 14 agencies we visited appointed a year 2000 project manager and developed an overall year 2000 plan. The agencies were also actively working to complete their planned tasks, although some were further along than others. For instance, most agencies have fixed the date recognition code and have tested, or will test, this component of their systems. The plans also appeared to have sufficient executive support and oversight to help ensure their success. Additionally, the agencies' plans appropriately included strategies to address embedded technology and potential difficulties with data exchange partners.

Despite their active planning and specific efforts to remediate critical systems, 11 agencies still had not completed key steps in one or more of the following areas: testing, embedded technology, and data exchange. Moreover, the Employment

TABLE 1

Summary Of Systems That Support Vital Services

Agencies and Systems Reviewed		Agency did not complete year 2000 remediation of system by 12/31/98	Reasons For Not Being Done			Due Diligence	
Agency	System		Agency has not completed all planned testing	Agency has not fixed all threats to the system imposed by embedded technology	Agency has not completely resolved critical issues with the system's data exchange partners	Agency did not have an adequate test plan	Agency did not have adequate testing documentation
Public Health and Safety							
1. Health Services	1. Medi-Cal Eligibility Data System	●	●		●		
2. Water Resources	2. Dispatch	●			●	●	●
	3. California Data Exchange Center	●	●	●	●	●	
3. Office of Emergency Services	4. Response Information Management System	●		●			
	5. Local and Wide Area Networks	●	●	●			
4. Military Department	6. Intrusion Detection System						
5. Justice Department	7. Automated Criminal History	●	●				
	8. California Law Enforcement Telecommunications System	●	●				
6. Corrections	9. Inmate Roster Classification System						
	10. Electrified Fences	●	●	●		●	
7. University of California	11. Patient Scheduling (VERSYSS)	●	●			●	●
	12. Medical Equipment	●	●	●			
Payments							
8. Social Services	13. Case Management Information Payrolling System	●	●		●		
9. Public Employees' Retirement System	14. Benefits System	●	●				
10. State Teachers' Retirement System	15. On-line System	●	●	●	●	●	●
11. State Controller's Office	16. Direct Deposit Claims						
	17. Warrant Print Processing						
Revenue Collections							
12. Board of Equalization	18. Integrated Revenue Information System	●	●	●	●		
13. Employment Development Department	19. Unemployment Insurance	●	●	●			
14. Franchise Tax Board	20. Taxpayer Information						
	Totals	**15**	**13**	**8**	**6**	**5**	**3**

Development Department (EDD) was the only agency that completed a business continuation plan, a final measure to ensure uninterrupted services. Another 2 of the 14 agencies did indicate, though, that such planning did not apply to their systems.

MANY AGENCIES HAVE NOT COMPLETED KEY STEPS FOR YEAR 2000 REMEDIATION OF CRITICAL SYSTEMS

In October 1997, the former governor issued an executive order requiring state agencies to find and fix year 2000 problems in all critical systems no later than December 31, 1998, including protecting systems from corrupted data received from data exchange partners. The executive order requires agencies not exempted to report to DOIT concerning their progress. Further, the executive order precludes state agencies from beginning any new information technology projects until all such critical systems are fixed. We are concerned that of the 14 agencies, only the Military Department, Franchise Tax Board, and State Controller's Office had completed all the necessary measures to ensure their ability to perform critical business operations after the new millennium by the December 1998 deadline.

Eleven Agencies Reviewed Have Not Completed Year 2000 Remediation

- Board of Equalization
- Corrections
- Emergency Services
- Employment Development Department
- Health Services
- Justice Department
- Public Employees' Retirement System
- Social Services
- State Teachers' Retirement System
- University of California
- Water Resources

If agencies have not completed all their planned testing, addressed threats posed by embedded chips in devices their systems depend on, and completely resolved critical issues with their data exchange partners to ensure that data transmitted through interfaces will not corrupt their computer systems, then California may not continue to receive the critical services it depends on.

Furthermore, according to our understanding of the former governor's executive order, 14 of the systems we reviewed should have been completed by December 31, 1998, but are not. Specifically, monthly reports submitted to DOIT by agencies label 8 systems as mission-critical. Our inquiries to the responsible agencies identified the remaining 6 systems.

These Three Agencies Incorrectly Reported Systems as Complete on December 31, 1998

Employment Development Department
Unemployment Insurance system

Justice Department
Automated Criminal History system

Water Resources
Dispatch system

Not only have the 10 agencies responsible for these critical systems failed to meet the former governor's executive order deadline, 3 asserted to DOIT in their year-end status report that 3 of the systems we reviewed were fully remediated when they were not. Specifically, the agencies reported that as of December 31, 1998, all year 2000 remediation work had been completed for these systems and no further work was planned or foreseen. Contrary to these assertions, we found that 2 of these agencies had not completed all of their planned testing. One agency also had not tested the information received from one or more of its data exchange partners, and another had not removed threats posed by embedded technology.

For example, the EDD reported that it had completed all remediation work for its critical unemployment insurance system and that no further work was planned or foreseen. However, we found the EDD plans further testing of this system in the third quarter of 1999. Moreover, it still must address threats posed by embedded technology. The year 2000 project manager for the EDD believes its report is accurate and technically complies with DOIT's criteria for indicating that remediation of the system is complete. Nevertheless, our focus was not to measure technical compliance with DOIT's reporting requirements. Rather, we focused on assessing the status at December 31, 1998, of systems critical in supporting program services vital to California. Irrespective of technical compliance criteria, if our review determined that more testing was planned, that embedded technology the system depends on to operate still needed to be corrected or replaced, or that the exchange of data still posed a risk to the system, we considered that system not yet remediated. We found that the EDD still had work to do in two of these areas. Moreover, the fact that the EDD still plans to test its system using a time machine precludes reporting that the system is fully remediated when using DOIT's reporting criteria.

Reporting that systems are complete when they are not could lead to incorrect resource allocation decisions.

The EDD's unemployment insurance system pays $2.9 billion to over 3 million unemployed workers each year. If this system fails, those who are temporarily out of work may not receive unemployment payments and could suffer severe hardship. The EDD said it is confident it has identified and corrected the system's year 2000 issues, in part because three external reviews found no areas of potential failure. Nevertheless, it plans to conduct time machine testing as part of its risk management

plan, which includes taking additional measures to further reduce the possibility or severity of failure of the most critical parts of its unemployment insurance system.

Reporting that systems are complete when they are not could lead to decisions in the reallocation of year 2000 resources to work on lower-priority activities, thus jeopardizing the completion of critical remediation work.

Eleven Agencies Plan to Do More Testing

Testing a system to make sure it works as expected is a crucial step in solving the year 2000 problem. Because proper testing takes significant time and resource commitment, by now all state agencies should be done with the testing of their critical computer systems. However, of the 20 systems we reviewed, 11 agencies have yet to complete planned testing for 13 of the systems they identified as critical to the delivery of vital program services.

Testing is Incomplete at These 11 Agencies

Testing will finish in February/March 1999

Justice Department
Social Services
State Teachers' Retirement System

Testing will finish in May/June 1999

Board of Equalization
Emergency Services
Health Services
University of California
Water Resources

Testing will finish in August/September 1999

Corrections
Employment Development Department
Public Employees' Retirement System

For example, although the California Public Employees' Retirement System (CalPERS) has fixed the program code and put the system back into production, it plans to further test its critical benefits system and projects it will not complete the testing until the end of August 1999. CalPERS is the largest public pension system in the United States, serving over a million active and retired employees and their families. Its benefits system manages most of the members' retirement, disability, and survivor benefits and pays out $4.4 billion a year to 331,000 recipients. Failure of the benefits system would delay retirement, disability, and beneficiary payments to thousands of Californians.

Six Agencies Must Complete Time Machine Testing

Six agencies we reviewed have not completed planned time machine testing of their systems. Time machine testing is conducted in an isolated environment where the computer's internal clock is manually set to a future date. It assures that both the

computer application and the operating system software and its hardware (the platform on which the application runs) will function correctly.

Although we are encouraged that these agencies have scheduled time machine testing, we are concerned that one agency, the Department of Water Resources (Water Resources), has no plans to conduct time machine testing on the dispatch system that schedules water delivery from the state water project, which stretches over 660 miles across the length of the State and supplies water to two-thirds of California. Water Resources states it does not plan to conduct time machine testing on this system because it would be extremely time-consuming and expensive.

As we discuss further on page 20, Water Resources did state it performed simulation testing on the dispatch system. However, because it did not prepare any test plan or retain any documentation of the results, we could not assess the sufficiency of the testing it performed. Based on the professional literature we researched, we believe time machine testing would thoroughly test this critical and complex dispatch system. Therefore, we believe Water Resources should perform time machine testing on this system to minimize the risk of its failing and, in turn, jeopardizing water delivery to millions of Californians.

Embedded Technology Affecting Several Critical Computer Systems Remain Uncorrected

Embedded technology is found in electrified fences around correctional institutions, in wide area networks, and in terminals controlling California's aqueduct water gates.

To reduce the risk of computer failure, state agencies must identify and correct year 2000 problems found in embedded technology affecting their systems. Embedded technology affects a wide variety of systems that use microprocessors or chips to control, monitor, communicate, or operate equipment. Examples include the telecommunication servers in the statewide emergency response system of the Office of Emergency Services (Emergency Services), the optical scanners used to process EDD's unemployment insurance eligibility forms, remote terminal units Water Resources uses to record water levels and control gate settings along the California Aqueduct, and medical equipment, such as heart monitors and ventilators, at the University of California's hospitals. To identify and fix embedded technology is generally very labor intensive and takes a significant amount of time. Therefore, it is imperative that these activities are promptly undertaken.

Seven agencies responsible for eight of the systems we reviewed have not yet replaced or corrected embedded microchips in equipment their systems rely on. For example, the Department of Corrections has not yet fixed the embedded technology in electrified fences. The electrified fence system uses electronic sensors, controllers, computers, and programs to detect and report possible attempts to breach either side of the electrified fences surrounding 23 of the department's 33 correctional institutions housing over 156,000 inmates. The department expects to begin repairs and testing of the technology in February 1999 and plans to complete its work at affected prisons by September 1999. We are concerned that such a late completion date may not give the department enough time to thoroughly test or correct the embedded technology in the fences should any unforeseen delays occur.

Seven Agencies Have Not Fixed Threats From Embedded Technology

Board of Equalization
Corrections
Emergency Services
Employment Development Department
State Teachers' Retirement System
University of California
Water Resources

In another example, Emergency Services will not complete its remediation of embedded chips in its wide and local area networks until June 30, 1999. Californians rely on Emergency Services to coordinate disaster response and recovery from civil emergencies through its automated Response Information Management System (RIMS), which runs on the office's networks. RIMS electronically links areas requesting emergency assistance with Emergency Services and other agencies that can supply needed resources. If the networks are not fixed, the critical RIMS will not work, and Emergency Services will have to revert to cumbersome manual processes, significantly increasing response time to disasters.

Data Exchange Partner Concerns Remain

In addition, we found that five agencies have not completed all the steps necessary to protect their six critical computer systems from missing or corrupted data supplied by external data exchange partners. The computer systems of these agencies rely on exchanges of electronic data with other state agencies, governments, and private sector organizations. Regardless of these agencies' efforts

Data Exchange Issues Remain at Five Reviewed Agencies

Board of Equalization
Health Services
Social Services
State Teachers' Retirement System
Water Resources

to correct their own critical systems, corrupt data from one noncompliant partner may cause a fully remediated system to fail.

For example, although the Department of Health Services has programmed its Medi-Cal Eligibility Data System (MEDS) to accept all date formats from its data exchange partners, it has not yet tested these programs with all its partners. MEDS gives millions of Californians access to health care and is vital for the payment of medical claims to thousands of health care providers. MEDS exchanges data with 58 counties, numerous medical providers, and several state and federal agencies to determine eligibility for health services. Until it fully tests the data exchanged with all its partners, the Department of Health Services cannot assure that MEDS will continue to work seamlessly in the year 2000.

Regardless of remediating their own systems, some agencies are at risk because they receive data from external partners.

The State Teachers' Retirement System (STRS), the Board of Equalization, and Water Resources have not completed the necessary testing of externally exchanged data because they are waiting for one or more of their data exchange partners to fix the systems they exchange data with. Specifically, these agencies have contacted their various business partners, established new data formats, and set tentative schedules for testing, but they are currently waiting for one or more of their partners to finish remediating their systems before they can test the partners' data. While we acknowledge that these agencies have done all that they can at this point, remediation of their systems will not be complete until such time as the respective data partners have completed modifications and exchanged data are tested by the agencies to ensure that the systems will continue to work seamlessly in the next millennium.

For the remaining 14 systems we reviewed, 8 did not have any interfaces with external data exchange partners. For the 6 systems that did, the responsible agencies had established contact with their respective data exchange partners, developed schedules for testing and implementing new date formats, and tested the data supplied by the external parties.

FOUR AGENCIES MAY NOT BE ABLE TO QUICKLY DETERMINE THE CAUSE OF YEAR 2000 FAILURES BECAUSE THEY LACK COMPLETE, DOCUMENTED TEST PLANS

State agencies must exercise due diligence in remediating their critical systems. Should these systems fail, it is crucial that the agencies quickly isolate the causes. Analyzing previously tested components to locate overlooked areas is one of the quickest ways to determine the cause of a failure. However, four agencies we reviewed will not be able to do these analyses because they either did not prepare sufficient test plans or retained insufficient documentation of their test results. Complete documentation and a reasonable test plan are necessary to demonstrate due diligence if a system fails and an agency is sued as a result.

We assessed whether each agency we reviewed had adequate test plans and had documented the testing on each of 20 critical systems. To assess the adequacy of test plans, we determined if the agencies prepared any existing plans prior to the testing, appropriate end users participated in the planning and testing, and the plans clearly identified the required results to verify the success of the test.

Four Agencies Did Not Develop Adequate Test Plans for Their Systems

Corrections
Electrified Fence system

State Teachers' Retirement System
*On-line system**

University of California
*Patient Scheduling (VERSYSS)**

Water Resources
*Dispatch system**
California Data Exchange Center

* For these systems, the agency also failed to document test results.

We found that four agencies did not develop adequate test plans for five different systems. Water Resources, for example, neither prepared a test plan for the simulation testing of its critical dispatch system nor retained documentation of the test results. As discussed earlier in this chapter, this system schedules water delivery to two-thirds of California. Without a test plan, Water Resources has no evidence that it used an organized, structured method to test and that it considered all the elements necessary to ensure the dispatch system will continue to function properly in the new millennium.

STRS also failed to develop an adequate test plan for the time machine testing of its on-line system because it did not clearly identify the criteria required to successfully pass the test. The on-line system incorporates most of the agency's critical business functions into one system. It records contributions and earnings data for over 400,000 teachers, determines benefit eligibility, and calculates monthly payments for retirees and their beneficiaries. In addition, the system tracks teachers'

disability payments and payments to health insurance carriers on behalf of its retirees. If this large and complex system were to fail, 175,000 disabled and retired teachers and their beneficiaries might suffer severe hardship. Without an adequate test plan, STRS cannot ensure it has fully tested all of the critical processes for its on-line system and safeguarded financial security for all of its members.

Furthermore, STRS is one of three agencies that failed to sufficiently document their testing. Were the on-line system to fail, reviewers will not have the documents necessary to quickly identify and analyze the cause of the failure by retracing the tests performed. STRS states it is not maintaining adequate documentation because it plans on replacing its on-line system in March 2000 with its new State Teachers' Automated Redesign Team system.

If these agencies have insufficient records of system testing, they cannot quickly isolate the cause of a failure and Californians who depend on these agencies may have to do without critical services for an indeterminate period.

MOST AGENCIES HAVE NOT FINISHED THEIR BUSINESS CONTINUATION PLANS

Estimated Completion Dates for Business Continuation Plans

March 1999

Health Services
State Controller's Office

April 1999

Corrections
Public Employees' Retirement System

June 1999

Board of Equalization
Franchise Tax Board
Justice Department
Social Services
State Teachers' Retirement System

August 1999

University of California
Water Resources

All of the 14 agencies supplying vital services to California are highly dependent on information technology. During our review, we noted that 11 have not completed business continuation plans for 16 core computer systems, although all of these agencies indicated that they are now creating such plans. Despite efforts to fix their critical systems, these agencies must develop comprehensive business continuation plans to avoid disruption if their remediation efforts are unsuccessful or are not completed in time.

In addition to their own risk, some agencies are also susceptible to the failures and delays of their data exchange partners. These agencies depend on the electrical power and telecommunications infrastructure. In order to have useful business continuation plans, the agencies' efforts must address potential failures and

delays of others, including data exchange partners and utilities providers. One weak link in the chain of critical dependencies may halt the delivery of vital services.

Agencies need to complete their business continuation plans well in advance because long lead times are often necessary to test and implement them. For example, if the plan is to revert to manual operations, the agencies must hire and train new staff or redirect and train current staff. Likewise, if an agency decides to contract out any back-up functions, it must locate the appropriate contractor and complete lengthy contract negotiations. For planned alternatives to be successful, agencies should set schedules and deadlines for implementing them. Additionally, business continuation plans need enough lead time to adequately test all backup systems to see if they are capable of providing the desired results and can be implemented within the required time periods.

Business continuation plans are important to ensure uninterrupted services in the event that remediation efforts fail or are not finished on time.

Finally, three agencies had either developed a business continuation plan or such planning did not apply for the systems we reviewed. The EDD completed a business continuation plan for its critical unemployment insurance system. Emergency Services and the Military Department, by the nature of their respective missions, already had back-up systems in place to ensure continued delivery of vital services supported by the systems we reviewed.

TWO AGENCIES DEPEND ON THE FEDERAL GOVERNMENT FOR REMEDIATING CERTAIN CRITICAL HEALTH AND SAFETY SYSTEMS

Two agencies we visited, the Military Department and the University of California (UC), have ties with the federal government that may affect whether certain program services continue or are halted after January 1, 2000. As a result, they have to depend on federal agencies to ensure their services are not interrupted.

We examined the Military Department to determine whether it could deploy National Guard troops to assist in any potential emergencies. We found that the federal Department of Defense is responsible for remediating embedded technology in some of the National Guard's equipment, such as the Huey and Blackhawk helicopters. We are concerned about this situation because, according to a December 1998 report issued by the

United States Office of Management and Budget (OMB), the Defense Department received poor grades on its efforts to prepare itself for the year 2000. Specifically, the OMB designated the Department of Defense along with five other departments, as "tier one" agencies. The OMB assigns tier one designations when it has insufficient evidence of adequate progress. The Department of Defense's poor preparation may prevent the National Guard from promptly responding to an emergency.

In addition, UC operates three research laboratories—Lawrence Livermore National Laboratory, Lawrence Berkeley National Laboratory, and Los Alamos National Laboratory—that research national security issues for the United States Department of Energy. Their projects include stewardship of the United States nuclear stockpile and computer modeling of weapons physics.

According to UC, the Department of Energy established requirements for year 2000 readiness and monitors the labs' progress toward correcting their year 2000 problems. However, according to the OMB, the Department of Energy is another tier one agency showing insufficient evidence of year 2000 progress. In fact, according to the OMB's report, the Department of Energy has not identified all mission-critical systems at its government and contractor sites, and it is still assessing embedded chips and lab equipment. The OMB report further states that the Department of Energy's acting chief information officer is conducting site compliance reviews in cooperation with the Office of the Inspector General and the Office of Oversight, but the OMB criticized this effort because no independent verification and validation contractors are being used.

The military department and UC-managed labs are relying on federal agencies for year 2000 assistance—but these federal agencies received a poor rating by the OMB.

UC officials from the Laboratory Administrative Office state the labs have been preparing their critical and noncritical systems for several years. In addition, this office said it monitors the labs' progress by reviewing the year 2000 plans and progress reports the labs provide to the Department of Energy and by participating in site reviews conducted by the Department of Energy. We asked the UC for the results of one of these reviews at Lawrence Livermore National Laboratory. UC stated that it could not provide us the results until the report was finalized by the Department of Energy. Because the UC is responsible for the labs' operation, we believe if the Department of Energy's site reviews indicate any deficiencies in year 2000 preparedness, the UC must take a proactive role in monitoring corrective action to ensure the labs are ready for the next millennium.

RECOMMENDATIONS

To ensure that state agencies' computer systems are year 2000 ready and that California's vital services are not interrupted at the beginning of the new millennium, the governor or the Legislature should appoint an independent quality assurance agent or an independent verification and validation group to review the systems supporting the 17 vital programs at the 14 agencies we reviewed to validate that all date references in these systems have been found and corrected.

In addition, to ensure that 11 of these 14 agencies focus resources on remediating critical programs, DOIT (or the appropriate governing body of the agency) should not approve any new information technology projects until the independent quality assurance agent or group certifies that the agencies have completed all testing and embedded technology remediation, and addressed the data exchange issues over which they have control. ■

CHAPTER 2

More Than Half of the State's Programs Need to Complete Remediation and Business Continuation Plans

CHAPTER SUMMARY

With less than one year left until the new millennium, state agencies reported that work remains to resolve year 2000 problems in one or more of the computer systems for over 64 percent of the 462 programs they administer. Until all such work is done, agencies cannot be sure that the program services they are responsible for, and on which Californians depend, will be delivered uninterrupted into the next century. In addition, agencies responsible for over half of all state programs have not prepared business continuation plans for delivering program services should their year 2000 remediation efforts fail or be delayed. Although we do not consider all of them to be as critical as those discussed in Chapter 1, we have similar concerns about these programs.

BACKGROUND

We surveyed all 140 of the state agencies listed in the 1998-99 Governor's Budget about the computer systems that support their program services. These 140 state agencies administer 462 programs and provide a broad spectrum of services, from welfare payments to the needy to apportionment funding for education. Each program within an agency comprises a group of operations that has common objectives. For example, the Department of Transportation has a highway transportation program that maintains and builds new highways and operates toll bridges throughout the State.

We divided the 140 agencies into three groups: 55 agencies that report on mission-critical computer systems[1] to the Department of Information Technology (DOIT), 40 agencies that report only

[1] As noted in the Introduction, the State Administrative Manual defines mission-critical systems as so important that their failure would negatively impact the health and safety of Californians or jeopardize essential state programs.

on noncritical systems to DOIT, and 45 agencies that DOIT does not require to report. We included the 14 agencies discussed in Chapter 1 in the survey to obtain information on the computer systems supporting all their programs, not just the systems supporting the critical programs we reviewed.

These three groups of agencies have important distinctions. For the 55 agencies reporting on mission-critical systems, the former governor's executive order requires that all such systems be year 2000 compliant by December 31, 1998, and precludes the agencies from beginning any new information technology projects until this goal is met. In addition, these agencies must report their progress in remediating these critical systems to DOIT on a monthly basis. The 40 agencies reporting noncritical systems must also report their monthly progress to DOIT, but they have no deadline for year 2000 compliance. DOIT does not require the remaining 45 agencies to report on their remediation efforts because they are either statutorily exempt or are already year 2000 compliant. Included among this last group are some fairly large entities, such as the California Public Employees' Retirement System (CalPERS), the University of California (UC), and California State University (CSU).

KEY REMEDIATION STEPS REMAIN INCOMPLETE FOR ONE OR MORE COMPUTER SYSTEMS SUPPORTING OVER HALF OF ALL STATE PROGRAMS

We determined how soon agencies estimated they will complete remediation steps for the systems supporting their programs. Based on our research, we believe that until all three key steps are taken, a system cannot truly be considered complete or remediated for year 2000 problems. Moreover, because agency programs are typically supported by more than one computer system, it is important that the agencies complete these steps for all systems before a program can be considered remediated and the risk of service interruptions minimized. Unless the risks posed by year 2000 problems are eliminated for all systems supporting a given program, Californians depending on that program's services may be deprived on January 1, 2000.

Key Steps to Year 2000 Readiness for Computer Systems

- ✓ Complete all planned testing.
- ✓ Remove threats caused by embedded technology.
- ✓ Resolve potential problems associated with data exchange partners.

Over 64 percent of all state programs still have not completed all three key steps to prepare their computer systems for the year 2000. In responding to our survey, agencies indicated that they had not completed one or more steps for the computer systems supporting 296 programs by December 31, 1998. Table 2 summarizes the results of our survey. The full survey appears in Appendix B.

TABLE 2

Summary of Survey Results for All 462 State Programs

Responses	Number of Agencies	Number of Programs
At least one key step for year 2000 remediation had not been completed by December 31, 1998	83	296
Year 2000 remediation (except business continuation plans) had been completed by December 31, 1998	52	97
None of the seven survey questions applied to the program	38	62
No response	6	7
Totals	179[a]	462

[a] Agencies total is greater than 140 because some agencies have more than one program.

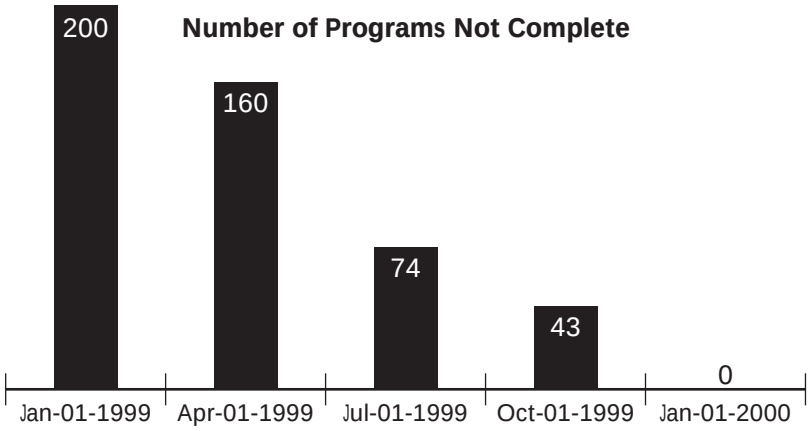
To analyze the survey results in more depth, we determined on a quarterly basis when the agencies within each group estimated they would complete the three key steps. Following, we discuss our findings by group.

The 55 Agencies Reporting Mission-Critical Systems

As shown in Figure 2, as of December 31, 1998, the 55 agencies that report mission-critical systems to DOIT indicated they still have not completed year 2000 steps for 200 (76 percent) of their 262 programs. Moreover, key steps will remain incomplete for 74 programs on July 1, 1999, only six months from the final deadline.

FIGURE 2

Estimated Schedule of Completion for 55 Agencies Reporting Mission-Critical Systems

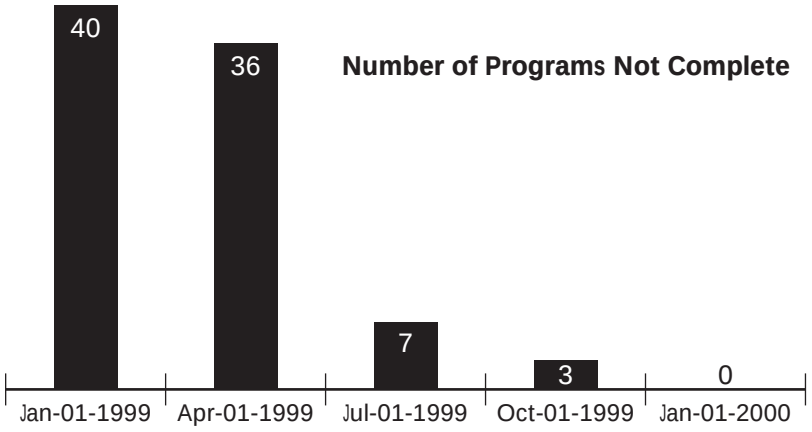


Forty Agencies Report Only Noncritical Systems

We next analyzed the survey responses from the group of agencies that report only noncritical systems to DOIT. These 40 agencies administer 100 state programs. As shown in Figure 3, the respondents indicated they did not complete by December 31, 1998, at least one key step toward year 2000 compliance for one or more computer systems supporting 40 percent of their programs. Moreover, the agencies estimate that at least one step will remain incomplete for 7 programs on July 1, 1999.

FIGURE 3

Estimated Schedule of Completion for 40 Agencies Reporting Only Noncritical Systems



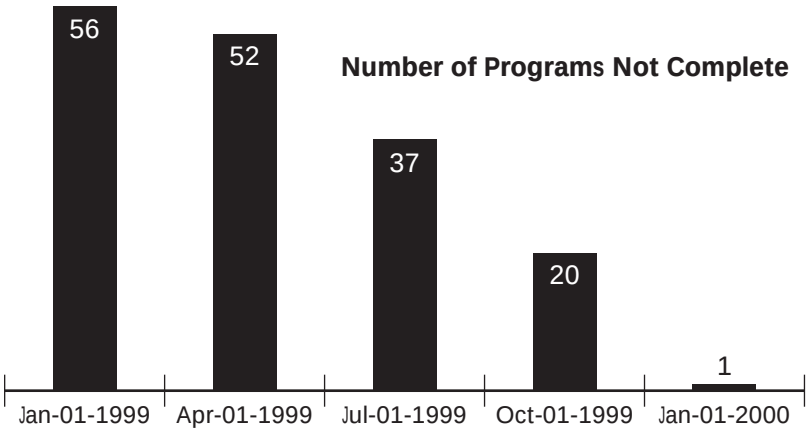
DOIT Reporting Is Not Required of 45 Agencies

Finally, we analyzed the survey responses from the group of agencies that are not required to report to DOIT. These 45 agencies include UC, CSU, and CalPERS, and are collectively responsible for administering 100 state programs. As shown in Figure 4, they did not complete at least one key year 2000 remediation step by December 31, 1998, for 56 of the programs. Furthermore, by July 1, 1999, at least one step will remain for 37 programs.

The delayed completion for many programs in this group may be partially explained by the survey responses we received from CSU. As shown in Appendix B, page 65, CSU indicated a completion date of December 1, 1999, for all of its nine programs related to each of our seven questions. According to its year 2000 director, CSU used the last date any of its campuses identified as the completion date for all programs at all campuses. Further, CSU indicated that it could not organize its data on year 2000 progress in the same manner as our survey, which focused on budgetary programs. Although UC had a similar problem with the format of our survey, it provided alternative information, which appears in Tables 5 and 6 in Appendix B. Finally, like CSU, Hastings College of the Law also used the date of December 1, 1999, for many survey responses but did not explain further. (A list of these 45 agencies is found in Table 7, beginning on page 74.)

FIGURE 4

Estimated Schedule of Completion for 45 Agencies Not Required to Report to DOIT



KEY REMEDIATION STEPS REMAIN FOR STATE AGENCIES

Overall, we are concerned that critical year 2000 remediation steps remained for one or more of the computer systems supporting nearly two-thirds of all state programs on December 31, 1998. Moreover, based on agency estimates, by July 1, 1999, key steps will remain for 118 programs. While state agencies have clearly progressed toward year 2000 readiness and are estimating continued advancement, the ultimate due date of January 1, 2000, cannot be delayed. As time runs out, any unforeseen problems may further delay completion, thereby increasing the risk that some programs may fail to provide important services to Californians.

ALMOST HALF OF ALL STATE AGENCIES ALSO NEED TO DEVELOP BUSINESS CONTINUATION PLANS

In addition to surveying agencies about their progress toward remediation, we asked whether the agencies had developed business continuation plans for all 462 programs. The agencies had not completed business continuation plans for 248 programs. Moreover, agencies will not complete 90 of these plans until after July 1, 1999. The agencies did, however, indicate that they had completed business continuation plans for 96 programs. They also responded that 111 others did not need plans, presumably because these programs are nonessential. Finally, we received no reply from 6 agencies responsible for 7 programs.

Agencies estimate that business continuation plans for 90 state programs will not be completed until July 1999 or later.

We believe that agencies should have business continuation plans completed for all their essential programs no later than June 30, 1999, because long lead times are often necessary to test and implement these plans. This becomes increasingly important when the three remediation steps—completing all planned testing, removing threats caused by embedded technology, and resolving potential problems associated with data exchange partners—are also incomplete, as is the case for 296 programs.

NEARLY ALL AGENCIES NOT REPORTING TO DOIT HAVE COMPREHENSIVE YEAR 2000 PLANS

Agencies reporting to DOIT must submit comprehensive year 2000 remediation plans; however, because no single state agency oversees the efforts of the 45 nonreporting agencies, they may

not be required to do this. We sent these agencies a separate survey to determine whether they have a general year 2000 plan and a designated person to implement it, and whether they have regularly reported on their progress. These factors are essential for a comprehensive and successful year 2000 effort; however, prior to our survey, no single entity knew whether these agencies had such plans. Some entities included in this group are UC, CSU, Board of Governors of the California Community Colleges, CalPERS, and the judicial branch of state government.

The results of our survey, which appear in Appendix C, indicated that 39 of the 40 agencies responding either had a year 2000 plan or did not need one. One agency, the Santa Monica Mountains Conservancy, indicated that it was too small and did not have any budget for a year 2000 plan. In addition, 73 percent indicated that they had a specific person responsible for implementing the agency's plan. Moreover, the large agencies in this group, such as UC, CSU, and CalPERS, have plans and a designated person to oversee them, and they each periodically report to executive management on the progress of their efforts.

RECOMMENDATIONS

To ensure that state agencies complete all the necessary tasks to make their computer systems year 2000 ready, the governor or the Legislature should closely monitor the progress for any systems whose resolution of year 2000 problems is not complete. If progress appears to be falling behind planned completion milestones, they should consider what tasks remain, whether adequate resources are available to complete them, and if not, take prompt action to ensure successful completion. Such action could include assisting agencies in obtaining outside resources, such as consultants, or reallocating knowledgeable staff from other agencies.

In addition, to ensure that state agencies are prepared to deliver essential services even if their computer systems fail on January 1, 2000, the governor or Legislature should monitor the agencies' efforts to complete business continuation plans by June 30, 1999. ■

Blank page inserted for reproduction purposes only.

CHAPTER 3

The State's Two Primary Data Centers Are Not Equally Prepared for Year 2000 Problems

CHAPTER SUMMARY

Two of the State's large data centers serve the information technology needs of most state agencies. The success of literally hundreds of state agencies' year 2000 remediation efforts depends upon the ability of these data centers to support the agencies' computer programs with a reliable and compliant operating environment. No matter how much effort these agencies expend in fixing and testing their respective computer programs, such efforts will fail if the data centers are not equally vigilant in remediating the computer systems that support their state clients' programs.

One of the centers, the Health and Welfare Data Center (HWDC), has an overall year 2000 plan that addresses the services critical to its clients and has allocated significant resources to execute its plan. The HWDC has also encouraged its clients to perform year 2000 testing in its time machine environment and is monitoring clients' use of this testing facility to ensure its mainframe computers are year 2000 compliant. In addition, the HWDC is precluding its clients from using software that is not year 2000 compliant.

In contrast, the Teale Data Center (Teale) lacks a year 2000 plan that addresses critical client services and has dedicated few resources to year 2000 tasks in general. Although Teale has developed a time machine testing environment, it does not monitor its clients' use of this testing facility. Further, Teale has not required clients to abandon noncompliant software products.

BACKGROUND

The State operates two large data centers, the HWDC and Teale, which provide information technology infrastructure to over 300 clients, including state agencies and several county

governments. This infrastructure is composed of large mainframe computers and data management systems. The data centers operate and maintain the hardware and the operating system software, while the individual clients generally maintain specific applications developed to support their business functions.

The two large data centers provide computer infrastructure to over 300 clients, including state agencies and county governments.

Both data centers also operate large data telecommunication networks that connect their clients to remote local area networks as well as to the data centers' mainframe computer systems and the Internet. Teale's network connects approximately 1,000 state offices and HWDC's network connects approximately 1,500 state and county offices.

To assist their clients in preparing for the year 2000, both data centers provide special isolated computer environments, called time machines, as a way for their clients to test critical systems by setting the computer's internal calendar to various dates in the future, including January 1, 2000, and beyond. We believe that such testing is an important step agencies can take to increase their assurance that their computer systems will operate uninterrupted by year 2000 problems.

THE HWDC'S PLAN APPEARS REASONABLE

We reviewed the overall year 2000 plan for one of the State's two large data centers, the HWDC, and found it to be generally sound. Specifically, the HWDC has a well-developed plan and has dedicated 17 full-time staff to implement it. The plan identifies systems with year 2000 problems, outlines a remediation strategy, and defines how its management will monitor the remediation efforts. The HWDC also encourages its clients to use its time machine to test their critical computer programs. As an added benefit, the HWDC plans to monitor client time machine testing to gain assurance that its computers will operate correctly after January 1, 2000. In addition, this data center has appropriately precluded clients from using noncompliant software that could jeopardize its mainframe computers.

The HWDC provides large computers and related hardware, such as tape drives and printers, plus the operating system software and the telecommunications network needed to connect 1,500 state and county offices throughout California to the data center's computers in Sacramento. In turn, clients provide the specific application software necessary to fulfill their respective

business requirements. For example, the Department of Health Services is responsible for maintaining the application software for its Medi-Cal Eligibility Data System (MEDS), while the HWDC provides the computer hardware and operating system on which the MEDS operates.

Of the 30 critical systems identified by the chief information officers at the State's health and human services agencies, 25 are supported at the HWDC by an IBM operating system called Multiple Virtual Storage (MVS). The HWDC encouraged its clients to schedule time machine testing, and, as of December 31, 1998, five state agencies had used the time machine to test 16 systems. The HWDC has created, or will create, different time machine environments for each major type of computer it operates. We focused our review, however, on the MVS mainframe time machine because most of the data center's clients use this type of computer.

The HWDC's year 2000 plan includes monitoring client testing to verify that its MVS operating system will function properly in the next millennium.

The HWDC monitors all client testing to verify that the MVS operating system software will function properly in the next millennium. Specifically, the HWDC tracks which portions of the operating system software clients use. If clients do not test critical components of the software, then the HWDC may either test it, investigate whether another organization (not an HWDC client) has successfully tested that same version at a different data center, or accept a vendor's certification for the untested components.

As an additional effort to ensure that its clients' software programs are free from year 2000 problems, the HWDC requires that they discontinue using noncompliant software products. To help them do so, the HWDC notified clients of the dates when compliant software would become available and when it would remove all older, noncompliant versions of software from its computers.

According to experts we contacted, removing noncompliant software is prudent for two reasons. First, retaining this software heightens the risk that it could pass corrupted data on to other client applications and programs. Second, there is a small risk that noncompliant software could destabilize the underlying operating system software, which could jeopardize all data center clients using the same computers.

TEALE'S APPROACH IS RISKY

In contrast to the HWDC, Teale, the other critical state data center, lacks a successful strategy for its year 2000 remediation plan. Teale also has devoted few resources to year 2000 activities. Even though the data center serves over five times more clients than the HWDC—about 250 agencies and local governments—it has assigned only two full-time staff to year 2000 remediation.

In contrast to the HWDC, Teale does not monitor clients' use of the MVS time machine and thus, cannot assure clients that the operating system will work in the next millennium.

To its credit, Teale has created a time machine environment for its clients to test its MVS operating system, and, similar to the HWDC, plans to use client testing to affirm that its own computers will operate properly after January 1, 2000. However, Teale does not monitor its clients' use of the time machine to determine which components of the system clients are testing. Unless Teale monitors these tests, it cannot ensure it has successfully remediated its operating system to support its clients' business needs into the next millennium.

For instance, one of Teale's clients, the State Controller's Office (Controller's Office), which is responsible for disbursing all state funds, is considering moving its mainframe computer systems to Teale's mainframes. According to the Controller's Office, the computer it uses to support 24 mission-critical systems is outdated, and it is almost constantly in use so it cannot be used for time machine testing. By transferring its systems to Teale's more modern mainframes, the Controller's Office has the option to use Teale's time machine. If it does transfer its systems to Teale, the Controller's Office will rely upon Teale to ensure that the mainframe operating system is year 2000 compliant. However, Teale's failure to track the portions of the MVS operating system its customers test will limit its ability to measure the year 2000 readiness of the system and to provide such assurance to its clients.

Additionally, Teale allowed six clients to use the time machine with an earlier, compliant version of system software to determine year 2000 readiness and failed to inform them of this fact. As of November 1998, the clients had already tested 10 of their computer systems with the time machine. According to Teale staff, the center upgraded the MVS operating system software on December 27, 1998; therefore, the software that will actually be in use beginning January 1, 2000, is a newer version than the one the six clients tested.

We asked two independent experts, the Garner Group and IBM, whether this software upgrade would adversely affect the validity of the time machine tests performed prior to December 27, 1998. According to both experts, the software upgrade would probably not affect date calculations and, thus, the validity of the tests; however, to be sure, Teale should give each client the opportunity to investigate the potential impact on their individual systems. We suggested that Teale notify the six clients affected by the software upgrade, and Teale indicated it would do so.

Teale is not requiring its clients to discontinue using noncompliant commercial software.

Finally, Teale is not requiring its clients to discontinue using noncompliant commercial software products. Instead, Teale used a letter to notify its clients on December 1, 1998, that certain software products are not year 2000 ready. However, it did not identify when compliant software would be available or set a date when the noncompliant software would be removed from the data center computers. Instead, Teale stated in the letter that it will not assume responsibility or accept any liability arising from the functioning of agencies' systems, applications, or software after December 31, 1999. However, because of the potential risk that noncompliant software could corrupt data or lead to an unstable processing environment, we believe that Teale should be more aggressive and set a deadline for removing all noncompliant software from its computers.

RECOMMENDATIONS

To affirm that its own computers will operate properly after January 1, 2000, Teale should monitor its clients' use of its time machine and consider further testing for those components not tested by the clients. Further, to ensure that its clients' computer systems operate without interruption and to allow certain clients the opportunity to research whether additional testing is required, Teale should notify the six clients that used an earlier software version in Teale's time machine. Finally, Teale should take action to remove any noncompliant software products from its computers before January 2000. ■

Blank page inserted for reproduction purposes only.

CHAPTER 4

The State Must Coordinate Efforts to Ensure Year 2000 Problems Will Not Interrupt Essential Utilities, Such as Electricity and Telephone Services

CHAPTER SUMMARY

Even state agencies' best efforts to make their computer systems year 2000 ready could prove meaningless if essential utilities are not available. Nearly all state agencies, as well as the private sector, deliver essential services to Californians by means of computer systems that depend on electric and telecommunication utilities. The major power failure that occurred in San Francisco in December 1998 dramatically illustrates how quickly and broadly the loss of electricity in particular can impact everyone.

Although no single entity is charged with overseeing the year 2000 preparedness of all utilities in California, the California Public Utilities Commission (PUC), has recently begun collecting year 2000 information from telecommunication providers and the electric utilities it regulates. Nevertheless, it will not complete its analysis before April 1999, delaying both identification of, and enforcement against, unprepared providers. Additionally, its survey does not give a complete picture of electric utilities' readiness because it does not regulate all of these providers.

Moreover, the State's electrical systems are interconnected with larger, multi-state networks, so problems outside California could also cause service disruptions within the State. Although results of a national assessment conducted by the North American Electric Reliability Council (NERC) give an encouraging report of the electric industry's year 2000 readiness, we consider the results preliminary because more than half of the mission-critical systems have not been tested. Neither has the NERC required 2,900 distributors to prepare contingency, or business continuation, plans.

Although regulators and others are collecting information on segments of utility companies' year 2000 remediation efforts, we believe that a more comprehensive assessment, coordinated and focused by a single entity at the State level, is needed to provide state agencies with the greatest level of assurance that essential utility services will not be interrupted by year 2000 problems.

BACKGROUND

The electrical industry in California is composed of a complex network of local distribution lines, regional transmission lines, and generating facilities. The electric utilities the PUC regulates typically operate the transmission and local distribution lines that distribute electricity to individual homes and businesses and, in some instances, also operate the generation facilities, such as hydroelectric, geothermal, and nuclear plants. With the recent deregulation of the electrical industry, two new entities, the Independent System Operator and the California Power Exchange (Power Exchange) also play roles in California's electrical system. The Independent System Operator manages the regional transmission lines and reliability of the system, and the Power Exchange provides a competitive marketplace for utilities and power marketers, brokers, and suppliers. Both organizations are nonprofit, and the California Electricity Oversight Board oversees them.

California's electrical systems are part of an interconnected grid which serves 65 million people in 14 states and portions of Canada and Mexico.

These electrical systems belong to one of three major electrical grids, or regions, in North America. California is part of the Western Interconnection (western grid), which serves over 65 million people in 14 western states, 2 Canadian provinces, and a small portion of Mexico. All of the generators and electrical loads within the western grid are interconnected and operate together. Overseeing the western grid is the Western Systems Coordinating Council (Coordinating Council), which develops operating reliability criteria and policies that its voluntary members agree to follow. The Coordinating Council, in turn, is part of the North American Electric Reliability Council.

Telecommunication services in California are also delivered through a network, although it is less complex than the electrical industry's system. Typically, one carrier, such as Pacific Bell, supplies local service, and another carrier, such as AT&T or MCI WorldCom, provides long-distance service. However, local

carriers connect most long-distance calls to the long-distance provider. Further, telecommunication providers must rely on the electrical industry's network to deliver their services.

ALTHOUGH THE PUC IS SURVEYING CALIFORNIA'S TELECOMMUNICATION PROVIDERS ON YEAR 2000 READINESS, NO SINGLE STATE ENTITY IS MONITORING CALIFORNIA'S COMPLEX NETWORK OF ELECTRIC UTILITIES

In determining the degree of year 2000 readiness of the State's essential utilities, we discovered that no single organization has a full understanding of their progress. The PUC, the Independent System Operator, and the California Electricity Oversight Board monitor various parts of the electrical grid, but none monitor the progress made for all facets of the industry or report on the year 2000 readiness of this critical service on a statewide basis.

The PUC regulates investor-owned utilities but does not monitor municipal utilities or the western grid.

In fact, no single entity regulates or monitors California's entire electrical industry. Instead, a variety of entities, including commissions, elected boards, and nonprofit organizations each monitor portions of the system. For example, the PUC regulates investor-owned utilities, such as PG&E, but does not monitor municipal utilities, such as the Sacramento Municipal Utility District, which an elected board of directors governs. Nonprofit organizations oversee other portions of the State's electrical system. For instance, the nonprofit Independent System Operator controls the high-voltage transmission lines. The result is a loose confederation of oversight and regulation. This condition is further complicated by California's connection to the multistate western grid.

Although NERC monitors efforts at a national level, it is compiling self-reported information and does not isolate data from individual states. Therefore, we cannot draw conclusions about California's readiness for the year 2000 from this information.

The major power failure in San Francisco on December 8, 1998, which snarled traffic and left more than 300,000 customers without electricity for nearly eight hours, is a dramatic example of how quickly and broadly the loss of this utility can affect everyone. Traffic signals and computers did not work, mass-transit trains did not run, and businesses were forced to close for the day. Although this outage was not attributed to a year 2000

problem, it illustrates the domino effect a seemingly isolated power outage can have. Electric power is particularly vulnerable because many systems are interconnected, underscoring the importance of comprehensive monitoring for year 2000 readiness in California's electrical industry.

The PUC's data on the telecommunication industry is more comprehensive than for electric providers because it does regulate all of the State's telecommunication providers. In addition, most state agencies use a statewide telecommunications network operated by Pacific Bell and MCI WorldCom for their telecommunication services. Although a recent contract between the State and these providers requires that the network function properly in the new millennium, portions of the network will use existing telecommunication equipment that serve both state and private users. As a result, state agencies will have to rely on the general year 2000 readiness of Pacific Bell and MCI WorldCom. Their readiness is monitored by the PUC and is subject to the same limitations we discuss below.

THE PUC SURVEYED THE UTILITIES IT REGULATES ON THEIR YEAR 2000 PREPAREDNESS

In November 1998, the PUC surveyed all the electric and telecommunication utilities it regulates on their year 2000 progress. It modeled the survey after the United States General Accounting Office's Program Assessment Checklist and solicited details on remediation efforts, replacement schedules, contingency plans, testing, and high-priority systems, as well as other information. The initial survey responses (progress reports) were due on December 15, 1998, with quarterly updates beginning March 15, 1999. In addition, the PUC asked each utility to certify by November 1, 1999, that all of its essential service delivery systems are year 2000 compliant or ready.

Results from the PUC's survey may not be available until April 1999 and will provide information only for those utilities it regulates.

The PUC's survey of year 2000 progress is important; however, we are concerned about this undertaking for three reasons. First, we question whether the PUC can quickly identify those utilities that are slow to progress. Second, we question whether the PUC's planned enforcement actions will be effective. Third, although the PUC does have jurisdiction over the entire telecommunication system, it does not have jurisdiction over portions of the electrical system.

To assess whether a particular utility provider is slow in remediating year 2000 problems, jeopardizing overall completion by January 1, 2000, we believe the PUC would need to compare at least two progress reports. Since the first progress report was due on December 15, 1998, and the second is not due until March 15, 1999, it appears that the earliest the PUC could identify lagging progress would be April 1999, presuming it needs time to compile the survey responses.

We asked the PUC whether it will be able to take swift corrective or enforcement actions once it identifies slow progress. Its response was, "If formal enforcement action appears to be the only clear way to secure a utility's compliance, the commission has the option to issue an Order Instituting Investigation. Formal actions such as these can be initiated within a few weeks but can take considerably longer to resolve." If the PUC does not identify until April utilities that may not complete year 2000 remediation by January 2000, and its enforcement actions require a considerable amount of time to resolve, it is doubtful whether such enforcement actions will be timely or effective.

Moreover, even if each electrical utility the PUC regulates remedies its year 2000 problems, because the PUC does not regulate about 25 percent of the electric providers in California or the high-voltage transmission lines, it cannot assess the readiness of the statewide electrical system.

ALTHOUGH OTHER AGENCIES MONITOR PORTIONS OF THE ELECTRICAL INDUSTRY, A COMPLETE PICTURE OF YEAR 2000 PREPARATIONS IS LACKING

The NERC conducted a national survey but its results are preliminary because more than half of mission-critical components have not yet been tested.

While the PUC is monitoring its regulated utilities, the California Electricity Oversight Board tracks the year 2000 efforts of the Independent System Operator and the Power Exchange. Additionally, NERC has collected national information on the electric industry's year 2000 readiness at the request of the United States Department of Energy. Based on its survey of almost 3,100 entities responsible for generating and distributing electricity in the nation, NERC indicated that 44 percent of the electrical system's mission-critical components have been tested as of November 1998. Findings thus far indicate only minimal operational difficulties, such as incorrect dates in event logs or displays, which do not appear to affect the industry's ability to

supply electricity. Finally, NERC reported that approximately 200 bulk power transmitters will have operational contingency plans completed by the end of June 1999.

In September 1998, NERC issued a report recommending that year 2000 remediation and testing be completed by May 31, 1999, and that mission-critical year 2000 systems be ready by June 30, 1999. To test operations under year 2000 conditions, NERC will conduct two coordinated drills on April 9, 1999, and September 8 and 9, 1999. NERC's report is optimistic about the readiness of the nation's electrical utilities.

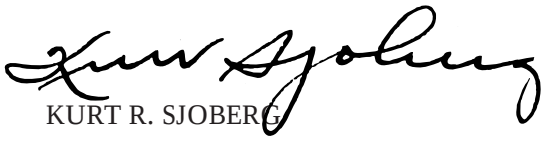
Although we view the report as encouraging, it is still preliminary because more than half of the mission-critical components have not been tested yet, and NERC's conclusions are based on self-reported information rather than on objective assessments. Additionally, NERC did not require 2,900 distributors to prepare contingency, or business continuation plans. Without these plans, NERC cannot assure the public that utilities will deliver electricity regardless of lingering year 2000 problems.

RECOMMENDATION

The governor or Legislature should designate one representative or agency to assess and disclose the year 2000 readiness of critical public utilities serving California, such as electrical and telecommunication services, to assure that utilities critical to state agencies are year 2000 ready.

We conducted this review under the authority vested in the California State Auditor by Section 8543 et seq. of the California Government Code and according to generally accepted governmental auditing standards. We limited our review to those areas specified in the audit scope section of this report.

Respectfully submitted,



KURT R. SJOBERG
State Auditor

Date: February 18, 1999

Staff: Doug Cordiner, Audit Principal
Bill Shepherd, CPA
Robert Cabral, CPA, CIA
Alan Ma
Reed M. McDermott, CPA
Michelle J. Tabarracci, CISA

Blank page inserted for reproduction purposes only.

APPENDIX A

State Agencies We Identified With Vital Program Services

As discussed in the Scope and Methodology, we selected 14 agencies whose programs affect the immediate safety, health, or economic well-being of a large number of Californians. To choose the 14, we considered the number of residents their critical services might immediately affect and the likelihood the services would be needed at the beginning of the millennium.

Table 3 lists the 14 agencies and 17 programs we identified and briefly describes their critical services.

TABLE 3

State Agencies We Identified With Vital Program Services

Agency Name	Program	Description of Critical Program Services
Public Health and Safety		
1. Department of Health Services	Health Care Services	Furnishes publicly financed health care to millions of low-income California residents.
2. Department of Water Resources	Implementation of the State Water Resources Development System	Supplies water for two-thirds of California's residents through a massive water storage and delivery system of reservoirs, aqueducts, power plants, and pumping stations, which spans two-thirds of the State.
	Public Safety and Prevention of Damage	Protects life and property from damage or destruction by floods.
3. Office of Emergency Services	Mutual Aid Response	Coordinates response to major disasters.
4. Military Department	Army National Guard	Mobilizes troops in emergencies. Safeguards arms and ammunition.
5. Department of Justice	Criminal Justice Information Services	Supplies law enforcement and courts with critical information on criminal histories, wanted persons, and stolen vehicles.
6. Department of Corrections	Institution Program	Houses over 156,000 inmates.
7. University of California	Research	Safeguards hazardous materials or biological substances used in laboratory research.
	Teaching Hospitals	Ensures life-sustaining medical equipment at university hospitals functions properly.
8. Department of Social Services	Welfare Program Operations	Assists the needy in meeting basic needs for food, shelter, and clothing.
	Social Services and Licensing	Provides subsistence payments for in-home care of elderly, blind, and disabled residents, as well as neglected, abused, or exploited children and adults who cannot protect their own interests.

Agency Name	Program	Description of Critical Program Services
Payments		
9. Public Employees' Retirement System	Retirement	Provides retirement benefits to over 331,000 retired public employees and their beneficiaries.
10. State Teachers' Retirement System	Services to Members and Employers	Provides retirement benefits to over 175,000 retired teachers and their beneficiaries.
11. State Controller's Office	Disbursements and Support	Disburses payment for the State's obligations, including payments for vendor-provided products and services; personal income tax refunds; public employee payroll; and retirement benefits of teachers, public employees, and their beneficiaries.
Revenue		
12. State Board of Equalization	Sales and Use Tax Program	Collects business taxes statewide and redistributes funds to local counties, cities, and special taxing authorities.
13. Employment Development Department	Tax Collections and Benefit Payment Program	Collects withholdings from businesses for unemployment and disability insurance.
14. Franchise Tax Board	Tax Programs	Collects state income taxes from individuals, banks, and corporations that make up a significant portion of the State's General Fund revenue.

Blank page inserted for reproduction purposes only.

APPENDIX B

State Agencies' Year 2000 Readiness: A Review of Programs Listed in the Governor's Budget

To review state agencies' readiness for the year 2000, we surveyed each agency listed in the 1998-99 Governor's Budget. Our survey asked each agency to respond to seven questions for all computer systems supporting each of their programs. The questions focused on the agencies' efforts to test their computer systems, identify and remediate interfaces with external parties, address embedded systems, and prepare business continuation plans. We believe that each of these areas must be assessed, and if necessary, fixed before an agency can consider itself prepared to deliver uninterrupted services to Californians in the next millennium.

As Table 4 shows, we surveyed all 140 state agencies that provide services to Californians through 462 programs. Agencies responded to each question either by indicating the task was complete, not applicable, or by listing an estimated completion date. In summary, for 296 of the programs (64 percent), agencies indicated that they had not completed one or more key steps—conducting planned testing, removing threats caused by embedded technology, and resolving potential problems associated with data exchange partners—by December 31, 1998, for one or more computer systems.

We analyzed the results of this survey in Chapter 2.

SURVEY QUESTIONS

Questions 1 through 4 related to testing, which is an important part of preparing computer systems to operate correctly in the year 2000. Industry experts generally believe that testing a computer system will take between 50 to 70 percent of the total time and resources necessary to make a computer system year 2000 ready. Our four questions were designed to address testing issues for a wide variety of computer systems, including mainframe systems where thousands of lines of computer code must

be reviewed, fixed, and tested. More modern systems may use off-the-shelf software but may still require testing to be sure that the system will operate correctly.

- Question 1: Is program code remediated and is unit-level testing complete?

- Question 2: Is integrated testing of software units and applications complete?

- Question 3: Have all application software and hardware been tested in a production environment and accepted by the users?

- Question 4: Have all systems that support this program been tested in an isolated environment where the hardware clock has been manually set to future dates?

Question 5 asked whether all external data exchange partners had been identified and contacted, a data format established, and shared data tested. Data exchange partners are external parties who supply data to, or receive data from, an entity. In either case, one entity relies on the other to provide data in an agreed-upon format. Despite having completed planned testing, improperly formatted data from exchange partners could easily corrupt critical operations.

Question 6 asked whether embedded systems that support this program had been surveyed, assessed, prioritized, and fixed. Embedded systems use microprocessors or chips to control, monitor, communicate, or operate equipment. Examples include telecommunication equipment, control equipment in high-speed scanners, and medical devices used in hospitals. Because embedded systems can be found almost anywhere, agencies must identify all of their embedded systems, assess the potential impacts of those systems in the year 2000, and, if necessary, develop plans to fix or replace the systems.

Finally, Question 7 asked whether business continuation plans had been established to ensure uninterrupted services. A business continuation plan should address problems an agency may experience if its year 2000 efforts fail or result in delays. The plans must also address potential failures or delays of others, including data exchange partners and infrastructure providers. While it is not possible for anyone to be 100 percent certain that critical operations will continue in a real environment without

interruptions, business continuation plans should have clear and well-reasoned solutions to potential problems. This is especially important to ensure that Californians receive uninterrupted services, in case unforeseen problems crop up.

Table 4 contains a detailed list of the survey results, categorized into the following groups:

- Agencies reporting mission-critical systems to the Department of Information Technology (DOIT)
- Agencies reporting only noncritical systems to DOIT
- Agencies that are not required to report to DOIT
- Agencies that responded “n/a” to all seven questions
- Agencies that did not respond for some programs
- Agencies that did not respond to our survey

TABLE 4

Readiness Survey: Responses From Agencies About Their Programs

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Agencies With Mission-Critical Systems								
Agricultural Labor Relations Board	10-Board Administration	n/a	Yes	Yes	Yes	n/a	n/a	Yes
	20-General Counsel Administration	n/a	Yes	Yes	Yes	n/a	n/a	Yes
	30-Administrative Services	n/a	Yes	Yes	Yes	n/a	n/a	Yes
Air Resources Board	15-Mobile Source	12/31/99	12/31/99	12/31/99	12/31/99	Yes	12/31/99	Yes
	25-Stationary Source	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	30-Program Direction and Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	35-Subvention	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alcoholic Beverage Control Appeals Board	10-Administrative Review	n/a	n/a	n/a	n/a	n/a	3/30/99	n/a
Alcoholic Beverage Control, Department of	10-Administration of the Alcoholic Beverage Control Act	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	6/30/99	6/30/99
Boating and Waterways, Department of	20-Boating Operations	10/1/99	n/a	10/1/99	10/1/99	10/1/99	10/1/99	10/1/99
	40-Administration	Yes	1/31/99	1/31/99	1/31/99	n/a	n/a	Yes
Conservation, Department of	10-Geologic Hazards and Mineral Resources Conservation	Yes	Yes	Yes	Yes	Yes	n/a	n/a
	20-Oil, Gas, and Geothermal Resources	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	n/a	n/a
Consumer Affairs, Department of	03-Board of Accountancy	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	06-Board of Architectural Examiners	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	09-Athletic Commission	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	18-Board of Behavioral Science Examiners	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	30-Contractors' State License Board	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	36-Board of Dental Examiners	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	51-Board of Registration for Geologists and Geophysicists	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	54-Guide Dogs for the Blind	n/a	n/a	8/1/99	10/1/99	n/a	12/31/99	6/30/99
	63-Medical Board of California	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	69-Board of Optometry	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	72-Board of Pharmacy	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	75-Board of Registration for Professional Engineers and Land Surveyors	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	78-Board of Registered Nursing	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	81-Board of California Court Reporters	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	84-Structural Pest Control Board	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Consumer Affairs, Department of (continued)	90-Veterinary Medical Board	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
	91-Board of Vocational Nurse and Psychiatric Technician Examiners	6/1/99	7/1/99	8/1/99	10/1/99	9/30/99	12/31/99	6/30/99
Control, Board of	11-Citizen Indemnification	Yes	Yes	Yes	3/31/99	Yes	Yes	Yes
	21-Disaster Relief Claim Program	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	Yes
	31-Civil Claims Against the State	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	Yes
	41-Citizens Benefiting the State (Good Samaritans)	Yes	Yes	Yes	3/31/99	Yes	Yes	Yes
	51-Administration	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/30/99
Controller, State	10-Accounting and Reporting	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
	20-Audits	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
	30-Personnel/Payroll Services	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
	40-Information Systems	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
	50-Collections	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
	60-Disbursements and Support	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
Corporations, Department of	10-Investment Program	12/31/98	12/31/98	3/31/99	3/31/99	n/a	4/1/99	6/30/99
	20-Lender-Fiduciary Program	12/31/98	12/31/98	3/31/99	3/31/99	n/a	4/1/99	6/30/99
	30-Health Plan Program	12/31/98	12/31/98	3/31/99	3/31/99	n/a	4/1/99	6/30/99
	50-Administration	12/31/98	12/31/98	3/31/99	3/31/99	n/a	4/1/99	6/30/99
Corrections, Department of	*21-Institution Program*	Yes	Yes	3/1/99	n/a	n/a	12/3/99	5/31/99
	22-Health Care Services Program	Yes	Yes	1/25/99	Yes	n/a	6/30/99	5/31/99
	31-Community Correctional Program	4/22/99	5/15/99	5/19/99	5/28/99	n/a	6/30/99	5/31/99
	41-Administration	Yes	3/1/99	3/1/99	5/1/99	Yes	6/30/99	7/1/99
Criminal Justice Planning, Office of	20-Administration	Yes	Yes	Yes	6/30/99	n/a	3/1/99	6/30/99
	50-Criminal Justice Projects	Yes	Yes	Yes	6/30/99	n/a	3/1/99	6/30/99
Developmental Services, Department of	10-Community Services Program	Yes	Yes	Yes	Yes	Yes	n/a	6/30/99
	20-Developmental Centers Program	Yes	Yes	Yes	2/28/99	Yes	8/31/99	6/30/99
	35-Administration	Yes	Yes	Yes	Yes	Yes	n/a	n/a
Education, Department of	10-Instruction	Yes	Yes	Yes	Yes	Yes	6/30/99	Yes
	20-Instructional Support	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	30-Special Programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	41-Executive Management and Special Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	42-Department Management and Administrative Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Emergency Services, Office of	*15-Mutual Aid Response*	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
	35-Plans and Preparedness	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
	45-Disaster Assistance	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Emergency Services, Office of (continued)	55-Administration and Executive	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
	98-State Mandated Local Programs	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
Employment Development Department	10-Employment and Employment Related	6/4/99	7/30/99	7/30/99	12/21/99	7/30/99	n/a	Yes
	21-Tax Collections and Benefit Payments Program	6/4/99	7/30/99	7/30/99	12/21/99	7/30/99	9/30/99	Yes
	22-California Unemployment Insurance Appeals Board	6/15/99	5/21/99	5/21/99	5/14/99	4/23/99	Yes	Yes
	30-Administration program	6/4/99	7/30/99	7/30/99	12/21/99	7/30/99	n/a	3/31/99
	40-Welfare-to-Work Program	Yes	Yes	Yes	n/a	n/a	Yes	n/a
	60-Job Training Partnership Act Program	Yes	Yes	Yes	Yes	n/a	n/a	n/a
Energy Resources Development Commission, Conservation and	10-Regulatory and Planning	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99
	20-Energy Resource Conservation	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99
	30-Development	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99
	40.01-Policy, Management and Administration	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99
Environmental Health Hazard Assessment, Office of	Office of Environmental Health Hazard Assessment	3/31/99	3/31/99	3/31/99	Yes	12/30/98	12/15/98	12/15/98
Equalization, Board of	15-County Assessment Standards Program	2/26/99	3/30/99	3/30/99	n/a	Yes	Yes	6/30/99
	20-State-Assessed Property Program	2/26/99	3/30/99	3/30/99	n/a	2/26/99	Yes	6/30/99
	25-Timber Tax Program	3/8/99	5/10/99	5/31/99	5/31/99	Yes	Yes	6/30/99
	30-Sales and Use Tax Program	5/1/99	6/1/99	6/15/99	n/a	3/30/99	Yes	6/30/99
	35-Hazardous Substances Tax Program	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	40-Alcoholic Beverage Tax Program	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	41-Tire Recycling Fee Program	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	45-Cigarette and Tobacco Products Tax	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	50-Motor Vehicle Fuel License Tax	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	55-Diesel and Use Fuel Tax	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	56-Occupational Lead Poisoning Prevention Fee Program	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	57-Integrated Waste Management Fee Program	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	58-Underground Storage Tank Fee	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	59-Oil Spill Prevention	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	60-Energy Resources Surcharge	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	62-Childhood Lead Poisoning Prevention Fee Program	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	65-Emergency Telephone Users Surcharge	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	70-Insurance Tax	3/1/99	3/30/99	3/30/99	n/a	3/30/99	Yes	6/30/99
	80-Appeals From Other Government Programs	1/15/99	1/29/99	1/29/99	n/a	Yes	Yes	6/30/99
	85.01-Administration	5/1/99	6/1/99	6/15/99	n/a	Yes	7/1/99	6/30/99

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Fair Political Practices Commission	10-Fair Political Practices Commission	7/1/99	7/1/99	7/1/99	7/1/99	n/a	n/a	7/1/99
Financial Institutions, Department of	10-Licensing and Supervision of Banks and Trust Companies	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	20-Payment Instruments	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	30-Certification of Securities	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	50-Supervision of California Business and Industrial Development Corporation	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	60-Credit Unions	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	70-Savings and Loan	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	80-Industrial Loan Companies	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
	90-Administration	n/a	Yes	3/1/99	1/31/99	n/a	Yes	Yes
Fish and Game, Department of	10-Enforcement of Laws and Regulations	n/a	n/a	n/a	n/a	n/a	4/1/99	8/1/99
	15-Legal Services	n/a	n/a	n/a	n/a	n/a	4/1/99	8/1/99
	35-Wildlife Management and Natural Heritage Programs	7/1/99	7/1/99	7/1/99	7/1/99	7/1/99	4/1/99	8/1/99
	55-Fisheries Management	7/1/99	7/1/99	7/1/99	7/1/99	7/1/99	4/1/99	8/1/99
	60-Environmental Services	n/a	n/a	n/a	n/a	n/a	4/1/99	8/1/99
	65-Oil Spills Prevention Program	7/1/99	7/1/99	7/1/99	7/1/99	7/1/99	4/1/99	8/1/99
	70-Administration	9/1/99	9/1/99	9/1/99	9/1/99	9/1/99	4/1/99	8/1/99
Food and Agriculture, Department of	11-Agricultural Plant and Animal, Pest and Disease Prevention	n/a	n/a	9/30/99	n/a	n/a	9/30/99	n/a
	21-Marketing; Commodities and Agricultural Services	Yes	Yes	9/30/99	Yes	Yes	9/30/99	Yes
	31-Assistance to Fairs and County Agricultural Activities	n/a	n/a	9/30/99	n/a	n/a	9/30/99	n/a
	41-Executive Management and Administrative Services	Yes	Yes	9/30/99	n/a	Yes	9/30/99	Yes
Forestry and Fire Protection, Department of	10-Office of the State Fire Marshal	1/18/99	2/26/99	3/31/99	2/26/99	n/a	6/30/99	3/31/99
	11-Fire Protection	2/26/99	4/30/99	6/30/99	5/28/99	4/30/99	6/30/99	3/31/99
	12-Resource Management	1/29/99	2/28/99	3/12/99	3/1/99	n/a	6/30/99	3/31/99
	20-Administration	2/26/99	4/30/99	6/30/99	4/30/99	4/9/99	6/30/99	3/31/99
Franchise Tax Board	*10-Tax Programs*	6/30/99	Yes	Yes	Yes	Yes	11/1/99	11/1/99
	20-Homeowners and Renters Assistance	1/28/99	Yes	Yes	Yes	1/28/99	11/1/99	11/1/99
	40-Child Support Collections	Yes	Yes	Yes	Yes	Yes	11/1/99	11/1/99
	50-DMV Collections	Yes	Yes	Yes	Yes	Yes	11/1/99	11/1/99
	60-Court Collection Program	Yes	Yes	Yes	Yes	Yes	11/1/99	11/1/99
	70-Contract Work	Yes	Yes	Yes	Yes	Yes	11/1/99	11/1/99
	98-State Mandated Local Programs	Yes	Yes	Yes	Yes	Yes	11/1/99	11/1/99

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
General Services, Department of	10-Building Regulation Services	3/31/99	4/30/99	5/30/99	Yes	Yes	6/30/99	9/30/99
	15-Real Estate Services	Yes	Yes	Yes	Yes	Yes	6/30/99	9/30/99
	20-Statewide Support Services	10/31/99	10/31/99	10/31/99	Yes	Yes	6/30/99	9/30/99
	30.01-Administration	Yes	Yes	Yes	Yes	Yes	6/30/99	9/30/99
Health and Welfare Data Center	10-Facilities Operations	Yes	Yes	Yes	Yes	Yes	9/30/99	6/30/99
	20-Administration	Yes	Yes	Yes	Yes	Yes	9/30/99	Yes
	30-Systems Management Services	Yes	Yes	6/1/99	6/1/99	3/31/99	6/1/99	3/31/99
Health Services, Department of	10-Public and Environmental Health	3/31/99	3/31/99	3/31/99	6/30/99	10/15/99	6/30/99	6/30/99
	20-Health Care Services	6/30/99	6/30/99	6/30/99	6/30/99	10/15/99	6/30/99	6/30/99
	30-Administration	Yes	Yes	Yes	Yes	10/15/99	6/30/99	6/30/99
Highway Patrol, California	10-Traffic Management	Yes	4/1/99	4/1/99	4/1/99	6/1/99	7/1/99	7/1/99
	20-Regulation and Inspection	Yes	4/1/99	4/1/99	4/1/99	Yes	7/1/99	7/1/99
	30-Vehicle Ownership Security	Yes	4/1/99	4/1/99	4/1/99	6/1/99	7/1/99	7/1/99
	35-Protective Services	Yes	4/1/99	4/1/99	4/1/99	Yes	7/1/99	7/1/99
	40.01-Administration	Yes	4/1/99	4/1/99	4/1/99	6/1/99	7/1/99	7/1/99
Housing and Community Development, Department of	10-Codes and Standards Program	Yes	Yes	Yes	Yes	n/a	6/30/99	n/a
	20-Community Affairs Program	Yes	Yes	Yes	Yes	n/a	6/30/99	n/a
	30.01-Housing Policy Development Program	Yes	Yes	Yes	Yes	n/a	6/30/99	n/a
	50.01-Administration	Yes	Yes	Yes	Yes	n/a	6/30/99	n/a
Industrial Relations, Department of	10-Regulation of Workers' Compensation Self-Insurance Plans	Yes	Yes	2/28/99	2/28/99	n/a	n/a	n/a
	30-Workers' Compensation Administration	Yes	Yes	Yes	Yes	2/15/99	n/a	2/15/99
	35-Industrial Medical Council	Yes	Yes	3/31/99	3/31/99	n/a	n/a	n/a
	40-The Prevention of Industrial Injuries and Deaths to California Workers	Yes	Yes	4/15/99	4/15/99	Yes	n/a	2/15/99
	50-Enforcement and Promulgation of Laws Relating to Wages, Hours, and Conditions of Employment, and Licensing and Adjudication	Yes	Yes	3/31/99	3/31/99	n/a	n/a	n/a
	60-Promotion, Development, and Administration of Apprenticeship and Other On-the-Job Training	Yes	Yes	Yes	Yes	Yes	n/a	2/15/99
	94-Administration	n/a	n/a	4/15/99	4/15/99	n/a	n/a	n/a
Information Technology, Department of	10-Administration of Information Technology	n/a	n/a	n/a	n/a	n/a	6/30/99	n/a
Insurance, Department of	10-Regulation of Insurance Companies Insurance Producers	12/31/98	3/31/99	3/31/99	3/31/99	6/30/99	6/30/99	6/30/99
	20-Fraud Control	12/31/98	3/31/99	3/31/99	3/31/99	6/30/99	6/30/99	6/30/99

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Insurance, Department of (continued)	30-Tax Collection and Audit	12/31/98	3/31/99	3/31/99	3/31/99	6/30/99	6/30/99	6/30/99
	40-Earthquake Recovery Fund Management	12/31/98	3/31/99	3/31/99	3/31/99	6/30/99	6/30/99	6/30/99
	50.01-Administration	12/31/98	3/31/99	3/31/99	3/31/99	6/30/99	6/30/99	6/30/99
Justice, Department of	11.01-Directorate and Administration	Yes	Yes	1/31/99	1/31/99	3/31/99	6/30/99	6/30/99
	25-Executive Programs	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
	30-Civil Law	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	40-Criminal Law	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	45-Public Rights	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	50-Law Enforcement	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	60-Criminal Justice Information Services	Yes	1/22/99	3/31/99	3/31/99	3/31/99	6/30/99	6/30/99
	65-Gambling	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
	98-State Mandated Local Programs	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
Lottery Commission, California State	State Lottery Commission	5/1/99	5/30/99	6/30/99	5/30/99	6/30/99	Yes	6/30/99
Mental Health, Department of	10-Community Services	Yes	Yes	Yes	n/a	Yes	7/1/99	7/1/99
	20-Long Term Care Services	Yes	Yes	Yes	Yes	Yes	7/1/99	7/1/99
	35.01-Departmental Administration	n/a	n/a	n/a	n/a	n/a	7/1/99	7/1/99
Motor Vehicles, Department of	11-Vehicle/Vessel Identification and Compliance	Yes	Yes	Yes	6/30/99	9/30/99	n/a	3/31/99
	22-Driver Licensing and Personal Identification	Yes	Yes	6/30/99	6/30/99	9/30/99	n/a	3/31/99
	25-Driver Safety	Yes	Yes	1/11/99	1/11/99	n/a	Yes	3/31/99
	32-Occupational Licensing and Investigative Services	Yes	Yes	5/3/99	5/3/99	n/a	Yes	3/31/99
	35-New Motor Vehicle Board	n/a	n/a	n/a	n/a	n/a	n/a	6/30/99
	41-Administration	Yes	6/30/99	6/30/99	6/30/99	6/30/99	n/a	3/31/99
Parks and Recreation, Department of	Department of Parks and Recreation	n/a	12/31/98	6/30/99	n/a	n/a	6/30/99	6/30/99
Peace Officer Standards and Training, Commission on	10-Standards	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	20-Training	Yes	Yes	4/1/99	n/a	n/a	n/a	4/1/99
	30-Peace Officer Training	Yes	5/31/99	5/31/99	n/a	n/a	n/a	4/1/99
	40.01-Administration	Yes	Yes	Yes	n/a	n/a	7/1/99	4/1/99
Pesticide Regulation, Department of	12-Registration and Health Evaluation	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	17-Enforcement, Environmental Monitoring, and Data Management	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	20-Executive and Administrative Services	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
Public Defender, State	10-State Public Defender	n/a	Yes	Yes	Yes	n/a	Yes	n/a

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Real Estate, Department of	10-Licensing and Education	8/31/99	9/27/99	9/30/99	10/29/99	n/a	Yes	Yes
	20-Enforcement and Recovery	8/31/99	9/27/99	9/30/99	10/29/99	n/a	Yes	Yes
	30-Subdivisions	8/31/99	9/27/99	9/30/99	10/29/99	n/a	Yes	Yes
	40-Administration	8/31/99	9/27/99	9/30/99	10/29/99	n/a	Yes	Yes
Rehabilitation, Department of	10-Vocational Rehabilitation Services	Yes	Yes	Yes	Yes	3/31/99	Yes	1/31/99
	20-Habilitation Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	30-Support of Community Facilities	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	40-Administration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Social Services, Department of	*16-Welfare Programs*	1/12/99	1/28/99	1/28/99	6/30/99	6/30/99	6/30/99	6/30/99
	25-Social Services and Licensing	1/11/99	1/15/99	3/31/99	6/30/99	1/28/99	6/30/99	6/30/99
	35-Disability Evaluation and Other Services	Yes	Yes	Yes	n/a	Yes	6/30/99	6/30/99
	60-Administration	1/11/99	1/11/99	1/12/99	n/a	Yes	6/30/99	6/30/99
State Lands Commission	10-Mineral Resources Management	Yes	4/30/99	Yes	4/30/99	Yes	6/30/99	6/30/99
	20-Land Management	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	30-Executive and Administration	6/30/99	Yes	Yes	Yes	Yes	6/30/99	6/30/99
	40-Marine Facilities Management	Yes	Yes	Yes	Yes	Yes	6/30/99	6/30/99
Statewide Health Planning and Development, Office of	42-Facilities Development	Yes	Yes	Yes	Yes	n/a	n/a	6/30/99
	60-Health Facilities Data	Yes	Yes	Yes	1/31/99	6/30/99	n/a	6/30/99
	80-Administration	Yes	Yes	Yes	n/a	3/31/99	6/30/99	6/30/99
Stephen P. Teale Data Center	*10-Service Bureau Operations*	Yes	10/31/99	10/31/99	10/31/99	10/31/99	10/31/99	3/31/99
	20-Executive and Administrative Operations	Yes	Yes	Yes	Yes	Yes	Yes	3/31/99
Teachers' Retirement System, State	*10-Service to Members and Employers*	Yes	Yes	Yes	2/28/99	Yes	Yes	4/3/99
	20-Administration	n/a	n/a	n/a	n/a	Yes	Yes	4/3/99
Toxic Substances Control, Department of	12-Site Mitigation	Yes	Yes	Yes	n/a	n/a	n/a	n/a
	13-Hazardous Waste Management	Yes	Yes	Yes	n/a	n/a	n/a	n/a
	15-Statewide Support	Yes	Yes	Yes	n/a	n/a	n/a	n/a
Transportation, Department of	10-Aeronautics	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	20-Highway Transportation	Yes	Yes	Yes	n/a	Yes	6/30/99	7/30/99
	30-Mass Transportation	Yes	Yes	Yes	Yes	Yes	Yes	n/a
	40-Transportation Planning	Yes	Yes	Yes	Yes	Yes	n/a	n/a
	50-Administration	Yes	Yes	Yes	n/a	Yes	6/30/99	7/30/99
	60-Equipment Service Center	Yes	Yes	Yes	n/a	Yes	Yes	7/30/99
Treasurer, State	10-Investment Services	Yes	Yes	Yes	Yes	Yes	Yes	3/31/99
	20-Cash Management	3/31/99	3/31/99	3/31/99	3/31/99	3/31/99	Yes	3/31/99
	30-Public Finance	Yes	Yes	Yes	Yes	Yes	Yes	3/31/99
	50-Administration and Information	n/a	n/a	n/a	Yes	n/a	Yes	3/31/99

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Veterans Affairs, Department of	10-Farm and Home Loans to Veterans	4/1/99	4/1/99	5/28/99	4/1/99	4/1/99	4/1/99	4/1/99
	30-Care of Sick and Disabled Veterans	6/1/99	6/1/99	6/1/99	6/1/99	6/1/99	6/1/99	6/1/99
	40-Farm and Home Loans to National Guard Members	4/1/99	4/1/99	5/28/99	4/1/99	4/1/99	n/a	4/1/99
Water Resources, Department of	10-Continuing Formulation of the California Water Plan	Yes	Yes	Yes	Yes	Yes	Yes	8/1/99
	20-Implementation of the State Water Resources Development System	Yes	Yes	Yes	Yes	Yes	3/31/99	8/1/99
	30-Public Safety and Prevention of Damage	n/a	Yes	Yes	3/31/99	Yes	Yes	8/1/99
	50-Management and Administration	Yes	Yes	Yes	Yes	Yes	6/30/99	8/1/99
Water Resources Control Board, State	10-Water Quality	Yes	Yes	6/1/99	n/a	n/a	6/1/99	9/1/99
	20-Water Rights	Yes	Yes	6/1/99	n/a	n/a	6/1/99	9/1/99
	30-Administration	Yes	Yes	6/1/99	n/a	n/a	6/1/99	9/1/99
Youth Authority, Department of the	20-Institutions and Camps	9/2/99	9/2/99	9/2/99	10/15/99	Yes	6/30/99	6/30/99
	30-Parole Services and Community Corrections	9/2/99	9/2/99	9/2/99	10/15/99	Yes	6/30/99	6/30/99
	40-Education Services	9/1/99	9/1/99	9/1/99	10/15/99	Yes	6/30/99	6/30/99
	50-Administration	9/2/99	9/2/99	9/2/99	10/15/99	5/31/99	6/30/99	6/30/99

Agencies With Noncritical Systems

Administrative Law, Office of	10-Regulatory Oversight	3/1/99	3/1/99	3/1/99	Yes	n/a	n/a	3/1/99
Aging, Department of	10-Nutrition	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	20-Senior Community Employment	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	30-Supportive Services and Centers	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	40-Special Projects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	50.01-Administration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Alcohol and Drug Programs, Department of	15-Alcohol and Other Drug Services Program	12/31/98	12/31/98	6/30/99	6/30/99	12/31/98	12/31/98	6/30/99
Business, Transportation and Housing Agency, Secretary for	10-Administration of BT&H Agency	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
	30-Agency Audits Office	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
Coastal Commission, California	10-Coastal Management Program	Yes	Yes	Yes	4/15/99	4/15/99	6/1/99	6/1/99
	20-Coastal Energy Program	Yes	Yes	Yes	4/15/99	4/15/99	6/1/99	6/1/99
	30-Administration and Support Activities	Yes	Yes	Yes	4/15/99	4/15/99	6/1/99	6/1/99
Coastal Conservancy, State	15-Coastal Resource Development	Yes	Yes	Yes	Yes	Yes	n/a	Yes
	25-Coastal Resource Enhancement	Yes	Yes	Yes	Yes	Yes	n/a	Yes

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Community Services and Development, Department of	20-Energy Programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	40-Community Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	50-Administration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Consumer Affairs, Department of	Department of Consumer Affairs, Bureaus, Programs, and Divisions	Yes	11/20/98	1/31/99	12/4/98	4/15/99	12/31/99	6/30/99
Corrections, Board of	11-Corrections Standards and Services	Yes	Yes	Yes	Yes	n/a	Yes	Yes
	21-Standards and Training for Local Officers	Yes	Yes	Yes	Yes	n/a	Yes	Yes
	31-Administration	Yes	Yes	Yes	Yes	n/a	Yes	Yes
Emergency Medical Services Authority	10-Emergency Medical Services Authority	Yes	Yes	Yes	Yes	Yes	12/31/98	11/30/98
Fair Employment and Housing Commission	10-Fair Employment and Housing Commission	n/a	n/a	Yes	n/a	n/a	n/a	Yes
Fair Employment and Housing, Department of	50-Administration of Civil Rights Law	6/30/99	6/30/99	6/30/99	6/30/99	12/15/98	6/30/99	2/1/99
Finance, Department of	10-Annual Financial Plan	Yes	Yes	Yes	Yes	Yes	n/a	n/a
	20-Program and Information System Assessments	Yes	Yes	Yes	Yes	Yes	n/a	n/a
	30-Supportive Data	Yes	Yes	Yes	Yes	Yes	n/a	n/a
	40-Administration	Yes	Yes	Yes	Yes	Yes	n/a	n/a
Health and Human Services Agency, Secretary for	10-Secretary for Health and Human Services	n/a	Yes	12/31/98	12/31/98	n/a	Yes	n/a
Horse Racing Board, California	10-California Horse Racing Board	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	20.01-Administration	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Housing Finance Agency, California	10-Lending and Program Activity	Yes	12/31/98	n/a	12/31/98	6/30/99	6/30/99	Yes
	20-Insurance Activity	Yes	Yes	n/a	Yes	Yes	6/30/99	Yes
Integrated Waste Management Board, California	10-Planning and Enforcement	Yes	Yes	Yes	n/a	n/a	Yes	Yes
	15-Disposal Site Cleanup and Maintenance	Yes	Yes	Yes	n/a	n/a	Yes	Yes
	20-Waste Reduction and Resource Recovery	Yes	Yes	Yes	n/a	n/a	Yes	Yes
Judicial Performance, Commission on	10-Commission on Judicial Performance	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99
Law Revision Commission, California	10-California Law Revision Commission	n/a	Yes	Yes	n/a	n/a	n/a	n/a
Library, California State	10-State Library Services	n/a	n/a	n/a	6/30/99	6/30/99	6/30/99	9/30/99
	20-Library Development Services	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	9/30/99
	30-Information Technology Services	n/a	Yes	6/30/99	6/30/99	Yes	6/30/99	9/30/99
	40-Administration	n/a	n/a	6/30/99	6/30/99	6/30/99	6/30/99	9/30/99
Managed Risk Medical Insurance Board	10-Major Risk Medical Insurance Program	11/15/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98	12/31/98
	20-Access for Infants and Mothers Program	2/1/99	2/1/99	2/1/99	2/1/99	2/1/99	2/1/99	2/1/99
	30-Health Insurance Plan of California	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99	7/30/99
	40-Healthy Families Program	2/1/99	2/1/99	3/1/99	n/a	3/1/99	3/1/99	3/1/99

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Medical Assistance Commission, California	10-California Medical Assistance Commission	n/a	Yes	Yes	Yes	n/a	1/31/99	1/31/99
Personnel Administration, Department of	20-Labor Relations	4/1/99	6/1/99	6/30/99	12/31/98	n/a	6/30/99	6/30/99
	25-Legal	n/a	n/a	6/30/99	12/31/98	n/a	6/30/99	6/30/99
	40-Administration	n/a	n/a	6/30/99	12/31/98	n/a	6/30/99	6/30/99
	52-Classification and Compensation	3/1/99	6/1/99	6/30/99	12/31/98	6/1/99	6/30/99	6/30/99
	54-Benefits Administration	6/1/99	6/1/99	6/30/99	12/31/98	6/1/99	6/30/99	6/30/99
	56-Training and Continuous Development	n/a	3/1/99	6/30/99	12/31/98	n/a	6/30/99	6/30/99
	58-Merit Award	Yes	12/31/98	6/30/99	12/31/98	n/a	6/30/99	6/30/99
Personnel Board, State	10-Merit System Administration	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	9/14/99	Yes
	40-Local Government Services	6/30/99	6/30/99	6/30/99	6/30/99	6/30/99	n/a	6/30/99
	50.01-Administrative Services	9/30/99	9/30/99	9/30/99	9/30/99	12/31/98	9/14/99	Yes
Public Employment Relations Board	11-Public Employment Relations	Yes	Yes	Yes	Yes	n/a	n/a	Yes
Public Utilities Commission	10-Regulation of Utilities	2/1/99	5/1/99	6/1/99	5/1/99	10/1/99	n/a	10/1/99
	20-Regulation of Transportation	5/1/99	7/1/99	10/1/99	7/1/99	n/a	Yes	Yes
	30.01-Administration	7/1/99	7/1/99	9/1/99	7/1/99	7/1/99	Yes	Yes
Real Estate Appraisers, Office of	10-Administration of Real Estate Appraisers Program	Yes	Yes	Yes	12/31/98	12/31/98	Yes	12/31/98
Secretary of State	05-Business Programs	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	10-Elections	n/a	n/a	n/a	n/a	n/a	Yes	Yes
	15-Political Reform	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	30-Archives	n/a	n/a	n/a	n/a	n/a	Yes	Yes
	35-Management Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	38-Information Technology	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Mandates, Commission on	10-Administration	n/a	12/31/98	12/31/98	12/31/98	n/a	12/31/98	12/31/98
Tahoe Conservancy, California	10-Tahoe Conservancy	Yes	Yes	Yes	n/a	n/a	Yes	n/a
Teacher Credentialing, Commission on	10.10-Certification, Assignment, and Waivers	Yes	Yes	Yes	Yes	Yes	Yes	3/1/99
	10.30-Professional Practices	12/15/98	12/15/98	12/15/98	12/15/98	n/a	12/15/98	12/15/98
Trade and Commerce Agency	10-Economic Development	6/30/99	7/30/99	7/30/99	7/30/99	6/30/99	6/30/99	6/30/99
	20-International Trade and Investment	6/30/99	7/30/99	7/30/99	7/30/99	n/a	6/30/99	6/30/99
	25-Marketing and Communications	n/a	n/a	n/a	n/a	n/a	6/30/99	n/a
	30-Tourism	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
	40-Contract, Grants and Loans	Yes	Yes	Yes	6/30/99	n/a	6/30/99	6/30/99
	60-Economic Research and Strategic Planning	n/a	n/a	n/a	n/a	n/a	6/30/99	n/a
	70.01-Administration	Yes	Yes	Yes	6/30/99	n/a	6/30/99	6/30/99
Traffic Safety, Office of	10-California Traffic Safety Program	n/a	Yes	Yes	Yes	Yes	6/1/99	Yes
Youthful Offender Parole Board	10-Youthful Offender Parole Board	n/a	n/a	n/a	6/30/99	6/30/99	6/30/99	11/30/99

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Agencies Not Required to Report to the Department of Information Technology								
California Community Colleges, Board of Governors of the	10-Apportionments	6/30/99	6/30/99	6/30/99	n/a	6/30/99	6/30/99	n/a
	20-Special Services	6/30/99	6/30/99	6/30/99	n/a	6/30/99	6/30/99	n/a
	30-Administration	6/30/99	6/30/99	Yes	n/a	Yes	6/30/99	n/a
	98-State-Mandated Local Programs	6/30/99	6/30/99	6/30/99	n/a	6/30/99	6/30/99	n/a
Child Development Policy Advisory Committee	10-Child Development Policy Advisory Committee	Yes	Yes	Yes	Yes	Yes	n/a	n/a
Coachella Valley Mountains Conservancy	10-Coachella Valley Mountains Conservancy	n/a	Yes	Yes	n/a	n/a	n/a	n/a
Conservation Corps, California	10-Training and Work Program	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Debt and Investment Advisory Commission, California	10-California Debt and Investment Advisory Commission	Yes	Yes	12/31/98	Yes	n/a	n/a	Yes
Debt Limit Allocation Committee, California	10-California Debt Limit Allocation Committee	n/a	n/a	Yes	Yes	n/a	n/a	Yes
Delta Protection Commission	10-Delta Protection	1/1/99	1/1/99	1/1/99	1/1/99	1/1/99	1/1/99	3/1/99
Developmental Disabilities, Area Boards on	10-Area Boards Services	n/a	n/a	n/a 1	/1/00	n/a	n/a	n/a
Developmental Disabilities, State Council on	10-State Council Planning and Operations	n/a	n/a	n/a	n/a	n/a	2/19/99	7/1/99
	20-Community Program Development	n/a	n/a	n/a	n/a	n/a	2/19/99	7/1/99
Hastings College of the Law	10-Instruction Program	6/30/99	6/30/99	6/30/99	6/30/99	12/1/99	12/1/99	12/1/99
	20-Public and Professional Services Program	n/a	12/1/99	12/1/99	12/1/99	n/a	12/1/99	12/1/99
	30-Academic Support Program—Law Library	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	40-Student Services Program	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	50-Institutional Support Program	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	55-Operation and Maintenance of Plant	n/a	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
Industrial Development Financing Advisory Commission, California	10-California Industrial Development Financing Advisory Commission	n/a	n/a	Yes	Yes	n/a	Yes	n/a
Judicial	10-Supreme Court	2/28/99	3/31/99	3/31/99	3/31/99	3/31/99	6/30/99	Yes
	20-Courts of Appeal	12/31/99	1/30/99	1/30/99	1/30/99	1/30/99	6/30/99	Yes
	30-Judicial Council	Yes	12/31/98	12/31/98	12/31/98	12/31/98	Yes	Yes
Legislative Counsel Bureau	Legislative Counsel Bureau	Yes	Yes	Yes	Yes	Yes	7/1/99	7/1/99
Lieutenant Governor, Office of the	10-General Activities	n/a	n/a	n/a	n/a	n/a	6/30/99	6/30/99
Military Department	*10-Army National Guard*	n/a	n/a	n/a	n/a	n/a	5/1/99	7/31/99
	20-Air National Guard	n/a	n/a	n/a	n/a	n/a	12/31/99	7/31/99

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
Military Department (continued)	30.01-Office of the Adjutant General	n/a	n/a	n/a	n/a	n/a	5/1/99	7/31/99
	35-Military Support to Civil Authority	n/a	n/a	n/a	n/a	n/a	5/1/99	7/31/99
	40-Military Retirement	n/a	n/a	n/a	n/a	n/a	5/1/99	7/31/99
	65-California National Guard Youth Programs	n/a	n/a	n/a	n/a	n/a	5/1/99	7/31/99
Native American Heritage Commission	10-Native American Heritage Commission	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Organization and Economy, Milton Marks Commission on State Government	10-Milton Marks Commission on State Government Organization and Economy	n/a	n/a	n/a	n/a	n/a	6/30/98	n/a
Pilot Commissioners for the Bays of San Francisco, San Pablo, and Suisun, Board of	10-Board of Pilot Commissioners	n/a	n/a	Yes	Yes	n/a	n/a	Yes
Postsecondary Education Commission, California	Postsecondary Education Commission	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Prison Terms, Board of	10-Board of Prison Terms	4/1/99	n/a	4/1/99	n/a	n/a	n/a	Yes
Public Employees' Retirement System	*10-Retirement*	2/16/99	6/22/99	6/22/99	6/22/99	12/18/98	12/31/98	Yes
	30-Health Benefits	Yes	4/15/99	4/15/99	4/15/99	12/18/98	12/31/98	n/a
	40-Investment Operations	12/31/98	12/31/98	12/31/98	12/31/98	Yes	n/a	Yes
	50-Administration	Yes	12/31/98	12/31/98	12/31/98	Yes	3/30/99	Yes
San Francisco Bay Conservation and Development Commission	10-Bay Conservation and Development	n/a	n/a	n/a	n/a	n/a	Yes	n/a
Science Center, California	10-Education	n/a	n/a	Yes	Yes	n/a	n/a	Yes
	30-California African-American Museum	n/a	n/a	Yes	Yes	n/a	n/a	n/a
	40-Administration	n/a	n/a	Yes	Yes	n/a	n/a	Yes
Seismic Safety Commission	10-Seismic Safety	12/31/99	12/31/99	10/31/99	10/31/99	n/a	12/31/99	10/31/99
State University, California	01-Instruction	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	02-Research	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	03-Public Services	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	04-Academic Support	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	05-Student Services	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	06-Institutional Support	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	07-Operation and Maintenance of Plant	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	08-Student Financial Aid	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
	09-Auxiliary Enterprises	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99	12/1/99
Student Aid Commission, California	15-Financial Aid Grants Program	2/1/99	6/1/99	1/1/99	Yes	Yes	Yes	Yes
	50-California Loan Program	Yes	Yes	Yes	Yes	Yes	Yes	Yes
	80.01-Administration and Support Services	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Tax Credit Allocation Committee, California	10-California Tax Credit Allocation Committee	n/a	n/a	Yes	Yes	n/a	Yes	n/a

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name	Survey Responses Q1	Q2	Q3	Q4	Q5	Q6	Q7
University of California[1]	05-Instruction—General Campuses 05-Instruction—Health Sciences 05-Instruction—Summer Sessions 05-Instruction—University Extension *10-Research* 15-Public Service 20-Academic Support *25-Teaching Hospitals* 30-Student Services 35-Institutional Support 40-Operation and Maintenance of Plant 45-Student Financial Aid 50-Auxiliary Enterprises 55-Provisions for Allocation 60-Program Maintenance—Fixed Costs, Economic Factors and Salary Increases 65-Special Regents Program							

[1] The University of California (UC) did not complete our survey but provided alternative information. According to the university auditor, UC has established an overall year 2000 methodology and is monitoring the progress at each campus and medical center. UC provided us with its latest progress report for the campuses, headquarters, and medical centers, and that information is contained in Tables 5 and 6. According to the information provided by UC, mission-critical systems at both the campuses and medical centers will be year 2000 ready by June 30, 1999, and year 2000 remediation for any remaining systems will be completed by October 1, 1999.

Agencies That Responded "n/a" to All Seven Survey Questions

Agency Name	Program Number/Name
Academic Content and Performance, Commission for the Establishment of	10-Standards Commission
Aging, Commission on	10-Commission on Aging
Alcohol and Drug Programs, Department of	30-Administration
Arts Council, California	10-Arts in Residence 20-Organizational Support Group 25-Performing Arts Touring/Presenting Program 40-Statewide Projects 45-California Challenge Program 50-Administration

Note: Agencies, data centers, and programs listed in italics provide critical services to the public and were visited and reviewed by the Bureau of State Audits.

Agency Name	Program Number/Name
Boating and Waterways, Department of	10-Boating Facilities 30-Beach Erosion
Child Development and Education, Secretary for	10-Secretary for Child Development and Education 11-California Commission on Improving Life Through Service 20-Academic Volunteer and Mentor Service Program
Chiropractic Examiners, Board of	10-Board of Chiropractic Examiners
Colorado River Board of California	10-Protection of California's Colorado River Rights and Interests
Conservation, Department of	30-Land Resources 40-Administration 50-Beverage Container Recycling and Litter Reduction Program
Corrections, Board of	98-State Mandated Local Programs
Developmental Disabilities, State Council on	30-Allocation to Area Boards
Developmental Services, Department of	98-State Mandated Local Programs
Education, Department of	95-Categorical Growth and Cost-of-Living Adjustment 98-State Mandated Local Programs
Electricity Oversight Board	30-Administration
Employment Development Department	50-Employment Training Panel Program
Franchise Tax Board	00-Lease Revenue Bond Payments 30-Political Reform Audit
Governor's Office	10.10-Governor's Office
Health Services, Department of	98-State Mandated Local Programs
Independent Living Council, State	10-Statewide Council Services (Reimbursement)
Industrial Relations, Department of	20-Conciliation of Employer-Employee Disputes 36-Commission on Health and Safety and Workers' Compensation 70-Labor Force Research and Data Dissemination 80-Payment of Claims, Wages and Contingencies 98-State Mandated Local Programs
Occupational Information Coordinating Committee, California	10-California Occupational Information Coordinating Committee
Osteopathic Board of Medicine	10-Osteopathic Medical Board

Agency Name	Program Number/Name
Planning and Research, Office of	11-State Planning and Policy Development
Resources, Secretary for	10-Administration of Resources Agency
Santa Monica Mountains Conservancy	10-Santa Monica Mountains Conservancy
Secretary of State	98-State Mandated Local Programs
Statewide Health Planning and Development, Office of	10-Health Policy and Analysis 30-Health Professions Development 45-Cal-Mortgage Loan Insurance
State and Consumer Services Agency, Secretary for	10-Administration of State and Consumer Services Agency
State University, California	10-Provisions for Allocation 11-Reimbursed Activities
Status of Women, Commission on the	10-Administration—Legislation—Research and Information 20-Displaced Homemaker Emergency Loan Program
Student Aid Commission, California	30-Golden State Scholarship Trust Program
Summer School for the Arts, California State	10-California State Summer School for the Arts
Teacher Credentialing, Commission on	10.40-Administration
Toxic Substances Control, Department of	19-Administration 20-Science, Pollution Prevention and Technology
Veterans Affairs, Department of	20-Veterans Claims and Rights 35-Veterans Home of Southern California Preactivation 50-General Administration
Water Resources, Department of	40-Services
Wildlife Conservation Board	10-Wildlife Conservation Board
Youth and Adult Correctional Agency, Secretary for	10-Corrections Standards and Services 15-Commission on Peace Officer Standards and Testing

Agency Name	Program Number/Name

Agencies That Did Not Respond for Some Programs

Coastal Conservancy, State	90.01-Administration
Judicial	50-Habeas Resource Center

Agencies That Did Not Respond to Our Survey

Environmental Protection, Secretary for
San Joaquin River Conservancy
Transportation Commission, California
Uniform State Laws, Commission on

Legend: n/a = Task not applicable to this program
Date = Projected completion date
Yes = Task complete

Below are listed Questions 1 through 7.

Question 1: Is program code remediated and unit-level testing complete?

Question 2: Is integrated testing of software units and applications complete?

Question 3: Have all application software and hardware been tested in a production environment and accepted by users?

Question 4: Have all systems that support this program been tested in an isolated environment where the hardware clock has been manually set to future dates?

Question 5: Have all external data exchange partners been identified, contacted, data format established, and shared data tested?

Question 6: Have embedded systems that support this program been surveyed, assessed, prioritized, and fixed?

Question 7: Are business continuation plans established to ensure uninterrupted services if supporting systems fail or are not fixed by January 1, 2000?

TABLE 5

Year 2000 Progress at University of California's Nine Campuses and Headquarters

System	Number of Mission-Critical Systems	Number Completed by October 1998	Number Estimated to Be Completed November 1998 Through June 1999
Financial			
General Ledger	15	3	12
Accounts Payable	13	4	9
Billing and Accounts Receivable	7	2	5
Budget	12	4	8
Recharge Billing	10	6	3[a]
Purchasing	9	4	5
Other	25	8	17
Student			
Admissions	15	1	14
Registration/Enrollment	26	5	21
Financial Aid	8	2	6
Loan Collections	10	3	7
Billing and Accounts Receivable	7	1	6
Other	10	0	10
Facilities			
Housing	43	6	37
Storehouse	7	1	6
Equipment Inventory	7	1	6
Facilities Inventory	8	5	3
Planning			
Data Warehouse	9	4	5
Human Resources	29	16	13
Development/Alumni	11	5	5[a]
Research Administration			
Contracts and Grants	19	7	12
Effort Reporting	9	1	8
Total Administrative Systems	**309**	**89**	**218**[a]
Network/Communications			
Telephone	34	22	12
Data	64	39	25
Video	2	0	2
Total Network/Communications	**100**	**61**	**39**
Operating Systems and Tools			
Mainframe	158	97	61
Servers	87	23	64
Total Operating Systems and Tools	**245**	**120**	**125**
TOTALS	**654**	**270**	**382**[a]

[a] The number of systems completed by October 1998 plus the number of systems estimated to be completed between November 1998 and June 1999 do not equal the total number of mission-critical systems. The University of California did not explain why these figures do not agree.

TABLE 6

Year 2000 Progress at University of California's Four Hospitals

System	Number of Mission-Critical Systems	Number Completed by December 1998	Number Estimated to Be Completed January-June 1999
Financial			
General Ledger	4	2	2
Accounts Payable	7	0	7
Billing and Accounts Receivable	32	18	14
Budget	4	3	1
Purchasing	5	1	4
Contracts	5	0	5
Patient Information			
Admission, Discharge, Transfer	13	5	8
Medical Records	11	0	11
Results Reporting	8	3	5
Order Entry	4	0	4
Clinical Systems (e.g., Tracking Systems)	23	1	22
Pharmacy Systems	7	0	7
Dictation Systems	11	2	9
Other	5	2	3
Miscellaneous			
Physician Information (Including Reference Manuals)	12	4	8
Scheduling Information	7	2	5
Hospital Departmental Systems	70	6	64
Human Resources	13	9	4
Other	31	1	30
Total Administrative Systems	**272**	**59**	**213**
Network/Communications			
Telephone	50	8	42
Data	5	2	3
Video	1	0	1
Total Network/Communications	**56**	**10**	**46**
Operating Systems and Tools			
Mainframe	6	3	3
Servers	49	16	33
Desktop	9	0	9
Total Operating Systems and Tools	**64**	**19**	**45**
TOTALS	**392**	**88**	**304**

Blank page inserted for reproduction purposes only.

APPENDIX C

Year 2000 Planning at State Agencies Not Required to Report to the Department of Information Technology

We identified 45 state agencies that do not report their year 2000 progress to the Department of Information Technology (DOIT). Some of these agencies are exempted by law from reporting; for example, the University of California, California State University, Board of Governors of the California Community Colleges, and the Judicial branch (courts) are exempt. We concluded that other agencies do not report to DOIT because their names did not appear in DOIT's July quarterly year 2000 progress report.

We surveyed these agencies to determine the extent of their planning efforts for the year 2000. The main objective of our survey, sent in October 1998, was to determine whether the agencies have comprehensive plans for year 2000 compliance, and if so, whether a designated manager was responsible for implementing each plan. In addition, we inquired whether the agencies periodically reported their year 2000 efforts, and if so, to whom they reported.

As shown in Table 7, we received responses from 40 of the 45 agencies we identified. Of those responding, 39 indicated they either had a plan or did not need a plan because they did not have year 2000 problems. One agency, the Santa Monica Mountains Conservancy, indicated that it did not have a year 2000 plan or a business continuation plan because it was a small agency and did not have a budget for this purpose.

TABLE 7

Survey Results of 45 Agencies
Not Required to Report to DOIT

Agency Name	Have a Comprehensive Plan	Have a Designated Plan Manager	Make Periodic Reports
Academic Content and Performance Standards, Commission for the Establishment of	No[a]	No	No
Area Boards on Developmental Disabilities	No[a]	No	No
Board of Governors of the California Community Colleges	Yes	Yes	Yes
Child Development and Education, Secretary for	No[a]	Yes	No
Child Development Policy Advisory Committee	No[a]	Yes	Yes
Chiropractic Examiners, Board of	Yes	No	No
Coachella Valley Mountain Conservancy	No[a]	No	Yes
Conservation Corps, California	Yes	Yes	No
Debt and Investment Advisory Commission, California	Yes	Yes	Yes
Debt Limit Allocation Committee, California	Yes	Yes	Yes
Delta Protection Commission	Yes	Yes	No
Developmental Disabilities, State Council on	Yes	Yes	Yes
Electricity Oversight Board	No[a]	No	No
Environmental Protection, Secretary for	*	*	*
Governor's Office	Yes	Yes	No
Hastings College of the Law	Yes	Yes	Yes
Industrial Development Financing Advisory Commission, California	Yes	Yes	Yes
Judicial	*	*	*
Legislative Counsel Bureau	Yes	Yes	Yes
Lieutenant Governor, Office of the	No[a]	No	No
Military Department	Yes	Yes	Yes
Native American Heritage Commission	No[a]	No	No
Organization and Economy, Milton Marks Commission on State Government	No[a]	Yes	No
Osteopathic Board of Medicine	Yes	Yes	No

Agency Name	Have a Comprehensive Plan	Have a Designated Plan Manager	Make Periodic Reports
Pilot Commissioners for the Bays of San Francisco, San Pablo, and Suisun, Board of	Yes	Yes	No
Planning and Research, Office of	Yes	Yes	No
Postsecondary Education Commission, California	Yes	Yes	No
Prison Terms, Board of	Yes	Yes	No
Public Employees' Retirement System	Yes	Yes	Yes
Resources, Secretary for	No[a]	Yes	No
San Francisco Bay Conservation and Development Commission	No[a]	No	No
San Joaquin River Conservancy	*	*	*
Santa Monica Mountains Conservancy	No[b]	Yes	No
Science Center, California	No[a]	Yes	No
Seismic Safety Commission	Yes	Yes	Yes
State Independent Living Council	No[a]	No	No
State University, California	Yes	Yes	Yes
Student Aid Commission, California	Yes	Yes	Yes
Summer School for the Arts, California State	No[a]	No	No
Tax Credit Allocation Committee, California	Yes	Yes	Yes
Transportation Commission, California	*	*	*
Uniform State Laws, Commission on	*	*	*
University of California	Yes	Yes	Yes
Wildlife Conservation Board	No[a]	No	No
Youth and Adult Correctional Agency, Secretary for	Yes	Yes	Yes
Yes	24	29	17
No	16	11	23
No Response	5	5	5
Total	**45**	**45**	**45**

Note:

* No Response.

[a] Agency indicated that a comprehensive year 2000 plan was unnecessary because its computers are being fixed by another department, are used for word processing and spreadsheets, are Macintosh computers, have no year 2000 problem, or the agency relies on commercial upgrades.

[b] Agency indicated that it was too small and had no budget for a Y2K plan.

Blank page inserted for reproduction purposes only.

Agency's response to the report provided as text only:

OFFICE OF THE GOVERNOR
Governor Gray Davis
Sacramento, California 95814
(916) 445-2841

February 10, 1998

Kurt R. Sjoberg
California State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Dear Mr. Sjoberg:

Thank you for inviting the Davis Administration to review a draft copy of your report to the Legislature entitled, *Year 2000 Computer Problem: The State's Agencies Are Progressing but Key Steps Remain Incomplete*.

In general, we find that the report's findings are essentially consistent with the Department of Information Technology's assessment of the state's progress in addressing the Year 2000 problem. The Bureau of State Audits continuing review of the Year 2000 situation serves a very valuable purpose and complements the efforts of the Administration to maintain a focus on the Year 2000 and its related issues in order to help assure a smooth transition for state government.

The Administration is also keenly aware of the challenges posed by the Year 2000 problem, and appreciates the State Auditor's recognition of the Governor's commitment outlined in his fiscal year 1999-2000 budget. Governor Davis will soon announce a comprehensive and assertive program detailing his initiatives for managing and coordinating the State's Year 2000 preparedness efforts. Our plan will address the issues identified by both the State Auditor and the Department of Information Technology to ensure the State will be prepared for the millennium change.

The Davis Administration remains committed to continue working with the Bureau of State Audits to facilitate the state's Year 2000 problem resolution effort and to provide you information as requested. Again, thank you for the opportunity to review your draft report. Please call Bob Dell'Agostino at the Department of Information Technology at 445-5900 if you have any questions concerning our comments.

Sincerely,

SIGNED BY: VINCENT H. HALL

Vincent Hall
Staff Director
Office of the Governor

Blank page inserted for reproduction purposes only.

Agency's response to the report provided as text only:

BUSINESS, TRANSPORTATION AND HOUSING AGENCY
980 9th Street, Suite 2450
Sacramento, California 95814-2719

(916) 323-5400
FAX (916) 323-5440

February 4, 1999

Kurt R. Sjoberg, State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Dear Mr. Sjoberg:

Thank you for the opportunity to comment on your draft audit report No. 98116 entitled "State of California Year 2000 Computer Problems," of the Teale Data Center. We welcome the input from the Bureau of State Audits (BSA).

Attached please find the Teale Data Center's response to the findings and recommendations in the draft report.

If you have any questions, please contact Glen Matsuoka, Acting Director of the Teale Data Center at 263-1876.

Sincerely,

Original Signed by: MARIA CONTRERAS-SWEET/jm

MARIA CONTRERAS-SWEET
Secretary

State of California **Business, Transportation and Housing Agency**
M e m o r a n d u m

To: Kurt R. Sjoberg, State Auditor
Bureau of State Audits
555 Capitol Mall, Suite 300
Sacramento, CA 95814

Date: February 4, 1999

From: Glen Matsuoka, Acting Director
Stephen P. Teale Data Center
2005 Evergreen Street
Sacramento, CA 95815-3831

Subject: Review of the Teale Data Center by the Bureau of State Audits

Thank you for the opportunity to respond to the State of California Year 2000 (Y2K) Draft Audit Report of the Teale Data Center. Teale has played a leadership role in addressing the Y2K issue within California State Government and, more specifically, for the Business, Transportation and Housing Agency. The Data Center has taken a proactive role in implementing their time machine environments, procuring software tools for Y2K remediation and testing, and encouraging all of its customers to test on the time machine. In addition, at the urging of the Teale Data Center, the Business, Transportation and Housing Agency has required its departments to time-machine test its applications, in the absence of a statewide mandate.

The issue of Y2K compliance is a challenge for the State of California as a whole. We believe that Teale has aggressively pursued strategies to provide its clients with the resources necessary to allow them to be Y2K-ready. While Teale is a provider of services it has nonetheless gone beyond its normal boundaries to work with its clients in this critical area. The Data Center is not a control agency and, consequently, must rely on its informal influence and its technical expertise to convince its clients to follow good practices to become Y2K-ready. As the far as the Teale Data Center is concerned, it is fully compliant for its mission critical software and equipment, and has fully tested itssoftware on both simulation tests and time-machine tests. It is our recommendation, therefore, that policy or oversight be established by the Department of Information Technology to address departments that continue to use unsupported software and hardware; or elect not to time-machine test their mission-critical applications.

(1)*

We welcome the input from the Bureau of State Audits; however, there are some findings in the draft report we wish to clarify. Following are responses to the Draft Audit Report:

---

*California State Auditor's comments on this response begin on page R-9

Kurt R. Sjoberg
February 4, 1999

Bureau of State Audits

Teale lacks a successful strategy for its year 2000 remediation plan that addresses services critical to its clients. Teale also has devoted few resources to year 2000 activities. Even though the data center serves about 250 agencies and local governments it has assigned only two full-time staff to year 2000 remediation.

Comment/Response

With information technology processing platforms being Teale's core function for 250+ departments, we believe that Teale has successfully followed through with their strategy to ensure that Y2K-readiness was incorporated into its normal course of business for upgrading hardware and software. Teale provided individual detailed project task plans that were developed for each core business function of the Data Center – operating systems, network, database, embedded systems, desktops, external interfaces, etc. To the Data Center's credit, accomplishments to date were made through use of existing staff resources and with the assistance of a few consultant contracts. In addition, to the maximum extent possible within staffing and workload constraints, we have provided direct assistance to client conversion efforts. (2)

Bureau of State Audits

To its credit, Teale has created a time machine for its clients to test its MVS operating system, and plans to use client testing to affirm that its own computers will operate properly after January 1, 2000. However, Teale does not monitor what segments of the system clients are testing. Unless Teale monitors these tests, it cannot ensure it has successfully remediated its operating system and cannot support its clients' business needs into the next millennium.

Comment/Response

Teale has performed many tests on the operating systems for Y2K compliancy and all tests indicate system readiness. Teale is not aware of a standard industry process that allows the type of testing cited by BSA. The Data Center is contacting several vendors to assess if this specific function mentioned by BSA can be monitored, and if so, how. (3)

Teale has established time machine environments for customer testing. This includes the control and management processes that support the customers' selected test dates, the monitoring of these environments, the appropriate readiness of software and the coordination necessary to ensure the successful completion of their testing.

Kurt R. Sjoberg
February 4, 1999

Bureau of State Audits

For instance, one of Teale's clients, the State Controller's Office (SCO) which is responsible for disbursing all state funds, is considering moving its mainframe computer systems to Teale's MVS mainframes. According to the SCO, the computer it uses to support 24 mission-critical systems is outdated and almost in constant use and cannot be used for time machine testing. By transferring its systems to Teale's more modern mainframes, the SCO has the option to use Teale's time machine. If the SCO does transfer its systems to Teale, it will rely upon Teale to ensure that the mainframe operating system is year 2000 compliant. However, Teale's failure to track the portions of the MVS operating system its customers test will limit its ability to measure the year 2000 readiness of the system and provide such assurances.

Comment/Response

(3) As indicated in the above response, Teale has performed its own testing. Should our contacts with the vendors determine that a monitoring capability is available, Teale will evaluate the viability of implementing that function. The reference that the SCO computer cannot be used for time machine testing is in the context of "capacity" which is almost fully consumed by their workload and not due to technical restriction of the Data Center.

Bureau of State Audits

Additionally, Teale allowed six clients to use the time machine with an earlier Y2K-ready version of MVS system software and failed to inform them of this fact. As of November 1998, the clients had already tested ten of their computer systems with the time machine. According to Teale staff, the center upgraded the MVS operating system software on December 27, 1998; therefore, the software that will actually be in use beginningJanuary 1, 2000, is a newer version than the one the six clients tested.

We asked two independent experts, the Gartner Group and IBM, whether this software upgrade would adversely affect the validity of the time machine tests performed prior to December 27, 1998. According to these experts, the software upgrade would probably not affect date calculations, and thus, not affect the validity of the test; however, to be sure, Teale should give each client the opportunity to investigate the potential impact on their individual systems. We suggested that Teale notify the six clients affected by the software upgrade, and Teale indicated it would do so.

Kurt R. Sjoberg
February 4, 1999

Comment/Response

Teale agrees with the Audit Report and believes the software upgrade would not affect date calculations nor affect the validity of the test; however, Teale has notified the six clients, as suggested by the Bureau of State Audits.

Bureau of State Audits

Finally, Teale is not requiring its clients to discontinue using non-compliant commercial software products. Instead, Teale notified its clients on December 1, 1998, that certain software products are not year 2000-ready. However, it did not identify when compliant software would be available, or set a date when the non-compliant software would be removed from the data center computers. Instead, Teale stated in the letter that it will not assume responsibility or accept any liability arising from the functioning of agencies' systems, applications or software after December 31, 1999. Because of the potential risk that non-compliant software could corrupt data or lead to an unstable processing environment, we believe that Teale should be more aggressive and set a deadline for removing all non-compliant software from its computers.

Comment/Response

All Teale customers have been informed that Y2K-readiness for their applications is the responsibility of each department. Teale performed due diligence by communicating and documenting Y2K information with all levels of their customer departments, as well as the vendors and suppliers. Departments were also advised to migrate to Y2K-ready products or risk the chance their business processes may fail. Teale has also made Y2K computing environments available for departments to test all critical processes. The Data Center has indeed set deadlines for the removal of non-compliant Y2K software – i.e., customers were notified of the July 1, 1999, deadline for the removal of non-compliant COBOL products. (4)

Bureau of State Audits

Because many state agencies rely upon the data centers for their computer services, it is critical that the data centers' operations remain unhindered by year 2000 problems. Any interruption in computer services could be disastrous to state agencies' ability to provide critical services to Californians. Nevertheless, Teale Data Center has not developed a business continuation plan to ensure it can deliver services despite year 2000 problems. Teale acknowledges that it needs to develop such a plan. Teale anticipates that its plan will be completed by June 1999.

Kurt R. Sjoberg
February 4, 1999

Comment/Response

Teale is currently focusing on its Business Continuation Plan which will be completed by the second quarter of 1999.

Enclosed is the diskette, as requested, as well as copies of all appropriate memoranda sent to customers by Teale Data Center regarding the Y2K issue. If you have any questions, please contact Glen Matsuoka, Acting Director, Teale Data Center, at (916) 263-1876.

In closing, please be assured that the Business, Transportation and Housing Agency and the Teale Data Center are committed to a successful transition into the new millennium with a minimum of disruptions.

COMMENTS

California State Auditor's Comments on the Response From the Teale Data Center

To provide clarity and perspective, we are commenting on the Teale Data Center's (Teale) response to our audit report. The numbers correspond with the numbers we have placed in the response.

(1) While Teale's own critical software and equipment may be compliant, as we state on page 33, Teale has not addressed critical client services such as computer operations and telecommunications in its remediation plan and has yet to develop a strategy to fully test these important systems.

(2) The "individual detailed project task plans" Teale refers to are its monthly update reports to the Department of Information Technology. These reports do not constitute a year 2000 plan that addresses the remediation of its computer processing and telecommunication services critical to its clients.

(3) As stated on page 36, Teale plans to use client testing to affirm that its Multiple Virtual Storage (MVS) operating systems are year 2000 ready. However, unlike the Health and Welfare Data Center, it does not track what parts of the systems are tested by clients so it cannot assess the systems' readiness. Furthermore, when asked, Teale could not provide us with any test plan or test results for its MVS.

(4) We are encouraged that after our fieldwork Teale is removing two noncompliant compilers from access by its clients. However, these noncompliant COBOL products are only 2 of at least 22 noncompliant mainframe software products Teale has identified but has yet to preclude from use.

Blank page inserted for reproduction purposes only.