



ANNUAL REPORT ON THE

Executive Branch's Information Technology Program

J. Clark Kelso

Chief Information Officer, State of California

October __, 2007



STATE CHIEF INFORMATION OFFICER

J. Clark Kelso (ckelso@pacific.edu)
3200 Fifth Avenue
Sacramento, CA 95817
(916) 739-7302 / (916) 739-7072 (fax)

October __, 2007

Governor Arnold Schwarzenegger
State Capitol
Sacramento, California 95814

Dear Governor Schwarzenegger:

I am pleased to submit for your consideration the 2006–2007 *Annual Report on the Executive Branch's Information Technology Program*. The Annual Report documents substantial continuing progress and success in implementing the strategic goals, objectives and actions set forth in the California State Information Technology Strategic Plan (Nov. 2006).

Major IT initiatives and projects within large organizations are extraordinarily complex undertakings requiring comprehensive, collaborative planning and sustained, engaged management and oversight to reduce risks of failure and increase opportunities for success. As shown in this report, that management approach has brought success to a number of the important enterprise initiatives undertaken in the last several years, including:

- consolidating the Executive Branch's two general-purpose data centers into the Department of Technology Services;
- implementing the Department of General Services' strategic sourcing program;
- improving the HR program for the IT workforce;
- acquiring modern telecommunications and network services in Calnet II;
- commencing an enterprise architecture program;
- undertaking a refresh of the state portal and agency websites;
- expanding IT security and privacy policy and training; and,
- forging a partnership between the Department of Finance, the Controller's Office, the Treasurer's Office and the Department of General Services to replace the State's antiquated business management systems with modern processes and technologies.

Major IT projects are also underway within many of the Executive Branch's largest departments to modernize their technology infrastructure and improve support for the State's most important programs. We are bringing the State's IT systems into the 21st century.

I am proud of the work being done by all Executive Branch agencies to align their IT activities with the goals of the *State IT Strategic Plan* and to improve the quality and cost effectiveness of government operations and services to the public.

Sincerely,

A handwritten signature in blue ink, appearing to read "J. Clark Kelso". The signature is fluid and cursive, with the first letters of each name being capitalized and prominent.

J. Clark Kelso
Chief Information Officer
State of California

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The Annual Report on the Executive Branch's Information Technology Program provides an overview of how information technology ("IT") resources are acquired, deployed and managed within the Executive Branch to achieve the State's organizational and programmatic goals.

California's information technology program consists of a combination of individual agency projects that meet defined business and organizational needs and broader "enterprise initiatives" which coordinate multiple projects and activities across the Executive Branch. There have been significant advances both at the agency and enterprise levels.

Significant Agency Accomplishments

The following significant projects, several of which received national awards of recognition, were completed and delivering value to the State during 2006-2007:

- California Child Support Automation System State Disbursement Unit
- Genetic Disease Screening Information System
- Department of Insurance Enterprise Information Portal
- State Controller's Office Agile Payment System
- Activity Based Costing System at the Department of Motor Vehicles

- Medicare Modernization Act Part-D Information Sharing Project
- Consumer Service Center Web Site

Enterprise Initiatives

California state government is extremely large and complex, consisting of hundreds of organizational entities, many of which exercise substantial independence not only from each other, but also from the Office of the Governor. This independence in organizational structure and governance, in which each organizational entity behaves as an isolated "silo" from the rest, belies an underlying interdependence between and across programs, departments, agencies and constitutional offices that necessitates coordination in order for the State's policy and business goals to be met efficiently and effectively.

To break down the organizational silos that sometimes frustrate programmatic as well as cost-effective operations, the State's information technology program coordinates across government through "enterprise initiatives." The current portfolio of enterprise initiatives includes the following:

- Modernizing and Standardizing the State's Business Management Systems;
- Modernizing and Consolidating the State's Information Technology, Tele-

communications and Network Infrastructure;

- Rebuilding the State's Internet Presence
- Improving Enterprise Acquisitions Practices; and,
- Establishing an Information Technology Workforce Improvement Program.

Each of these initiatives directly furthers goals, objectives and action items contained in the *California State Information Technology Strategic Plan*. The advance planning for these initiatives is finished and implementation is now underway. Because of the magnitude of the endeavor – replacing systems that are ten, twenty and, in some cases, thirty years old – the modernization and transformation initiatives that we have begun will take us five to ten years to complete. We need the time to do it right.

IT Acquisitions

The policy and practice of information technology acquisitions took several major steps forward in Fiscal Year 2006-07.

On the policy front, the Legislature endorsed a risk assessment and evaluation program for IT contracts that the Department of General Services will administer (AB 617 (Chapter ____, Statutes of 2007)). The program should enable the State to do a better job of tailoring the terms of its large dollar IT contracts to the precise risks posed by particular projects and acquisitions.

In another policy development, as part of its implementation of SB 954 (Chapter 556, Statutes of 2005), the Department of

General Services established an improved methodology for "Solution-Based Information Technology Acquisitions." The new methodology should promote greater competition and innovation in acquisitions that call for novel solutions to agency business needs and requirements.

On the practice front, the total value of IT acquisitions rebounded during FY 2006-07, with a total value of \$1.44 billion for the year (a 77% increase from FY 2005-06). There were increases in all three categories of IT contracts, with a 62% increase in IT Services, a 202% increase in IT Consulting, and a 48% increase in IT Goods. Competition for these contracts increased during FY 2006-07, with only 3.1% of the value of IT contracts being let pursuant to Non-Competitive Bids ("NCBs") approved by the Department of General Services (compared to 4.4% of the value for FY 2005-06).

The State's IT Workforce

In the next five years, more than 50 percent of the State's total workforce will be eligible to retire. How the State manages this changing of the guard in its IT workforce will determine, to a large extent, the success of the State's enterprise initiatives and major departmental IT projects.

The State is in the process of modernizing its antiquated classification and testing system. A new classification system has been tentatively agreed upon by the key stakeholders, and a project to update SPB's testing system is underway and expected to be concluded during 2008. During the coming year, the State needs to fully

implement this new scheme and then take advantage of its benefits through newly reinvigorated recruitment of IT talent.

The Executive Branch has also reestablished a leadership training program co-sponsored by the Director of the Department of Personnel Administration, the Director of the Department of General Services and the State CIO. Developed and offered by Sacramento State University for the first time during the fall 2006 semester, "Leadership for the Government Executive Program" is specifically designed to help build both IT and business-side executive leadership in state government, leadership that is attuned to the 21st century's digital environment.

Governance

No single person has made the decision to take on this ambitious modernization agenda. Instead, over the last three years, the Executive Branch has adopted a collaborative governance model that helps ensure alignment between business needs and IT planning, and coordinates planning across the Executive Branch. The key organizational components of this governance include the Information Technology Council, the Technology Services Board and the Enterprise Leadership Council, working together with

the Departments of Finance, General Services, and Personnel Administration, the State Personnel Board, and the State CIO.

With the funding of a cabinet-level Office of the State CIO in the FY 2007-2008 budget, and the creation of a separate Office of Information Security and Privacy Protection within the State and Consumer Services Agency, stable leadership for this collaborative governance process is in place. The period of "interim IT governance," which began with the sunseting of the Department of Information Technology in 2002, is now over.

Information Technology Projects and Enterprise Initiatives

California's information technology program consists of a combination of individual agency projects that meet defined business and organizational needs and broader "enterprise initiatives" which coordinate multiple projects and activities across the Executive Branch. There have been significant advances both at the agency and enterprise levels.

2A. Significant Agency Accomplishments

Year in and year out, California agencies are completing information technology projects and initiatives that deliver new value to California's people, businesses and governments. This section highlights a few of those accomplishments for 2006-2007.

1. California Child Support Automation System State Disbursement Unit

Federal law requires all states to implement a single statewide automated child support system. The system will include a single location for processing child support collections and payments for cases handled by local child support agencies and all child support wage withholding payments through employers.

California's project team is reaching the federal goal of a single statewide system in

two steps. First, the project produced a "Version 1" solution that involved creating a single Statewide Disbursement Unit to handle all payment processing along with statewide services built around two local case processing systems known as "ARS" and "CASES." Using this solution, \$2.3 billion in child support collections were distributed by CCSAS during Fiscal Year 2006-2007.

The "Version 2" solution will continue to use the Statewide Disbursement Unit, but the ARS and CASES systems will be replaced by a single statewide services case management system. The statewide rollout of Version 1 was completed in the fall of 2006. The rollout of Version 2 began in September 2007 and will conclude by November 2008.

On September 20, 2006, the State requested federal certification for CCSAS, signaling the State's compliance with federal automation and centralized payment processing requirements for child support payments. The request for certification put federal automation penalties, which had been in excess of \$200 million annually, on hold during the certification process. The certification process began in January 2007 and is expected to continue into 2008.

"Child support is a safety net for many California families, and the California Child Support Automation System will give us the

ability to better serve children and families with the financial support they need and deserve," said Department of Child Support Services Director Greta Wallace. "We look forward to working with federal officials during the certification review process to provide California with a new statewide system that will enable us to deliver uniform, high-quality services to families while managing program performance."

Acknowledging the success of the Version 1 implementation, CCSAS's project leaders – Dianne Koelzer of the Department of Child Support Services and Carlos Zamarripa of the Franchise Tax Board – were recognized by the Government Technology Conference with an award for Demonstrated Leadership in Management of Information Technology at the "Best of California 2006" awards ceremony. "The cutting-edge technology of the California Child Support Automation System directly benefits California's children," said J. Clark Kelso, California State Chief Information Officer. "The project team's successful implementation of Version 1 is a great milestone, proving that through collaboration, innovation and commitment across state, federal and local governments, we can deliver services that improve lives."

2. Genetic Disease Screening Information System

Every year, the National Association of State Chief Information Officers recognizes superior state initiatives and projects with its "Awards for Outstanding Achievement in

the Field of Information Technology in State Government." In 2006, the Department of Health Services' Screening Information System ("SIS") was selected by the National Association for one of its 12 national awards.

The Screening Information System (SIS) is the critical cornerstone of California's prenatal and newborn genetic disease screening program, one of the largest and most comprehensive genetic screening programs in the world.

DHS implemented SIS in July 2005 with two major goals: to enhance an existing, outdated information technology system and to expand the number of rare genetic diseases being screened. Today, as part of the new Department of Public Health, SIS enables physicians to diagnose and treat a wider range of genetic disorders than previously possible. Using the system, newborns throughout the state are now screened for 75 inherited and congenital disorders rather than the previous 39. Undetected, these rare disorders can cause devastating disabilities. But if caught quickly, they are often treatable. Changes as simple as altering an infant's diet can mean the difference between a normal life and mental retardation or even death.

SIS also allows the state to better manage test results and reporting and to achieve more efficient communications and collaboration between the multiple public and private entities involved in genetic screening, diagnosis and treatment. Once identified as having a genetic disease, SIS helps facilitate extraordinary follow-up for

affected babies and their families until the disorder is fully diagnosed and treatment is initiated. This process involves an extensive amount of cross-boundary collaboration between labs, case coordinators, counselors, physicians and staff of the Department of Public Health's Genetic Disease Branch.

Ultimately, SIS allows the department to intervene earlier with more effective treatment of children with a wider range of genetic disorders, thereby radically increasing the chances a baby born with a genetic abnormality in California can live a healthy life.

3. Department of Insurance Enterprise Information Portal

The California Department of Insurance successfully implemented an "Enterprise Information Portal" which is a high level management tool executive decision-makers use to check their daily alerts, collaborate, take action, provide information on changes in the insurance industry and develop ad hoc reports in one consolidated portal.

Prior to implementation of the Enterprise Information Portal, executives and managers used a set of siloed software applications that made it difficult and expensive for executives to obtain information on the overall health and welfare of the department. To solve this business problem, a business intelligence and data warehousing software solution was developed giving management access to key performance indicators, metrics and operation status through a single user-friendly, self-service portal.

The project was delivered on time (November 2006) and within budget (\$3 million).

4. State Controller's Office Agile Payment System

The State Controller's Office ("SCO") administers apportionment programs that process, allocate and disburse billions of dollars in payments to local governments, agencies and special districts. On a yearly basis, SCO processes over 30,000 payments

resulting in the distribution of approximately \$40 billion to these entities. The apportionment support systems developed in the early 1990's were maintained using antiquated and, in some instances, unsupported technologies.

With the assistance of a systems integration and solutions consultant, SCO developed Agile Payment System ("APS"), a custom web-based application with corresponding business processes and technical infrastructure. The project finished on-time (May 2007) and on-budget (\$3.5 million), delivering an interpretive system that enables SCO to quickly and easily model their new and changing business processes. The flexible solution interprets business models and enables business owners to define and enter business rules directly into the web-based APS application. Since business rules and processes are stored as data (not implemented in code), the system does not require new programming to accommodate changes.

Some of the primary benefits of this initiative include:

- Replaces an antiquated system that was on the verge of collapse;
- Allows SCO to handle significant increases in workload with the existing number of staff members – up to 80% reduction in payment reconciliation, Remittance Advice delivery reduced from 2 weeks to same day, and up to 90% reduction in Remittance Advice postage and handling costs;
- Enables staff to directly add new Apportionment Programs and modify calculations on demand without programming resources;

- Provides the capability to offer multiple payments to individual payees and summarize all payments on a single Remittance Advice;
- System design allows rapid expansion of system files and data repositories;
- Accurately calculates apportionment payments, produces claim payment files in appropriate formats, creates claim schedules, reports and journal entries;
- Automates exchange of fund information and accounting entries for apportionment payments via direct interface with SCO's Fiscal System.

5. Activity Based Costing System at the Department of Motor Vehicles

Since July 2006, California's Department of Motor Vehicles ("DMV") has been using an advanced activity-based costing ("ABC") solution to more efficiently and accurately cost out its services. Activity based enterprise performance management provides the capability to conduct multi-dimensional cost analysis, and improve processes where necessary. The ABC management solution provides DMV with the agility and flexibility to conduct cost-driver analysis, activity analysis and performance measurement based on reliable data.

With its implementation completed in just six months, DMV became the first agency in state government to drive 100% of its resources to an ABC system. DMV now captures costs by activity and has a centralized repository of all detailed cost data. Management teams assign resources

to activities based on cause-and-effect and also perform "what-if" scenarios using the performance management application. Using the system, DMV has identified 418 activities and 81 different products and services. By raising cost awareness throughout the department and gaining a better understanding about how resources are being consumed, DMV will be able to use the ABC cost data to improve decision-making, customer service and better allocate its resources.

6. Medicare Modernization Act Part-D Information Sharing Project

The Department of Health Care Services' ("DHCS") Medicare Modernization Act ("MMA") Part-D Information Sharing project created two new "services," Cal-SOLO and Cal-MMA, which significantly streamline the administration of a number of programs at both the State and local level. Building on the State's "Service Oriented Architecture," the services provide real-time, integrated access to certain information that previously was not available in a timely manner.

In particular, California State On-Line Query (Cal-SOLO) provides real-time access to the Federal Social Security Administration SSN, Title II and Title XVI information. California Medicare Modernization Act Query (Cal-MMA) provides authorized users with an integrated view of a client's complete Medi-Cal and Medicare eligibility, prescription drug plan information, diagnosis

information and medication history – across public and private information sources.

The benefits from these services are immediate and substantial. For example, resolving enrollment and dual-eligibility issues used to take up to six weeks. Using Cal-SOLQ, most cases can now be resolved in minutes, which results in increased cost savings to the State by shifting more costs to Medicare. The Cal-MMA service provides staff with immediate access to information necessary to assist beneficiaries with questions regarding access to their medications, to resolve complaints by families, patients, pharmacies and advocacy groups, and to analyze drug use trends for our dual-eligible population.

The project, finished ahead of schedule and under budget, puts the State in a favorable position to develop other sharable services to improve health and welfare programs across the Executive Branch.

7. Consumer Service Center Web Site

The Department of Consumer Affairs (“DCA”) and the State and Consumer Services Agency’s eServices Office have released a Consumer Service Center web site at www.consumer-sc.ca.gov (also available on the State’s home page and DCA’s home page). The site provides a central location where users can find valuable information about consumer issues. The consumer information provided on this

site comes from nationwide consumer resources such as state and federal government websites as well as nonprofit websites.

Usually, government websites are presented in a siloed manner, each department providing the services and information within its jurisdiction. Even state-level “portals” typically provide links only to state-level information. The Consumer Service Center site, by contrast, provides relevant information about consumer issues across state, federal, and nonprofit organizations. The site breaks down artificial organizational and jurisdictional barriers to make consumer information more readily available.

The tools used to build the Consumer Service Center are easily extendable to other subject matter areas. The eServices Office is now exploring other subject matter areas for similar implementations.

2B. Enterprise Initiatives

1. Modernizing and Standardizing the State’s Business Management Systems

The Executive Branch’s business information systems must be modernized. Accurate information about a wide range of subjects is unavailable in a timely way for proper management by program and departmental executives, for appropriate oversight within the Executive Branch by control agencies, Cabinet secretaries and the Governor’s office, and for oversight and

policy-making by the Legislature. The examples abound:

- The State lacks reliable information about the performance of the corrections and rehabilitation system;
- The Department of General Services has struggled to determine the number of vehicles owned by the State and their disposition;
- Departments have substantial inconsistencies between databases that track procurement activity;
- The Controller has difficulty closing the State's books in a timely manner at year's end;
- The Department of Finance has an opaque budget system that is an amalgam of digital and paper systems held together only by virtue of dedicated process experts;
- Departments that manage billions in payments to local government have difficulty tracking and accounting for those payments; and,
- The State maintains multiple accounting systems that frustrate accountability and transparency.

To make matters worse, many of the systems that support the State's financial management are nearing their end-of-useful life and require modernization.

In short, the State has conflicting and outdated business applications and systems that should be replaced with common business systems and solutions across all departments of State government, permitting relevant information to be easily shared with, and monitored by, managers, policy-makers, the Legislature and the public.

The State began the modernization process several years ago with the Controller's 21st Century Project that will retire the State's ancient payroll processing systems with a modern payroll system. The project is well along in its development phase with BearingPoint as the system integrator building the State's new payroll system on an SAP platform.

In parallel with the planning for the 21st Century Project, there have been several years of intense study and collaborative deliberation among the State's key control agencies and largest departments about how best to modernize and standardize the State's other business management systems. Those deliberations led to a decision late in the summer of 2006 by the key control agencies – Department of Finance, State Controller, State Treasurer and Department of General Services – to partner in seeking legislative approval for the acquisition of a modern, enterprise-wide business management system that will be phased in over a ten year period. Upon full implementation and after time for migration of existing systems, this enterprise-wide system, known as the "Financial Information Systems for California (Fi\$Cal) Project," will become the mandatory standard for all agencies for performing basic business functions such as budgeting, accounting, procurement, cash management, financial management, financial reporting, cost accounting, asset management, project accounting, grant management and human resources management.

In the FY 2007-2008 budget, the Legislature directed the Fi\$Cal Project to reexamine its project plan, phasing and financing, and to submit to the Legislature a revised Special Project Report that outlines alternative scenarios for moving forward. The project team is working diligently to prepare the requested information for possible inclusion in the Governor's 2008-2009 Budget.

If ultimately approved by the Legislature, the Fi\$Cal Project will take 10 years for full implementation. During that period of time, there will be a moratorium on departmental development of similar systems, with only two major exceptions at present. The California Department of Corrections and Rehabilitation is moving forward with its own ERP system implementation, and the Department of Transportation is moving

forward with a partial financial system implementation. Both departments are in desperate need of improved business information systems, and given the size of each department, overall project risks are reduced by permitting them to proceed forward now with their own implementations. In the case of CDCR, in July 2007, it awarded a contract to IBM as the system integrator to implement business systems on an SAP platform. The Department of Transportation has released an RFP to acquire a system integrator and platform for its implementation, with contract award expected before the end of 2007.

The combined cost of all of these business management system implementations is approximately \$1.6 billion.

Business Management System Projects	Project Owner	Brief Description	Status	Estimated Cost
Fi\$Cal Project	DOF, SCO, STO, DGS	Statewide business management systems (except for payroll)	Drafting SPR per legislative direction	\$1334 billion
21 st Century Project	SCO	Statewide payroll	Implementation	\$138 million
BIS Project	CDCR	Department ERP	Design	\$144 million
IFMS-EFIS	DOT	Department financial systems	RFP pending	\$32 million
Total				\$1.648 billion

2. Modernizing and Consolidating the State's Information Technology, Telecommunications and Network Infrastructure

A. Consolidation Initiatives

On March 31, 2005, the Governor submitted a reorganization plan to consolidate the State's two general-purpose data centers into a single "Department of Technology Services." In addition, the reorganization transferred authority over the State's major telecommunications contract (Calnet) from the Department of General Services to the Department of Technology Services in recognition of the convergence of voice, data and video telecommunications and network technologies.

The reorganization proposal was consistent with best practices in the industry and offered the following advantages:

- More efficient, standardized systems capable of supporting multiple agencies;
- Reduced redundancy and variation within the state's technology infrastructure;
- Reduction in cost for common infrastructure services;
- Enhanced ability for data sharing;
- Improved ability to successfully leverage IT procurements;
- Enhanced security and privacy measures for the storage and distribution of electronic data;
- Improved core technology support for all state agencies and departments; and
- More effective utilization and management of technology personnel.

The reorganization formally occurred on July 9, 2005. The first phase of the reorganization – which involved realignment and integration of the three organizations, completion of a common strategic plan for DTS, creation of a common help desk function, creation of a high-speed data link

between the two data center campuses, and adoption of single integrated business systems – was completed on June 30, 2006, well ahead of the original schedule.

At its meeting on June 28, 2006, the Technology Services Board (“Board”) approved a \$16.3 million reduction in DTS rates, which reflected substantial savings from consolidation and consolidation-related activities during the year. On January 16, 2007, the Board approved a further reduction of \$26.7 million in DTS rates. Thus, in the first eighteen months of consolidation, DTS has achieved rate reductions equal to approximately 18% of its annual budget.

Over the next several years, DTS will complete a Data Center Transformation encompassing further consolidation of its networks, work on consolidating and rationalizing enterprise storage, eliminating some of its facilities, and establishing a more robust backup and disaster recovery service, as well as providing new services supporting statewide email and portal functions. These efforts will help improve DTS’s performance and productivity just as a series of large, enterprise projects are scheduled to come on line. DTS will need to balance its efforts to streamline and reduce costs with the need to maintain and improve its

service levels while taking on substantial new work.

Consolidation activities are not limited to DTS. The Department of General Services has successfully consolidated the State’s IT commodity purchases in its strategic sourcing program, which is explained in greater detail in Chapter 3. To date, DGS estimates \$172 million in state spending for IT items under the strategic sourcing program, with an estimated savings against historical cost of just over 40%, for a total estimated cost avoidance of \$70 million.

Other departments are also embarking upon consolidation projects with respect to their own IT infrastructure. Many of the State’s larger departments still have widely dispersed IT infrastructure. For example, the Department of Transportation has some forty computer rooms located around the State. There could be significant savings achieved simply by consolidating these separate facilities within Caltrans, and that option is under active review. Several other

Consolidation Project	Project Owner	Brief Description	Estimated Savings
Data Center Consolidation	DTS	Merger of Teale Data Center, Health and Human Services Data Center and Office of Network Services (DGS)	\$43,000,000
Strategic Sourcing	DGS	Statewide purchasing contracts for personal computers, laptops, printers and other peripheral devices, PC servers, enterprise servers and storage, wireless hardware and services	\$70,000,000
Total			\$113,000,000

departments are conducting similar examinations.

During the Spring of 2007, the State CIO sponsored a study of the State's server infrastructure. The study was conducted by experts from Intel, which itself has a long history of successfully consolidating its own global IT systems. Based on a survey sample of just over 6,000 servers (which is estimated to be about 50-60% of the total number of servers owned by state departments), the study suggests that significant, long-term cost-efficiencies and energy savings could be achieved if departments were to implement server consolidation and virtualization strategies. Intel recommended for three-year goals that the Executive Branch reduce the overall number of servers by 15% and convert 20% of servers from physical servers to virtual servers. Intel estimates potential savings of \$54 million over five years for in-department server consolidation, \$26 million over five years for file server consolidation, \$11 million over five years for email consolidation, and \$14 million over five years for server virtualization.

B. Modernization Projects

Many of the State's most important services and programs are supported by information systems that are two or three decades old. These "legacy" systems have been reliable performers, delivering hundreds of billions of dollars in value to the State and to Californians.

However, it has become increasingly difficult and expensive to maintain and

support many of these aging systems. Many of these systems were built on first generation database technologies. These early database technologies do not have the flexibility and power of modern database applications. As a result, modifying and improving these systems is a much more time-consuming and expensive process than it would be if the systems were reimplemented using today's more powerful database platforms. In addition, many of these systems were architected around "green screen" user interfaces, and written in computer languages that are viewed by today's technologists as archaic.

The State is long overdue for a refresh of these legacy systems, and that refresh is now underway in earnest. The modernization projects fall into two major categories: First, projects focused primarily upon infrastructure modernization; and second, projects to refresh major case management applications.

In the infrastructure modernization category, there are major projects underway by the Department of Corrections and Rehabilitation, the Employment Development Department, and the Department of Motor Vehicles. The overall anticipated cost of these projects approaches \$678 million.

The refresh of major case management applications is occurring across the Executive Branch. There are major projects underway at Department of Corrections and Rehabilitation, the Employment Development Department, the Department

of Motor Vehicles, the Department of Justice, the Department of Transportation and others. A series of refreshes are underway in the health and welfare field,

with projects to implement CMIPS II, CWS/CMS, EBT, and ISAWS. The combined cost of these case management projects is estimated at \$1.914 billion.

Modernization Projects	Project Owner	Brief Description	Estimated Cost
SOMS	CDCR	Case management for CDCR's prison population.	\$416 million
CITIP	CDCR	Infrastructure modernization.	\$277 million
ISAWS Migration	DSS	Migration of 35 ISAWS counties to the C-IV system.	\$264 million
DMV Modernization	DMV	Infrastructure modernization.	\$242 million
CWS/CMS	DSS	Replace existing child welfare case management system to meet federal SACWIS requirements.	\$233 million
UI Modernization	EDD	Infrastructure modernization to improve consumer access to EDD's services.	\$113 million
Automated Collection Enhancement System ("ACES")	EDD	Modernize employer access to payment systems, thereby increasing compliance and accuracy of payments, and improve data available to executives charged with managing the program.	\$94 million
EBT Reprocurement	DSS	Reprocurement of the existing EBT system.	\$90 million
CMIPS II (In-Home Supportive Services)	DSS	Replace existing case management and payroll system with more modern technology.	\$40 million
Real ID Website	DMV	Front-end website development for Real ID case management system.	\$35 million
Automated Criminal History System Migration	DOJ	Migration of DOJ's criminal history database to modern platform.	\$35 million
Construction Management System	DOT	Improve record keeping and timely payment on construction projects.	\$25 million
Telephone Service Center	DMV	Infrastructure modernization.	\$21 million
CJIS Redesign	DOJ	Redesign of criminal justice information system.	\$18 million
DL/ID	DMV	Procurement to select vendor to continue driver license, identification and salesperson card issuance.	\$11 million
Total			\$1.914 billion

The completion of these projects will substantially enhance the State's ability to deliver timely, cost-effective services and information to program managers and users, as well as the tens of millions of Californians who rely upon State systems and programs.

C. Network and Telecommunications Modernization

A large portion of the State government's information technology systems are connected by a consolidated statewide network owned, maintained and managed by the CALNET contractors under the oversight of the Department of Technology Services, Statewide Telecommunications and Network Division ("STND").

STND provides assistance to approximately 160 State and 1,800 local government agencies to effectively purchase telecommunications services and utilize the CALNET voice and data networks to meet their business needs at the best available rates. This is accomplished through competitively-bid master telecommunications and consultant contracts, and by providing proactive customer services and information. STND works with the CALNET network providers and customers to keep voice, video and data communications flowing to and from government offices, prisons and hospitals, and in incidences and disasters that impact communications.

During FY 06-07, DTS entered into a new set of telecommunications contracts pursuant to the CALNET II procurement. Under CALNET II, departments will be able to purchase services from four different "Modules" encompassing the following types of services: 1) Traditional Voice and Data Services; 2) Long Distance Services for Voice; 3) Internet Protocol (IP) Services; and 4) Broadband Fixed Wireless Access Services.

CALNET II is only a vehicle for making purchases, not a strategic plan for how best to deploy those services. That planning activity is now well underway. The State CIO published a broad vision for State network architecture and governance in *Envisioning the California Executive Branch's Next Generation Enterprise Network* (June 2007). The IT Council will be considering a draft California Statewide Telecommunications Plan – *Pathway to a Connected California*, at its fall 2007 meeting. Finally, DTS is undertaking a detailed examination of its own network infrastructure and will be releasing a plan later this year for its improvement.

In addition, pursuant to Governor Schwarzenegger's Executive Order S-21-06, the Executive Branch in partnership with stakeholders is taking action to reduce barriers to broadband access and adoption, and adopting measures to ensure that State policies evolve in response to ever-changing conditions in the technology marketplace. The Executive Order requires that Executive Branch agencies identify barriers to broadband access and opportunities for increased broadband adoption. The Executive Order focuses on strategies that can be pursued at an administrative level and will either reduce bottlenecks or build upon "best practices." An in-depth analysis will also be carried out to identify and work to resolve government-imposed barriers or obstacles.

3. Rebuilding the State's Internet Presence

Improving access to government services and information is the number one goal of

the California State Information Technology Strategic Plan, and the Internet is one of the key channels for improving that access. It has been almost six years since the State's web architecture, web pages and portals have been refreshed.

With extraordinary assistance provided by the California Research Bureau and the State Library, the Executive Branch now has a solid set of policies and principles upon which to build a substantially improved State web presence, where the focus will be placed upon improved "usability." With policies now in place, including policies to assist departments in meeting federal and state requirements for accessibility, the Executive Branch has settled upon an improved web architecture that separates content from presentation (an important advance that positions the State to take advantage of the next generation of Internet browsers and mobile or handheld devices), new and more flexible look-and-feel guidelines, and a new enterprise search engine supplied by Google. Detailed information on the new policies and guidelines can be found at www.eservices.ca.gov.

Because of this progress, the strategic plan now calls for a statewide refresh of all agency web sites by November of 2007, and that refresh is well underway. Recognizing that most Californians would rather be "online" than "in line," departments are also examining their

customer-service interactions and transactions and determining which of those can be offered online.

The efforts to improve State web sites are being recognized by objective observers who rank public sector web sites. Brown University conducts an annual e-government report. Two years ago, California ranked 47th in that report. In 2006, California ranked 31st. This year, California ranked 12th. We are making quick progress in reestablishing the State's Internet presence.

2C. Summary of Overall Project Portfolio

Going into Fiscal Year 2007-2008, the Department of Finance reports 126 active IT projects with total planned project costs estimated at just over \$6.27 billion.* The average project cost is \$47 million, with the median project cost at \$7.1 million. The large difference between average and median project cost results from a handful of very large projects within a total mix of much smaller projects. The State generally prefers smaller projects of a shorter duration to reduce project risk and secure as quickly as possible the benefits of new technology. Big projects are pursued only when absolutely necessary to advance our goals, and these projects are carefully planned in phases to reduce project risk.

Overall Statistics on Active IT Projects Reported to the Department of Finance

FY	Number	Total Project	Mean	Median	Mean	Median
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	of Projects	Costs	Project Costs	Project Costs	Project Duration (yrs)	Project Duration (yrs)
06-07	117	\$5,033,780,255	\$43,023,763	\$7,398,676	2.86	2.3
07-08	126	\$6,271,326,419	\$49,772,432	\$7,907,981	2.97	2.3

The top 10 projects by cost account for 75% (\$4.7 billion) of the total planned cost of all reported projects tracked by the Department of Finance. The top ten projects fall roughly into three categories: (1) development projects involving the State with all local jurisdictions statewide (e.g., Child Support, ISAWS Migration and Child Welfare Systems / Case Management

System); (2) development projects involving coordination across a large number of agencies within State government (e.g., Fi\$Cal and 21st Century Project); and (3) large department projects that completely refresh foundational departmental systems (e.g., DMV's IT Modernization, CDCR's BIS & SOMS)

Top Ten Active IT Projects by Cost

Project Title	Dept	Project Costs
Child Support – Child Support Enforcement (CSSAS – CSE)	FTB/DCSS	\$1,450,431,964
Statewide Business Information System (Fi\$Cal)	DOF/SCO/DGS/STO	\$1,334,123,060
Strategic Offender Management System (SOMS)	CDCR	\$416,278,518
Consolidated IT Infrastructure Program (CITIP)	CDCR	\$276,707,845
ISAWS Migration	DSS	\$263,549,843
Information Technology Modernization	DMV	\$242,157,699
CWS/CMS New System	DSS	\$233,264,717
Child Support – State Disbursement Unit (CCSAS-SDU)	FTB/DCSS	\$224,245,504
Business Information System (BIS)	CDCR	\$144,465,388
Human Resources Management System (21st Century Project)	SCO	\$138,390,463
Total Costs		\$4,723,615,001

* The State does not centrally track all agency information technology projects. Some agency activities, though they might technically satisfy the definition of an IT project, are so much a part of ordinary routine maintenance and operations that they are not treated with the same planning and implementation formality as are complex IT projects. In addition, the Department of Finance has authority to delegate projects to departments, and those delegated projects proceed without formal reporting to Finance.

The State's 126 projects are spread over 45 different departments. Almost half of these departments (22, to be precise) have only 1 active project under development. Seven

departments have 2 projects, seven departments have 3 projects, four departments have 5 projects, two departments have 6 projects, one

department has 7 projects, and two departments have 15 projects (CDCR and DOJ). The departments with five or more projects are some of the largest

departments, and most of them have substantial experience in managing large IT programs.

Active IT Projects by Department

Department	Number of Projects	Total Project Costs
Franchise Tax Board	5	\$1,702,443,519
Dept of Finance	1	\$1,334,123,060
Dept of Corrections & Rehabilitation	15	\$951,059,354
Dept of Social Services	6	\$633,570,216
Dept of Motor Vehicles	7	\$334,556,295
State Controller	3	\$146,640,580
Employment Development Department	3	\$239,928,391
Dept of Justice	15	\$112,829,594
Dept of Health Care Services	3	\$102,790,002
Dept of Transportation	6	\$94,719,817
Dept of Public Health	5	\$72,331,164
Secretary of State	1	\$69,178,975
Dept of Consumer Affairs-	2	\$59,320,913
Dept of Veterans Affairs	2	\$43,485,721
Dept of Industrial Relations	3	\$54,188,452
Dept of Education	3	\$41,937,478
Dept of Fish and Game	1	\$27,501,166
Dept of Conservation	5	\$26,491,675
Dept of Forestry and Fire Protection	1	\$25,711,548
CHP	1	\$23,033,257
Dept of Mental Health	5	\$21,862,411
Dept of Rehabilitation	2	\$16,563,000
Dept of Alcohol and Drug Programs	1	\$11,664,425
Office Statewide Health	3	\$15,260,200
Dept of General Services	2	\$11,578,183
Dept of Parks and Recreation	1	\$10,942,885
PERS	1	\$10,749,331

Dept of Real Estate	3	\$9,935,454
Dept of Insurance	1	\$8,740,390
Energy Res Conserv & Dev Comm	2	\$8,285,497
Student Aid Commission	1	\$7,153,000
Dept of Food and Agriculture	1	\$6,556,709
State Board of Equalization	2	\$6,245,019
State Personnel Board	1	\$4,710,000
PUC	2	\$4,529,672
Dept of Alcoholic Beverage Control	1	\$4,363,154
Secretary of Environmental Protection Agency	1	\$4,157,388
State Water Resources Control Board	1	\$3,886,991
California State Library	1	\$2,543,795
Emergency Medical Services Authority	1	\$1,998,000
Dept of Corporations	1	\$1,246,100
Dept of Fair Employment and Housing	1	\$1,170,610
State Air Resources Board	1	\$765,000
State Coastal Conservancy	1	\$406,028
Dept of Toxic Substances Control	1	\$172,000

2D. Project Management Performance

Determining whether a project is a “success” is not always a simple task. There are a number of different measures of success, including whether a project was completed on budget, on schedule and within scope, and whether it fully meets customer expectations and needs. An approach commonly used in evaluating project performance employs the following classifications, which are more refined than simply asking whether a project was successful or not:

- **Successful:** Completed on time and within budget with all features and

functions implemented and in use as originally specified, and meets agency’s business needs.

- **Challenged:** Completed, implemented and in use, but one or more of the factors of project success were missing (i.e., over budget, over schedule, lacked all features and functions, or otherwise did not meet agency’s business needs).
- **Failed:** Completed, but not successfully implemented and/or used.
- **Abandoned:** Project stopped before completion.

A comprehensive empirical study by The Standish Group completed in 1994 (“The Chaos Report”) presented sobering results about project success in the private sector.

After analyzing almost 8,400 projects conducted by 365 companies, the report found that only 16.2% of the projects were successful, and 52.7% were challenged. The remainder, 31.1% of the projects or nearly one-third, were failed or abandoned. Ten years later, the results are only modestly better. The Standish Group's database of projects for 2004 shows a success rate of only 29%, with 53% challenged, and 18% failed. The hard truth established by these results is that IT projects – whether undertaken in the private sector or the public sector – are risky, complete success is difficult to achieve, and outright failure or abandonment is common.

Any fair comparison between these figures and the overall performance of California's Executive Branch in managing its IT projects would conclude that the State does IT just as well as the private sector. The State's failure rates do not come anywhere near those reported in The Chaos Report. Over the course of the last decade of the 20th century, the State suffered a handful of outright project failures or abandonments, and each of these was a project that had a high degree of complexity and risk associated with it, as well as correspondingly large costs (e.g., in 1994, DMV cancelled its database upgrade; in 1997, DSS abandoned the statewide child support project; in 1997, Corrections abandoned the Correctional Management Information System; and, in 1999, Health and Human Services Data Center abandoned the Statewide Automated Welfare System – Technical Architecture project).

It is the loss of taxpayer dollars (cumulatively, in the \$500 million dollar range for the projects listed above), and the delay in serving real program needs, that makes these failures so painful. But these individual project failures or abandonments should not be confused with overall program performance. Overall, the State is not seeing unusually high rates of project failures or abandonments compared to the private sector. It must be remembered that the hundred million and billion dollar IT failures in the private sector – of which there are many – do not receive the same public reporting and attention as public sector IT projects.

During the last five years, there has been only one project abandonment, and it occurred in November 2006. The abandoned project – known as "CADDIS" (for "California Developmental Disabilities Information System") – had been in the "challenged" category for the last two years. CADDIS was intended to improve the tracking of expenditures and services to nearly 200,000 people with developmental disabilities from 21 regional centers which are under contract with the Department of Developmental Services ("DDS"). After sustained efforts to move forward with the project during the summer and fall of 2006 – efforts which were endorsed by the Legislature in special provisions attached to the budget for the project – the State decided to abandon the project before completion when it became clear that the State could not satisfy all of the requirements that were set for project continuation. The State has abandoned the

project before committing very substantial additional resources towards its completion, and in this sense, has made the best risk management decision – i.e., avoiding escalation of a project that appears likely to be headed towards a failure. While DDS has invested over \$10 million in the six-year old project, it appears likely that an additional

\$30-50 million would have had to be invested to complete the project given its current status. The Department of Developmental Services will now regroup with the key stakeholders for this project – the Regional Centers that provide services – to determine the best path forward.

The policy and practice of information technology acquisitions took several major steps forward in Fiscal Year 2006-07.

On the policy front, the Legislature endorsed a risk assessment and evaluation program for IT contracts that the Department of General Services will administer (AB 617 (Chapter ___, Statutes of 2007)). The program should enable the State to do a better job of tailoring its large dollar IT contracts to the precise risks posed by particular projects and acquisitions.

In another policy development, as part of its implementation of SB 954 (Chapter 556, Statutes of 2005), the Department of General Services established an improved methodology for "Solution-Based Information Technology Acquisitions." The new methodology should promote greater competition and innovation in acquisitions that call for novel solutions to agency business needs and requirements.

On the practice front, the total value of IT acquisitions rebounded during FY 2006-07, with a total value of \$1.44 billion for the year (a 77% increase from FY 2005-06). There were increases in all three categories of IT contracts, with a 62% increase in IT Services, a 202% increase in IT Consulting, and a 48% increase in IT Goods. Competition for these contracts increased during FY 2006-07, with only 3.1% of the value of IT contracts being

let pursuant to DGS approved Non-Competitive Bids (compared to 4.4% of the value for FY 2005-06).

3A. Acquisition Policies

1. Contract Protections Commensurate with Risk Evaluation

In AB 617 (Torrico), the Legislature endorsed a consensus agreement reached between the Administration and representatives of the information technology industry to require the Department of General Services to develop and maintain risk evaluation guidelines and to use those guidelines in selecting contract terms for IT contracts that provide financial protections in the best interests of the state. This legislation was the result of two years of discussions and negotiations to improve the competitive environment for major IT procurements.

AB 617 replaces the rigid requirements in Public Contract Code § 12112, including the requirement of at least a 50% performance bond in certain IT contracts, with a more flexible program of risk management to be administered by the Department of General Services. Under this approach, DGS will determine the level of financial protection needed and then select terms to meet that level, including but not limited to the following types of contract terms: performance bonds; sureties; letters of

credit; and, other contract terms or forms of security or guaranty of performance.

The increased flexibility provided by this legislation should enable the State to do a better job of tailoring the terms of certain IT contracts to the State's actual financial protection needs in light of the capacities of its contracting partners and other project and contract risks.

2. Solution-Based Acquisitions

Senate Bill 954 (Chapter 556, Statutes of 2005) endorsed an acquisition approach for new technology systems that invites an array of solutions to solve a business problem or policy challenge. In furtherance of SB 954, the Department of General Services has developed a solution-based procurement methodology that will be employed in certain of the State's most important IT acquisitions where the diversity of technological choices suggests that the State will best be served by seeking innovation from the market to solve specified business needs (instead of going to the market with a long list of technical requirements and a pre-conceived notion of what the solution must look like).

Because this style of procurement gives vendors greater flexibility in proposing different technical solutions to generally-defined business problems, there is greater uncertainty at the beginning of the acquisition about the range of potential solutions that might exist and be proposed to the State and the range of costs. Under our normal project and acquisition

processes, before undertaking an acquisition, a department must submit a detailed Feasibility Study Report and Information Technology Procurement Plan to the Departments of Finance and General Services, and the level of detail in those documents has often included technical specifications and a best estimate of resources for the project. However, when undertaking a solution-based acquisition, that level of detail will probably not be possible so early in the project and acquisition cycle. Many of the details that ordinarily would be found in an FSR and ITPP will not be available until *after* vendors have submitted their bids and the State has narrowed its focus on one or two alternatives.

In light of this greater up-front uncertainty, DGS's solution-based acquisition methodology calls for a number of changes in our typical approach to major IT acquisitions, including the following: (1) the creation of a State team early in the planning process that will include representatives from the agency which owns the project, DGS, Finance and the State CIO; (2) early input from the market in response to Requests for Information; (3) early risk assessment and legal review of draft RFPs; (4) more interactive exchange between the State and bidders through formal bidder conferences and one-on-one meetings; (5) potential use of a pre-qualifying round to narrow the field of potential bidders; (6) negotiation as allowed by law with finalists; and (7) completion of final project documents, such as a

conforming SPR, only *after* the intent to award has been announced.

The solution-based acquisition methodology requires State agencies – both the project agency and the control agencies – to a higher resource commitment throughout the planning and acquisition process. Accordingly, we intend to employ the full methodology only for selected IT projects and acquisitions, ones where the complexity and risk of the project, along with the magnitude of likely project expenditures, justifies the early commitment of additional State resources. As noted in the next section, the number of high-dollar-value IT contracts on an annual basis is relatively small (e.g., in Fiscal 06-07, there were only 13 IT contracts valued at more than \$10,000,000), and we are confident that we can improve the competitiveness and quality of many of those acquisitions using this new methodology.

3B. Acquisition Activity

During fiscal year 2006-2007, California agencies entered into 12,377 IT contracts with a value of \$1.44 billion.¹ Most of this total value results from a very small number

of large contracts. The vast majority of IT contracts are for small dollar amounts. The top ten contracts during the year (0.08% of all IT contracts) were worth \$705 million or 49% of the value of all IT contracts. The largest of the top ten contracts was for \$278 million, and the smallest of the top ten contracts was for \$16 million. The hundredth largest IT contract was for \$905,000, and 99.31% of all IT contracts were for under \$1 million. The following table shows the count for the number of contracts by various values.

Number of Contracts by Contract Value

Contract Count	Contract Value
2	> \$100,000,000
1	\$50,000,000 - \$99,999,999
3	\$25,000,000 - \$49,999,999
7	\$10,000,000 - \$24,999,999
10	\$5,000,000 - \$9,999,999
19	\$2,500,000 - \$4,999,999
44	\$1,000,000 - \$2,499,999
89	\$500,000 - \$999,999
323	\$250,000 - \$499,999
922	\$100,000 - \$249,999
10,957	< \$100,000

Contract Value by New Contract vs. Amendment

	Num All IT	All IT Contracts	Number New	New Contracts	Number Amended	Amended Contracts
03-04	6,035	\$1,454,153,183	5,333	\$1,440,846,628	700	\$13,306,555
04-05	9,530	\$967,920,747	8,448	\$947,921,983	1,082	\$19,998,764

05-06	9,623	\$816,692,796	8,560	\$643,792,087	1,063	\$172,900,709
06-07	12,377	\$1,444,134,466	10,986	\$1,214,005,213	1,391	\$230,129,253
Totals	37,565	\$4,682,907,729	33,329	\$4,246,572,448	4,236	\$436,335,281

IT contracts are divided into three major categories: IT Goods, IT Services and IT Consulting. These categories are defined as follows:

- **IT Goods:** Contracts that have as their primary purpose and predominate value of the purchase of IT commodities or goods (such as equipment, parts, supplies or other merchandise, including licenses for software and applications);
- **IT Services:** Contracts that have as their primary purpose and predominate value the purchase of services – i.e., someone doing something – relating to IT (such as maintenance and support, security services, and computing and network services);

¹ This figure does not represent total IT contract expenditures during the fiscal year since many contracts, particularly large dollar services and consulting contracts, are multi-year contracts. Instead, the figures in this chapter reflect the total value of the contract at the time of execution, a value that may include expenditures in subsequent fiscal years. All data is derived from the State Contract and Procurement

- **IT Consulting:** A subset of IT Services, IT Consulting involves those IT Services contracts where the primary purpose and predominate value of the purchase relates to securing advice, analysis and/or recommendations that are the result of the special unique expertise and intellectual abilities of the vendor.

For FY 2006-2007, IT Goods contracts constituted 78% of the total number, but only 26% of the total value, of IT contracts. The median IT Goods contract was for \$8,662, while the median value for IT

Services was \$20,567, and the median value for IT Consulting was \$105,000. Comparing the average value for IT Services (\$376,470) with the median value for IT Services (\$20,567) clearly indicates the presence of a small handful of very large IT Services contracts. As might be expected, these very large contracts generally relate to the State's largest IT projects and systems (such as the California Child Support project and the food stamps Electronic Funds Transfer program).

Contract Value by Contract Type

	All IT Contracts	IT Services	IT Consulting	IT Goods
2003-2004	\$1,454,153,183	\$1,182,481,556	\$91,135,130	\$180,536,497
2004-2005	\$967,920,747	\$551,673,236	\$32,274,983	\$383,972,528
2005-2006	\$816,692,796	\$467,767,175	\$101,596,967	\$257,328,654
2006-2007	\$1,444,134,466	\$756,329,205	\$307,083,596	\$380,721,665
Totals	\$4,682,907,729	\$2,958,251,172	\$532,090,676	\$1,202,559,344

Contract Value Statistics by Contract Type

	All IT Contracts	IT Services	IT Consulting	IT Goods
03-04	\$1,454,153,183	\$1,182,481,556	\$91,135,130	\$180,536,497
Count	6,033	1,616	526	3,891
Ave.	\$241,033	\$731,734	\$173,261	\$46,398
Median	\$14,848	\$18,938	\$85,960	\$12,199
04-05	\$967,920,747	\$551,673,236	\$32,274,983	\$383,972,528
Count	9,530	2,061	664	6,805
Ave.	\$101,566	\$267,673	\$48,607	\$56,425
Median	\$13,687	\$21,025	\$89,979	\$11,554
05-06	\$816,692,796	\$457,767,175	\$101,596,967	\$257,328,654
Count	9,623	1,780	657	7,186
Ave.	\$84,869	\$257,173	\$154,638	\$35,810
Median	\$13,000	\$24,707	\$105,105	\$10,731
06-07	\$1,444,134,466	\$756,329,205	\$307,083,596	\$380,721,665
Count	12,377	2,009	771	9,597

Average	\$116,679	\$376,470	\$398,293	\$39,671
Median	\$10,515	\$20,567	\$105,000	\$8,662

Agencies are able to enter into contracts using a variety of contracting vehicles, including buying from the strategic sourcing program, competitive bidding, purchasing off of "CMAS," buying from Master Agreements, entering into Non-Competitive Bids, making emergency purchases, and making purchases that are statutorily exempt. Each of these contracting vehicles has particular strengths and weaknesses. Contracting vehicles that best leverage the State's buying power are found in the strategic sourcing program and in Master Agreements. Contracting vehicles that best ensure competition are the strategic sourcing program, competitive bids, and

Master Agreements. Acquisitions made by Non-Competitive Bids ("NCBs") neither leverage state buying power nor ensure competition through open procurement processes, and such acquisitions are disfavored as a matter of law, policy and practice.* Departments may not make acquisitions by NCBs without securing the approval of the Department of General Services. The number of NCBs has remained at a relatively low level, both in terms of the number of contracts and total value. Over the four year period reported here, NCB's constituted only 3% by count and 5% by value of all IT contracts.

Contract Value by Contract Methodology

	Strategic Sourcing	CB	CMAS	MA	NCB	Emergency	Otherwise Exempt
03-04		\$1,088,122,606	\$94,247,078	\$118,985,875	\$79,508,436	\$887,758	\$72,401,430
04-05	\$1,412,186	\$198,834,206	\$147,853,047	\$190,791,574	\$93,820,729	\$240,356	\$333,594,045
05-06	\$70,402,745	\$337,883,006	\$145,713,888	\$79,560,458	\$35,622,282	\$613,098	\$146,897,319
06-07	\$115,382,773	\$869,239,547	\$187,333,971	\$106,123,487	\$44,874,260	\$334,748	\$120,845,680
Totals	\$187,197,704	\$2,494,079,365	\$575,147,984	\$495,461,394	\$253,825,707	\$2,075,960	\$673,738,474

Contract Value Statistics by Contract Methodology

	Strategic Sourcing	CB	CMAS	MA	NCB	Emergency	Statutorily Exempt
03-04 Count		\$1,088,122,606 1,708	\$94,247,078 1,257	\$118,985,875 2,110	\$79,508,436 297	\$887,758 28	\$72,401,430 633
Ave.		\$637,074	\$74,978	\$56,391	\$267,705	\$31,706	\$114,378
Median		\$11,861	\$35,253	\$12,402	\$13,203	\$9,100	\$17,095
04-05 Count	\$1,412,186 68	\$198,834,206 2,656	\$147,853,047 1,711	\$190,791,574 3,906	\$95,195,333 333	\$240,356 20	\$33,594,045 836
Ave.	\$20,767	\$74,862	\$86,413	\$48,846	\$285,872	\$12,018	\$399,036
Median	\$9,377	\$12,652	\$33,030	\$11,295	\$9,928	\$7,491	\$18,998
05-06	\$70,402,745	\$337,883,006	\$145,713,888	\$79,560,458	\$35,622,282	\$613,098	\$146,897,319

Count	2,242	2,715	1,433	2,047	365	25	796
Ave.	\$31,402	\$124,451	\$101,685	\$38,867	\$97,595	\$24,524	\$184,544
Median	\$10,206	\$112,956	\$49,999	\$9,779	\$11,274	\$7,770	\$20,075
06-07 Count	\$115,382,773	\$869,239,547	\$187,333,971	\$106,123,487	\$44,874,260	\$334,748	\$120,845,680
Ave.	3,466	3,787	1,854	1,921	249	16	1,084
Median	\$33,290	\$229,532	\$101,043	\$55,244	\$180,218	\$20,922	\$111,481
	\$8,200	\$9,258	\$37,704	\$11,052	\$11,644	\$6,197	\$12,240

* The "otherwise exempt" category includes acquisitions of continuing maintenance and software licenses for previously purchased proprietary systems where only one vendor supplies the maintenance and license. Many of these contracts are for systems that originally were part of a competitive procurement.

One of the most successful IT acquisition initiatives in recent years is the strategic sourcing program. Strategic sourcing is a process designed to allow the State of California to purchase the best products and services for the best value. Strategic sourcing streamlines procurement activities by consolidating, renegotiating and automating contracts to achieve significant savings. Under the strategic sourcing initiative, multiple contracts for the same goods or services, purchased by multiple State agencies, have been combined to leverage the State's buying power. This, along with implementation of new purchasing tools, has saved tens of millions of taxpayer dollars.

The Department of General Services' strategic sourcing team focused on savings in the following general IT categories:

- IT Hardware/PC Goods (desktop and workstations; printers; PC servers; peripherals and laptops).
- IT Hardware/Enterprise Hardware (enterprise servers and storage systems).
- Wireless Equipment and Services (wireless voice and data and wireless related equipment, including accessories).

DGS's strategic sourcing team worked very closely and effectively with the IT Council's Acquisitions Committee and departmental CIOs to ensure that equipment

specifications met departmental IT needs. Purchasing off of a strategic sourcing contract is mandatory for the equipment within the scope of those contracts. To accommodate special needs, an exemption process has been established which requires the approval of the State CIO. Since inception of the program during FY 05-06, 5,854 purchases have been made off of the strategic sourcing contracts for IT with a total value of \$190,497,492.49, and only 117 requests for exemptions (2%) have been granted (about half of the exemptions are for the purchase of Macintosh equipment for special needs and for those few departments that use exclusively Macintosh personal computers).

To date, DGS estimates \$172 million in state spending for IT items under the strategic sourcing program, with an estimated savings against historical cost of just over 40%, for a total estimated cost avoidance of \$70 million.

Breaking down IT contracts by department gives a very clear picture of which departments are driving most of the IT spending by State government. For example, in FY 06-07, the top ten departments purchased \$1.051 billion in IT contracts, representing 73% of the total value for IT contracts for the fiscal year. As the following chart makes clear, the same set of departments regularly appear in the top ten list as major purchasers of IT.

Top Ten Departments by Contract Value

03-04	Value	04-05	Value	05-06	Value	06-07	Value
FTB	\$812,850,330	DSS	\$270,495,658	DMV	\$117,674,806	HHSDC	\$456,791,091
HHSDC	\$119,444,006	DOJ	\$66,406,597	DTS	\$102,249,186	DTS	\$108,559,797
DMV	\$86,881,336	DOT	\$61,450,297	EDD	\$63,228,357	DSS	\$93,658,451
DCSS	\$79,755,418	DFFP	\$58,191,712	DCA	\$58,735,559	DHCS	\$78,445,940
Trans	\$36,212,551	DCA	\$57,515,018	DOJ	\$55,972,334	FTB	\$71,874,499

DGS	\$32,704,273	FTB	\$45,649,009	DHCS	\$40,490,964	DMV	\$61,713,204
DWR	\$29,968,973	Corr.	\$40,690,964	DSS	\$36,348,559	Trans	\$53,794,451
Teale	\$29,110,943	Teale	\$32,213,923	Trans	\$35,632,619	CDCR	\$51,075,343
Corr.	\$24,513,434	DHCS	\$30,607,284	DWR	\$24,211,311	DOJ	\$39,400,787
DHCS	\$24,247,946	DMV	\$25,751,885	CDCR	\$23,051,847	DIR	\$36,071,968

CHAPTER
4

The State's Information Technology Workforce

A high-quality IT program can be sustained only if it is supported and managed by a high-quality IT workforce. As noted by the California Research Bureau in its most recent report on the State's IT workforce, "[h]aving a qualified IT workforce is critical to effective e-government." Alicia Bugarin, *The State's Information Technology Hiring Process: Suggested Reforms*, p. 1 (California Research Bureau, November 2006).

The State employs over 8,300 employees in IT job classifications. This workforce is spread over the State's 70+ departments, with the greatest concentration of IT workers in the Department of Technology Services, departments which operate their own data centers (such as the Department of Justice and the Franchise Tax Board), and the ten largest departments.

In the next five years, more than 50 percent of the State's total workforce will be eligible to retire. In 2004, 25,000 State employees retired, and another 30,000 are projected to retire during 2007. On a monthly basis, the

State will be losing the most experienced and capable IT supervisors, managers and workers. How the State manages this changing of the guard in its IT workforce will determine, to a large extent, the success of the State's enterprise initiatives and major departmental IT projects.

During the last year, the major institutional stakeholders in IT workforce HR issues – the State Personnel Board, the Department of Personnel Administration, the Service Employees International Union, the Administration and the Legislature – have worked together to address one of the major obstacles to recruiting and hiring IT workers: the antiquated classification and testing system. The State's existing classification system has not been updated in over 20 years, and its classes do not reflect the reality that the Internet exists or that servers have been invented. Working collaboratively, the stakeholders identified above agreed upon new statutory authority for the State Personnel Board to conduct skills-based testing (see Government Code §

18900.6). When this new testing methodology is combined with a new classification plan that has been agreed upon, the end result will be a dramatically improved capacity to hire the right person for the job.

During the coming year, the State needs to fully implement this new scheme and then to take advantage of its benefits through newly reinvigorated recruitment of IT talent.

The Executive Branch has also reestablished a leadership training program co-sponsored by the Director of the Department of Personnel Administration, the Undersecretary of State and Consumer Services Agency and the State CIO. Developed and offered by Sacramento State University for the first time during the fall 2006 semester, "Leadership for the Government Executive Program" is

specifically designed to help build both IT and business-side executive leadership in state government, leadership that is attuned to the 21st century's digital environment.

The Department of Personnel Administration conducted its first salary survey in 20 years in 2006, and that survey concluded that the compensation for certain state job classifications, including IT classifications, was lower than in other comparable public sector organizations. As a result, the FY 2006-07 budget provided a five percent increase to the maximum salary rate for IT classifications in addition to the across-the-board 3.5 percent salary increase provided to all state employees.

In summary, the Executive Branch is taking significant steps in a number of areas to address IT workforce issues, but much additional work lies ahead.

5A. Collaborative Governance

Decision making within the Executive Branch about issues relating to information technology are made in the context of a collaborative governance process that draws upon executive leadership from all across government. There are three major governance bodies with distinctly different enterprise roles and responsibilities:

- The Information Technology Council (“IT Council”) advises the State CIO on overall IT planning and policy, primarily from a technology perspective;
- The Technology Services Board (“TSB”) governs the Department of Technology Services and sets policy on enterprise services provided by the Department of Technology Services; and,
- The Enterprise Leadership Council (“ELC”) provides a forum for Executive Branch agencies to discuss and resolve business issues related to enterprise-wide IT from a business perspective.

1. The Information Technology Council

Chartered by the State CIO in March of 2004, the IT Council advises the State CIO on all matters related to information technology in the Executive Branch, including the development of statewide IT strategic plans and the adoption of

enterprise-wide IT standards and policies. The IT Council's membership is broadly representative of major stakeholders in the Executive Branch's IT program, including members from several constitutional offices, the State's support agencies (Departments of Finance, General Services, Personnel Administration and Technology Services), Agency Information Officers (AIO), departmental Chief Information Officers (CIO), the judiciary and local and federal governments.

The IT Council's organizational structure includes an Executive Committee and nine subject-matter committees: IT Strategic Plan, IT Policies, Enterprise Architecture and Standards, IT Security, Technology Services, IT Acquisitions, IT Human Resources, IT Awards, and DTS Services. The Technology Services Committee supervises several working groups, including groups studying Green IT Systems, California Internet Protocol Telephony, and Open Standards / Open Source Software.

The IT Council's substantial work product is fully documented on the State CIO's website. Highlights of actions taken during Fiscal Year 2006-2007 include the following:

- Approval of the 2006 update to the *California State Information Technology Strategic Plan* (available at www.cio.ca.gov).

- Continued support of and technical assistance to the Department of General Services' strategic sourcing program.
- Sponsorship through a Server Consolidation Working Group of the *Server Consolidation Study Findings Report* produced by Intel (available at www.cio.ca.gov).
- Sponsorship of a series of meetings on the opportunities and challenges of Voice Over IP (VoIP) implementations, with a focus on the VoIP project underway at the Department of Insurance.

2. The Technology Services Board

The Technology Services Board (“TSB”) is the governing body for the Department of Technology Services (“DTS”) (a link to the TSB’s website is on DTS’s home page at www.dts.ca.gov). The membership of the TSB, top executives from all Cabinet agencies and the Controller’s Office with the State CIO serving as Chair, was designed to ensure that DTS was governed by its major customers from a business perspective.

During its first year of existence in FY 05-06, the TSB engaged primarily in a series of

The Department of Technology Services (“DTS”) was established on July 9, 2005, by the Governor’s Reorganization Plan Number 2, which consolidated the Stephen P. Teale Data Center, the California Health and Human Services Agency Data Center, and the Department of General Services, Office of Network Services. The consolidation realigned the information technology infrastructure of the Executive Branch, establishing in DTS the sole enterprise-wide source for technology and telecommunications services.

DTS, which serves under the jurisdiction of the State and Consumer Services Agency, currently operates from the following four campus environments:

1. Cannery - formerly the California Health and Human Services Agency Data Center (HHSDC);
2. Gold Camp - formerly the Stephen P. Teale Data Center.
3. Statewide Telecommunications and Network Division (STND), formerly known as the Office of Network Services.
4. DTS Training and Event Center - formerly the HHSDC Training and Event Center.

DTS provides reliable computing using powerful mainframe and server-based systems, network and telecommunications solutions, electronic messaging, and training to customers throughout the State. Currently, the Gold Camp and Cannery campuses serve over 500 state and local customers, and the STND CALNET system provides the statewide wireless

briefings for board members about a wide range of IT issues and DTS’s basic operations. Much of the year was devoted to beginning to understand the board’s role in governing DTS.

The board turned increasingly to substantive matters during its second year. During FY 06-07, the board established the foundational principles and processes by which DTS determines what services it should be offering to agencies and how to determine the rates for its services.

Historically, the rates for DTS’s predecessor data centers were determined in different ways. The Health and Human Services Agency Data Center set its own rates; the Teale Data Center, by contrast, had its rates reviewed and approved by the Department of Finance. As a result of these different processes, the two data centers developed different rates structures for similar services.

As part of the consolidation of those two data centers, DTS has been engaged in a project to rationalize and standardize its rates. In January 2007, the TSB approved a rate development methodology based upon the following Guiding Principles for Cost Allocation and Rate Setting:

- The Department strives to have reasonable rates for comparable services.
- The Department’s rates must be justifiable and supportable.
- The Department’s internal systems should provide accurate and timely cost and activity data for rate setting and billing purposes.
- Services will be periodically reviewed to determine the most appropriate

rate-setting methodology according to the type of service (that is, measured usage, subscription, direct bill).

- The revenues generated from the rates should fully recover the costs of the service, plus allowable reserves for working capital and equipment replacement. In order to facilitate the adoption of new services and/or the transition of customers to more efficient technologies, this principle may be suspended for a specific service for an actively managed period of transition. This exception will only be made for a documented policy objective and for a defined time period, after which the service is required to be compliant with the principle.
- The effort required for rate setting should be commensurate with the benefits derived.
- The rate setting process should provide mechanisms for ongoing rate review from a financial, technical, and business perspective.

Pursuant to these principles, the TSB adopted rates for statewide email services in support of the State CIO's decision several years ago, unanimously endorsed by the IT Council, to consolidate departmental email systems into a statewide system. The TSB also adopted new rates for mainframe and network services.

In another major policy decision, the TSB approved a disaster preparedness strategy that will ultimately establish operational recovery capabilities between DTS's two separate data center facilities. This approach to operational recovery will improve DTS's ability to recover quickly in the event of a major event that impairs or

destroys one or the other data center facility. This strategy is part of the Executive Branch's overall plans to maintain continuity of government operations in the event of a major disaster.

3. The Enterprise Leadership Council

In January 2007, the State established the Enterprise Leadership Council ("ELC") to provide a forum for government stakeholders of statewide or enterprise IT projects to address issues of mutual interest and concern as well as to provide statewide support and guidance for all state enterprise-wide system projects. The ELC's mission includes providing a forum for project stakeholders to review, resolve and provide direction on issues that have a statewide impact and cannot be resolved at a project level.

The membership of the Enterprise Leadership Council speaks to the breadth of its jurisdiction and the issues it will consider. The ELC's membership includes the members of the Governor's Cabinet, the Controller, the Treasurer, and the Executive Director of the Board of Equalization.

Initially, the ELC's primary focus will be the "Fi\$Cal" project, discussed above in Chapter 2. The ELC will also deal with issues arising in the context of the State Portal and Web Refresh, review and guide efforts currently underway to develop consistent identity management processes across the Executive Branch, and assist in moving forward with the State's enterprise architecture program.

5B. Information Security and Privacy

1. Activities and Security Incidents

The fundamental mission of the State's enterprise level security program is to guide the management of security and operational recovery risk for the State's information assets by providing statewide direction and leadership, with a focus on four key goals:

- Establish direction through policy and procedures for IT risk management, including both IT security and operational recovery;
- Promote and improve prevention and risk reduction through education, awareness, collaboration, and consultation.
- Ensure that incident handling, response, and follow-up occur in an effective and coordinated manner.
- Develop, maintain, and execute a risk management monitoring and compliance process.

Since January 2006, the State Information Security Office ("SISO") within the Department of Finance, working collaboratively with the California Office of Privacy Protection (an office within the Department of Consumer Affairs) and the IT Council's Security Committee, has substantially stepped up its activities to educate and engage departments in improving security processes. The SISO meets quarterly with all departmental ISO's, participates in bi-monthly meetings of the "Security Operations Group" (a voluntary group of state employees from a cross-section of agencies with an interest and desire in identifying ways of mitigating

security risks), participates in the weekly "E-tools" meetings where specific and emerging security threats are discussed along with potential solutions being offered by vendors, and participates in bi-monthly meetings of the "Inter-Agency Security Group," which consists of employees directly involved with IT security issues.

In addition to this rich information sharing network, the SISO is publishing a monthly IT security newsletter, and has issued a series of "best practices" guidelines on improving departmental security programs and compliance, which are available on the IT security website found at www.infosecurity.ca.gov. State agency resources on privacy practices and privacy awareness training may be found on the California Office of Privacy Protection's website at www.privacy.ca.gov/state_gov/index.html.

In the past 18 months the SISO has made great strides to heighten the awareness of security and risk management concerns, requirements, and mitigation strategies. These efforts to improve the state's overall security posture include, but are not limited to, the establishment of a more structured incident report tracking process and issuance of the following policies:

- Encryption of Portable Computing Devices (Budget Letter 05-32) – November 2005
- Protection of Information Assets (Management Memo 06-12) -- September 2006
- Information Security Notification and Reporting (Budget Letter 06-34) – December 2006

- Operational Recovery Planning and Certification (Budget Letter 07-03) – January 2007

The SISO also provided free training to agency staff in support of implementing the Protection of Information Assets, Information Security Notification and Reporting, and Operational Recovery Planning and Certification policies between January and May 2007, following the release of each new or updated policy.

During 2006-2007, the State continued to experience a rather regular pattern of security incidents. Most of the incidents involve stolen or lost property, or web defacements. From July 1, 2006, to June 30, 2007, the State ISO received incident reports as follows:

	Type of Incident	Call s
1	Stolen or Lost Property (e.g., laptops, portable equipment, non-portable equipment)	179
2	Intrusion (e.g., web site defacement, server hack)	45
3	Malware (e.g., virus, worms, spyware, rootkit)	18
4	DDoS, unusual activity, probes, and scans	11
5	Inappropriate access (e.g., by state employee or contractor)	19
6	Miscellaneous (e.g., pornography and/or threats, email spam, phishing, scams)	9
	Total	281

Beginning January 1, 2007, the SISO has undertaken a more detailed analysis of security incident reports and has added a new category of security incidents that involve “information disclosure.” This

category encompasses any type of improper disclosure of personal, confidential or sensitive information, including paper-based disclosures of such information (e.g., documents were misfiled, mailed or faxed to the wrong person). During the first half of 2007, there were 228 security incidents involving improper information disclosure. Of those, 214 (94%) involved paper disclosures, and 14 (6%) involved digital disclosures.

2. Office of Information Security and Privacy Protection

The 2007-2008 Budget includes half-year funding to establish the Office of Information Security and Privacy Protection within the State and Consumer Services Agency beginning January 1, 2008. This reflects the transfer of privacy protection responsibility from the Department of Consumer Affairs and information security responsibility from the Department of Finance.

The Office will be responsible for leading state agencies in securing and protecting the state’s information by identifying critical technology assets and addressing vulnerabilities, deterring identity theft and security incidents, sharing information and technology lessons promptly, enhancing government response and recovery, and developing consumer education programs.

5C. Office of the State Chief Information Officer

On July 1, 2002, the statutes establishing the Department of Information Technology (“DOIT”) sunsetted. As a result, decision-

making processes in the Executive Branch for enterprise information technology issues fell to a handful of other agencies exercising discretion pursuant to existing delegations of authority. Decisions about information technology policy, project initiation, project oversight and security policy fell to the Department of Finance, largely on the basis of analytic work performed by what is now known as the Office of Technology Review, Oversight and Security (OTROS). Information technology procurement policy and implementation became the sole responsibility of the Department of General Services.

Although DOIT sunsetted and its entire staff dissipated, the position of State CIO was retained. The State CIO was charged by the Governor with providing leadership on information technology policy and for working collaboratively with other information technology leaders throughout State government.

From July 2002 until the end of Fiscal Year 2006-2007, the State CIO has operated with limited full-time staff support, and with no statutory authority or budget. Legislation was enacted during 2006 to reestablish in statute the Office of the State Chief Information Officer. The statute, Government Code § 11545, made the State CIO a member of the Governor's cabinet, with the position appointed by the Governor subject to Senate confirmation. The bill largely codified the existing responsibilities of the State CIO, making the State CIO the

nominal leader for the Executive Branch's IT program.

The 2007-2008 Budget and related legislation (2007 Cal. Stats., ch. 183; SB 90) substantially expands on the bill enacted in 2006 and provides positions and an appropriation to reestablish the Office of the State CIO. The State CIO will be responsible for the following duties:

- Advising the Governor on the strategic management and direction of the state's information technology resources.
- Establishing and enforcing state information technology strategic plans, policies, standards and enterprise architecture.
- Minimizing overlap, redundancy and cost in state operations.
- Coordinating activities of agency information officers and the Director of Technology Services.
- Improving organizational maturity and capacity in the effective management of information technology.
- Establishing performance management and ensuring state information technology services are efficient and effective.
- Approving, suspending, terminating and reinstating information technology projects.

Pursuant to the legislation, effective January 1, 2008, the State CIO will assume responsibility for review and oversight of projects and department-specific activities, a function that has been the responsibility of the Department of Finance. Accordingly, the Department of Finance staff who have been performing this function will move to

the Office of the State CIO on January 1, 2008. The Department of Finance will continue to perform fiscal oversight of the state's information technology projects, including the determination of the availability of project funding from appropriate sources and ensuring consistency with state fiscal policy. To facilitate this effort, the Department of Finance will retain five positions for an information technology consulting unit.

With the funding of a cabinet-level Office of the State CIO in the FY 2007-2008 budget, and the creation of a separate Office of Information Security and Privacy Protection within the State and Consumer Services Agency, stable leadership for this collaborative governance process is in place. The period of "interim IT governance," which began with the sunseting of the Department of Information Technology in 2002, is now over.

About the State CIO

Appointed on May 16, 2002, Professor J. Clark Kelso serves as the Chief Information Officer for the State of California. As Chief Information Officer, he is responsible for providing leadership on information technology policy and for working collaboratively with other information technology leaders throughout state government.

Kelso's service as State CIO has garnered national recognition. In 2004, he received a "Top 25 Doers, Dreamers & Drivers" award from Government Technology, an award which recognizes the top public sector CIOs in the country. In December 2006, Kelso was selected as one of Computerworld's Premier 100 IT Leaders for 2007, which honors executives from the private and public sector who show exemplary technology leadership in resolving pressing business problems. No state chief information officer in the country has previously been honored with this recognition.

Professor Kelso's experience with computers dates to his teenage years in the early 1970s. While securing his bachelor's degree in Philosophy at the University of Illinois, he worked as a system-level programmer for the ground-breaking "PLATO" system, which was the largest mainframe-based educational network in the world. Kelso designed and programmed the operating and disk operating systems for a desktop version of the PLATO system which debuted in 1982.

After graduating from Columbia Law School in 1983, Professor Kelso served as a clerk to then-Judge Anthony M. Kennedy on the United States Court of Appeals for the Ninth Circuit. He joined the faculty of the University of the Pacific McGeorge School of Law in 1986, where he teaches courses in Remedies and Government Law and Policy.

During the 1990s, Kelso focused on information technology within the judicial system. He was the Reporter to the Judicial Council's "Court Technology Task Force," and worked with then-Senator Debra Bowen to encourage the courts to embrace the information technology revolution. Kelso was also a state and national leader promoting the development of integrated criminal justice systems, work that was widely praised by state and national leaders, including Governor Pete Wilson, Chief Justice Ronald M. George and Attorney General Janet Reno.

Before taking on the role of State CIO, Professor Kelso held several other important government positions. During the summer of 2000, he served as the State's Acting Insurance Commissioner, he has been serving for six years as the Chair of the California Earthquake Authority, and he served for fifteen months as the Scholar-in-Residence at the California Administrative Office of the Courts. He has also served as a member of the California Educational Facilities Authority and as Acting Director of the Department of General Services.

