Executive Summary

The State of California – the birthplace of the technological revolution – is nearly last among the states in harnessing technology to better serve the public. While Californians pioneered the technologies that have captured efficiencies and created new services, Californians are not benefiting from more efficient and responsive state government that those technologies could provide.

This revolution of powerful and affordable technologies has delivered fundamental economic and social changes. Alan Greenspan, chairman of the Federal Reserve Board, credits technology with boosting productivity, fueling economic growth and improving the living standards for millions of Americans.[1] The U.S. Department of Commerce attributed more than 40 percent of the U.S. economic growth in 1998 to the information technology industry.[2]

Personal computers, cellular phones, pagers, fax machines, and digital home entertainment centers are becoming as ubiquitous as automobiles. More than 80 percent of Americans under age 60 use a computer and 75 percent have used the Internet.[3] More people logged on to the World Wide Web in its first five years than used a telephone during the first 30 years of that "information technology."[4]

The maturing of information technology creates new challenges and opportunities for government. Businesses are demanding that state governments offer the same level of electronic interaction that they enjoy with their customers and business partners. And citizen dissatisfaction with government may be driven by a sense that public agencies are not capturing the efficiencies and offering the conveniences permitted by digital technologies.[5]

Some states are reinventing themselves to use digital technology to serve constituents better, faster and cheaper. Those states are using the Internet to offer government services to businesses and individual citizens seven days a week, 24 hours a day, 365 days a year.

California must do the same, times 10. The State needs to be a showcase of e-governance to reflect California's high-tech accomplishments and to attract still more innovators, leading to more

products and more trade. It must seize technology to provide the tailored services required by its culturally and socially diverse citizenry. And it must capture the efficiencies so that the value of public programs can improve at the same pace as private goods and services.

Conceived and pursued as a monumental effort to improve public services, the State's initiatives to use technology should be able to attract the best minds to help as leaders, managers, engineers and advisors. Because the largest ingredient in technology-enhanced government is people, the infusion of new talent must be girded by comprehensive training for all state employees to give them the capacity to use technology to change organizations and serve the public.

Technology has the potential to revolutionize the internal operations of the State, and the way it serves citizens as customers. Successes reveal the possibilities:

- ***Improved Public Safety.*** In Los Angeles County, great strides have been made to connect deputies on the street with relevant information about motorists they are about to pull over. The potential is to reduce the risk to the officer, provide an appropriate response to the citizen, and improve public safety overall.
- ***Efficient Regulation.*** In Silicon Valley, local land use authorities have cyber-merged their review and approval procedures to quickly process development applications from companies competing at Internet speed. The potential is to lower costs, accelerate reviews and keep the region competitive with other high-tech centers.
- ***Enhanced Democracy.*** In Sacramento, the mechanisms of democracy are maturing at the Secretary of State's Office as voters access more on-line information about candidates, ballot measures, and campaign contributions. The potential is for voters to establish more meaningful ownership of government.

In the course of this review, analysts told the Commission that the State's technology procurement process has been studied repeatedly – but that "must dos" have not been done. The issues regarding the recruitment and retention of competent technology personnel, the Commission was told, have been identified and are being addressed.

Importantly, a gnawing anxiety persists that the government serving California – the center of the dot.com universe – will have trouble logging on. State IT managers still rank recruitment of competent technology personnel as their biggest problem to getting their job done right. When

compared to other state governments, California is still ranked toward the bottom in its use of the World Wide Web to provide public services.

Through Executive Order D-17-00, the Governor appointed a director of e-government, set some goals for putting state services on line, and sent the message to personnel and procurement agencies to renew efforts to streamline procedures and improve performance.

These are important first steps and the Commission applauds them. Those steps are consistent with the Commission's recommendations, and this report could help the Governor and the Legislature fully develop the administration's initiative.

The Commission also believes that the opportunities before the State will not be realized without extraordinary and persistent leadership. For starters, to capture the true benefits of technology, the State must be committed to rethink how it conducts the public's business. Next, the State needs to develop the capacity to put technology to work. Then it can take e-government to the people.

The Governor's Order

Executive Order D-17-00 outlines a framework for e-government. Among the elements:

- Creates a director of e-government to coordinate e-government efforts.
- Calls for an e-government business advisory council of private sector experts.
- Defines e-government as a catalyst for reengineering operations.
- Directs state agencies to adopt best business practices for IT management.
- Requires departments to prepare an e-government implementation plan
- Directs state agencies to cooperatively solve problems with budget, funding, procurement, personnel and other procedures that thwart good management.

The order is online: www.governor.ca.gov.

Four Steps to Technology-enhanced Government

- ***Vision, Leadership and Talent.*** Foremost, executive and legislative leaders need a shared vision for technology-enhanced public service and a joint commitment to see it become reality. The leaders in successful states implement their vision by establishing accountable leadership with the capacity and the authority to reengineer government to acquire the right technology and apply the best minds to deploy that technology. The State also should create an independent citizen's oversight commission tapping the best public and private leaders to assess the State's efforts and advocate for continuous improvement.
- ***A Framework for Technology-enhanced Government.*** Using technology to enhance government will require rethinking how business gets done and using technology to give citizens the service they want and deserve. The challenge is to develop the competency to bring about organizational change and to coordinate efforts of various departments. This will require the e-government director, the

chief information officer, and a new office of business reengineering to work closely with other administrative agencies. The State also should develop public-private partnerships and authorities when appropriate to conceive, develop and operate e-governance projects.

- ***Reengineered Organizations.*** Public and private organizations that successfully use technology are committed to understanding the needs of customers and tailoring operations to meet those needs. In rethinking their practices, they implement those technologies that meet customer needs and lower costs. The State needs to develop the capacity to continuously reassess business operations based on the needs of citizen customers and integrate new technologies to improve service and reduce costs.
- ***Enterprise Technology Management.*** The State has tried to improve its procedures and to develop the skills to manage technology projects from inception to successful completion. The Department of Information Technology (DOIT) was established to provide leadership and assist departments in deploying technology. But while DOIT has struggled to implement reforms, other states have created better procurement, oversight and personnel practices. While DOIT has not developed the capacity to fully perform its core tasks, it is being assigned new challenges that would strain the limits of proficient private sector IT management teams. The State needs to dramatically rethink how it accomplishes its enterprise-wide technology needs.

Over the last decade the State has sought to reform technology procurement so it could stop wasting huge sums on failed projects. The potential now is much greater – to use technology to solve stubborn administrative problems, to make public services more accessible, and to fundamentally improve the relationship between citizens and government. After consulting with a variety of experts and with the help of many state employees committed to making government work better, the Commission offers the following findings and recommendations:

Vision, Leadership and Talent

Finding 1: Creating e-governance – that is, using technology to improve the quality of services to the public – will require a new vision, committed leadership and dedicated talent.

The Governor's Executive Order on e-government provides a solid foundation for constructing a vision for using technology to improve public services. To build on the order, the Governor and the Legislature must work together to fully understand what must be done, and the kind of political and financial support that will be necessary to accomplish the State's goals.

The challenge is to change how state government operates: how it makes decisions; how it communicates with citizens and consumers; how it can make the best use of resources in pursuing all of the public's interests – from prenatal care to the regulation of funeral homes.

The potential is to lead the world in creating a more dynamic democracy – one in which the public grows to respect government for providing the same high quality of services that it expects from the most successful private sector entrepreneurs.

To achieve these goals, the State will need to develop new competencies, create new partnerships and new procedures. It must embrace the Internet and other networks through e-government, reengineer its operations and effectively manage technology. But before any of these steps can be taken – and in order for any of those efforts to be successful – the Governor and legislative leaders must come together to define and commit themselves to a new operating paradigm for state government. They must be willing to challenge the barriers to cooperation and to think beyond department lines.

In recent years the State has made a valiant effort to develop effective policies for managing technology. But for the most part, technology projects are still designed to automate existing business practices, rather than to streamline operations. Technology projects are still intended to help departments fulfill a narrow mission, rather than tailor services to groups of citizens. For the most part policy-makers still approve projects on a case-by-case basis, rather than thinking of technology projects as a portfolio of investments for achieving a shared vision for how the State should serve the people.

Pursuing this vision requires full-time administrative leadership to ensure that state entities stay focused on goals. Leadership also must be "enterprise-wide" – to eliminate administrative obstacles and overcome bureaucratic inertia. This leadership needs to have the authority and support from executive and legislative leaders to give the effort priority.

The Three Elements of Technology-enhanced Government

Technology is rapidly advancing – challenging the State's ability to deploy it, and even to describe it. In the marketplace, "e-commerce" is widely understood as internet-based transactions and "e-business" means using advanced technologies to improve internal operations. In the public arena, the terms are less well defined. Still, the Commission identified three competencies that the State must develop and orchestrate to improve public service:

- ***E-government*** – means using the network-based technology to communicate and provide services to the public all day, every day.
- ***Process reengineering*** – means assessing operations and incorporating the best procedures and technologies to provide services better, faster and cheaper.
- ***Technology management*** – means the capacity to successfully develop technology applications that meet business needs.

The challenge for the State is to develop these capacities and to make these resources available to departments in a seamless and streamlined way.

California especially needs persistent high-level leadership – in part because of its size, in part because of its troubled history with technology, and in part because the fragmented nature of state government can thwart the most simple business decisions of line agencies. In particular, executive leadership is needed to resolve long-standing civil service issues – including cumbersome hiring procedures, ineffective training and compensation practices. Similarly, the State needs to develop effective means for acquiring outside talent to assist in planning and developing technologies, so when the State does contract for services it buys the quality services it needs.

While new management tools may be very different from those now in place, the State can learn from its recent experience. It takes weeks to read all of the reports produced over the last decade on how the State should manage technology. The analysts and citizen experts who toiled over those reviews believe the greatest limitation on progress was the lack of a persistent catalyst for change. Organizational leadership should provide that pressure. But as a safeguard, an independent panel of experts should be put in place to scrutinize efforts, offer advice and report to policy-makers on the progress that is or is not being made, on steps that should, but are not being taken.

Leadership in Georgia

Georgia Gov. Roy Barnes believes that to keep the state at the top of e-government rankings it must continuously push for improvement. Among his initiatives:

- While many states fixed old systems to prevent Y2K disasters, Georgia invested in state-of-the-art databases that are a foundation of its e-government success.
- An extensive review of technology management by an outside consultant resulted in the creation of a technology authority to manage government technology projects.
- When the state could not pay for his CIO of choice, he tapped the Pew Charitable Trust to pay part of the CIO's salary.

The Governor's executive order creates a council of business leaders to advise the State on e-government architecture and policy. This council presumably would function similar to the IT Advisory Commission that DOIT is supposed to convene under SB 1. While the Governor should seek the advice of experts, the State needs a body that can effectively encourage or prod intransigent State agencies in the right direction.

Like the most advanced digital states, California needs an effective independent oversight commission to advise state leaders on the best business and technology practices used by other public and private organizations. It can focus attention on what needs to be done to provide high performance government in an information age. It can validate good strategies and call attention to weak ones. To be effective, the State must recruit the best minds to serve on the panel. To keep the commission engaged, its advice must be taken seriously.

In the marketplace, competition motivates organizations to achieve. In the new century, competition among regional economies will require governments to compete as well – with educational systems that produce knowledge workers inspired to lifelong learning, with efficient regulatory schemes and social programs.

The most important lesson to be learned from public and private organizations that are succeeding in the digital age is a commitment on the part of the CEO to constantly improve performance. Barriers to change – even sacred ones – must be challenged.

The chief executives in vanguard digital states have assumed personal leadership to bolster the performance of their governments. Governors in Washington, Alaska, Georgia, Pennsylvania, and Wisconsin have partnered with legislative leaders to transform slow bureaucracies into responsive service providers. Equally important, these leaders have recruited the best talent to fill leadership roles, to serve on oversight panels and to form partnerships to improve government performance.

Ensuring Accountability

Elected Leadership. The Governor, Legislators and Constitutional Officers are responsible for defining the vision, setting goals and providing resources. The Governor, as the State's CEO, is ultimately responsible for efforts to develop technology-enhanced government.

Executive Steering Committee. The committee is the venue for resolving institutional problems related to procurement, personnel, technology management and finance, and for holding departments accountable for making reforms. The Governor should appoint the chairman of the committee.

E-Government Director. The director must have the Governor's delegated authority to ensure that control agencies and program departments enthusiastically embrace e-governance initiatives.

Office of Reengineering. The chief of reengineering, working with the committee, ensures that business process improvements are integrated into technology improvements.

Chief Information Officer. The CIO needs to work closely with the e-government director and the chief of reengineering to ensure that technology management supports the efforts of departments to provide technology-enhanced services.

Citizen Oversight. Accountability within the enterprise can be enhanced by assertive, informed and independent review from outside of the state bureaucracy.

Recommendation 1: The Governor and Legislature should establish a vision for the State to be a leader in technology-enhanced government that reduces costs, improves public service and supports California's success in the new economy. To implement technology-enhanced government, the Governor should provide executive leadership to develop and bring together e-government, process reengineering and technology management.

- ***Enterprise Vision.*** Beginning with the Governor's executive order, the state policy-makers need to define a vision for continuously improving performance by using the technology and knowledge that characterize the information economy. The vision should direct and

inspire state programs to understand and respond to changing public needs and to continuously improve customer service.

- ***Executive Leadership.*** Within the Governor's office there should be leadership dedicated full-time to ensuring departments are actively assessing their operations and applying technology to improve performance. This effort must be supported by talent skilled in e-government, process reengineering and technology management, as described in the Recommendations 2, 3 and 4. Working at the cabinet level, the Governor's office should resolve obstacles – in budgeting, procurement, personnel and elsewhere – to using technology to improve customer service. This leadership must keep key participants focused on their goals and policy-makers informed about progress.
- ***Rigorous Citizen Oversight.*** A commission composed of private and public leaders should oversee initiatives to use technology to improve government operations. The Governor, Senate and Assembly should appoint members. The commission should exert continuous pressure for aggressive improvement measured against the success of comparable organizations. The commission should meet in public and issue public reports at least annually to the Governor and the Legislature.
- ***Most Qualified Personnel.*** The State must tap the most qualified personnel – civil servants as well as talent outside of state service to implement technology-enhanced government. Leadership appointees, in particular, must have demonstrated experience in the field, preferably in the public and private sectors. The Governor should rely on the business advisory council established in his executive order to assess and comment on candidates for key management positions. And the State, when appropriate, should explore authorities and other public and private partnerships to acquire the expertise it needs.

A Framework for Technology-enhanced Government

Finding 2: The State needs an enterprise-wide infrastructure to deliver technology-enhanced government services to the public.

E-government is more than using technology to perform bureaucratic tasks. It is using technology to aggressively pursue publicly held goals – and particularly to empower people to access and participate in government.

A natural place to see the potential of e-governance is in the Silicon Valley. The world-renowned hub for information technology is also an

incubator for applying technology to government operations. These communities were among the first to build Web sites to expand public access to municipal government. In one case, a community-based organization called Smart Valley Inc., brought together government and business leaders to streamline and put on-line the process of applying for building permits, submitting building plans, and paying project-related fees.

Nationwide, several states have embraced e-government strategies to promote economic development, reduce government costs and improve service to the public. Alaska's department of motor vehicles reduced the cost of registering automobiles from $7 to $1 by using the Internet. Kansas is a leader in promoting the electronic filing and payment of taxes. Georgia is trumpeted for allowing citizens and businesses to apply for business permits and licenses on-line. California's initiatives have concentrated on pilot efforts to allow state business permits to be obtained on-line, as well as auto registration renewal via the Internet.

But making the State a world class e-governance leader requires more. Giving the public electronic access to government requires rethinking how government works. Systems for accounting, purchasing, revenue collection, and other business transactions are in many cases still reliant on inefficient paper-based procedures. Likewise, programs typically operate in isolation from each other – with little communication and less cooperation among them.

The Legislature's Role

The Commission's recommendations envision the Legislature playing an essential role in creating, supporting and monitoring technology initiatives, including:

- Defining and supporting a vision for technology-enhanced government through legislation and budget language.
- Appointing members to the citizen's oversight committee to actively monitor technology initiatives.
- Reviewing the e-government director's annual report and using that mechanism to set goals, hold agencies and individuals accountable for progress toward these goals.
- Clearing statutory roadblocks to effectively using technology.

"Digital" states like Washington, Alaska, Wisconsin and Pennsylvania have learned to focus on meeting the needs of residents. They have gone beyond Web facades that mask inefficiencies and bureaucratic walls to Web portals that integrate services and allow electronic transactions. They have reengineered procedures that ignore the jurisdictional lines between departments and programs, treat data as a statewide and public asset, and create internal mechanisms for cooperation.

For electronic governance to reach its full potential, businesses and consumers must be confident that proprietary information and

transactions will be secure from unauthorized access and disclosure. Government must deal with consumer fears that credit card numbers and personal information could be misused. To resolve these fears, the State must articulate and apply enterprise-wide privacy standards.

The most effective way to develop public trust is to involve the public in the development of e-governance. For example, the successful digital states of Washington and Alaska have strong public oversight bodies with authority to guide technology efforts and provide the public a venue to voice concerns. Oversight panels – and in some states, technology authorities – provide a venue for public-private partnerships to flourish. For example, Georgia recently created the Georgia Technology Authority with directors selected from the private sector by the Governor and the Legislature. The authority is designed to bring the best private sector practices into a joint public-private effort to transform state bureaucracies into high-performance and customer-oriented agencies.

These elements must be brought together by "enterprise" leadership that bridges programs, departments and agencies. Programs must jointly decide what information to collect, how to collect and stored it, who has access to it, and how to secured it. Standards for technological architectures must be based on the functions of the enterprise and the needs of the people. The costs for collecting, storing and distributing information must be shared equitably among programs.

The results can be tangible. The public could reserve campsites at federal, state and local parks through a collaborative Internet effort. State regulatory agencies could provide a single venue for processing school construction applications. Newcomers could go to a single Web site to take care of all of the "paperwork" necessary to become tax-paying, car-driving, professionally licensed Californians.

While technology allows e-governance, building an e-government requires more than technology. It requires a framework for redesigning how government can work (collaboratively) and why it should work (to improve customer service and lower costs). A single public official, the e-government director, must lead e-government initiatives and ensure that public benefits are captured while privacy protections are smartly designed and rigorously enforced.

To be effective, the Governor's e-government director will need to be empowered by the Governor and the Legislature to carry out their vision for e-government. The Governor's executive order calls for renewed efforts by state oversight and control agencies to collaboratively resolve problems in personnel, procurement and technology funding. To achieve this objective the Governor should establish an executive steering

committee composed of the e-government director and the directors of the departments of Information Technology, Finance, General Services, Personnel Administration and the State Personnel Board.

The e-government director, in turn could create workgroups, advisory committees, and focus groups to ensure consumers have a voice and are listened to in the design and deployment of state e-government. The e-government director also should explore and develop a variety of partnerships to bring together the right people for the right projects.

In some states, the CIO is responsible for both technology policies and e-government efforts. In other organizations the CIO is focused on technical issues and a separate official is responsible for bringing that technology together with the business reengineering necessary to deliver e-government services. The latter approach is more commonly used in states that view e-government as a way to expand high-tech economic development. California's enterprise also is so large and diverse – and so much of its economy is based on advanced technology industries – that the State needs a CIO with technical expertise, and an e-government director who can help departments focus their energies developing e-government initiatives.

Creating a digital government is enormously challenging. Yet the potential benefits – lower costs, added capacity, more open and responsive government, and a stronger and healthier state economy – justify vigorously pursuing this effort.

Recommendation 2: The Governor and the Legislature should create an infrastructure for developing state-of-the-art electronic-government services. The legislation should incorporate the following elements:

- ***An E-government Director.*** The Governor and the Legislature should vest in the e-government director the authority and responsibility for ensuring the success of e-government initiatives. The e-government director will need to coordinate the efforts of administrative agencies and line departments to improve the State's capacity to use technology to improve performance. To ensure accountability, the State's e-government director should report annually to the Governor and Legislature on progress implementing e-government.
- ***An Executive Steering Committee.*** An executive steering committee should be established, composed of the e-government director and the directors of the departments of Information Technology, Finance, General Services, Personnel Administration and the State Personnel Board. These directors need to be personally

involved in the committee. The Governor should appoint the chairman of the committee.

- ***Public-Private Partnerships***. To develop e-government applications, the State should develop a variety of public-private partnerships – including public authorities where valuable – to tap the expertise of the best technology experts, cutting-edge businesses, leading universities and other public institutions. These partnerships should be used to conceive, develop, operate and evaluate e-government applications.
- ***Comprehensive Training.*** The e-government director, in cooperation with department leaders, should develop a training program that gives managers and rank-and-file workers the skills to transform organizations and employ technology to improve public services.
- ***A Voice for Customers.*** The State should rely on advisory bodies of technology users and consumers to identify measures of success and to evaluate major e-government initiatives. These bodies can ensure public concerns over privacy and the digital divide are addressed. The Governor and Legislature should appoint members who reflect the diversity of citizens impacted by e-government efforts.
- ***Attention to the Digital Divide.*** E-government initiatives should recognize the different levels of access that consumers have to technology and should ensure e-government initiatives enhance access and service for all Californians. The e-government director should provide plans for bridging the "digital divide." E-government initiatives should not diminish the quality of service offered consumers without electronic access and should not be financed at their expense.
- ***Service Delivery Across Programs.*** The State's e-government director should help state agencies continuously eliminate wasteful administrative practices and propose legislation to eliminate statutory obstacles to e-government initiatives. The e-government director should compare the performance of state programs with those of other public and private organizations to identify and recommend opportunities for improved performance.

Reengineering Operations to be Customer-focused

Finding 3: To capture the benefits of technology, state departments need to reengineer how they deliver services to the public, with the focus on improving public services.

In Executive Order D-17-00, the Governor acknowledges that e-government requires reengineering operations and employing best business practices. The Commission found these elements to be critical to the success of an effort to provide technology-enhanced services and believes the State will have to make a concerted effort to build the capacity to rethink how government serves the people.

The structure of society is fundamentally changing as the Industrial Age gives way to the Knowledge Age – changing how people communicate, how economies operate and how wealth is created.

New business models use information networks to reduce costs, improve quality and develop new products and customers. Businesses are using the Internet to procure materials at the lowest price globally. They are using information technologies to shorten production times and increase productivity. Companies are using the Internet to reach customers – all day, every day, everywhere. In this market, customers also are more than just consumers. Many companies use information technology to involve customers in design, production and delivery – keeping the enterprise focused on improving products to satisfy the quality and price concerns of customers. With new technologies continuously redefining the possible, organizations must continually reevaluate how they do business and how they use technology to keep ahead of competitors.

There is no good reason why the State of California should not be at the forefront of adopting these practices and transforming itself to better service the needs and aspirations of the people.

Reengineering Means

Efforts to improve the performance of organizations involve different methods and go by different labels: continuous improvement, total quality management, business process reengineering. However it is done and what ever it is called, business procedures must be examined and improved to capture the full benefits of e-government. Among the essential elements:

- State agencies need to assess how they fulfill their mission, benchmark their performance against similar organizations, and identify ways to lower costs and improve customer service.
- Customers and rank-and-file workers need to be involved in assessing the performance of agencies and how services can be improved.
- The best solutions – those that involve technology and those that do not – need to be implemented, evaluated and refined.

Responsible and creative government agencies are learning that the key to success is matching business processes and technologies to increase

performance and customer satisfaction. Rather than blindly throwing technology at problems, successful organizations assess customer needs, adopt a strategy to meet those needs and use technology to improve service. Reengineering requires assessing entire business operations – purchasing, personnel, planning, paper flow, delivery and accountability. It means rethinking relationships with business partners and in some cases enlisting customers as business partners. Reengineering must be comprehensive and continuous and it should be done as a precursor to launching technology initiatives.

Before the city of San Carlos could put its building permit process on line, it reengineered its building inspection office, its planning department and its revenue collection office. The city used business process experts to eliminate manual paper handling and redundant work activities among the three offices and to reduce record storage costs. The new procedures cut the city's operating costs and led to the on-line permit process that benefited businesses.

Similarly, the states of Pennsylvania, Wisconsin and Washington have made substantial gains in customer service and efficiency by a concerted effort to reexamine operations and implement new business practices and new technology. These states are demonstrating that a commitment by the top executives to rethinking operations can revolutionize the quality of state programs and attract business and commerce to their states. These efforts have provided a firm foundation for additional technology initiatives and earned them reputations as high-tech leaders.[6]

The State of California has made limited efforts to encourage business process reengineering. State agencies are required to prepare and maintain an Agency Information Management Strategy (AIMS), a plan for using information technology to meet its business needs. Technology proposals are supposed to be consistent with an agency's information management strategy. The Department of Information Technology is supposed to ensure that new technology initiatives are aligned with an agency's business practices. Likewise, the Department of Finance is supposed to assess whether technology proposals will "deliver a meaningful business return."

But business processes too frequently are not matched with technologies to bolster performance. Business process reengineering is not required, encouraged or supported. There are no standards, no training, and no resources to help departments rethink how they accomplish their missions.

As a result, comprehensive reengineering is rarely done and is almost never part of new technology initiatives. While departments with failing

technology projects can turn to the State's CIO for assistance, no similar resource exists for administrators who want to cure business process problems. The Governor's executive order calls for state agencies to prepare e-government implementation plans. Departments will need expert help to rigorously assess business procedures and incorporate the best strategies for meeting customer needs. To accomplish this goal, the Governor's e-government director should work closely with a new state office of business reengineering that would provide or help agencies to acquire the expertise they need.

Recommendation 3: The Governor and the Legislature should enact legislation to require business process reengineering as a precursor to initiating major technology projects and provide departments with appropriate resources to accomplish this task. Reengineering should incorporate the following elements:

- ***An Office of Reengineering.*** The State needs to develop the capacity to assess and improve its business operations by creating an office of reengineering. The office should be provided whatever public or private resources are needed to help state departments continuously assess their performance and put the best processes and technologies to work.
- ***Reengineering Standards.*** Protocols for business reengineering should be established and administrators should be provided with the necessary training and support to redesign their operations. Administrators should compare the performance of their programs against similar organizations and focus on improving weaknesses. Departments should identify internal barriers – such as those between administrative and program units – that thwart comprehensive improvements. Special attention should be paid to developing partnerships between technology experts and program managers.
- ***Labor-Management Collaboration.*** Program administrators should create labor-management teams to help identify business problems, evaluate solutions and integrate technology into operations. Departments – along with taxpayers and the General Fund – should share the savings generated and be able to reinvest the savings to finance additional improvements.
- ***The Voice of Consumers.*** Consumers should be relied upon to shape how public services are delivered and empowered to critique the performance of e-government services. Where appropriate, strong consumer advisory bodies should be established to champion improved services.
- ***Accountable Implementation.*** Department leaders should implement reengineering steps that are within their authority and seek legislative approval or resources when necessary. As part of the

budget building and approval process, department leaders should report on the progress of reengineering efforts and identify priorities for the coming year.

Technology Management

Finding 4: The State has failed to create the strong statewide leadership and has not made the systematic reforms needed to effectively develop technology projects and make California a leader in using advanced technologies.

Within California state government the term "digital divide" takes on another meaning: It is the gap between how the state manages technology projects and how successful organizations manage technology projects.

Study after study has identified problems in the State's procedures for personnel, project approval and development, procurement and delivery. Major reforms have been enacted, including SB 1 in 1995, which created the Department of Information Technology (DOIT) and a state Chief Information Officer (CIO). DOIT was established to provide leadership, assistance and oversight. DOIT reviews and approves projects, monitors their development and addresses problems before they mushroom into major disasters. The CIO has the authority to establish protocols and terminate troubled projects. Overall, the CIO has the responsibility for creating a statewide vision for developing and using technology.

However, the CIO has not been given direct authority over the managers within the departments that are developing technology projects. The CIO also does not have authority over the departments responsible for personnel and procurement – the two main ingredients of successful IT projects. As a result, DOIT and the CIO have not been able to effectively lead state agencies through the fundamental system reforms demanded by the digital economy and necessary to develop digital government.

DOIT also shares decision-making with the Department of Finance over which projects will be advanced for legislative approval. While SB 1 intended to limit its role to funding issues, the Department of Finance continues to exercise broad authority over the entire approval and procurement of projects. The CIO's leadership and authority are undermined when technology proposals deemed justified by DOIT are rejected or modified by the Department of Finance.

The CIO is working with the departments of Finance, General Services, Personnel and the department CIOs to improve the procedures for approving projects, procuring goods and services and developing a talented IT workforce.

But state agencies are still struggling to hire – or when necessary acquire – qualified IT professionals. Departments do not have the tools to recruit, hire, train and retain workers. And departments need more help to ensure that contracted services are the quality services they need.

Moreover, DOIT has been focused on avoiding disasters rather than on proactively guiding departments toward the effective use of state-of-the-art technology. DOIT's effort to prevent Y2K failures demonstrated its enterprise-wide effectiveness and deserves to be lauded. Yet curiously DOIT has not been given the same authority and support to fundamentally revamp how technology is conceived, developed and managed to improve the State's performance.

The Governor's executive order directs DOIT and the other control agencies to collaboratively improve personnel, procurement, funding and technology assessment systems. To improve performance, the best digital organizations rely on persistent executive leadership, a clear technology vision validated by customers, accountable management based on clear measures of success, and the most capable available talent. The State needs to go beyond encouraging collaboration and strengthen the authority of the state CIO to manage technology. In turn, policy-makers must hold the CIO accountable for developing an enterprise-wide technology strategy that responds to changing public needs, that grows the capacity of state employees to use technology, and that provides the best technologies at the least cost and with the least red tape.

It is difficult to hold the CIO and DOIT accountable for not making systematic improvements when they do not have the authority or the political support to forge solutions. To the contrary, proposals to formally consolidate authority in the CIO have languished. Another solution would be to clarify the need for systematic improvements – to how projects are managed, to purchasing and personnel practices and to the enterprise strategy for technology – and then provide a mechanism through the CIO to hold all of the agencies accountable.

One valuable mechanism could be routine public reporting by the CIO to the Governor and the Legislature, submitting intransigent agencies to public scrutiny. A second mechanism would be the rigorous oversight of the citizens commission advocated in Recommendation 1, which could ensure the CIO's reports were not watered down, hidden from view, or lost in the turmoil of daily events.

Finally, even if dramatic improvements are made to the State's in-house capacity to develop technology projects, the CIO should explore public-

private partnerships when that organizational structure would be the best way to manage particularly large or complex projects.

Recommendation 4: The Governor and the Legislature should hold the CIO and state agencies accountable for their role in building a competent IT workforce, procuring technology goods and services and deploying new technology projects. Specifically:

- ***Hold CIO Accountable for Technology Performance.*** So that the CIO can be held accountable, the Governor and Legislature should provide to the CIO the authority and the political support necessary to streamline procedures and make other improvements needed to successfully develop technology projects.
- ***Develop Standards and Strategies.*** The CIO should craft a new strategy for building the technology necessary for e-governance, including common architectures, data sharing protocols, and privacy and security standards.
- ***Assess Performance and Set Goals.*** The CIO should continuously benchmark the performance of state agencies against similar organizations. The CIO should establish baseline performance levels for such factors as personnel compensation, IT training, development time frames, and project management proficiency. Based on the assessment, the CIO should set goals for improvement, annually report on progress toward those goals, and identify issues or agencies that are preventing the State from reaching those goals.
- ***Continuously Improve Procurement Tools.*** The CIO should continuously assess the ability of procurement tools to efficiently provide departments with cutting edge technologies. One potential reform would be to streamline or eliminate the involvement of the departments of Finance and General Services in individual purchases. The CIO, however, could work with those departments to enable agencies to capture the benefits of on-line purchasing. And the CIO should re-examine the process for piloting new products to ensure that state agencies can reasonably try out new technologies that have the potential of significantly improving public services.
- ***Provide Citizen Oversight.*** The citizen oversight commission advocated in Recommendation 1 should be charged with rigorously assessing progress toward the goals established by the CIO. The commission should assess the efforts of all participating state agencies to bring about meaningful reforms to the management of technology, and annually issue reports and recommendations to the Governor and the Legislature. All state agencies should be directed to supply the commission with the information necessary to perform this function.

- ***Better Technology Information.*** To provide accountability for individual projects, the CIO should develop a Web-based inventory that provides accurate and comprehensive information about technology projects. This tool should allow policy-makers and the public to compare performance against project goals and explain variances. Project goals should be expressed in terms of improved customer service levels.
- ***Comprehensive Training Program.*** The CIO should develop a strategy for training and certifying a cadre of expert project managers adequate to meet state needs. The CIO also should ensure technical and non-technical staff receives the training needed to effectively utilize technology in their work sites.

In conclusion, California's unique position as the birthplace of the digital revolution also provides it a unique opportunity to transform government – an opportunity that so far has been squandered. The Commission believes that its recommendations, if fully and faithfully implemented, would put the State of California on what should be our predestined path toward technology-enhanced government – improved quality services at lower costs and with greater participation by the people themselves. The times demand these changes and the people deserve these changes.