

California Information Technology Strategic Plan 2016 Update

Edmund G. Brown Jr.
Governor

Carlos Ramos
Director, Department of Technology



California
DEPARTMENT OF TECHNOLOGY

Table of Contents

- Message from the Director**1
- Mission**2
- Vision**.....2
- Guiding Principles for California’s Technology Community**3
- 2015 Retrospective**4
- Strategic Goals**9
 - Goal 1: Responsive, Accessible, and Mobile Government**9
 - Goal 2: Leadership and Collaboration**13
 - Goal 3: Efficient and Reliable Infrastructure and Services**14
 - Goal 4: Secured Information**.....16
 - Goal 5: Capable IT Workforce**17
 - Goal 6: Responsive and Effective IT Project Procurement**19



CALIFORNIA DEPARTMENT OF TECHNOLOGY



I am pleased to present the 2016 update to the Statewide Information Technology (IT) Strategic Plan.

The 2016 update provides strategic goals and guidance to the state's technology community in transforming California's public sector operations into a nimble, responsive, and innovative 21st century government.

Today's technology and social media have changed the way people communicate, conduct business, access services and information, and consume entertainment. Technology provides access, choice, and convenience. As California government considers its investments in technology, decision-makers need to maintain a continued focus on providing Californians a government that provides that same convenience, access, and choice.

The 2016 update to the Strategic Plan includes a look at the state's accomplishments during the last year. As a government, we have made important advancements that further the goals and objectives of prior State IT Strategic Plans. The 2016 update continues to enforce California's strategic vision and direction for the coming year while providing a preview of the initiatives and objectives that the state will pursue in the coming year.

The 2016 Strategic Plan continues to focus on making government more effective, mobile, and accessible. It encourages agencies to work together and to maintain a focus on the needs of the consumer while also emphasizing the critical need to secure the state's technology infrastructure. This has become an essential component of 21st century government.

The 2016 Strategic Plan updates and reiterates the strategic technology goals for the state and challenges each agency to understand the needs of its constituents, align its own goals and objectives to meet those needs, and then carefully plan its investments in technology. It challenges departments and agencies to leverage technology and work together to move California towards a nimble, responsive, and innovative 21st century government.

Sincerely,

CARLOS RAMOS
Director, California Department of Technology

Mission

The mission of the California Department of Technology (CDT) and the state's IT community is to support programs and departments in the delivery of state services and information through cost-effective, innovative, reliable, and secure technology.

Vision

California's IT community aspires to be a trusted, recognized partner and technology provider that enables government to be accessible to constituents and to deliver services and information with excellence and creativity.



Guiding Principles for California's Technology Community

In leveraging the potential of information technology to transform and improve California State government, policy and technology leaders need to adhere to guiding principles that will lead to successful and demonstrable results. The following principles are the basis for securing the public trust, and ensuring a government that is responsive, accessible, and effective in serving its constituents:

Be Accountable: **Own** business results and use technology to drive positive outcomes.

Engage in technology initiatives and take responsibility for actions and outcomes.

Be Service Driven:

Pursue solutions with a clear business case that make government more accessible and responsive to Californians, and provide government employees with effective tools to do their jobs.

Ensure that proposed solutions provide a measurable impact and value to solve an identified problem.

Collaborate & Cooperate:

Involve stakeholders early to develop a common understanding of issues and ensure shared objectives.

Build cooperative relationships with stakeholders to develop proposed solutions and achieve outcomes that best serve the people of California.

Integrate knowledge sharing and services across departments.

Understand Enterprise Value:

Substantiate tangible return on investments in technology that meet or exceed the expectations of program and policy sponsors.

Define where technology provides value in the delivery of government services.

Demonstrate the value provided by information technology solutions to government and Californians.

Leverage shared services across government to increase value, eliminate unnecessary duplication, and reduce costs.

Demonstrate Strong Leadership:

Understand the business and objectives of state leaders and constituents.

Manage effective governance, decision-making, and communication.

Partner with program and policy leaders in leveraging innovative and cost-effective technology solutions to address the state's business problems.

2015 Retrospective: A Look Back

Project Approval Lifecycle

In 2015, the CDT and the California IT community came together to review and refine the approach to approving state IT projects—an undertaking that had not been addressed by the state in more than 30 years. The objective of this effort was to transform the IT project approval process to improve the planning, quality, value, and likelihood of success for technology projects being undertaken by California State agencies. The resulting initiative, California's IT Project Approval Lifecycle (PAL), has now been released and implemented with policies that support the modernization in IT project approval throughout the state IT community.

The PAL process was developed through a cooperative approach with the larger state IT community throughout 2015 to develop Stages 1 (Business Analysis) and 2 (Alternatives Analysis) of the PAL process. The Statewide Technology Procurement Market Research Guidelines were recently published and provide state entities detailed information to assist them in analyzing the market trends, market size, and new and existing competition of the technology solution being sought. Market research information enables the state to factually assess the products, services, and solutions that help meet mission-critical objectives.

The project team will finalize the guidelines, processes, and procedures for Stage 3, Solution Development, and release the policy in January of 2016. Stage 4, Project Readiness and Approval, will be released in June of 2016.

The PAL process employs a structured and guided approach for state entities to prepare for an IT project. The new process emphasizes thorough, upfront planning as a critical step towards project success coupled with a state entity's diligence in defining the business objective before an IT solution is selected. This approach has integrated components that address organizational readiness, risk identification and mitigation strategies, opportunities for collaboration with the Department of Technology, and respective subject matter experts. This requires engagement with the business or program staff far earlier in the projective approval process than has historically been the case.

Additionally, the PAL provides better cost and schedule baseline estimates because procurement solutions are now part of the project approval process. With more accurate cost and schedule baseline at the project's approval, state entities will reduce the number of project and budget proposals they submit to request additional funding, time, or resources. More accurate pre-project planning built into the reformed process will save the state time, money, and resources during the course of a project's implementation.



IT Procurement

Further, the state has implemented improvements to the technology procurement process by offering state agencies a more streamlined process and template. The improved template removes redundancies in the solicitation process to reduce confusion and improve a vendor's ability to successfully bid on procurements. The new process and template are also more efficient to administer during the procurement process of Stage 2.

As a result, the CDT's Statewide Technology Procurement Division (STPD) is now able to reduce IT procurement timeframes when an entity demonstrates project requirement readiness and staffing. In calendar year 2015, the STPD completed 13 procurements averaging less than eleven months each to complete. In addition, they have issued 42 contract amendments this year, including one for CALNET 3, which provides a comprehensive array of telecommunications and network services to California State and local government entities.

In December 2015, multiple stakeholders at the local, state, and federal level partnered to begin a demonstration project on agile procurement. This partnership included Government Operations Agency, Health and Human Services Agency, Office of Systems' Integration, Department of Social Services, Department of General Services, Federal Administration for Children, Youth and Families, the General Services Administration's 18F, Code for America, and California Department of Technology. The demonstration project consists of an agile modular procurement process for the Child Welfare Services/Case Management System. By approaching the procurement in a metered fashion, without reliance on a single vendor for an entire project's delivery, competition is increased, and project risk reduced. As a result, the system will be delivered in increments with prioritized functionality to meet the business needs on a rolling basis throughout the life of the project.

Contractor Performance Evaluation Scorecard

In a continuing effort to improve large IT project implementation success rates, the CDT developed a Contractor Performance Evaluation Scorecard (CPES) workgroup consisting of IT vendors and state representatives. The CPES workgroup met throughout the year and developed recommendations for a scorecard the state will use to rate IT vendor

performance on its projects. This scorecard is to be used in future procurements by the state and is being closely scrutinized by other states as a model for IT project and vendor accountability. Vendors will have an appeals process they may pursue to contest a rating they feel is unwarranted. It is well understood that IT project success relies on both the capabilities and dedication of state staff and IT vendor partners.

In December 2015, a well-attended and interactive forum was held to solicit feedback from the IT community, the legislature, and other stakeholders on the recommendations put forward by the CPES workgroup. The recommendations included key performance indicators, rating criteria, and monitoring frequencies to be considered for the CPES. A pilot of the CPES will be launched in January of 2016, and implemented by the year's end.

CA Project Management Office

The California Project Management Office (CA-PMO) was established in late 2014 to improve the successful delivery of IT projects. In July of 2015, the CA-PMO began providing IT project management consulting and advisory services to state entities. In November 2015, Project Management Best Practices were published to the CIO website providing an additional resource to state entities supporting the initiation, planning, and execution of projects. The CA-PMO is able to manage projects for customers who lack the internal capacity to do so or who may simply need access to a cadre of experienced professionals with expertise to assist their projects long-term.

The Statewide Consulting and Planning Division, established in 2013, continues to engage customer department IT project teams to provide short-term "strike-team" assistance. The division provides executive-level assistance for IT projects experiencing challenges by offering intensive consulting services aimed at restoring IT project equilibrium, and minimizing and mitigating risks hampering IT project success. The consultants are IT experts charged with resolving some of the most intricate challenges found in IT projects, particularly in the areas of schedule development and management, contract management and vendor negotiations, quality assurance and quality control, risk and issue identification and mitigation, data conversion and migration, testing, and planning for system deployment and implementation. During the first half of 2015, the division published IT project plans, templates, and tools on the CIO website to assist IT projects with

best practices and leveraging lessons learned. Later in the year, the division became a specialized unit within the CA-PMO.

Throughout the year the division offered training to hundreds of customers in the areas of contract and vendor management, requirements management, test management and quality assurance, data conversion, and project governance.

Digital Literacy

Improving and leveraging technology to deliver a government that is accessible and responsive to constituents remains a challenge for California with the persistent digital divide. Although the state was an early adopter of building broadband infrastructure and supporting efforts to close the digital divide, disparities remain to access broadband and advance digital adoption. Demographic disparities exist primarily in rural and urban areas, as well as among various cultural and socio-economic groups. In fact, approximately nine million Californians still remain offline.

Since the establishment of the Broadband and Digital Literacy Office in 2012, collaboration has increased with partners and stakeholders and key funding opportunities have been further leveraged, resulting in increased broadband expansion and digital adoption. These efforts have built critical network infrastructure, benefited tribal communities, and established digital education and digital literacy inclusion programs. Beyond these accomplishments, challenges remain and so it is imperative to continue to work to ensure the delivery of effective, strategic, and visionary programs to position California for broadband success.

Workforce of the Future

Another challenge California continues to face is the aging of the state workforce; accordingly, recruiting, retaining, and building the capabilities of the state IT workforce has never been more important. During the past year, the CDT's Office of Professional Development has engaged in a comprehensive effort to train state IT professionals and equip them with the skills to support a 21st century government. As long-tenured personnel retire from state service, the state has developed enhanced training opportunities specifically targeted at the skillsets needed to support California's legacy technologies. These systems are critical to California government yet they have been disproportionately

impacted by the retirement bubble. Thus, the California Department of Human Resources is leading the IT Classification and Consolidation Project, with support from the CDT and the IT community to identify key areas requiring reclassification. The revision of IT classifications will improve workforce and succession planning, as well as staff recruitment and retention.

Training and development of IT staff remains a focus with the retirement of skilled staff; therefore, IT training class offerings were further expanded in 2015. New classes include a variety of security, technical, and service-oriented courses, along with classes designed to manage changes business and IT staff face as IT projects and technology progress. Many courses were offered through the Project Academy Series in an effort to reach a broad audience with quality training available at little or no cost to state customers.

CalCloud

CalCloud continues to increase operational efficiencies across state and local government. CalCloud features a flexible, scalable, secure, cost-effective catalog of services provided at market-speed with no upfront costs to the state. Government customers only pay for what they use, and at significantly lower rates. CalCloud also offers Vendor Hosted Subscription Services, which include commercial off-the-shelf software provided through leveraged procurement agreements and is managed by the CDT. This includes project and portfolio management, customer relationship management, and case management software. An important feature of CalCloud is its robust security. CalCloud's Infrastructure as a Service adheres to Federal Risk and Authorization Management Program (FedRamp), National Institute of Standards and Technology (NIST), Health Insurance Portability and Accountability Act (HIPAA), and numerous other international, federal, and state security standards. As of now, no other state government entity in the nation offers a government cloud with these security features.

Cybersecurity

Cybersecurity is a top priority for government. The State of California continues to work on securing the state's mission critical systems and vast stores of information. This year, Governor Edmund G. Brown Jr. issued an Executive Order (B-34-15) to bolster California's preparedness and response to destructive cyber-attacks.

The Executive Order directs the Governor's Office of Emergency Services to establish the California Cybersecurity Integration Center (Cal-CSIC), which will be responsible for strengthening the state's cybersecurity strategy and improving inter-agency, cross-sector coordination to reduce the likelihood and severity of cyber-attacks. Cal-CSIC will work closely with the California State Threat Assessment System and the U.S Department of Homeland Security and will facilitate more integrated information sharing and communication with local, state and federal agencies, tribal governments, utilities and other service providers, academic institutions and non-governmental organizations.

The California Information Security Office (CISO) is the primary state government authority responsible for protecting and ensuring the confidentiality, integrity, and availability of state systems and applications. In February 2015, CISO initiated a pilot audit program and began performing audits to validate and measure security efforts of state entities. Between July 2014 and January 2015, the CISO engaged in staffing and development of the pilot audit program and had the program methodology validated by an independent audit organization prior to deployment. The audits perform formal inspections to verify that policies and standards are being met or exceeded to protect critical systems and data.

Further, the CISO issued policy directives and distributed a tool requiring state entities to assess their level of maturity with each security requirement by utilizing a standardized format to submit their Plans of Action and related Milestones (POAM) reporting any information security deficiencies. State entities must now develop and report on their POAM to address any information security deficiencies quarterly. The new process and tool better ensures state entities understand the entirety of security requirements and that CISO can better monitor and measure the state's security posture.

Mobile and Civic Engagement

Mobile access to government services and information continues to increase with the explosion of smart device usage. With nearly 40 percent of all traffic to CA.gov sites coming from smart devices, the state continues to increase mobile services to the public. State entities recognize the demand for responsive mobile services and have increased their mobile

services within the California Mobile Gallery by more than 25 percent in 2015, the largest increase to date. Mobile traffic to CA.gov sites has increased more than 8 percent each year since 2011 and continues to grow.

The Office of the State Geographic Information Officer (GIO), in collaboration with the Government Operations Agency, the State Library, and other state agencies played a role in the development of the state's pilot open data strategy and open data portal. CDT will continue to help the Government Operations Agency throughout the duration of the pilot by providing technical support and project management. The Office of the State GIO plans to incorporate the existing State of California's Geoportal into this pilot in the near future so that Californians and data-consumers can easily access public data in machine-readable format.

Geographic Information Systems (GIS) include mapping capabilities, which are leveraged by web applications to provide services to the community. The Office of the State Geographic Information Officer partnered to provide mapping and data support to the Federal Emergency Management Agency and the state's Office of Emergency Services during the Valley and Butte fires of 2015. Leveraging GIS, the Storms.ca.gov website was developed within two weeks, as the Governor's Office wanted to ensure citizens had timely information about storm preparedness in a year where El Nino and the aftermath of several large fires may wreak havoc.

In an innovative approach to citizen engagement, the Office of the State Geographic Information Officer created SaveWater.ca.gov. This online tool created the first citizen feedback application for the drought and uses "citizens as sensors" to help combat water waste across California. Users access the application via a mobile device, and report the location of a potential water waste violation. The state then generates reports to local water agencies every 24 hours for investigation and enforcement. To date there have been approximately 10,000 citizen-filed reports.

Additionally, the Office of the State Geographic Information Officer updated the Governor's Office Climate Portal site ClimateChange.ca.gov. This was done prior to Governor Brown's visit to a United Nations Conference in Paris the first week of December. The site showcases the initiatives California has enacted to help manage climate change and was made available for foreign dignitaries, the press, and citizens

“Like electricity a century ago, broadband is a foundation for economic growth, job creation, global competitiveness and a better way of life. It is enabling entire new industries and unlocking vast new possibilities for existing ones. It is changing how we educate children, deliver health care, manage energy, ensure public safety, engage government, and access, organize and disseminate knowledge.”

- Federal Communications Commission National Broadband Plan, Executive Summary



worldwide. An additional climate tool, developed in partnership with the California Environmental Protection Agency and the Governor's Office is the ClimateInvestmentMap.ca.gov to better inform the public how funds from California's climate and energy programs are being spent.

The Office of the State Geographic Systems Officer also developed an application to aid the Governor's Office of Business and Economic Development to provide location-based information so business owners are empowered with data to make better decisions on how and where they want to do business. The application provides information on permitting, licensing, employment statistics, and a variety of other information necessary for site suitability analysis and general locational awareness for business owners. Another application aimed to assist the business community is the Target Area Contract Preference Act. The creation of this application streamlined the process for determining if a prospective business will be located in an area given contract preference as designated by the Government Code and the California Code of Regulations. This determination previously took thirty days to process, whereas now the process takes mere minutes.

The increase of applications and services online continues to provide convenience and save Californians time and money. One example of this is the California Department of Social Services new Electronic Benefits Application, which provides users the location of the closest fee free ATM based on their location. The application also provides bus, bicycle, and walking directions. This application is projected to save Electronic Benefits card users approximately \$16 million in ATM service charge fees.

Opportunities for Innovation

Collaboration within state government and with outside partners has provided the State of California with tremendous opportunities for innovation. In October 2015, with leadership from the Government Operations Agency, the Department of General Services, CDT and outside sponsorship, a group of citizen coders participated in the first state two-day environmental sustainability code-a-thon. This CA GreenGov Challenge used publicly-available data from the open data pilot portal (GreenGov.data.ca.gov) to create open source tools, applications, and data visualizations that help improve Department of General Services' sustainability business operations. This innovation event was enabled by AB 2138 (2014), which mandated three state agencies to conduct innovation contests and award up to \$25,000 to the winners. The results of this code-a-thon have given CDT the opportunity to explore open source solutions within CalCloud. CDT will use the tools of the code-a-thon and any other future events to build out open source solutions. This is the first time in the state data center history and CalCloud that the state of California will develop, maintain, manage, and deploy open source technology solutions.

Responsiveness and innovation will be the key drivers of future policy, and the ways in which environmental, climate, business, societal and governmental obstacles are handled. The state will continue to develop novel ways to solve problems based on the application of open data and open source technology to keep pace with the needs of its citizenry and the constant evolution of technology.

Strategic Goals

Goal 1: Responsive, Accessible, and Mobile Government

Government is providing more services and information to citizens by expanding online services, increasing access from mobile devices, creating innovative business systems, and bridging the digital divide by promoting digital literacy and broadband connectivity. The result is a responsive and innovative government that better meets Californians' service expectations and provides Californians with access to government at their convenience, wherever they are.

Objective 1.1

Make government services, information, and transactions available online and accessible through mobile devices.

- Develop mobile applications that provide secure public access to government services and information.
- Develop and support mobile application tools, infrastructure, training, and the California Mobile Gallery.
- Collaborate with all government entities to increase mobile application development and hosting within the California Mobile Gallery.

Objective 1.2

Enhance transparency, accessibility, and openness through online and mobile solutions that promote participation by the public.

Objective 1.3

Enhance website content and promote mobile responsiveness.

- Promote "Mobile First" development in website design.
- Collaborate with government entities to increase website consistency.
- Provide enterprise tools, training, support and hosting for website development.

Objective 1.4

Maintain the state's commitment to foster and promote partnerships to improve high-speed internet access throughout California. Through expansion of broadband accessibility, adoption, and usage, California increases opportunities for tribal governments and rural communities to leverage broadband deployment, and improve digital literacy in underserved areas.

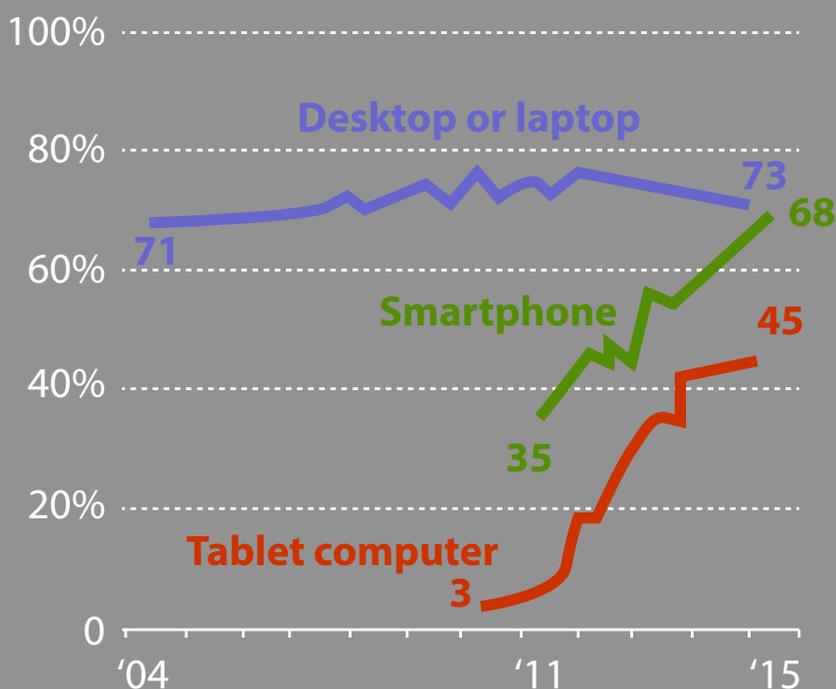
- Advocate for broadband deployment in California as essential for the economy, lessen environmental impact, build 21st century job skills, provide higher paying jobs, preserve water resources, improve health care delivery, increase agricultural productivity, and expand the state's global competitiveness.
- Promote technology efforts to benefit California schools, libraries, and communities and continue support for collaboration bringing residents the connectivity and skills necessary to promote digital education, digital literacy, and broadband adoption.

Smartphone and tablet ownership continues to increase¹

Today, 68% of U.S. adults have a smartphone, up from 35% in 2011, and tablet computer ownership has edged up to 45% among adults, according to newly released survey data from the Pew Research Center¹. Smartphone ownership is nearing the saturation point with some groups: 86% of those ages 18-29 have a smartphone, as do 83% of those ages 30-49 and 87% of those living in households earning \$75,000 and up annually.

Smartphones, Tablets Grew in Recent Years; Other Devices Declined or Stayed Flat

% of U.S. adults who own each of the following devices



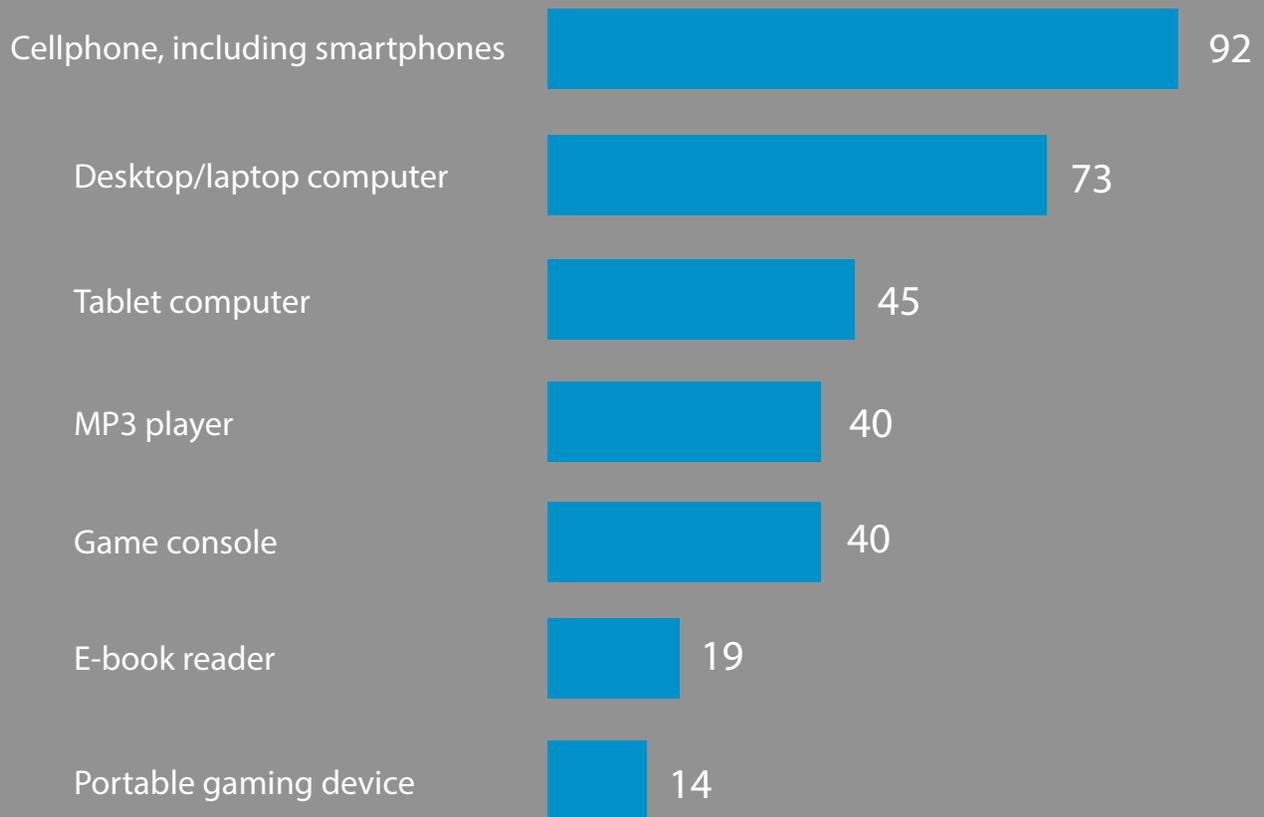
Studies of seven types of devices were completed because their use often affects how people connect with each other, with information and with media. They also impact the way people spend their time. And each kind of device has its own attributes of how people use them and engage with the material they provide. Thus, device usage has notable social and cultural implications, and there are sometimes important political and macroeconomic consequences to the way people use their gadgets. For instance, every major media industry – those built around video, audio and text – has been disrupted by these devices.

Cellphones continue to top the list. Roughly nine-in-ten American adults (92%) own a mobile phone of some kind. Although these mobile devices are ubiquitous today, the share of adults who own one has risen substantially since 2004, when Pew Research conducted its first poll on cell ownership. At that time, 65% of Americans owned a cellphone.

¹ Pew Research Center, "Technology Device Ownership: 2015" October 2015

Cellphones, Computers Are the Most Commonly Owned Devices

% of U.S. adults who own each of the following devices



Success Story

The California Mobile Gallery now hosts more than 70 mobile listings for state entities and added a Local Government category to expand services and information to the public. Released in May 2015, the California Mobile Gallery now includes more than 40 local government listings that provide critical information, services, and resources at the county and city level for the public. These additions to the mobile gallery expand mobile service delivery at the local level where the public receives a majority of their services.

The CDT just released the Storms.ca.gov website to help Californians prepare for major storms that are predicted for this winter that could bring flooding, mud slides and power outages. Developed by the Office of the State Geographic Information Officer

in just a few short weeks, this website links users information regarding storm preparedness and assistance.

Specifically, Storms.ca.gov provides information for individual storm preparation, current weather and road conditions throughout the state, information on state emergency storm preparedness and links to local government information. Users can find information on how to develop an emergency plan, tips for traffic safety in bad weather, and much more. The site is also updated constantly as new information is acquired so the site always has the latest information.



Goal 2: Leadership and Collaboration

Effective governance leads to successful results. California has established a collaborative governance model for technology that focuses authority and accountability at the agency level. Agency Information Officers participate with the State Chief Information Officer in setting IT policy and strategy for the state and in developing education and training programs for the state IT workforce. As technology progresses to meet the evolving needs of the public, IT policies and authorities must also evolve to remain relevant and current. This model helps to determine the state's IT policy and portfolio, reduce bureaucracy, and focus on tangible results. This governance model helps technology leaders effectively manage California's IT portfolio.

The California Information Security Officer (CISO) established a similar structure for information security governance. Agency Information Security Officers participate with the CISO in setting security and privacy policy and developing education and training programs for the state's workforce. This model helps ensure security and privacy initiatives are aligned with IT strategy and business missions and objectives.

Objective 2.1

Establish a governance structure to evaluate business needs, priorities, and areas where technology can provide value and enhance services to citizens.

- Review and reengineer the IT project approval process to eliminate unnecessary bureaucracy and ensure a focus on business outcomes.
- Engage agency information officers and chief information officers in decision making and provide the appropriate level of authority and accountability for results.
- Create a results-oriented project environment and ensure that departments have a solid foundation for project initiation, competent project staff, and greater involvement of project sponsors.

Objective 2.2

Leverage public-private partnerships to deliver innovative IT solutions that leverage performance-based and benefits-based procurement strategies.

- Develop partnerships with industry and academia to further innovation goals for California.
- Leverage cloud and managed IT services to support the standardized platforms to manage excessive technical diversity and improve IT support capabilities.
- Directly engage Californians in the creation of new ways of doing business through citizen partners and real, intuitive and meaningful technology solutions.

Success Story

One of the most successful public-private partnerships in state government has enabled CalCloud to provide Infrastructure as a Service, Software as a Service, and Platform as a Service on a pay-per-use model. As part of this public-private partnership, the CDT's Office of Technology Services assesses charges based on a customer's monthly usage only. CalCloud offers robust security, and with its pay-per-use cost model, is highly attractive while also being scalable, extensible, and readily available to a variety of government entities.





It is important for public sector leaders to take a strategic approach to the state's technology infrastructure if government is to meet changing customer demands and business needs efficiently and effectively. Cloud computing is a model of computing in which scalable and flexible IT capabilities are delivered as a service using a shared infrastructure. This expands flexibility by enabling capacity to be added or removed quickly, based on shifting demand, in a cost effective manner. In 2014, California adopted a cloud-first policy to further this objective.

Objective 2.3

Utilize the California Enterprise Architecture Framework, version 2.0 (CEAF 2.0) to strengthen decision making, reduce the complexity and risk of IT systems, ensure IT investments that enable business outcomes, and build reusable and shareable IT services.

- Foster awareness among state entities of the importance of enterprise architecture in decision making to ensure the best return on IT investments for the business outcomes they enable.
- Facilitate the adoption of CEAF 2.0 reference architectures by state entities to ensure that state IT systems are built using common standards and leverage shared services, reusable components, and standardized IT platforms.

Goal 3: Efficient and Reliable Infrastructure and Services

The state uses a secure and reliable technology and shared services which requires infrastructure that leverages the advantages of cloud computing, robust shared services, and reusable components.

Objective 3.1

Streamline data center operations and infrastructure to eliminate costly and unnecessary duplication to increase efficiencies and reduce costs and energy consumption.

Objective 3.2

Leverage cloud computing technologies to achieve secure, scalable, cost efficient, and rapidly deployable computing capabilities.

- Deploy technology to meet business program needs through an appropriate blend of internal and external cloud platforms.
- Create an Innovation Lab based environment in CalCloud that focuses on open source technologies as a primary driver for innovation in government.

Objective 3.3

Enhance the state's public safety communications systems to ensure effective delivery of emergency services.

- Expand the joint use of state telecommunication systems and services where operationally, technically, and economically feasible.
- Upgrade and support digital technologies, features, and services in public safety communications.

Success Story

The California Highway Patrol (CHP) won a 2015 Digital Government Award in the Government to Government category for their “Sharing a Statewide Computer Aided Dispatch System.” The California Department of Parks and Recreation (CDPR) originally planned to procure their own dispatch system, but instead leveraged the existence of the new statewide CHP Computer Aided Dispatch system at the suggestion of the CDT.

Having a Computer Aided Dispatch system that is secure, dependable and designed for disaster recovery gives the dispatchers a reliable tool that improves peace officer and public safety by reducing dispatching errors, increasing system reliability and functionality, integrating geographic location information, and improving reporting capabilities and incident tracking. The CHP system is a Commercial-Off-the-Shelf (COTS) application that requires only configuration, not software development. It is designed to be multi-jurisdictional, so the project team was easily able to add the CDPR and the Department of Fish and Wildlife (CDFW) to the system.

The project’s success was due to a comprehensive interagency Governance Plan through an Executive Steering Committee with representatives from CHP, the CDPR, the CDFW, and the CDT who had clearly defined processes in place for decision making and communication. Additionally, the CDPR’s team conducted extensive Organizational Change Management tasks to ensure the new system was well accepted by the users.



Goal 4: Secured Information

Public sector leaders must secure the trust and gain the confidence from consumers of government services and information if the state is to effectively serve its constituents. To engender trust, the state must safeguard sensitive data through strong privacy and data security practices. Further, state entities must be prepared to operate during times of disruption (natural disasters, unplanned outages, and other events).

Leveraging data resources and analytical capabilities, the state can convert data it already collects into actionable information to make informed policy decisions, administer programs, reduce costs, improve outcomes, and better serve constituents. By making IT systems and transactions secure, state entities ensure that Californians can leverage technology with confidence to access the services and information they need.

Objective 4.1

Protect sensitive data through robust security and privacy programs.

- Implement and monitor compliance with security and privacy policies, standards, and practices.
- Provide accountability where compliance failure has exposed sensitive data to avoidable risk.

- Raise awareness of information security risks and educate and train state technology users.
- Implement next-generation security tools.

Objective 4.2

Ensure the state's technology and public safety communication infrastructures have robust and reliable disaster recovery capabilities to support the continuity of government services.

Objective 4.3

Improve how California uses public data and information by encouraging and enabling shared capabilities, promoting transparency, and increasing the availability of relevant, accurate, and useful data to constituents and to public sector entities.

- Use data management and collaboration tools to increase the ease of data analysis to leverage better value from the data collected by departments.
- Collect and share lessons learned from state agencies.

Success Story

Open Data and Information Security co-exist with robust data management practices, and application of data aggregation standards. The State Controller's Office (SCO) open data web portal, [ByTheNumbers](#), won a 2015 Best of the Web Award from the Center for Digital Government. This innovative and streamlined way of accessing the financial records of local governments has allowed increased government accountability and transparency. The site allows taxpayers to track revenue and expenditures for all 58 counties in California, more than 400 cities, and in excess of 4,800 special districts, as well as data for each of the state's and local government's pension plans without additional information security risk.

For more than 100 years, the SCO has published financial data. Historically, this has been cumbersome, time consuming, and inefficient in its paper form. ByTheNumbers moves government accountability and transparency into the 21st century where government financial information is available with a keystroke. This site contains more than 70 million records and approximately 7,000 data fields, allowing the public to download raw numbers, create charts and drill down into more specific financial information to spot trends and analyze spending. The estimated state government cost savings is more than \$100,000 a year. ByTheNumbers has been well received by civic interest groups, journalists, business and financial institutions, government watchdogs, academic and research communities.

Goal 5: Capable IT Workforce

The State of California relies on an IT workforce that has the skills, ability, and experience to envision and implement IT solutions that improve how the state delivers information and services. By focusing on the strategic objectives of recruitment and retention of a workforce that is skilled, capable, and nimble, we will help to ensure we can fulfill the promise of delivering effective government services.

Objective 5.1

Ensure California's IT workforce has the knowledge and skills to support the state's technology infrastructure and implement its technology vision.

- Attract a skilled workforce by analyzing and evaluating current and future technology skillset needs, and implement outreach, recruitment, and knowledge transfer strategies.
- Partner with the California Department of Human Resources to modernize IT classifications, recruitment, and hiring.
- Maintain a skilled workforce by developing the capabilities of employees to fill leadership positions and other key critical positions requiring specialized knowledge.
- Expand educational opportunities to develop core competencies of employees in IT functional areas such as Cyber Security, Service Desk Management, Software Development, Infrastructure, and Project Management.
- Grow the Project Academy series to build out full day training offerings to educate IT project teams, project sponsors, and stakeholders on IT project best practices, lessons learned, and project leadership.
- Establish communities of interest to share IT project methodologies and expertise, and share best practices.
- Ensure the IT community has access to experienced project management staff and consulting services.
- Provide expertise and training for the successful completion of all phases of the project lifecycle from concept to completion.
- Expand partnerships with the public and private sectors to deliver educational conferences based on technology trends and best practices.
- Foster support of on-the-job training for legacy technologies no longer taught in the universities (e.g., mainframe).

California's public workforce is aging and a high number of its most experienced employees are retiring. This is causing a drain in talent, knowledge, and leadership from all levels of organizations. California government needs a workforce with the necessary skillsets to support modern and emerging technologies. The workforce requires adequate training, tools, and opportunities to refresh skills, develop new competencies, and prepare for leadership roles. The CDT's Office of Professional Development's Workforce Planning Unit has published a comprehensive guide for workforce and succession planning. All materials are available through the CIO.ca.gov website.

New this year is the Office of Professional Development's Retirement Risk Assessment methodology which was shared with stakeholders in other departments. In support of recruiting new talent to state service, the Office has increased its presence at high value conferences and collegiate outreach events. In partnership with CalHR, workforce planning staff provided educational seminars on how to successfully navigate the state application process.

Objective 5.2

Recognize success and excellent service by state employees and departments in order to foster a sense of accomplishment and accountability for the state's workforce.

- Recognize state IT staff for their achievements at the Quarterly Agency Information and Chief Information Officer meetings and at conferences.
- Ensure state entities are informed of opportunities that recognize the good work that is completed in California which include the National Association of State Chief Information Officers (NASCIO), Best of California, etc.

Success Story

The CDT's Office of Professional Development was a NASCIO State CIO Special Recognition Award finalist for its low cost, high value, Project Management Academy series. During this past year, the Office of Professional Development added several new course offerings such as Agile Scrum Master Certification, IT Infrastructure Library, F5 Networking, and Web Application Security Training. Additionally, the following Project Academy Series classes have been converted to full day offerings: Business Process Modeling, Organizational Change Management, and Contract Management.

The CISO also worked closely with the Office of Professional Development to integrate security into the System Development Lifecycle course and expanded its Information Security Officer Basic Training course from a one-day to a two-day class, integrating interactive group exercises for immediate application of concepts learned. What is unique about training offerings in 2015 is that they have been a combination of vendor, higher education, and state employee led educational offerings. With this distinctive collaborative approach and increased marketing of services, the CDT's Training and Education Center is filling classes to capacity and ensuring that the training that is needed and or required by the workforce is provided.

Further comprehensive efforts to reform and improve IT project management led the Office of Professional Development to additionally develop the Project Academy Series to train IT project teams and business stakeholders on the critical components of IT project success. The Project Academy offered focused training on topics such as Schedule Management, Contractor and Vendor Management, Test Management and Quality Assurance, Project Requirements, Executive Sponsorship, Business Process Modeling, Project Risk and Issue Management, and Organizational Change Management. More than 1,100 IT professionals from 73 departments attended the Project Academy in 2015, with an average of 89 percent of attendees rating the sessions as "very good" to "excellent." Seventeen instructor-led Academy sessions were held in 2015. In addition, a number of sessions were recorded, close captioned, and posted on the CDT's website for continued reference and training purposes.

Goal 6: Responsive and Effective IT Project Procurement

By integrating IT project procurement into the CDT, the insights, skills, and experience of the IT Project Oversight Division can be leveraged to reduce the risk on projects. Leveraging IT project procurement as a risk mitigation strategy will help ensure the timely delivery of technology solutions for California.

Objective 6.1

Ensure the state's IT project procurements are completed within timeframes that mitigate risk to projects.

- By reducing bureaucracy and engaging stakeholders earlier in the process, California will reduce procurement timelines.
- Integrate security aspects into every project to effectively address security and privacy throughout the project and system development lifecycles. This will yield more effective security and reduce overall project risk and cost.
- Pilot the Contractor Performance Evaluation Scorecard.

Objective 6.2

Reduce state and vendor costs.

- Reorienting the project approval process to focus on clearly defining the project's business case will create more effective bid requirements, ensure effective decision-making, and provide clear guidance to bidders, resulting in lower costs and more effective solutions.

Objective 6.3

Focus on customer service.

- Improve quality and quantity of communication between the bidding community, the sponsoring departments, and the CDT.
- Involve stakeholders throughout the procurement process to ensure better procurement outcomes.
- Create a robust external web presence to share procurement guidelines and toolkits.



CA GreenGov Open Data Portal

Beta Portal: Using Data to Drive Greener and Better Government.



All Data



Buildings



Location

Success Story

What could be more innovative than holding a contest to see who develops the best applications and tools to improve government sustainability practices? The CA GreenGov Challenge did just that and was the first state code-a-thon of its kind, offering a total of \$25,000 in prize money to four winners. The challenge was driven by the need to track data on how state agencies were performing environmentally, and to identify solutions to reduce resource waste and increase sustainability in response to environmental changes. The CA GreenGov Challenge was hosted by the Department of General Services, with leadership from the Government Operations Agency and support from CDT, California State Library and other state entities. The effort was enabled by legislation for innovation awards which was chaptered in 2014 (AB 2138-Gatto).

Judges evaluated the projects on the effective use of data sets from the state's [CA GreenGov open data portal](#) and other public sources, on innovation and creativity, user-friendliness, usability and interface, and the feasibility of the project's implementation. The submissions were required to be submitted in open source on [GitHub](#).

Out of 14 finalists, first prize in the contest and \$10,000 went to Team Insight for its project [GreenBuyer](#), which links state department purchase order data with Environmentally Preferable Purchasing contract data. Second place and \$7,500 was awarded to [Nudge SMS](#) for an application that alerts or "nudges" users to improve conservation and communication. Third place and \$5,000 went to Team Shiny for [SmartFLEET](#), a tool that monitors the average carbon dioxide emitted by fleet vehicles according to their make and model. The People's Choice Award went to Project Weekend School Bus, which proposed using school buses not in commission on the weekend to shuttle various groups around, thereby raising money for education; that project was awarded \$2,500. CDT is working with the Department of General Services and the contest winners to develop and potentially implement some of the submissions within CalCloud. This project has given CDT the opportunity to explore creative ways to develop open source tools with existing resources and discover new procurement options for open source software.

Objective 6.4

Reduce the complexity and risk of large IT projects by implementing a phased approach to procurement:

- Focus on clearly defining business objectives / requirements and developing the business case for new IT projects. This will result in more focused and timely procurements.
- Invest in the preliminary assessment and provide transparency into the procurement process, as well as provide an advanced view of the procurement planning necessary for each project approval phase.
- Conduct a pre-solicitation process which allows bidders to provide input on bid requirements, evaluation criteria, Statement of Work, deliverables and cost structure in order to identify potential flaws in the procurement prior to final solicitation release.
- Utilize the Draft Proposal process to provide the state with an “almost final” bidder proposal to identify faulty responses and deviations that, without correction, could cause the bidder to be disqualified.
- When determined to be in the state’s best interest, utilize the state’s authority to negotiate the best value, most qualified contractor and optimum solution.
- Create streamlined ways to capture procurement data and commonly used solicitation content.
- Create a framework and sequence for development of essential components of the solicitation package.
- Further develop and refine the solicitation package and ensure project objectives are met, solicitation traceability exists, and the contract content is robust and vetted by all stakeholders prior to formal advertisement.
- Take advantage of all implementation methodologies available to increase success rate during the implementation phase of a project.
- Adapt procurement models to align with industry standards and trends in system development.

Objective 6.5

Increase bidder participation and competition:

- Engage the IT vendor community, in advance of procurement efforts.
- Create Market Research guidelines to provide state entities tools to engage the supplier community early in the process and better understand and document vendor solutions available to meet their business needs.
- Use the pre-solicitation process to allow the vendor community a feedback opportunity to ensure the state is taking advantage of vendor input before the solicitation is released.
- Increase ways for vendor performance to reflect in the evaluation and selection of future contracts.
- Provide mechanisms in the solicitation process to communicate with the vendor community.



California
DEPARTMENT OF TECHNOLOGY

1325 J Street, Suite 1600 • Sacramento, CA 95814
Phone: (916) 319-9223