

STATE OF HAWAI'I  
CHIEF INFORMATION OFFICER

REPORT ON THE  
STATUS AND IMPLEMENTATION OF THE  
STATE INFORMATION TECHNOLOGY STRATEGIC PLAN

DECEMBER 29, 2016

SUBMITTED TO  
THE TWENTY-NINTH STATE LEGISLATURE

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**State of Hawai'i Chief Information Officer Report on the Status and Implementation  
of the State Information Technology Strategic Plan**

December 29, 2016

Pursuant to Hawai'i Revised Statutes (HRS) section 27-43, the Chief Information Officer (CIO) of the State of Hawai'i submits the following report on the status and implementation of the State information technology (IT) strategic plan, as well as the activities and programs under the authority of the CIO and IT Steering Committee, and the expenditures of all moneys received from all sources and deposited into the IT Trust Account and the Shared Services Technology Special Fund.

## CONSOLIDATED AND EXPANDED AUTHORITY

The enactment of Senate Bill 2807 SD2 (now Act 58, Session Laws of Hawai'i 2016) formally established the CIO-led Office of Enterprise Technology Services (ETS) and, under the new office, consolidated enterprise-level IT governance, innovation, operations and infrastructure maintenance for the executive branch. With these changes to HRS Section 27-43, effective July 2, 2016, all responsibilities and functions of the former Office of Information Management and Technology (OIMT) and the Information and Communication Services Division (ICSD) of the Department of Accounting and General Services (DAGS) are combined within ETS. The reorganization is intended to provide greater efficiency in State government and clarify roles and responsibilities in new governance processes.

As amended by Act 58, ETS' statutorily mandated duties include the following:

Summary	Statutory Reference
Develop, implement and manage statewide IT governance and State IT strategic plans, as well as develop and implement statewide technology standards. Act 58 expanded the CIO authority to work with each executive branch department and agency to develop and maintain its respective multi-year IT strategic and tactical plans and roadmaps, and coordinate each executive branch department and agency's IT budget request, forecast and procurement purchase to ensure compliance with the department or agency's strategic plan and roadmap and with ETS' IT governance processes and enterprise architecture policies and standards.	<a href="#">HRS section 27-43</a>
ETS also assumed functions of the former ICSD: provide centralized computer information management and processing services, coordination in the use of all information processing equipment, software, facilities, and services in the executive branch of the State, and consultation and support services in the use of information processing and management technologies to improve the efficiency, effectiveness, and productivity of State government programs; and establish, coordinate and manage a program to provide a means for public access to public information and develop and operate an information network in conjunction with overall plans for establishing a communication backbone for State government.	
Provide for periodic security audits of all executive branch departments and agencies regarding the protection of government information and data communication infrastructure.	<a href="#">HRS section 27-43.5</a>

Set policies, procedures and standards for each executive branch department's reasonable efforts to make appropriate and existing electronic data sets maintained by the department electronically available to the public through the State's open data portal at data.hawaii.gov or successor website.	<a href="#">HRS section 27-44</a>
Provide services through centralized web portal and Internet presence (hawaii.gov) that allow citizens to conduct business electronically with the government, in accordance with statute (i.e., Access Hawai'i Committee).	<a href="#">HRS chapter 27G</a>
Provide guidance to protect personal information that is collected and maintained by State and county government agencies (i.e., Information Privacy and Security Committee).	<a href="#">HRS chapter 487N</a>

## TOP ACCOMPLISHMENTS OF 2016

In May 2015, Todd Nacapuy took the State's technological helm as CIO and, over the past 18 months, developed his team to carry modernization initiatives forward while ensuring continuity of service for critical IT infrastructure. Several projects demonstrated clear progress in 2016. The following are ETS' top four accomplishments over the last year, as identified by the CIO:

### Implementation of IT Governance

ETS implemented a mandatory governance process, first announced in December 2015 by Gov. David Ige and CIO Todd Nacapuy, to ensure success for executive branch IT programs and projects. These governance requirements are intended to ensure that tax-payer funds for IT development and modernization programs will be subject to an efficient planning review and approval process, providing the essential State oversight necessary so that intended objectives are achieved and positive return on investment (ROI) is realized for the people of Hawai'i.

In addition, as mentioned above, Act 58 significantly strengthened the CIO's authority over IT governance, including IT security governance, within the executive branch. In accordance with the legislation, ETS worked with the Department of Budget and Finance (B&F) to incorporate IT governance into the budget preparation process for the upcoming biennium. Specifically, departments and agencies were required to develop and maintain their multi-year IT strategic and tactical plans and roadmaps along with their budget request submittals for consideration as part of the State's overall IT strategic plans, roadmaps, and directions.

### Launch of eSign Service

ETS expanded eSign Service to departments across the executive branch, furthering Gov. David Ige's paperless initiative and increasing government efficiency. Fifteen months after the governor's office piloted this electronic signature service in October 2015, more than 95,000 (and counting) unique electronic transactions have been processed across departments, representing a reduction and associated savings in the use of paper, ink, and process time. The eSign Service program is reducing the amount of paper used and saving valuable time that can be better used working on issues facing the people of Hawai'i. As a result, Hawai'i State government is transforming from a paper-based system to one that is leading the nation with digital documents and electronic signature capabilities.

Also as part of the program, executive branch users are provided, at no additional cost to the State, unlimited access to Adobe Creative Cloud applications, including many modern, up-to-date technical

tools, avoiding duplicative purchases and resulting in reductions through quantity versus single-unit purchasing.

### Migration to Office 365

ETS assisted departments in completing the migration of the executive branch (excluding the Departments of Taxation and Education, and the University of Hawai‘i) to Office 365. This project, accelerated by CIO Nacapuy shortly after his appointment in 2015, included the activation of 12,390 Office 365 licenses that are now being utilized by departments and the migration of over 11,800 mailboxes from mostly IBM Lotus Notes email systems. Along with bringing the executive branch onto one unified communication platform, benefits include fortified security, greater disaster recovery capability, expanded applications and services, added tools for collaboration, and long-term budget sustainability.

### Data Center Partnership with UH

ETS formalized a memorandum of understanding with the University of Hawai‘i Information Technology Services to reduce risks associated with some of the State’s IT systems while saving taxpayer dollars. Under the terms of the collaborative agreement signed in March 2016, some IT systems currently housed at that State’s primary data center in the downtown Kalanimoku Building are migrating to the UH IT Center, to the extent possible, to provide true resilient backup for the first time for the State. By leveraging UH’s new data center, ETS is able to address some of the State’s most critical systems while reducing duplicative spending, including costs associated with designing, building, maintaining, powering and staffing an entirely new data center. The agreement represents an annual cost reduction in the millions of dollars.

## EXECUTIVE BUDGET REQUEST FOR FISCAL BIENNIUM (FB) 2017-2019

To facilitate continued progress as well as operate and maintain State IT infrastructure and related services, ETS is requesting the funds and positions described below (also detailed in the Executive Budget Request for FB17-19).

While ETS is operating as one organization in accordance with Act 58, the office maintains two budget IDs previously associated with the former programs (AGS 130 and AGS 131). To facilitate cost-transparency, ETS will continue to maintain these budget IDs, re-described in the sections that follow.

### AGS 130: Enterprise Technology Services – Governance and Innovation

*Program objectives include providing governance for executive branch IT projects to provide the essential State oversight necessary so that intended goals are achieved and positive ROI is realized for the people of Hawai‘i. The program also seeks to prioritize and advance innovative initiatives with the greatest potential to increase efficiency, reduce waste, and improve transparency and accountability in State government.*

#### Budget Request:

- Continued funding of \$3,975,000 for the recurring costs for data communication circuits and infrastructure collocation previously appropriated in Act 119, SLH 2015.
- Half-year funding of \$132,486, for cybersecurity positions authorized in Act 124, SLH 2016.

- Positions and operating expenses to establish a project team to support the DAGS Enterprise Payroll and Time & Attendance Modernization project:
  - Eight positions in FY18 and three additional positions in FY19, \$916,227 and \$1,034,881 respectively;
  - \$264,000 in support of the team, independent from the project vendor and organization to ensure requirements are adequately tested and meet quality standards; and
  - \$937,024 in FY18 and \$922,326 in FY19 to address operating expenses of the project contract.
- Tradeoff transfer into ETS of two positions and \$140,052 from the Department of Human Resources Development (DHRD) to enhance the delivery and efficiency of ETS' support for the DHRD Human Resources Management System.

**AGS 131: Enterprise Technology Services – Operations and Infrastructure Maintenance**  
*Program objectives include support of the management and operation of State agencies by providing effective, efficient, coordinated and cost-beneficial computer and telecommunication services such that State program objectives may be efficiently achieved.*

#### Budget Request:

- One position and \$35,500 in FY18 and \$65,000 in FY19 in the Wireless Systems Management Section to assist with increasing work demands as more radio systems used by law enforcement, public safety, and emergency management agencies have been added to the State's telecommunication system.
- \$200,000 in each year for repair and maintenance of the State's radio towers that support law enforcement, public safety, and emergency management agencies.
- \$250,000 in FY18 to formulate, plan and provide proof of concept for the migration off the State mainframe computer, which advancing technology and new application programming have made obsolete.
- \$350,000 in FY18 and \$21,600 in FY19 for memory upgrades to ensure continued operations of the State's current mainframe computer, which serves, among other systems, the State's current financial management and payroll systems that in-turn supports all of State government. This upgrade is necessary to facilitate the move to more modern systems while ensuring continuity of service.

## ACTIVITIES AND PROGRAMS

Given today's institutional and budgetary limitations, CIO Nacapuy and his executive team, with input from other departments and agencies, last year reassessed existing State IT plans and developed new IT directions and programs consistent with the Ige Administration's results-driven strategy: to focus on targeted initiatives that stabilize the State's IT infrastructure and systems, and to improve the efficiency of government operations and services by delivering immediate benefits using available resources.

The CIO has identified seven priority areas to continue progress and further identify, prioritize and advance programs and projects that achieve ETS' legislatively mandated duties:

- IT Governance
- Cybersecurity
- IT Workforce Development
- Services-Oriented Infrastructure (Shared Services)
- Enterprise Programs and Projects
- Open Data
- IT Cost Transparency

A more detailed list of major accomplishments under these priority areas, as well as the primary objectives for each over the next biennium, are summarized in the following sections.

## IT Governance

*Pursuant to [HRS section 27-43](#), IT Governance consists of processes and standards guiding the management and oversight of the State's IT and information resource investments, acquisitions and projects, seeking efficiencies and cost-savings through economies of scale, leveraging of shared assets, reduction of waste, and alignment with statewide IT strategies and industry best practices. This includes the implementation of governance and monitoring procedures across enterprise programs and projects to ensure successful outcomes and positive ROI, to the extent possible, and efficiently managing the statewide portfolio to ensure projects are prioritized appropriately and resources sufficiently managed.*

### 2016 Accomplishments

- Implemented a mandatory governance process, first announced in December 2015 by Gov. Ige and CIO Nacapuy, to ensure success for executive branch IT programs and projects. These governance requirements are intended to ensure that tax-payer funds for IT development and modernization programs will be subject to an efficient planning review and approval process, providing the essential State monitoring and oversight necessary so that intended objectives are achieved and positive ROI is realized for the people of Hawai'i.
- Partnered with B&F, in accordance with Act 58, to incorporate IT governance into the annual budget request process, requiring departments and agencies to develop and maintain their respective multi-year IT strategic and tactical plans and roadmaps as part of the state's overall IT strategic plans, roadmaps, and directions.
- Initiated the collection and assessment of departments' preliminary IT roadmaps during the annual budget preparation process to ensure budget requests are in alignment with department strategy, as well as statewide ETS plans and direction.
- Provided input and feedback to B&F on departmental IT Form A requests for the biennium budget submittal, and reviewed and evaluated IT Form A requests against established criteria.
- Established an ETS contract management process, where draft requests for proposals and draft vendor contracts for enterprise IT projects and initiatives are reviewed for best practices, and to ensure IT-related terms and conditions favorable to the State are included in the documents.
- Refined the IT "request to spend process" to enhance the depth and effectiveness of reviews of departmental hardware, software, telecom and service requests of \$100,000 or more. Departments submit their information to ETS via a detailed form (See EXHIBIT A: ETS-205 Part C). Initial results have yielded elimination of unnecessary items/services, improvement of the specificity of project timelines and plans, and, in some cases, renegotiation of proposed contract terms, conditions and prices in the favor of the State. Examples include:
  - Asking for and receiving deeper discounts from vendors in ongoing maintenance software and hardware contracts;
  - Reducing the length of contract commitments entered into by departments for recurring IT services;
  - Removing unnecessary/redundant service offerings by vendors in contracts;
  - Renegotiating statewide enterprise license agreement price hold for database software, resulting in reduction of cost to the State;
  - Reducing National Association of State Procurement Officers (NASPO) value-added reseller markup on items purchased off the statewide IT price list;
  - Teaming with UH to implement a data center strategy resulting in cost savings;

- Executing cost-efficient strategies in selecting and negotiating with vendors for enterprise-wide projects.
- Reinstated the collection of departmental IT requests to spend under \$100,000, providing a more complete picture of overall IT spend throughout the executive branch. Analysis of the total IT spend data is underway, looking for trends and opportunities for sharing services.
- Worked with the State Procurement Office (SPO) to determine a process by which GSA Schedule 70, General Purpose Commercial Information Technology Equipment, Software, and Services, may be used by Hawai'i State departments for IT services. The GSA (General Services Administration) is a federal agency that offers a Federal Supply Schedule Contracts or the GSA Schedules Program to the Federal Procurement Workforce. The GSA Schedules Program was created to streamline government purchasing of commercial products and services and to leverage the buying power of the federal government. CIO or CIO-designee approval is required prior to using GSA Schedule 70 contracts, and departments must adhere to specific policies.

*FB17-19 Objectives*

- Continue to refine governance processes for IT projects and, in conjunction with B&F, further institutionalize the process into the annual budget request process, enabling the integration of information into the State's overall IT strategic plans and roadmaps.
- Work to reduce costs of existing operations and maintenance (O&M) contracts, and provide sufficient governance over new O&M to ensure efficient use of funds as new modern, functionality, and services, are brought online not only for constituents but also for State personnel.
- Initiate efforts to work with the DAGS Accounting Division to implement consistent accounting codes, object codes, and criteria to improve accountability and tracking of departmental IT expenditures. This directly addresses widespread inconsistency in departments' tracking of IT expenditures, as identified in the State Auditor's report in response to SCR162 of 2015.

*The following are the number of investments in various stages within ETS' IT Governance process (FY17 to date):*

Method of Request	Threshold	Number of Investments	Amount
ETS-205	\$1,000,000 or greater	12	\$29,255,134.22
	\$100,000 or greater	24	\$14,319,159.04
	Under \$100,000	309	\$2,531,430.00
Memorandum	\$1,000,000 or greater	6	\$19,290,926.00
	\$100,000 or greater	9	\$3,413,745.17
	Under \$100,000	6	\$85,000.00
Telecom Request (TR)	\$100,000 or greater	6	\$1,210,761.24
	Under \$100,000	229	\$490,828.00
<b>Total</b>		<b>601</b>	<b>\$70,596,983.67</b>

## IT Workforce Development

*In support of duties outlined in [HRS sections 27-43](#), [27-43.5](#) and [27-44](#), IT Workforce Development includes internal programs, strategies and reforms that empower the State's IT workforce to increase ability to modernize government processes, systems, solutions and services while reducing overreliance on third-party consultants where cost-effective.*

*External efforts involve the establishment of flexible programs to attract and retain individuals possessing modern IT disciplines to fill service and skill gaps within the State's IT operations, building outreach campaigns to recruit candidates from non-traditional sectors, and continuing to develop internship and apprenticeship programs to expose government opportunities to high school graduates as well as two-year and four-year degree program participants.*

### 2016 Accomplishments

- Completed a new baseline assessment identifying areas within ETS where employee development programs could be built.
- Consolidated the authority, operations and resources of the former OIMT and ICSD, pursuant to Act 58. As stated, the reorganization is intended to create greater efficiency in State government and clarify roles and responsibilities in new governance processes.
- Launched the Civil Service IT Broadbanding Pilot Project in partnership with DHRD to update the current IT position classification system that is more than 40 years old, inflexible, complex, labor intensive, and unresponsive to changing needs, particularly as it relates to IT positions. Re-describing State IT positions to more appropriately match modern technologies and processes will further ongoing efforts to hire and retain IT personnel and expand career path opportunities for public sector workers.
- Expedited the filling of vacancies to mitigate unnecessary reliance on third parties. In FY16, ETS successfully filled 29 positions resulting in as few as 19 vacancies in January 2016, but retention continues to be a challenge. This issue is compounded by the difficulty, faced across all sectors in Hawai'i, to attract and retain skilled IT workers.
- Launched a pilot program with LinkedIn to expand recruitment opportunities in terms of targeted campaigns and coordinated outreach with the entire LinkedIn community in any geographic region. The LinkedIn presence will also provide ETS with the opportunity to re-brand and re-position ETS and State government with the IT workforce who may be actively seeking new job opportunities, or others who may not be actively pursuing opportunities but may be possible job "fits" based on work experience and knowledge.
- Held the State's first Hawai'i Annual Code Challenge (HACC) to engage the local tech community in government modernization and expose individuals within Hawai'i's IT workforce to State career opportunities. Approximately 220 coders and innovators attended the kickoff for the month-long competition, answering the call to apply their collective creativity to improving State government. Twenty-seven teams presented solutions at the HACC judging and awards event a month later, with solutions tackling homelessness and jail facility visitation receiving top honors.

- Repurposed the State's Transformation Internship Program (TIP) to support IT workforce development efforts, entering into partnerships with the University of Hawai'i and DevLeague to create on-the-job-training opportunities. The program was re-calibrated for the 2016 summer session to provide a project-based learning experience where IT students from various universities were onboarded to plan and assist with execution of the State's first-ever HACC event.
- Expanded focus on providing a multitude of learning opportunities to current and new employees throughout the executive branch. Training sessions have been made available to employees for voluntary participation where individuals may update their skills on common applications, such as Office 365 and SharePoint tools among others.
- Received the Legislature's approval for three new cybersecurity positions to help further build the State's cybersecurity program. These new positions will also allow ETS to pursue cost-effective solutions for Hawai'i's cybersecurity needs by providing additional training to State employees. Training employees enables the State to shift a majority of security work previously done by contractors to skilled State personnel. (See Cybersecurity priority below for the status of these positions.)

#### *FB17-19 Objectives*

- Reduce vacancies within ETS to 10 percent, maintaining workforce sustainability and measurably expanding capacity to support priority initiatives and Services-Oriented Infrastructure. Developing and empowering the State's IT workforce will increase ability to modernize government processes, systems, solutions and services while reducing overreliance on third-party consultants, where cost-effective.
- Implement strategic plan for IT workforce development.
- Execute ETS' formal reorganization of the operations across former OIMT/ICSD units and branches, pursuant to Act 58, to reflect the modern enterprise infrastructure, production, operations, staff and required roles.
- Conduct assessment of effectiveness of the Civil Service IT Broadbanding Pilot Project.
- Establish multiyear track-record for HACC event.
- Continue career path development and to offer relevant training and learning development to employees who are interested in enhancing their skills to migrate to different jobs over time. This includes working with the colleges and universities to identify opportunities to offer project-based learning to masters' program students as well as determining if there is relevant curriculum and coursework that may be adopted by ETS and slightly modified to offer training options to employees.
- Work with other large employers in the State to develop an apprenticeship program that will target IT specialty and skills, while conducting outreach to underserved communities and individuals.

## Cybersecurity

Pursuant to [HRS sections 27-43](#) and [27-43.5](#), Cybersecurity focuses on maintaining the security posture of State government IT systems through enterprise policies and standards and direct remedial actions, when necessary, to protect critical IT infrastructure and data.

### 2016 Accomplishments

- Transitioned the Security Operations Center (SOC) from a vendor-led operation to a more sustainable State personnel-led team.
- Received the Legislature's approval for three new cybersecurity positions, including a chief information security officer (CISO), to help further build the State's cybersecurity program, which protects all three branches of government who share a common access point to the Internet where most cyber threats originate.
- Filled the CISO position and launched recruitment for the two remaining support positions. The focus of existing staff thus far has been on perimeter security, and the next phase is building end-point security platforms.
- Increased frequency of security audits of departments and agencies and directed specific remedial actions to mitigate findings of insufficient administrative, technical and physical controls.
- Increased the SOC's visibility into department networks in conjunction with the deployment of industry-standard security tools.
- Conducted the first statewide security assessment and scan of all Windows-based devices, which was offered to all executive branch departments, including the Department of Education and the Library System. ETS received participation from most departments, and the service provided proactive, discreet incident response prior to an actual emergency. This included examination of assets and systems for presence of advanced threats not typically found by commodity anti-virus or intrusion detection system technologies.
- Submitted annual and quarterly reports to the Legislature providing high-level information on the health status of departments' IT environment as it relates to functionality, risk and maturity, as well as periodic information security and penetration audits of the executive branch IT systems, pursuant to sections 42(1) and 42(5) of Act 119, SLH 2015 (Reports available at [ets.hawaii.gov](https://ets.hawaii.gov)).
- Participated in a multi-agency effort to secure the State's elections systems to ensure the voter registration systems and voting processes remained protected. This involved successful coordination with the Department of Homeland Security, FBI, and State and county agencies.

### FB17-19 Objectives

- Fill remaining cybersecurity support positions to assist departments in further securing their endpoints and proactively searching for vulnerabilities in the State government network.
- Continue to increase the SOC's visibility into department networks in conjunction with the deployment of industry-standard security tools.
- Operationalize statewide IT policies, standards and procedures in the security category.

## Services-Oriented Infrastructure (SOI)

Pursuant to [HRS section 27-43](#), *Services-Oriented Infrastructure (also known as shared services) involves the management of enterprise shared services centrally to leverage economies of scale (e.g., network, data management, unified communications, data center, and various cloud services).*

### 2016 Accomplishments

- Identified SOI under the preliminary categories of network, security, governance, data management, unified communications, and shared services, and aligned with strategic benchmarks.
- Activated 12,390 Office 365 licenses that are now being utilized by branch department users. Benefits include fortified security, greater disaster recovery capability, expanded applications and services, added tools for collaboration, and long-term budget sustainability.
- Launched and expanded eSign Service to departments statewide to increase government efficiency within the executive branch. Fifteen months after the governor's office piloting the capability, more than 95,000 unique electronic transactions have been processed across departments, representing a reduction and associated savings in the use of paper, ink, and process time.
- Upgraded cloud services to provide business continuity services. With the upcoming addition of independent failover capability as well as application high-availability with clustering, the focus shifts to business continuity, even in the face of unforeseen events. Service-level agreements and cost options will be defined for State departments and agencies to make use of the enterprise asset.
- Formalized a memorandum of understanding with the University of Hawai'i IT Center under which some IT systems currently housed at that State's primary data center in the downtown Kalanimoku Building are migrating to the UH IT Center to the extent possible to provide resilient backup. The agreement outlines a rate structure under which ETS will remunerate the university for its costs each year, including a "true up" based on actual expenses from the previous year.

### FB17-19 Objectives

- Support the management and operation of State agencies by providing effective, efficient, coordinated, and cost-beneficial computer and telecommunication services such that State program objectives may be efficiently achieved. See DAGS Annual Report on Goals, Objectives and Policies for AGS-131: <https://ags.hawaii.gov/wp-content/uploads/2012/10/ags131-fy2017.pdf>
- Deploy platform as a service for rapid application development.
- Build out ETS-led SOI and expand departmental customer base while demonstrating return on investment and cost-reductions achieved through economies of scale and efficiencies.

## Enterprise Programs and Projects

Pursuant to [HRS section 27-43](#), Enterprise Programs and Projects consist of initiatives identified as enterprise in scope, leveraging economies of scale and setting standard platforms for IT systems to maximizing positive ROI (e.g., tax, health and human services, asset management, budget, finance, grants, human resources, payroll, procurement, and time and attendance).

### 2016 Accomplishments

- Expanded on the Ige Administration's targeted approach for large IT programs and projects by implementing a strategy of modularity, allowing ETS to drive reusability, align pace of change with system agility, eliminate vendor dependency, and promote innovation while lowering the total cost of ownership.
- Initiated internal status reporting capability for all priority initiatives for effective governance and program management.
- Partnered with DAGS throughout the "request for proposal" and vendor selection phases of the Enterprise Payroll and Time & Attendance Modernization project, which will address the significant risks associated with maintaining the current 40-year-old system, which is fragile, inflexible, manual and paper-intensive.
- Collaborated with DAGS on the launch of the payroll modernization project, which will roll out new processes and technologies to aid State payroll staff in providing modern functionality, efficiencies, security and disaster recovery, while improving system performance and reliability, including timeliness and accuracy of payments.

### FB17-19 Objectives

- Demonstrate effectiveness of governance processes administered by ETS for IT programs and projects, especially as it pertains to the success of the following, with success measured by meeting clearly outlined project milestones (on time, on budget), ultimately resulting in positive return on investment for the State:
  - Enterprise Payroll and Time & Attendance Modernization (a DAGS project in collaboration with ETS);
  - Tax System Modernization (a Department of Taxation project with ETS overseeing the independent validation and verification role);
  - KOLEA (a Department of Human Services project with ETS support); and
  - Other major and/or enterprise programs.
- Develop and assign ETS resources to provide sufficient oversight, support, and verification and validation to the priority initiatives, as necessary.
- Conduct continuing internal status monitoring for all priority projects to facilitate timely project success reporting requirements.
- Establish competency centers and knowledge management protocols to effectively manage and operate enterprise applications and systems. This will assist in future transitions from external system integrators and implementation teams to internal State-operated systems.

## Open Data

*Pursuant to [HRS sections 27-43](#) and [27-44](#), this priority area includes building on established data and transparency platforms to facilitate open data mandates.*

### *2016 Accomplishments*

- Facilitated executive branch departments' reasonable efforts to make appropriate and existing electronic data sets electronically available to the public through the State's Open Data Portal ([data.hawaii.gov](http://data.hawaii.gov)), which now offers charting libraries and mapping tools for the creation of dynamic visualizations. Today, 665 data sets are publicly available through the portal with 3,468,187 browser page views providing residents, analysts, and civic developers with unprecedented access to state data.
- Continued work on the Aloha+ Challenge Dashboard ([dashboard.hawaii.gov/aloha-challenge](http://dashboard.hawaii.gov/aloha-challenge)), releasing new metrics in the category of Natural Resource Management.
- Collaborated with the Department of Business, Economic Development, and Tourism / Coastal Zone Management to develop the Ocean Resource Management Plan Dashboard. The dashboard is scheduled to be released this fiscal year.
- Facilitate oversight of the State Internet Portal Program by the CIO-chaired Access Hawai'i Committee by deploying a new approval process for project statements of work.

### *FB17-19 Objectives*

- Continue to collaborate with departments and agencies to expand and refine available data with regularly updated information via the Open Data Portal.
- Develop a data analytics program for the State.
- Collaborate with the state Disability and Communication Access Board to update information and training for State departments and agencies, helping to ensure that their respective websites meet federal accessibility guidelines.
- Collaborate with the Office of Information Practices in the review and publishing of all policies, procedures and standards related to open data. State policy on open data will ensure that the Federal Directive on Government Transparency is properly followed via practices and procedures of reporting and archiving data.
- Continue to streamline process to implement applications and citizen-facing projects under the State Internet Portal Program.

## IT Cost Transparency

*In support of the governor's goal for an effective, efficient and open government, IT Cost Transparency includes processes and tools that enable the State enterprise to model and track the total cost to deliver and maintain IT services, ultimately restoring the public's trust in government by improving cost-effectiveness, transparency and accountability. This is a new CIO priority introduced in 2016.*

### *2016 Accomplishments*

- Piloted the technology-based management (TBM) financial model and tools within ETS to test effectiveness prior to broad deployment. The TBM model provides a data-driven framework for measuring, managing and communicating the budget, cost, consumption, and ROI of IT.

### *FB17-19 Objectives*

- Collaborate with DAGS Accounting Division to implement consistent accounting codes and criteria to ensure improved visibility with regard to departmental IT expenditures. As stated, the latter directly addresses widespread inconsistency in departments' tracking of IT expenditures, as identified in the State Auditor's report in response to SCR162 2015.
- Demonstrate effectiveness and benefit of TBM and apply the model to all IT expenditures throughout the executive branch.
- Utilize data provided through TBM to reduce enterprise IT operational and maintenance contracts by 10 percent over two years.

## IT STEERING COMMITTEE

Pursuant to [HRS section 27-43](#), the IT Steering Committee (ITSC) was established to advise and support the CIO by:

- Assisting the CIO in developing and implementing the State IT strategic plans;
- Assessing executive branch departments' progress in meeting the objectives defined in the State IT strategic plans and identifying best practices for shared or consolidated services;
- Ensuring technology projects are selected based on their potential impact and risk to the State, as well as their strategic value;
- Ensuring that executive branch departments maintain sufficient tools to assess the value and benefits of technology initiatives;
- Assisting the CIO in developing State IT standards and policies; and
- Clarifying the roles, responsibilities, and authority of ETS, specifically as it relates to its statewide duties.

### ITSC Membership

Considerable effort was expended in 2016 to facilitate the filling of vacancies on the ITSC. As of the date of this report, all but one position has been filled — vacant only because a member stepped down in November 2016 to pursue opportunities outside of Hawai‘i.

*IT Steering Committee Membership Roster (as of December 29, 2016)*

Name	Affiliation	Appointed By
Todd Nacapuy (Chair)	Office of Enterprise Technology Services (CIO)	<i>Ex Officio Member</i>
Benjamin Ancheta	‘Ike	Senate
David Keane	Department of Human Resources Development	House
Jared I. Kuroiwa	KHON2	Senate
Liane Moriyama	Department of the Attorney General	House
Clyde S. Sonobe	Department of Education	House
Kelly Taguchi	Oceanic Time Warner Cable	Senate
Kevin Thornton	Judicial Branch	Chief Justice
Rep. Kyle Yamashita	Legislative Branch	House
Garret Yoshimi	University of Hawai‘i	Governor
VACANT		<i>Senate</i>

### ITSC Assessment of the CIO

In the ITSC's quarterly meetings, the CIO, as chair, led discussion of expanding the role of the ITSC beyond an advisory capacity. On February 25, 2016, the ITSC formed a Permitted Interaction Group to provide recommendations on operationalizing ITSC mandates under section 27-43, identifying how the ITSC can best reach out and gather input from the community, and establishing measurable objectives and an approach to hold itself accountable. In the group's report to the full committee, recommendations included the following:

- Adopt the “CIO Priorities” as metric categories under which measureable elements will be recorded and tracked to assess the CIO's overall effectiveness year-over-year.

- Report on these metrics in a new “IT Steering Committee Assessment of CIO Effectiveness” section provided within the CIO’s Annual Report to the Legislature.
- Track measureable elements and timetables within these metric categories.

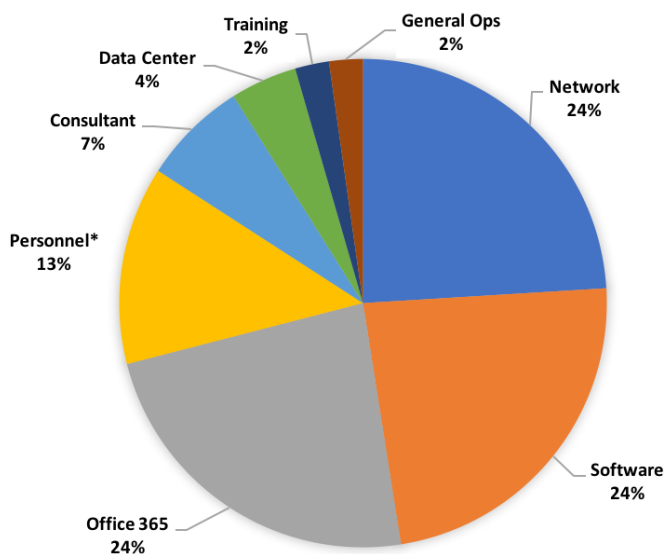
Having received the report, the ITSC is discussing the process by which the ITSC will accomplish its assessment of the CIO effectiveness year-over-year, as measured by success in achieving benchmarks under stated CIO priorities. This assessment, if approved by the ITSC, will be included as part of future CIO annual reports.

## EXPENDITURES

The following is an account of FY16 expenditures of all moneys received from all sources and deposited into the Information Technology Trust Account and the Shared Services Technology Special Fund, pursuant to HRS section 27-45(e):

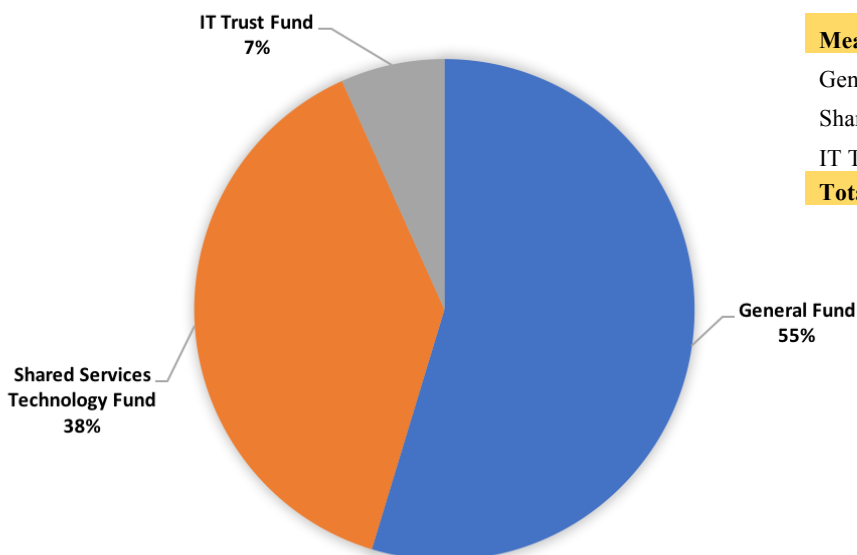
*Note: Moneys from the trust and special funds were allocated exclusively for Personnel costs in FY16.*

### AGS 130 Expenditures, All Means of Finance (FY16)



Category	Amount
Network Operations (24%)	\$4,742,066.92
Software Licenses (24%)	\$4,634,204.67
Office 365 (24%)	\$4,632,965.19
Personnel* (13%)	\$2,592,103.54
Consultant Services (7%)	\$1,376,362.67
Data Center Operations (4%)	\$871,824.07
Training/Professional Development (2%)	\$444,681.52
General Operations (2%)	\$441,726.12
<b>Total</b>	<b>\$19,735,934.70</b>

### \*AGS 130 Personnel Expenditures, All Means of Finance (FY16)



Means of Finance	Amount
General Fund (55%)	\$1,417,613.34
Shared Services Technology Fund (38%)	\$1,000,359.32
IT Trust Fund (7%)	\$174,130.88
<b>Total</b>	<b>\$2,592,103.54</b>

## EXHIBIT A: ETS-205 Part C

All IT and telecommunications acquisitions by executive branch departments or agencies of \$100,000 or more (with the exception of those by the Department of Education, University of Hawai‘i, and Office of Hawaiian Affairs) must obtain prior approval from the State CIO, pursuant to [Executive Memorandum 16-02](#). This dollar threshold applies to budgeted and unbudgeted acquisitions.

Departments and agencies use the attached “ETS-205 Part C” form to report their information to the CIO. See this form attached.



## OFFICE OF ENTERPRISE TECHNOLOGY SERVICES IT GOVERNANCE

### Information Technology (IT) and Telecommunications (TC) Spend Request Checklist

Pursuant to [Executive Memorandum 16-02](#), all IT and TC acquisitions by Executive Branch departments or agencies (with the exception of the Department of Education, University of Hawai'i, and Office of Hawaiian Affairs) of \$100,000 or more must obtain prior approval from the State Chief Information Officer. This dollar threshold applies to budgeted and unbudgeted acquisitions.

**REMINDER:** Attach all supporting documents (e.g., forms, vendor quotes, explanatory diagrams, brochures, or other).

**1. Request should include project background and a description of how the purchase will be used to support departmental and/or enterprise goals, including:**

<b>A. Background/Description</b> (e.g., to include all applications, systems and components, supported users, functions of the system, purposes, hosted or install location, method of implementation and support, use of in-house vs. consultants, etc.)	
<b>B. Alternatives Considered</b> (e.g., consideration and discussion on alternative approaches, technologies, vendors)	
<b>C. Impact If Denied</b> (e.g., business impact to the public, department, and/or the State)	
<b>D. Installation/Implementation Schedule</b> (e.g., equipment install will occur over the next 90 days upon delivery, upgrade will occur in 4th quarter of FY16, or other)	
<b>E. Vendor Information</b> (Include vendor name, contact name, phone number, and email.)	
<b>F. Compliance/Regulatory/Legal</b> (Are there compliance, regulatory or legal requirements related to this request? If yes, please describe.)	
<b>G. Security — Cyber/Physical</b> (Are there additional or unique security requirements related to this request? If yes, please explain.)	
<b>H. Health/Safety</b>	

(Is this request in response to addressing Health or Safety issues or concerns in the State? If yes, please describe.)	
<b>2. Cost Price Details</b>	
<b>A. Cost</b> (Specify initial cost, include all costs broken down by type, e.g., hardware, software, infrastructure/telcom, consulting services, travel, other direct)	
<b>B. Cost Comparison</b> (e.g., list info from multiple vendor quotes, license count verification, support level, or other)	
<b>C. If purchase not budgeted, explain what trade-offs were made to enable purchase.</b> (e.g., delayed purchase of future projects, reduce scope request for a budgeted purchase, or other)	
<b>D. Funding Mechanism</b> (e.g., G-17-001-T, General Funds, CIP, Special Funds, Federal Funds, or other)	
<b>E. Procurement Approach</b> (e.g., SPO Price List 12-03, IFB, or other)	
<b>F. In-House Personnel</b> (e.g., additional position requirements, or reductions)	
<b>3. For initial procurement of products or services, include a 5-year Total Cost Ownership (TCO) estimated for Software Subscription (S/S) or Operation &amp; Maintenance (O&amp;M) costs, if applicable.</b>	
<b>A. Software Subscription</b> (TCO estimated, if applicable)	
<b>B. Operations &amp; Maintenance</b> (TCO estimated, if applicable)	
<b>4. For recurring operations and maintenance, attach previous year's vendor quote and explain any differences, if applicable.</b>	
<b>A. Products/SKUs</b> (Compare against previous quote for accuracy.)	

<b>B. License Counts</b> (Provide confirmation license counts have been reviewed and verified.)	
<b>C. License User Validation</b> (Provide a list of users for each license.)	
<b>D. License Host Validation</b> (Provide a list of hosts for each license.)	
<b>E. License Type</b> (e.g., subscription, non-perpetual, perpetual or other)	
<b>F. Support Level Changes</b> (e.g., increase response time from Next Business Day, 8x5, 24x7, 6-hour, or other)	
<b>G. Price Increase</b> (Explain)	
<b>5. Discussion of Benefits (return on investment) to the State, including:</b>	
<b>A. Return on Investment (ROI)</b> (ROI can be described in either conventional business finance terms or terms of impact on the daily life of citizens and visitors to the State – i.e., a “Public ROI”; quantify where feasible, use non-quantifiable measures and descriptors in other cases)	
<b>B. Risk Reduction</b> (How does outcome of this request reduce risk in terms of business continuance, single point of failure, etc.?)	
<b>C. Efficiency Gains</b> (e.g. network throughput increase, increase in business process speed, automation of a process, or other)	
<b>D. Infrastructure Consolidation, Standardization, or Shared Service Opportunities</b> (e.g., purchase will allow us to consolidate multiple sites, standardization across the environment, ability to share network infrastructure with various agencies, or other)	

<b>E. What organizational initiatives are being supported?</b>  (e.g., Legislative, Executive/Governor, Enterprise, Departmental)	
Submit completed form and any attachments to: <a href="mailto:ETS.ITG@hawaii.gov">ETS.ITG@hawaii.gov</a>	