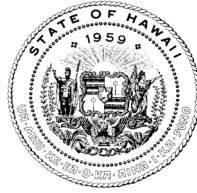


JOSH GREEN, M.D.
GOVERNOR



DEPT. COMM. NO. 236
DOUGLAS MURDOCK
CHIEF INFORMATION OFFICER

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

P.O. BOX 119, HONOLULU, HI 96810-0119

December 28, 2023

The Honorable Ronald D. Kouchi
President of the Senate
and Members of the Senate
Hawai'i State Legislature
State Capitol, Room 409
Honolulu, Hawai'i 96813


The Honorable Scott K. Saiki
Speaker and Members of the
House of Representatives
Hawai'i State Legislature
State Capitol, Room 431
Honolulu, Hawai'i 96813

Dear President Kouchi, Speaker Saiki, and Members of the Legislature:

Pursuant to sections 27-43(a)(6) and 27-43(e), Hawai'i Revised Statutes (HRS), the attached annual report is hereby submitted to update you on the status and implementation of the State information technology strategic plan, the activities and programs under the authority of the CIO and the 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.

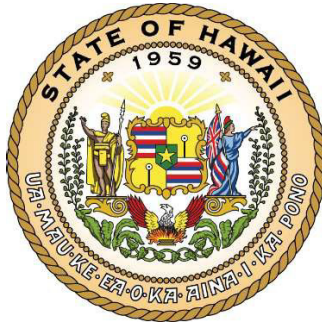
In accordance with HRS section 93-16, this report may be viewed electronically at <http://ets.hawaii.gov> (see "Reports").

Sincerely,


Douglas Murdock (Dec 28, 2023 11:51 HST)

Douglas Murdock
Chief Information Officer

Attachment



ENTERPRISE TECHNOLOGY SERVICES ANNUAL REPORT 2023





Table of Contents

ABOUT US	3
ETS EARNS NATIONAL RECOGNITION FOR CYBERSECURITY.....	5
ETS PROVIDES EMERGENCY COMMUNICATIONS, IT SUPPORT ON MAUI.....	8
SUPPORTING TELEWORKING.....	9
SUPPORTING AGENCIES.....	13
IT STRATEGIC PLAN PROGRESS.....	14
IT STRATEGIC PLAN ADOPTION PROGRESS	16
PARTNERS FOR SUCCESSFUL OUTCOMES	17
STATEWIDE FINANCIAL SYSTEM REPLACEMENT.....	17
IT CONSOLIDATION AND ACT 179.....	25
DIGITAL GOVERNMENT SERVICES.....	26
CYBERSECURITY PROGRAMS.....	30
EMERGENCY OPERATIONS	33
STATE DATA	34
IT STRATEGY AND GOVERNANCE	38
INDEPENDENT VERIFICATION AND VALIDATION REPORTS.....	44
IMPLEMENT DYNAMIC AND SUSTAINABLE IT OPERATIONS	45
HAWAI'I WIRELESS INTEROPERABILITY NETWORK (HiWIN)	49
WEB ACCESSIBILITY.....	52
DIGITAL GOVERNMENT SUMMIT	57
HAWAI'I ANNUAL CODE CHALLENGE (HACC).....	58

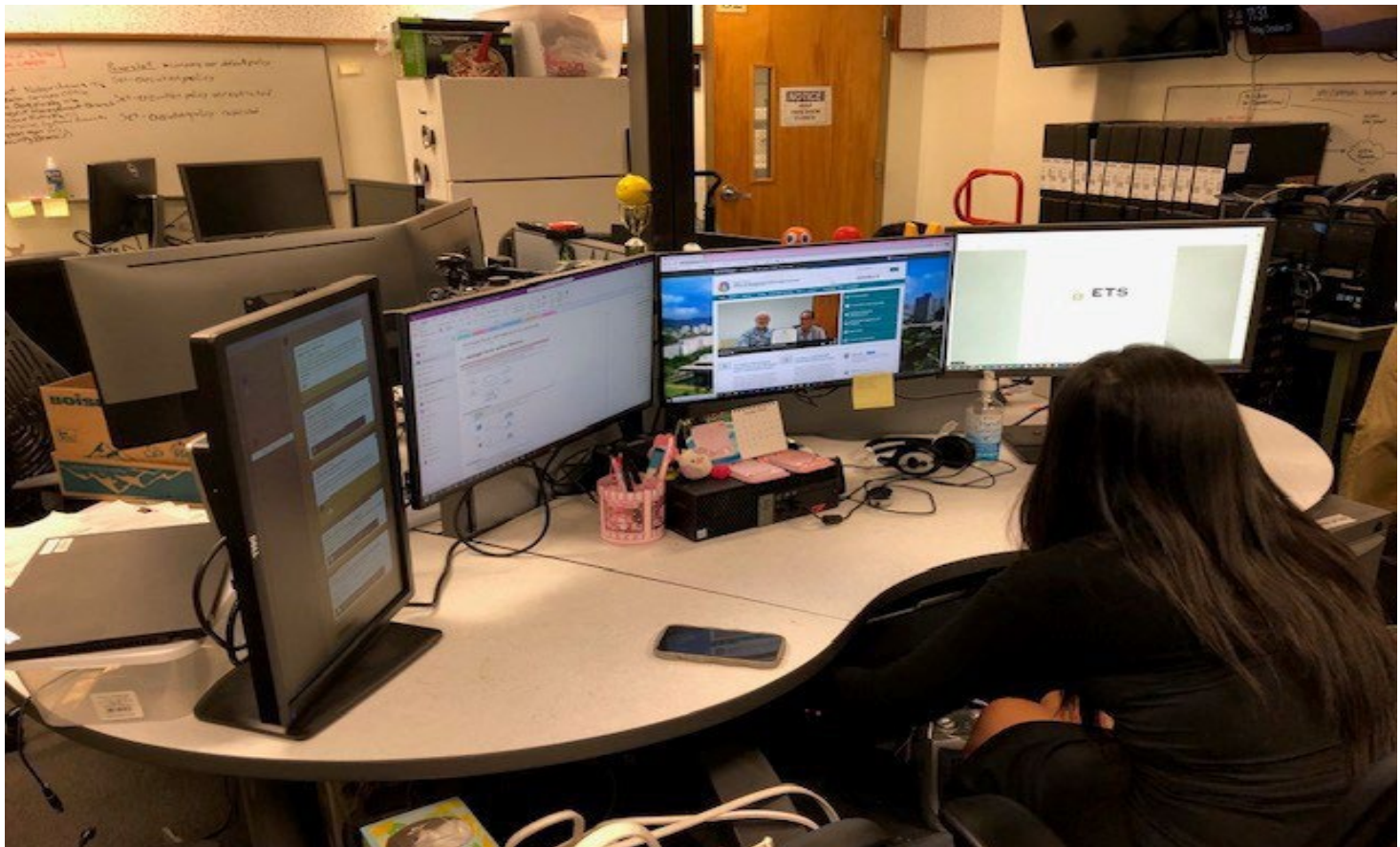


ABOUT US

The Office of Enterprise Technology Services (ETS) provides governance for executive branch IT projects and seeks to identify, prioritize, and advance innovative initiatives with the greatest potential to increase efficiency, reduce waste, and improve transparency and accountability in state government.

Composed of nine branches, ETS also supports the management and operation of all state agencies by providing effective, efficient, coordinated, and cost-beneficial computer and telecommunication services. The nine branches include: Production Services, System Services, Technology Support Services, Client Services, Enterprise Systems, Network, Security, Enterprise Architect, and Program Management.

The Office of Enterprise Technology Services (ETS) was established by Hawai'i Revised Statutes §27-43. ETS is headed by a full-time chief information officer (CIO) to organize, manage, and oversee statewide information technology. The chief information officer is appointed by the governor and reports directly to the governor. A key responsibility of the CIO is to develop, implement, and manage the state information technology strategic plan.



Inside the Help Desk office.



Hawai'i Revised Statutes §27-43 also establishes an Information Technology Steering Committee (ITSC) to work with the CIO in developing the State's information technology standards and policies, including the strategic plan. The ITSC meets quarterly and held two meetings in 2023.

IT STEERING COMMITTEE MEMBERS (served during 2023)

Douglas Murdock (Chair), Office of Enterprise Technology Services, State of Hawai'i

**Christine Sakuda (Vice Chair),
Transform Hawai'i
Government**

Benson Choo, Finance Factors

**Mel Horikami, Optimum Business
Solutions**

**Jarrett Keohokalole, Hawai'i State
Senate**

**Arnold Kishi, Center for Internet
Security, MS-ISAC**

**Joel Kumabe, Ohana Pacific
Health**

Michael Nishida, First

Hawaiian Bank

**Christine Shaw,
State Department of
Education**

**Mai Nguyen Van, Hawai'i
State Judiciary**

**Kyle Yamashita, Hawai'i State
House**

**Marcus Yano, CBTS Hawaiian
Telcom Garret Yoshimi,
University of Hawai'i**

The CIO or designee also serves on the following state committees:

- Access Hawaii Committee (ex officio Chair)
- Information Privacy and Security Council (ex officio Chair)
- Enhanced 911 Board (ex officio)
- Hawaii Health Data Steering Committee (ex officio)
- Broadband Assistance Advisory Council (appointed)
- IT Consolidation Working Group

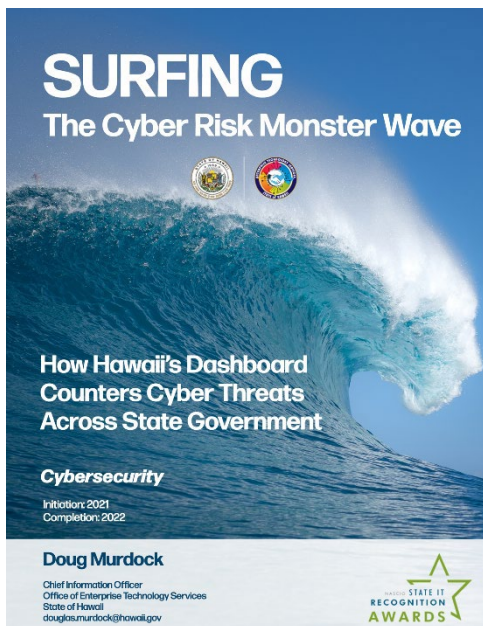


Award Recipient 2023



ETS EARNS NATIONAL RECOGNITION FOR CYBERSECURITY

The National Association of State Chief Information Officers (NASCIO) selected the Office of Enterprise Technology Services for its top cybersecurity category award at its 2023 State IT Recognition Awards Oct. 11 in Minneapolis, MN.



The award showcases the use of information technology to address critical business problems, more easily connect citizens to their government, improve business processes and create new opportunities that improve the lives of citizens.

ETS' winning submission is titled "State of Hawai'i: Surfing the Cyber Risk Monster Wave."

Hawaii Chief Information Officer Doug Murdock said state governments face an ever-increasing "wave" of cyber threats that, if unmanaged, can lead to devastating consequences.

"To help protect Hawaii, we developed the State of Hawaii Cyber Risk Scoring System to deliver real-time



visibility around cybersecurity controls and risk posture across all state departments in the executive branch,” Murdock said.

The Cyber Risk Scoring Program is based on a risk-based approach to cyber security. This means that resources are prioritized to mitigate the highest risks first. The program uses a scoring system to assess the risk of each information system. The scoring system takes into account the following factors:

- The value of the information system
- The sensitivity of the information system
- The likelihood of a cyber attack
- The impact of a cyber attack

Operated by ETS, this tool aggregates risk data from every endpoint in the executive branch into an easily digestible risk score that is updated for state leadership, including the Office of the Governor, State CIO, and State CISO as frequently as every two minutes.

“The Cyber Risk Scoring Program is a continuous improvement process,” said Vincent Hoang, Hawaii’s Chief Information Security Officer. “The program is constantly being updated to reflect changes in cyber security threats and risks. The program is also designed to be collaborative. ETS works closely with other state agencies and stakeholders to manage cyber security risks.”



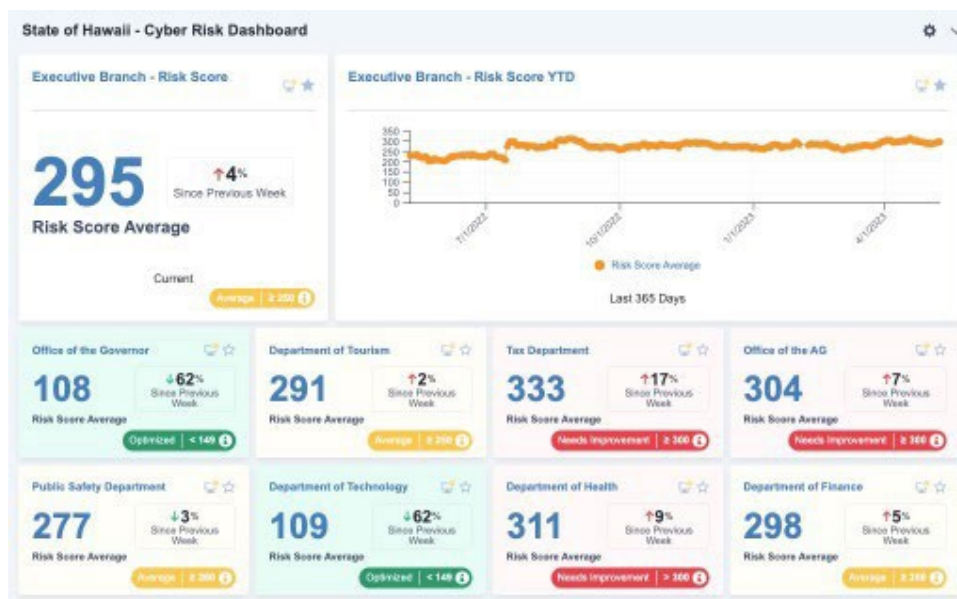
Hawaii CIO Doug Murdock (center) accepts the 2023 NASCIO award for cybersecurity along with (from left) Juha Kauhanen ETS, Bryce Fujii ETS, Zachary Nandapurkar Tanium, Josh Frank Tanium. Arnold Kishi ETS, Allan Wong Tanium.



The Cyber Risk Scoring program is built on top of the Tanium platform – which the State of Hawaii uses to manage and secure state-wide computer systems. The partnership between ETS and Tanium reflects the shared commitment to securing the State of Hawaii’s endpoints so that resident data is protected and essential services remain open.

Every week, Tanium Technical Account Managers meet with the ETS staff to create data-driven and innovative solutions around cybersecurity that save staff time and create higher value for State IT hygiene and cybersecurity management.

The Cyber Risk Scoring Program has been a tremendous success and has helped ETS to improve its cyber security posture and protect the state's information systems from cyber threats. The program has also saved the state money by helping to identify and mitigate risks before they become costly problems.



Note: Notional CRSS Dashboard recreated with mock data (not actual scores)

This year nearly 100 submissions were received from NASCIO member states and territories and over 80 NASCIO members served as volunteer judges.

To ensure states have access to the innovations and leading practices of their peers, all award submissions have been added to [NASCIO's Awards Library](#).



ETS PROVIDES EMERGENCY COMMUNICATIONS, IT SUPPORT ON MAUI

Since day one of the Lahaina wildfire disaster, ETS has acted as the primary, lead agency for ESF#2 (Emergency Support Function 2 – Communications) coordinating the overall activities of state, federal, and private communication service providers responding to the Aug. 8 tragedy. ESF #2 provided emergency communications and IT support following the wildfire and coordinated restoration of the overall government and commercial communications infrastructure.

Two ETS managers lead the ESF #2 Team along with other ETS staff, the State Dept of Defense, and HIEMA. In response to Requests For Assistance (RFA) from county and responding agencies, the EFS #2 Team coordinated with other government partners and commercial suppliers to source and deliver requested and approved equipment and services.



Photo: Office of Governor Josh Green, M.D.

ETS also:

- Provided State ESF #2 lead role for the wildfires incident, managed by HIEMA.
- Responded to Request For Assistance entries, coordinated with ESF #2 partners and suppliers to source and deliver approved equipment and services to the counties.
- ETS added capacity to HIWIN (our statewide public safety communications network) to support the surge in responders in the west Maui region.
- Programmed and distributed 100 portable land mobile radios.
- Provided data network connectivity for Maui County in the impacted area to support coordination efforts.
- Restored communications to Kapalua airport by installing satellite terminals allowing airport operations and supply flights to resume.
- Responded to RFA (request for assistance) to send one Oahu based ETS staff to Maui to continue supporting communications restoration efforts.

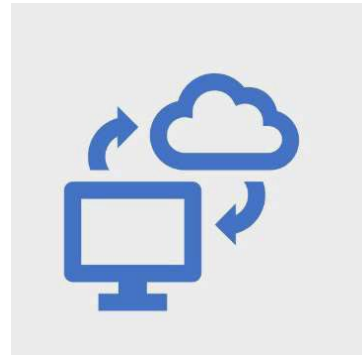
Until the overall communications infrastructure destroyed during the wildfires is fully restored, ETS will continue to support provisioning telephone, data communications, radio communications, and Internet services required by the additional federal, state, county and National Guard presence in and around West Maui and in the Lahaina disaster recovery centers.



SUPPORTING TELEWORKING

The creation of ETS allowed the state to take a fresh look at the capabilities and infrastructure that allow government operations to continue in the event of unplanned disruptions, disasters, and emergencies. New mobile workforce and remote computing (telework) initiatives permitted employees to work from any location outside their usual offices that offered wired, wi-fi, or cellular phone internet access.

As specific examples, the state's Cloud First policy guides the migration of critical infrastructure and services from on-premise data centers to mainland cloud service providers; ETS works with all Executive Branch departments to implement the broad package of cloud-based Microsoft Office 365 tools that offer secure data sharing within and among departments using OneDrive and SharePoint, and convenient remote group meetings using Teams; ETS adopted the Adobe Sign platform providing digital signature workflow; and ETS conducted periodic training and education activities for departments and employees to learn how to use and redesign their business processes to apply those new productivity tools.



In 2022, one of the many enhancements to the Teams collaborative service was the ability to have any Teams conference meeting provide a dial-in telephone number for invited participants who cannot or will not use the Teams client or web interface.

This effort is continuing with our movement of State Enterprise Resource Applications to a managed environment and our current effort to shift from a physical mainframe to mainframe as a service. The migration of the ETS mainframe to a managed service was completed in January 2022 and was continuously improved in 2023.

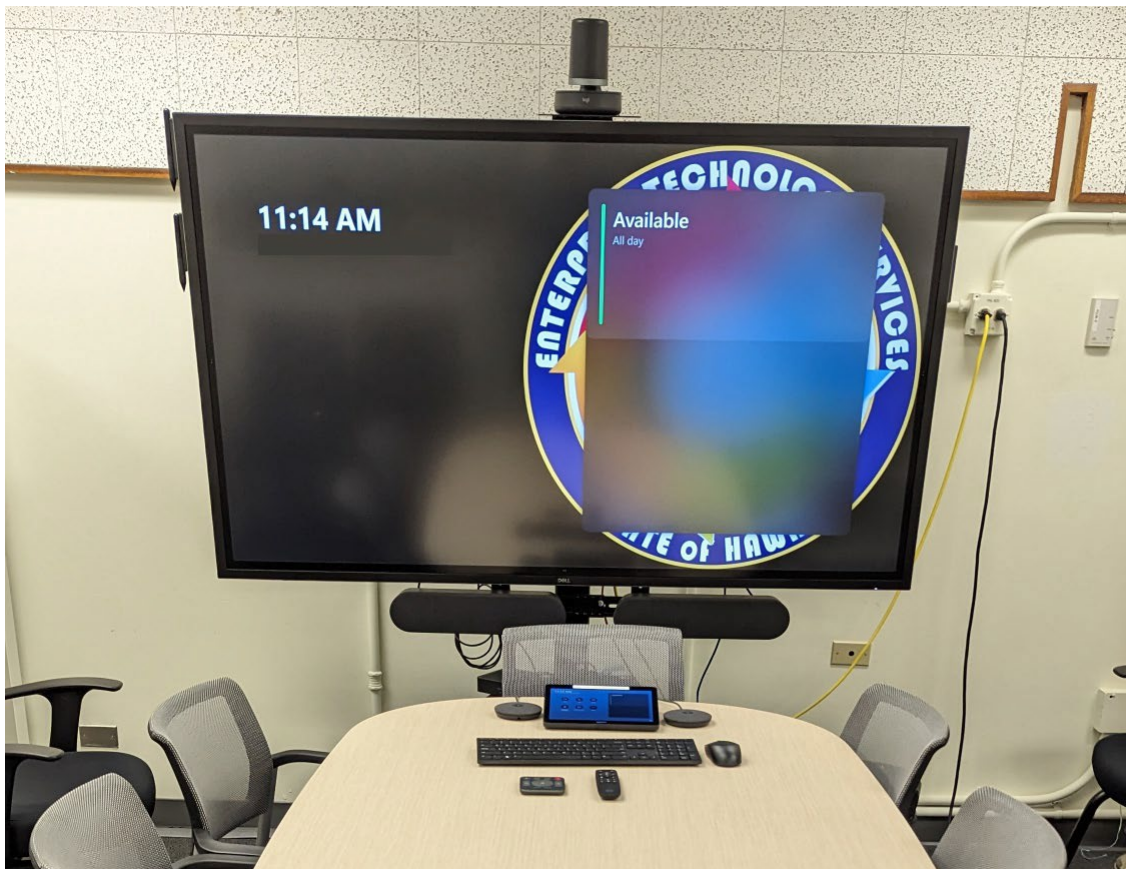
ETS also provides leadership, technical guidance and administrative support to the Access Hawai'i Committee, which is responsible for management and oversight of the state-wide citizen portal. This portal allows citizens to complete many state and county government services online and complete transactions without having to go to a government office.



MICROSOFT TEAMS CALLING PHONE SYSTEM

Teams Calling was implemented as a technology demonstration in the Office of Enterprise Technology Services (ETS) in June 2021. Teams Calling provides a cloud-based phone system built on Microsoft Teams. All ETS staff were migrated to Teams Calling from Hawaiian Telcom phone lines, which provided cost savings and better communication abilities for teleworking with external parties. ETS has worked with two other state offices on their conversion, and several other agencies are currently piloting the adoption of Teams Calling.

ENHANCED HYBRID MEETING SYSTEMS



Microsoft Teams System for enhanced hybrid meetings.

ETS began work on developing best practices and low-cost system configurations to enhance “hybrid” meetings and collaborations between those meeting on-premises and those accessing the same meeting remotely.



Microsoft Teams Activity 2023

Team usage

Number of teams, by type and activity

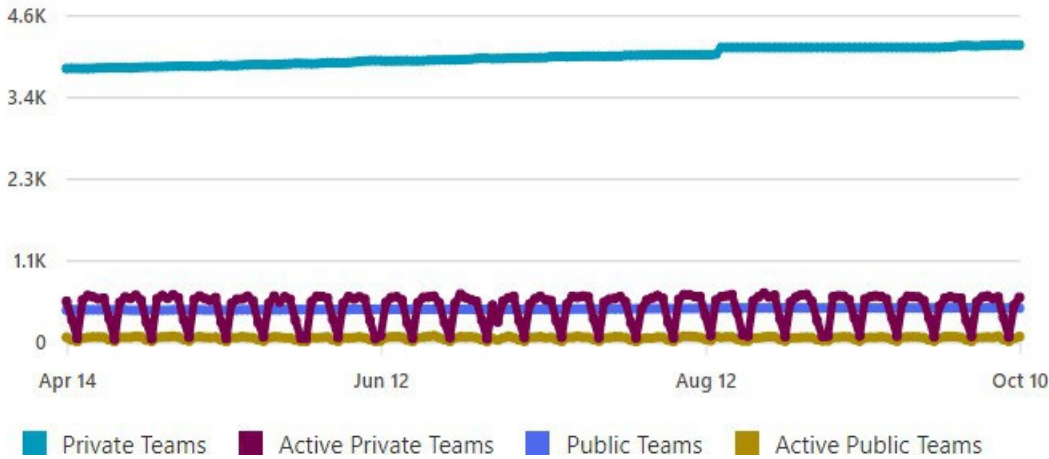
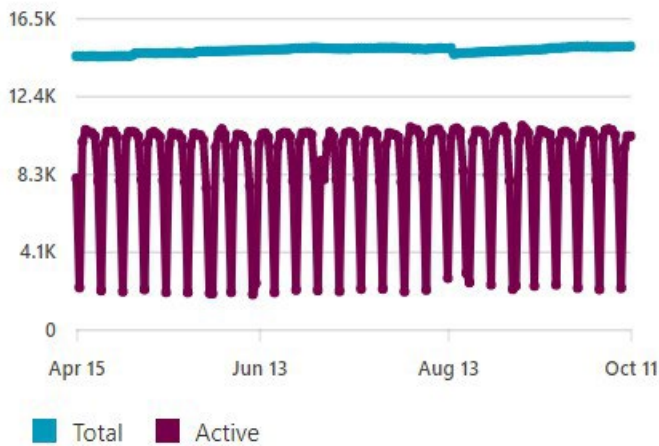


Figure 1: Teams Usage Chart – The chart shows a steady increase of private teams being used from April (3808) to October (4137) 2023.

Exchange Email Usage 2023

Mailbox

Number of total and active user mailboxes



Storage

Amount of storage used

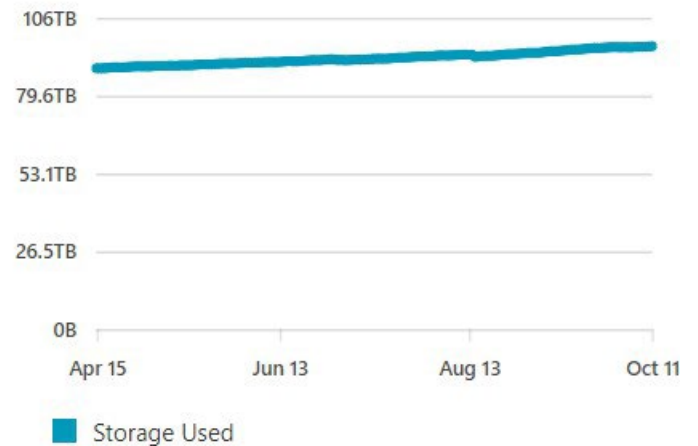


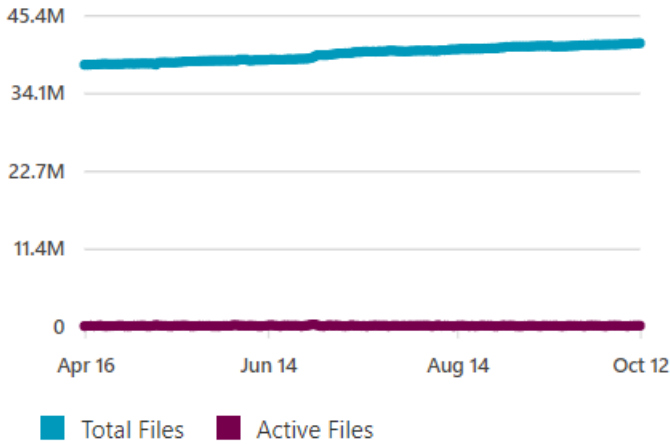
Figure 2: Exchange Email Usage Chart - The chart to the left shows a steady increase in the number of total user mailboxes from April (14493) to October (15019) 2023. The chart to the right shows the total amount of mailbox storage used from April (88.9TB) to October (96.5TB) 2023.



OneDrive Usage 2023

Files

Number of total and active files



Storage

Amount of storage used

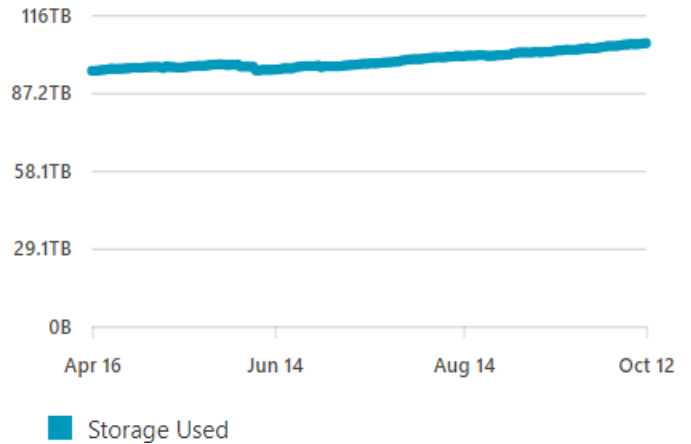
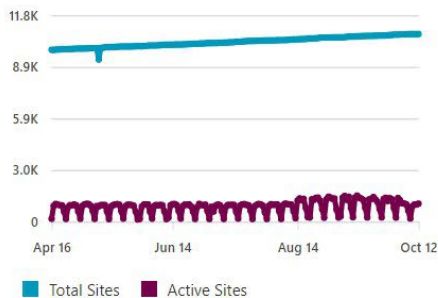


Figure 3: OneDrive Usage Chart – The chart to the left shows a steady increase in the number of total files from April (38.1M) to October (41.2M) 2023. The chart to the right shows the total amount of storage used from April (95.3TB) to October (105TB) 2023.

SharePoint Usage 2023

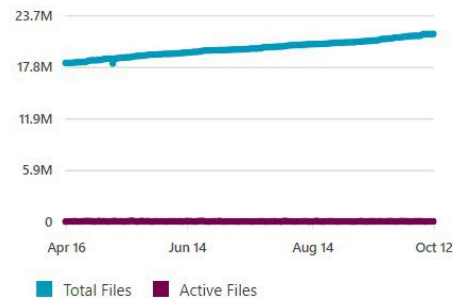
Sites

Number of total and active sites



Files

Number of total and active files



Storage

Amount of storage used

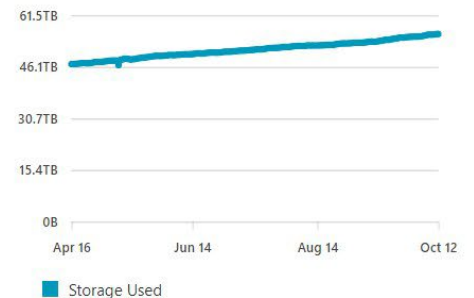


Figure 4: SharePoint Usage Chart - The left-most chart shows a steady increase in the number of total sites from April (9852) to October (10765) 2023. The chart in the middle shows a steady increase in the number of total active files from April (18.2M) to October (21.5M) 2023. The chart on the right shows a steady increase in the amount of storage used from April (47TB) to October 55.9TB) 2023.



SUPPORTING AGENCIES

Department of Labor and Industrial Relations. ETS continues to support and assist the Department of Labor and Industrial Relations' (DLIR), Unemployment Insurance (UI) Division with its response.



ETS continues to support DLIR with the distribution of funds for claimants who still meet program eligibility qualifications and have filed claims which fall within the date range for each of the programs.

- 1) Federal Pandemic Unemployment Compensation (FPUC)
- 2) Pandemic Emergency Unemployment Compensation (PEUC)
- 3) Multi Earner Unemployment Compensation (MEUC)
- 4) Extended Benefits (EB20), and
- 5) American Rescue Plan Act (ARPA).

In 2023, ETS is also providing support for the newly implemented Treasury Offset Program (TOP) that intercepts federal and state payments to collect delinquent debts owed by individual and businesses to federal and state agencies. The Client Service Branch (CSB) Project Team continues to support DLIR's UI efforts and will continue do to so until the DLIR UI modernization project is completed.

Department of Commerce and Consumer Affairs. Support provided by the CSB Project Team included "Salesforce Support Case Analysis" and assistance with the preparation for 4 license renewal cycles in June 2023 and September 2023.

Department of Accounting and General Services. Support provided by the CSB Project Team to the Campaign Spending Commission included assistance with campaign report filings for Candidate Committees; 576 active committees, 7 report filing deadlines and 2,022 disclosure reports filed and Non-Candidate Committees; 329 active committees, 6 report filing deadlines and 1,547 disclosure reports filed.



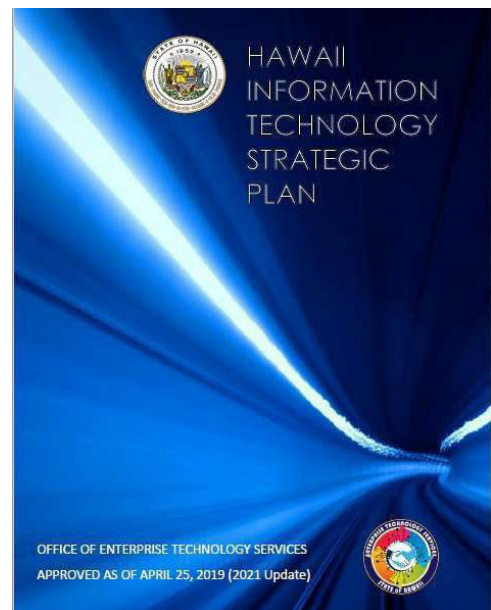
IT STRATEGIC PLAN PROGRESS

Pursuant to HRS section 27-43, an updated Hawai'i Information Technology Strategic Plan was submitted to the Legislature before the convening of the 2021 session. The plan updates the IT Strategic Plan that was to be submitted ahead of the 2020 Legislative Session.

The 2019 Hawai'i Information Technology Strategic Plan was developed with input from stakeholders, including the staff at ETS, the ITSC, representatives from departmental business and IT staff, and members of the community. The final plan was approved by the state Information Technology Steering Committee for implementation.

The purpose of the Strategic Plan is to:

- Clearly articulate the State Information and Technology future vision, mission, strategic priorities, expected outcomes, major initiatives to achieve those priorities, and responsible owners for key plan elements.
- Establish a system for implementation of the plan over the first year and next four years.
- Provide guidance to ETS and department IT organizations to help with alignment throughout the state.
- Create an instrument to support awareness and accountability for all parties to the strategic plan.
- Fulfill the requirement of Hawai'i Revised Statutes §27-43 and House Concurrent Resolution 94.



VISION STATEMENT

Transformative information and technology-enriched government that serves all the people of Hawaii.

MISSION

Seamlessly blend innovative IT with well-engineered business processes to deliver and support dynamic and sustainable systems that empower our workforce to accelerate excellent outcomes in support of the state's policies, decisions, operations and services.



STRATEGIC PRIORITIES

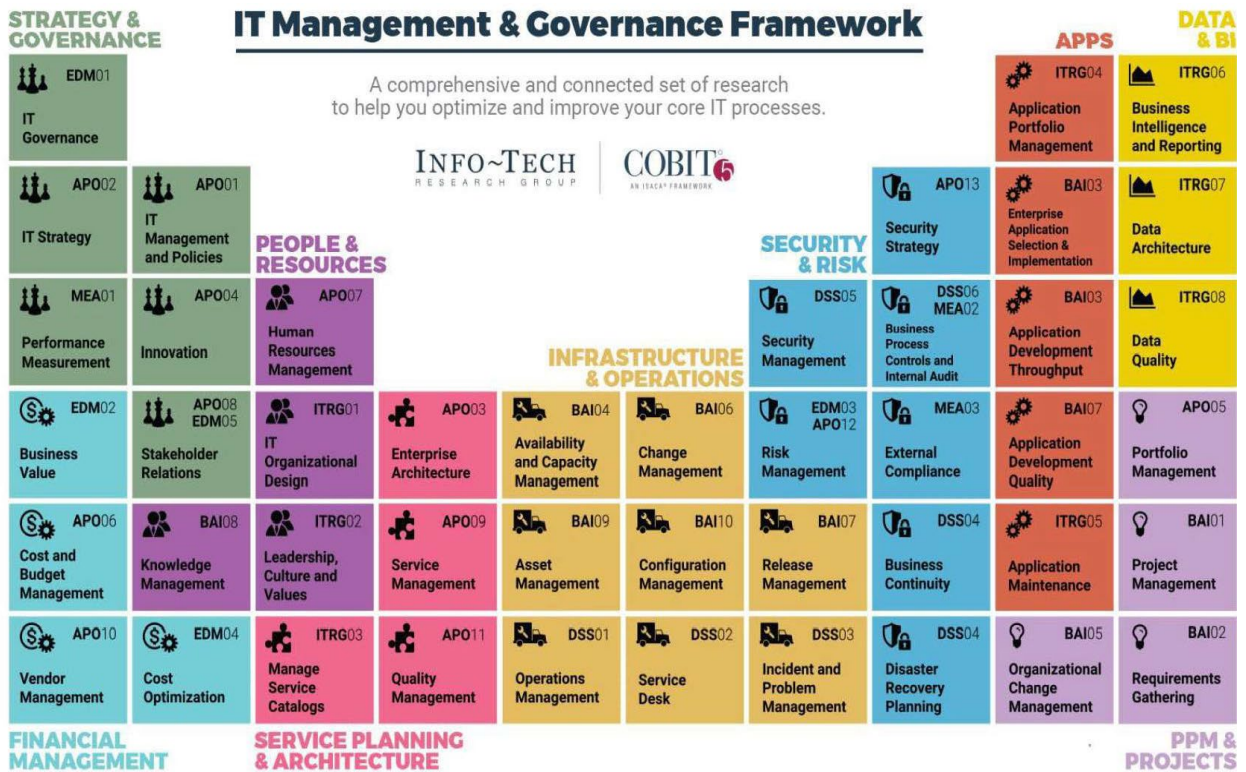
Our IT Strategic Priorities reflect 7 key focus areas necessary to take full advantage of the state's investments and attain long-term success:

<p><i>Partner for Successful Outcomes</i></p>	<p>Shape the partnership between government functions and IT by creating a standard framework to ensure successful outcomes.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Enterprise Program Manager</i></p>
<p><i>Expand Statewide Cyber Security Strategy</i></p>	<p>Extend the statewide cyber security strategy to protect the State's IT infrastructure and constituent data through adoption of cyber security industry best practices across the State's IT systems.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Chief Information Security Officer</i></p>
<p><i>Enhance the Value of State Data</i></p>	<p>Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing, and public use.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Business Architect</i></p>
<p><i>Optimize Enterprise Systems</i></p>	<p>Optimize ETS enterprise systems to leverage the state's investment in centralized IT services.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Chief Operations Officer</i></p>
<p><i>Extend IT Portfolio Governance</i></p>	<p>Extend the State IT Governance Model to better align the state's functions with resources and ensure the State follows industry best practices and garners the full benefits of its investments.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Senior Enterprise Architect</i></p>
<p><i>Implement Dynamic and Sustainable IT Operations</i></p>	<p>Implement dynamic and sustainable IT operations to ensure business systems are up-to-date and ready to support the current and future needs of business users and citizens at all times.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Chief Governance Officer</i></p>
<p><i>Digital Workforce Development</i></p>	<p>Establish a continuous learning culture and growth mindset to modernize how we work and enable the state to develop and sustain the digital workforce needed in a constantly evolving IT world.</p> <p style="text-align: right;">❖ <i>Team Lead: ETS Personnel Officer</i></p>



IT STRATEGIC PLAN ADOPTION PROGRESS

- In 2023, ETS continued to refine strategy governance process, executive sponsor, charter, program lead, and working group in each strategic area.
- ETS adopted the IT Management & Governance Framework shown below as our high-level prioritized reference model for best practices in tactics, techniques and procedures. ETS is working with Info-Tech Research Group since 2019 to develop common processes and tools for use by ETS GROUP and state agencies in managing IT operations.





PARTNERS FOR SUCCESSFUL OUTCOMES

Shape the partnership between government lines of business and IT by creating a standard framework to ensure successful outcomes.

The following programs align with the key focus area of Partner for Successful Outcomes, which is one of the strategic priorities of the Hawai'i Information Technology Strategic Plan.



The Hawai'i Modernization Initiative, also known as HiMod, is the State's modernization project team that works to transform government by

replacing legacy systems to create the state's new integrated Enterprise Resource Planning program.

Our strategy, adopted in 2016, is to break strategic systems into smaller transactional pieces in order to reduce complexity and increase success. So far, we have upgraded the State Human Resource Management System and implemented the new Payroll and Time and Leave Management systems. The team is currently preparing for the design, development, and implementation of a new Financial Management System. HiMod is governed by an Executive Governance Committee. Membership includes the Governor's Administrative Director, State Budget & Finance (B&F) Director, State Human Resources Director, State Comptroller, State Chief Information Officer, and Enterprise Program Manager-Hawaii Modernization Initiative.

STATEWIDE FINANCIAL SYSTEM REPLACEMENT

Enterprise Financial System (EFS) is a business transformation project that replaces and improves upon FAMIS, the State's 55-year-old finance system. The new system will be supported by modernized technology and the latest cybersecurity. It will accurately record and report financial transactions for the State of Hawaii and will unify traditionally separate IT systems and processes into an integrated financial management system used across State government. The system will benefit everyone across the state because the government will be able to deliver services more efficiently to the community and the state will maintain more accurate real-time data and information. Ultimately, EFS will effectively manage the State's money, resulting in greater efficiency and timely responsiveness to the people and organizations of Hawaii.



The EFS Project principles are:

1. Organizational change management is everyone's responsibility.
2. Identifying risk is good, developing solutions even better.
3. Default to best practices if people don't have time to participate.
4. Be nimble. React and adjust when necessary.
5. Drive change and innovation. Be willing to change outmoded statutes and policies.
6. One leader and one project dashboard – for unified direction and accountability.
7. Develop Minimum Viable Product (MVP) first, then maximize the full capabilities of the system.
8. Key project roles require fully dedicated resources.

In 2020, the Legislature allocated funds to advance modernization efforts, including those related to finance operations and business processes. In late 2021, the state contracted with an implementation vendor to implement an SAP-based system and issued a Notice to Proceed. It was decided by the new executive leadership team appointed by the Green administration that it was in the best interests of the state to terminate the contract to allow the state to replan and reprocure the EFS project in 2023. The Enterprise Financial System (EFS) project is sponsored by the Department of Accounting and General Services and the Department of Budget and Finance and supported by the Office of Enterprise Technology Services.

The State is now investing in risk reduction for the future implementation project including working with an acquisition support services provider as well as accounting and business process modernization services to maximize the opportunity with the new solicitation and to minimize the risks for the next evolution of the project execution for this replanning and procurement effort.

A modern accounting system is essential for modernizing and standardizing government accounting processes. EFS will offer the State an integrated, consistent financial platform, ensuring timely data accessibility across both the executive and legislative branches while also enhancing accountability. The project involves the departments and agencies of the executive branch and will implement the Uniform Chart of Accounts and modernize the business processes and functionality to a modern finance application. Currently, we estimate that over 50 existing systems within the executive branch could be replaced by this modern financial management system.

The vision for continued modernization of key enterprise resource planning (ERP)



components is a dynamic integration suite of functions that enables delivering quality information and services to all stakeholders thus replacing multiple implementations, duplications of effort and embedded practices within each state agency. The expansion of the Enterprise Finance System will serve as the modernized and trusted source for transactions and data validation for financial management for the State of Hawaii. In addition, the enterprise application can provide subject area data views that are derived and made available to stakeholders and constituents to serve the unique information needs of each organization.



Comptroller Keith Regan (right) hosted a town hall meeting to discuss changes to EFS with Christine Sakuda, Executive Director of Transform Hawaii Government (from left), Hawaii CIO Doug Murdock, and Luis Salaveria, Director of the State Department of Budget and Finance.

The project aims to reduce the number of existing applications, enhance data sharing, foster collaboration, improve mobile accessibility, and optimize functional execution across different Lines of Business (LOBs). This will be achieved through an enterprise system that aligns with the new state enterprise architecture. There are still many current paper-based processes that are labor intensive at a time when it is becoming increasingly difficult to obtain additional headcount or hire professional finance and accounting staff to perform key accounting and system



functions within the state. For example, using the current accrual-based accounting required for financial reporting (i.e., the Annual Comprehensive Financial Report) is manually intensive and cannot be produced within a reasonable time (3-6 months after the close of the State's fiscal year). Additionally, eliminating or consolidating departmental secondary accounting systems into a unified system will decrease operating expenses.

The departments of the executive branch will be engaged to understand their unique needs and requirements before determining the best path forward to achieve successful systems integration. If it is determined the department's requirements are too disruptive to the operations of this department, alternative conversion plans must be identified. If converting any department to the new EFS platform is not in the best interest of the state, the Comptroller's approval for an exemption should be obtained.

The alternative is for the statewide financial system to continue to operate as-is, which presents a high risk to the State of Hawaii should the software application and hardware become inoperable. Resources and funding (available) will be sunk into continued integration support and infrastructure hardening that may not return any value to the State, nor full financial reporting functionality that is timely for decision-making.

Additional benefits from the EFS adoption include:

- Standardize and unify accounting systems and practices. Standardize internal controls and delegation processes.
- Decrease operating expenses by eliminating or consolidating departmental secondary accounting systems into the State system.
- Decrease manual efforts and physical resources to prepare the annual financial reporting.
- Increase the state's ability to implement and respond quicker to mandated accounting and disclosure standards (e.g., GASB 96 Subscription-Based Information Technology Arrangements).
- Increase the state's ability to consolidate and analyze data, enabling data-driven policy decisions regarding the use of state funds.
- Increase accounting capacity for the state through standardized processes and documentation by enabling employee portability and mobility.
- Standardize accounting processes and documentation that enable the central financial agencies to manage and monitor the use of state funds.
- Realize and implement work completed on a Uniform Chart of Accounts (UCOA) structure for the state and all departments included in the State of Hawaii's reporting.
- Easier implementation of the Uniform Chart of Accounts throughout the executive branch.



TIME AND LEAVE SUPPORT

The primary objective of the Time and Leave (T&L) Support section is to ensure sustained support for T&L users across the State of Hawai'i. The ongoing knowledge transfer to state personnel focuses on familiarizing them with the concepts, processes, and system logic of the T&L section within the Hawaii Information Portal (HIP) System.

Over the past year over 1,500 tickets related to the Time and Leave system were addressed through a collaborative effort involving DAGS Accounting, ETS, and consultants from Cherry Road Technologies (CRT). Efforts to resolve the tickets consisted of researching issues, ranging from simple to complex in nature, as well as identifying and developing enhancements to improve user experience and user reports to accommodate new/updated policies, procedures, HRS and user requirements.

Before the rollout of new features, various testing scenarios were conducted to ensure efficient runtime performance and appropriate user access to system screens, tiles, and reports. These tests also verified the ability to enter and process transactions, as well as the integrity of the data. Prior to implementation in the production environment, end-to-end User Acceptance Testing (UAT) was employed to validate the data and confirm that updates or customizations were functioning as intended.

Additionally, a major HIP System Upgrade was released this year resulting in new features. Key features include a new ability to see absence balance detail broken down by pay period and a new way to request leave.

Balance Details

*Entitlement: Vacation Balance

Balance as of 05/15/2023

446.00 Hours

Disclaimer: The current balance does not reflect absences that have not been processed.

Summary

Period	01/01/2023 - 12/31/2023 (Year to Date)	Earned	56.00
Taken	0.00	Adjustment	0.00

Balance History (12 rows)

Month	Opening Balance	Earned	Taken	Adjustment
May	446.00 Hours	0.00	0.00	0.00
April	432.00	14.00	0.00	0.00

Absence Balance Detail



View all requests

02 - Vacation

09/26/2023
2.00 Hours

Approved

02 - Vacation

10/27/2023
8.00 Hours

Approved

02 - Vacation

11/22/2023
8.00 Hours

Approved

Create a new Request

*Start Date

*Absence Name

End Date +1 Day

[Submit](#)

Related Information

Balances

As Of 08/15/2023

- Vacation Leave Receive Ent: 0.00 Hours
- Sick Earn as you go Balance: 0.00 Hours
- Vacation Balance: 750.50 Hours
- Sick Balance: 907.50 Hours

Holiday Calendar

- September (1 day)**
- 4, Monday - Labor Day
- November (2 days)**
- 10, Friday - Veterans Day
- 23, Thursday - Thanksgiving
- December (1 day)**
- 25, Monday - Christmas Day

Updated Leave Request page

PROGRAM TRANSFORMATION



ETS established the Program Transformation (PT) section in FY 23 to provide centralized consulting services to assist State of Hawai'i executive branch departments with their department-led IT projects. Program Transformation is comprised of five specialized project positions and has a team of experienced professionals who have demonstrated knowledge and experience.

PT provides the following- 1) consultative support services, 2) standards, best practices, and templates, and 3) training.

"Guiding projects to success!"

CONSULTATIVE SUPPORT SERVICES

As identified by the State Legislature's proposal, PT's five staff have knowledge and experience specifically in project management, business analysis and requirements, process improvements, quality assurance, testing, training, business architecture, and organizational change management. The scope of services PT offers depends on customer needs and may include self-service project management tools and a *la carte* consulting services. The team works with department staff to determine project needs during the planning or execution phases of a project and engage with departments by attending various project meetings.

The following table lists projects the PT section has engaged in FY 23.



Project Name
Unemployment Modernization Project
Systems Modernization Project (BES)
Health Analytics Program (HAP)
DOT Highways Financial Project
Systems Modernization Project
KEIKI System Replatform/Refactor
Time and Leave Project
BHA Integrated Case Management System Project
CDMS
Time and Leave Operations
HCSOC Complaint Intake System
Inspire Plus
BRIMS/RDPMS Modernization
Enterprise Financial System Project
IT Consolidation Project*

Note *: In 2023, PT participated in the CIO chaired Act 179, IT Consolidation project. The Sr. Project Manager managed the planning phase activities and deliverables. Other PT staff were assigned as either Working Committee facilitators or served on multiple Working Committees as recorders.

STANDARDS, BEST PRACTICES, AND TEMPLATES

Program Transformation develops standards and templates providing standardization and best practices to departments statewide. Often departments have few resources to manage projects, and even fewer with the necessary knowledge and experience to manage projects. Developing a central repository of past project deliverables, lessons learned, and other project related resources is critical for supporting the departments and improving the quality of contracts and deliverables. Here are some of the major accomplishments for FY 23:

- Developed and created an external facing PT web page - <https://ets.hawaii.gov/pt/>










- Identified key performance metrics for Program Transformation and is currently reporting project consulting activities and recommendations register on its web page.
- Developed standard procedures and playbooks for 3 different levels of projects that correspond to various right-sized tools and templates.
- Developed a project charter and business requirements document template that when utilized, is an effective tool for good project management and business requirements practices.
- Created a centralized document library for project management templates and tools that is accessible to all internal executive level State departments.
- Cataloged best practices in project management and business analysis.
- Conducted root causes analysis to investigate prior State project failures to learn from and incorporate into respective training courses.
- Started a collection of project management position descriptions.

Program Transformation's internal project resources landing page.

A note from Program Transformation

This learning center is a testament to our commitment to professional growth, life-long learning and improvement of State of Hawaii government services and personnel. Whether you are looking to learn how to run large or small projects, or just need help with best practices, we have opportunities for everyone to learn and grow. Browse our materials and become invested in your future!

Find resources quickly

 Accessibility	 Join Mailing List	 Browse our Library of Documents	 Find courses
 Connect with a peer project	 Get help from a staff member	 Submit a best practice	

TRAINING

Program Transformation has developed and is continuing to develop and expand a series of courses to prepare project teams to take on projects of various sizes and complexity. Here are the training pathways in the following disciplines:

- Project Management (PM)



- Business Analysis
- Business Architecture
- Quality Assurance
- How to Conduct Training
- Lean Six Sigma (a process improvement methodology)
- Organizational Change Management

Lean Six Sigma - One of the first certification series to launch in FY23 was the Lean Six Sigma (LSS) program. LSS is a team-focused managerial approach that seeks to improve performance by eliminating waste and reducing defects. It is a structured and effective process improvement methodology that focuses on operational excellence. The program is progressive and culminates in a Green-Belt certification that teaches using data in statistical analysis to identify root causes, measure defects, and improvements.

Through its team of five specialized consultants, Program Transformation will continue to work with departments to help them achieve their desired and expected business outcomes and increase the likelihood of project success for the State of Hawai'i.

IT CONSOLIDATION AND ACT 179

ETS will be implementing [Act 179 SL 2022](#) and consolidating staff and systems in the Executive Branch of State of Hawaii government, where practicable. In 2023, ETS and the Executive Branch departments worked on planning how the IT consolidation might ideally occur, identifying key considerations and decisions points, and forming recommendations to align with the strategic goals of Act 179.

Some of the key principles of the planning were ensuring efficient provision of effective IT services, improving IT capabilities, and lowering total costs of IT services. The resulting plan informs further discussions, decisions, and designs. Consolidation effort is complimentary to ETS objectives for the digital transformation of state government.



DIGITAL GOVERNMENT SERVICES



In February 2023, Hawaii Information Consortium LLC's "doing business as" (DBA) was changed from NIC Hawaii to Tyler Hawaii.

Tyler Hawaii is the contracted State of Hawai'i Portal Program manager and has successfully partnered with 90+ state agencies and across jurisdictions to provide 158 services for the State of Hawai'i and counties. The number increased from 153 this year.

The portal program launched twenty-three (23) new services and upgrades in Fiscal Year (FY) 2023. These services include:

- AG Collections Payment – Department of Attorney General (AG)
- McKinley Community School for Adults Online Payments - Department of Education
- Kauai Gross Liquor Sales Percentage Fee Payments – County of Kauai
- Honolulu Emergency Services Department – City and County of Honolulu
- Kauai County Liquor Licenses and Permits – County of Kauai
- Hawaii Occupational Safety & Health (HIOSH) Payments – Department of Labor and Industrial Relations
- Aloha Stadium Online Store – Department of Accounting and General Services
- Reservation and Access Management System (Diamond Head Reservation System) - Department of Land and Natural Resources
- Maui Liquor Payments – County of Maui
- Honolulu Real Property Tax Payments – City and County of Honolulu
- DOT Harbors Online Payments – Department of Transportation (DOT)
- Hawaii Remote Work Project Website – Department of Business, Economic Development and Tourism
- Small Business Regulatory Review Website – Department of Business, Economic Development and Tourism
- Medical Cannabis Registry System (1 of 2) - Department of Health
- Kauai County Liquor Licenses and Permits (1 of 2) - County of Kauai
- Medical Cannabis Registry System (2 of 2) - Department of Health
- Go Hunt Hawaii (1 of 2) - Department of Land and Natural Resources
- Go Hunt Hawaii (2 of 2) - Department of Land and Natural Resources
- State Parks Reservation and Access Management System – Department of Land and Natural Resources
- Waipahu Community School for Adults Online Registration and Payment



System - Department of Education

- Kauai Liquor Licenses and Permits (2 of 2) County of Kauai
- State Template – Enterprise Technology Services
- Judicial Appellate Court Evaluations – Judiciary

In 2023, Tyler Hawaii worked on one (1) no-cost project, the Judicial Appellate Court Judge Evaluation. Tyler Hawaii continues to support the online Judicial judge evaluation process by creating anonymous online judge evaluations on behalf of the Judiciary. This saves a significant amount of time for Judicial staff not having to conduct paper surveys and consolidating results by hand. It also ensures anonymity whereby attorneys are more willing to participate and provide valuable feedback. This fiscal year, Tyler Hawaii conducted an Appellate Court judge evaluation for eleven (11) Appellate Court judges.

ETS and Tyler Hawaii collaborated on a few different projects outside of the typical services that Tyler Hawaii provides. Tyler Hawaii has been an active participant and proud sponsor of the ETS hosted Hawai'i Annual Code Challenge (HACC) event for the past four years. In addition, Tyler Hawaii has sponsored a challenge project for the event for the past three years. One high school HACC participant from the 2021 event has been a quality assurance intern with Tyler Hawaii for the past two years. ETS and Tyler Hawaii are excited that the synergy from this event helps build our local technology workforce.



Access Hawai'i Committee & Portal Program Manager

In 2000, the Governor enacted Act 292, which establishes the Access Hawai'i Committee (AHC). AHC manages the state digital government portal with the assistance of ETS. The CIO is the Chair of the AHC.

ETS has a Portal Program Manager who provides guidance to the AHC relating to strategies for online payment and processing, internet initiatives, electronic document filing, paperless initiatives, and web application development. The Portal Program Manager also monitors the portal provider's activities to ensure compliance with terms and conditions of the portal provider contract, reviews the portal provider's financial reports, evaluates new and existing Statements of Work, fee agreements, priorities, and Service Level Agreements being negotiated between government agencies and the portal provider. The Portal Program Manager collaborates with the portal provider and government agencies to promote e-government and to increase on-line services that can be easily, conveniently, and securely accessed by the public.

The State portal program earned the following awards:

Service/Agency	Award Description
Honolulu Records Collection – City and County of Honolulu	<ul style="list-style-type: none"> • Global Excellence Award – Platinum • Interactive Media Awards – Outstanding Achievement Award • Center for Digital Government – Project Experience Award
Hawaii.gov- State of Hawaii	<ul style="list-style-type: none"> • W3 Award – Silver • Interactive Media Awards – Best in Class Award
Honolulu Fire Department Website- City and County of Honolulu	<ul style="list-style-type: none"> • DotComm Award - Gold



INITIATIVES

HAWAI'I CITIZEN SINGLE SIGN-ON PROGRAM

The eHawaii.gov Single Sign-On (SSO) service is used by over 80 online portal services. The State of Hawai'i is moving forward in universally using Azure B2C for online services/portals (Hawai'i Citizen Access Program). In 2023, ETS and Tyler Hawaii continue their work on migrating citizen authentication to Tyler Hawaii-supported platform eHawaii.gov over to the Hawai'i Citizen Access Program. In addition, Department of Commerce and Consumer Affairs looks include the Business Registration Portal by end of 2024.

DYNAMICS FRAUD PROTECTION

In August 2021, ETS started working with the Department of Human Services (DHS) to architect and implement Dynamics Fraud Protection to provide more robust authentication security and identity proofing for Business-to-Consumer (B2C) access to public-facing applications. ETS continues to utilize Dynamics Fraud Protection in its baseline Azure AD B2C offering supporting production workloads for all citizen-facing applications serviced through this platform.



CYBERSECURITY PROGRAMS

Expand the statewide cyber security strategy to protect the State's IT infrastructure and constituent data through adoption of cyber security industry best practices across the State's IT systems.

MISSION: *Protect and safeguard data passing through and stored on state government technology infrastructure.*

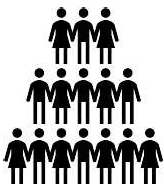
THREAT: *The state cyber infrastructure is under constant attack.*



TEAM



- Chief Information Security Officer



- Fifteen full-time ETS Cybersecurity Staff

- Other State Staff: approximately part time 20 employees on state teams maintaining data communication networks, enterprise software platforms, and cloud computing services



- External Support: Multi-State Information Sharing and Analysis Center provides remote monitoring with 365/7/24 alerts and advisories of state network and Internet activities



CYBERSECURITY INITIATIVES

Cyber Response Plans. ETS and the Office of Homeland Security collaborated to establish the State's first Cyber Incident and Cyber Disruption Response Plans. This allows for stronger coordination of response activities between state and local agencies.

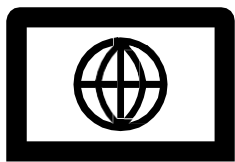
Cybersecurity Reviews. ETS continues at reviews semi-annually with departments. With the number of cybersecurity related initiatives, shifting away from ad-hoc reviews based on specific initiatives to a broader, more coordinated schedule allowed for ETS and the departments to maintain focus on the higher priority initiatives.

Tabletop Exercises. ETS coordinated a half day enterprise-wide tabletop exercise with the state IT staff. ETS began incorporating short tabletop exercises that cover high level communication and coordination to incident handling procedures.

Positions. ETS received approval the addition of 8 new positions under the Security Branch during the 2022 legislative session and are actively recruiting to further support the enterprise security initiatives and additionally drive support adoption and implementation of cybersecurity safeguards within the departments.

Vulnerability scanning. ETS continues to expand migration of the vulnerability management platform. The new platform allows for more flexibility and allows for integration from departments that are large enough to support their own system.

Advanced Endpoint Protection. In partnership with the Judiciary and the University of Hawaii, ETS increased license coverage to 21,000 devices. This provides considerable capabilities to ETS and the departments to detect and respond to evolving cybersecurity related threats.



PHISHING AWARENESS CAMPAIGN

ETS provides recurring cybersecurity awareness campaigns through simulated phishing emails. Educating and empowering employees to be safe and secure when using computers not only benefits the State but also our employees' homes.



In the most recent 2022 campaign, a test message was delivered to 12,912 mailboxes, with 978 (7.6%) users clicked on the phishing e-mail. During the campaign, 228 (9.8%) users reported a suspicious e-mail. The first report was received 1 minute upon receipt.

CYBERSECURITY AWARENESS MONTH

Gov. Josh Green, M.D., proclaimed October Cybersecurity Awareness Month in Hawai'i, in recognition of the state's role in identifying, protecting its citizens from and responding to cyber threats.



Proclamation

WHEREAS, the State of Hawai'i recognizes that it plays a vital role in identifying cybersecurity threats, protecting its citizens from fraud, and responding to cybersecurity threats that can have a significant damaging impact to the lives of individuals and the collective safety and privacy of our entire state; and

WHEREAS, critical infrastructure (i.e., financial services, educational institutions, energy, telecommunications, transportation, utilities, health care, and emergency response systems, etc.) is increasingly reliant on the support of information systems and technology; and

WHEREAS, cybersecurity education and awareness are crucial for everyone, including large corporations, small businesses, financial institutions, schools, government agencies, non-profit organizations, home user, and anyone who connects to the internet, be it with a computer, mobile phone, or other internet-connected device; and

WHEREAS, monitoring your accounts, being conscientious of what you share online, keeping computer software up to date, creating unique passwords and changing them regularly, installing antivirus programs and firewalls, and using mobile devices and other internet-connected devices safely, are ways people and organizations can protect themselves from phishing, viruses, ransomware, other types of malware, financial loss, and loss of sensitive data; and

WHEREAS, we showcase the need to inspire, engage, and inform the public about the demand, opportunities, and career options available within the area of cybersecurity and highlight how building the nation's and the State of Hawai'i's cybersecurity workforce enhances the nation's security and promotes economic prosperity; and

WHEREAS, the National Institute of Standards and Technology (NIST) Cybersecurity Framework is a free resource to help organizations (both large and small, public and private) improve their cybersecurity practices through a practical approach to addressing the ever-evolving cybersecurity threats and challenges; and

WHEREAS, the State Department of Commerce and Consumer Affairs, Office of Consumer Protection, works tirelessly to identify potential personal cybersecurity attacks to protect our residents from fraudulent online activities; and the State Department of Defense, Office of Homeland Security provides planning and training efforts to prevent, protect, mitigate and respond to government cyber threats; and

WHEREAS, the Office of Enterprise Technology Services established the cybersecurity state government program to enhance and protect the Hawai'i's cybersecurity ecosystem; and

WHEREAS, maintaining the security of cyberspace is a shared responsibility in which each of us has a critical role to play, and awareness of essential cyber hygiene will improve the security of Hawai'i's information, infrastructure, and economy.

THEREFORE, I, Josh Green M.D., Governor of the State of Hawai'i, do hereby proclaim October 2023

as

"Cybersecurity Awareness Month"

in Hawai'i and ask the people of the Aloha State to join me in recognizing the importance of cyber hygiene, cyber education and awareness, and to remember that maintaining the security of cyberspace is a shared responsibility in which each of us has a critical role.

Done at the State Capitol in the Executive Chambers, Honolulu, State of Hawai'i, this second day of October 2023.


JOSH GREEN, M.D.
Governor, State of Hawai'i



ELECTION SYSTEM

The Department of Homeland Security has designated elections systems as a critical infrastructure. ETS provides the cybersecurity monitoring, network management, and virtual server support to facilitate statewide elections.



ETS provides the computing, communication network infrastructure, and many layers of cybersecurity protections for the State Office of Elections digital assets.

As the processes and systems that collect and count votes are not exposed to the Internet at any time, voters can be confident that election counting results are accurate and safe.

EMERGENCY OPERATIONS

ETS has been providing 24/7 IT & telecommunication staffing support for the State Emergency Operations Center at Diamond Head where they monitor operational status of statewide communications networks, assist with expanding state worker telework and teleconferencing capabilities, and provisioning Internet broadband and IT services.





The Kalanimoku Building

STATE DATA

Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing and public use.

Pursuant to HRS sections 27-43 and 27-44, Open Data, an IT Strategic Plan priority area, includes building on established data and transparency platforms to facilitate open data.

CHIEF DATA OFFICER AND DATA TASK FORCE

- The state now has its first Chief Data Officer
- The CDO is coordinating and leading the state data task force which will convene in 2024.
- The CDO will lead efforts started by ETS and ETS data working group to improve data governance and management at the state and enable better data quality and data sharing.

DATA WORKING GROUP

- ETS continued leading a state data working group, which seeks to share awareness of best practices between data management initiatives across the departments.
- The working group has active members from several departments,



representing major data domains such as human services and health.

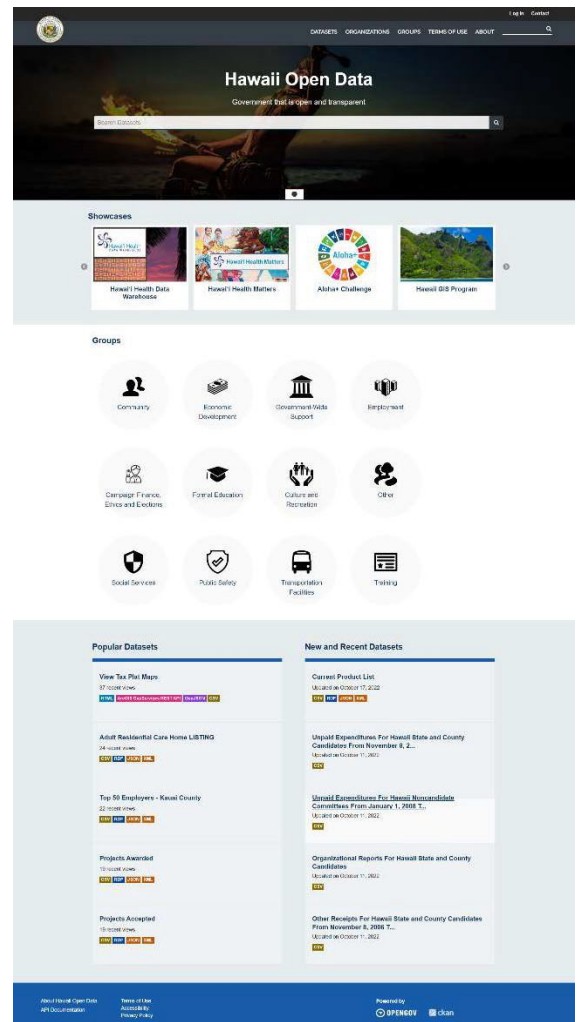
ETS supports and participates actively, mostly in an advisory role, in the major projects, which have a data governance and management facet to them.

The working group piloted a data management maturity assessment. This analysis provided further knowledge of the critical issues with data sharing and management and about the high value data sharing use cases.

- Working group has been supporting data governance and management platforms analyses and selections at some of the major departments.
- Working group has drafted a statewide data policy framework, policies, procedures, and standards, leveraging existing, actively used ones.

OPEN DATA PORTAL

- Visitors to the state Open Data Portal will find datasets organized by major topics such as culture and recreation, economic development, employment, environmental protection, formal education, and government-wide support.
- ETS continues to work with the Department of Accounting and General Services and the Department of Budget and Finance to finalize the State's financial transparency data to provide up-to-date State budget and expenditure information to our constituents and civic entities.
- ETS facilitates executive branch departments' efforts to make appropriate and existing electronic data sets electronically available to the public





through opendata.hawaii.gov, which now offers charting libraries and mapping tools for the creation of dynamic visualizations.

- More than 1100 data sets are publicly available through the portal, providing residents, analysts, and civic developers with self-service access to state data
- Last year, there were nearly 131K browser page views.

Optimize ETS enterprise systems to leverage the State's investment in centralized IT services.

The following programs align with the strategic focus area of Optimize Enterprise Systems and also the area of Implement Dynamic and Sustainable IT Operations. 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 adoption and positive return on investment.

SHARED SERVICES (LEGACY)

ETS manages legacy enterprise shared services centrally to leverage economies of scale (e.g., mainframe, data center, and high-speed printing).

- **Mainframe Services** – In line with the modernization of mainframe applications, ETS continuously maintained and enhanced the security, operational capability, and compliance of the mainframe system. ETS ensured that the infrastructure and processes for mainframe application hosting services comply with IRS Publication 1075 and resolved audit findings according to risk category. The mainframe team successfully conducted the annual disaster recovery system test. The operating systems, database systems as well as application software of the mainframe host systems are verified to be operational at the disaster recovery site. Annual testing is being done to ensure that ETS has the operational capability to fail over to the disaster recovery site in case of real disaster.

Mainframe Application Services – ETS provides application services ranging from COBOL, ADABAS, Linux, and more, in support of various Mainframe applications.

- **High Speed Printing** – ETS maintains 2 redundant high-speed printers to provide for printing of state checks, accounting and financial records, forms and letters to beneficiaries of state and



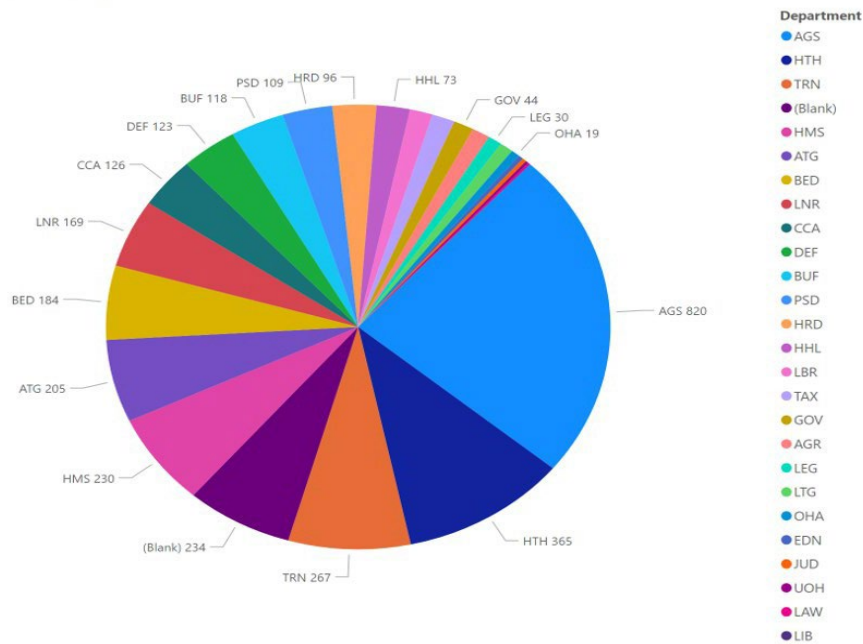
federal programs.

Cases of paper printed by Year/Month, 1 case = 5,000 pages

Month	2019	2020	2021	2022	2023
January	153	105	102	84	63
February	60	75	136	54	48
March	109	88	147	68	55
April	81	205	119	56	57
May	80	133	99	58	40
June	77	104	105	68	49
July	94	173	105	63	55
August	71	94	85	58	64
September	53	128	145	56	51
October	101	108	16	52	
November	67	120	69	69	
December	62	119	66	81	

- Service Desk** - From responding to requests to unlock passwords to providing support for websites and applications, ETS' service desk provides executive branch departments with assistance. ETS responded to over 3,400 service requests in 2023.

Total Requests by Department



T_i Total Service Desk Tickets by Category



IT STRATEGY AND GOVERNANCE

Extend the State IT Governance Model to better align the state's functions with resources and ensure the State follows industry best practices and garners the full benefits of its investments.

The following programs align with the strategic priority to Extend IT Portfolio Governance from the Hawaii Information Technology Strategic Plan. Success with this strategic priority necessitates excellent cooperation between ETS and the executive branch departments and agencies.

ETS provides statewide IT governance (ITG) for both the entire IT portfolio of the state's Executive Branch under HRS section 27-43 as well as governance of large enterprise projects under Administrative Directive No. 18-03 Program Governance and IV&V Requirements for Enterprise IT Projects.

IT PORTFOLIO GOVERNANCE

Portfolio-level information technology governance consists of processes and standards guiding the management and oversight of the State of Hawai'i'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 return on investment (ROI) are achieved, to the extent possible, and the efficient management of the statewide portfolio to ensure projects are prioritized appropriately and resources are sufficiently managed.

The following improvements on IT Portfolio Governance were accomplished during 2023:

- As part of the statewide IT Consolidation Planning, ETS coordinated and participated in all the working committees for the benefit of the IT Consolidation Working Group. Regarding IT Governance, significant changes were proposed to the statewide IT governance by the committees in their recommendations to the Working Group.
- Worked with both DHS and DCCA to define their respective departmental IT plans, in accordance with the planning structure



defined the year before.

- Continued refinement of the statewide IT portfolio data model by enhancing the data model with concepts for IT Strategy, Business Goals, IT Goals, and IT Capabilities. Also refined existing data models for IT Applications and IT Projects. Continued data collection for the statewide IT portfolio in the monthly IT roadmap meetings – as well as a separate vendor-executed survey of the state's IT Applications.
- Acquired a module for the state IT portfolio management tool for technology lifecycle management - and started planning the related data collection.
- Revised the guidance matrix for the state's executive branch enterprise IT projects, structured by readiness reviews by each phase in this process. Revised the RFP checklist for large IT procurement solicitations.
- Continued providing solution architecture and technical architecture guidance for multiple departments in their large-scale IT procurements.
- Continued refining the state's IT portfolio strategy refinement by coordinating the activities of the IT Portfolio Working Group.
- Continued refining the state's IT portfolio strategy refinement by coordinating the activities of the Data Governance Working Group.

IT PROJECT GOVERNANCE

ETS provides IT governance (ITG) for Executive Branch projects under Administrative Directive No. 18-03 Program Governance and IV&V Requirements for Enterprise IT Projects.

In alignment with the governance framework for the overall statewide IT Portfolio, ETS engages in monitoring and consulting with the large IT projects with the Executive Branch departments.

In addition to the ongoing communication regarding the status of all major IT projects, the following notable activities on IT Project Governance were accomplished during 2023:

- Provided solution architecture and technical architecture guidance for multiple departments in their large-scale IT procurements.
- Participation in steering groups, including participation by the



- Program Transformation team
- Participation in IV&V review meetings

IT Project Governance Guidance

In alignment with Administrative Directive No. 18-03, ETS provides specific guidance for each of the phase gates. These guidance documents were reviewed and updated during 2023.

Phase	Activity	Guiding Documents	Deliverables	Approvals
Departmental IT Planning	<ul style="list-style-type: none"> • Create & maintain the departmental IT plan • Review any changes to the departmental IT Plan with ITG 	<ul style="list-style-type: none"> • BA and IT Planning Guide (in progress, check with ETS ITG) • IT plan checklist (in progress, check with ETS ITG) 	<ul style="list-style-type: none"> • Department's multi-year information technology strategic and tactical plan 	
IT Roadmapping	<ul style="list-style-type: none"> • Review the project's business value and risks • Enter a Project fact sheet in LeanIX portfolio management system 	<ul style="list-style-type: none"> • Roadmap requirements • Detailed LeanIX roadmapping tutorial 	<ul style="list-style-type: none"> • LeanIX Project fact sheet satisfying roadmap requirements 	
Budgeting	<ul style="list-style-type: none"> • Complete and submit Form A (business case) to Budget & Finance 	<ul style="list-style-type: none"> • Form A guide 	<ul style="list-style-type: none"> • Budget & Finance Form A 	<ul style="list-style-type: none"> • Form A approval by Budget & Finance • Form A approval by CIO • Budget approval by Legislature
Initiating	<ul style="list-style-type: none"> • Update Project fact sheet in LeanIX to satisfy IT Spend Request requirements 	<ul style="list-style-type: none"> • IT Spend Request checklist 	<ul style="list-style-type: none"> • Project Charter / IT Spend Request (LeanIX Project fact sheet) 	<ul style="list-style-type: none"> • IT Spend Request approval by CIO (<i>Note: IT Spend Requests submitted by Monday EOB will be reviewed in the Spend Request meeting that Wednesday, anything submitted after Monday EOB will be reviewed in the following week's Spend Request meeting</i>)
Planning <small>(for projects over \$1 million)</small>	<ul style="list-style-type: none"> • Prepare PAC presentation 	<ul style="list-style-type: none"> • PAC Preparation Guideline • PAC Presentation Template 	<ul style="list-style-type: none"> • PAC presentation 	<ul style="list-style-type: none"> • IT Spend Request approval by PAC
Procurement	<ul style="list-style-type: none"> • Prepare RFP or other procurement vehicle • Schedule RFP checklist review with ITG 	<ul style="list-style-type: none"> • RFP checklist • Technical Architecture Planning Guide (in progress, check with ETS ITG) 	<ul style="list-style-type: none"> • RFP - including IT-specific content 	<ul style="list-style-type: none"> • RFP approval by CIO • BAFO approval by CIO
Contract and Operations	<ul style="list-style-type: none"> • Prepare project plan schedule • Validate scope of work with vendor 	<ul style="list-style-type: none"> • Requirements checklist (in progress, check with ETS ITG) 	<ul style="list-style-type: none"> • Project implementation schedules plan and supporting documentation • Quarterly status updates 	

Figure - IT Governance Guidance Matrix

PARTNERSHIP AND GOVERNANCE OF MAJOR SYSTEMS

As part of Partnering for Successful Outcomes and IT Governance, ETS monitors progress on a state-wide portfolio of major systems from ideation to recently operational to help departments ensure that systems are properly engineered and ready to meet business requirements. Below is the list of major systems ETS is monitoring and assisting with as of October of 2023. Details including timelines for all State of Hawaii active IT projects related to major information systems can be found on our ETS website at <https://ets.hawaii.gov/state-of-hawaii-it-portfolio-management/>.



COMPLETED - Operational	Department
Tax Modernization	DOTAX
KOLEA Medicaid System	DHS
HiMod Human Resources & Payroll	DAGS/DHRD
HiMod Time & Leave Management	DAGS-Statewide
ERS Financials	B&F-ERS
ERS Benefits Replacement	B&F-ERS
OHA Financials	OHA
PVL Ho'ala License Management System	DCCA
Health Benefits Administration System (IV&V)	B&F-EUTF
Behavioral Health Inspire (IV&V)	DOH
DOE Financial Management System	DOE
RECENTLY COMPLETED – Operational / Developing Additional Phases	Department
Harbor Master Information System	DOT-HAR
Disability Compensation (IV&V)	DLIR
Case & Document Management System (CDMS) (IV&V)	DCCA-PUC
IN PROGRESS – Developing	Department
Statewide Enterprise Financial System (IV&V)	DAGS-Statewide
Benefits Eligibility System (IV&V)	DHS
DOT-HWY Financial Management System (IV&V)	DOT-HWY
BRIMS Business Registration Modernization (IV&V)	DCCA
E-Procurement System	DAGS-SPO
KEIKI Child Support Enforcement Re-platform (IV&V)	ATG
Immunization Registry	DOH
Medicaid Health Analytics Program (IV&V)	DHS
Vital Records Management Information System	DOH
STARTING FY 2024	Department
Unemployment Insurance Re-procurement (IV&V)	DLIR
Child & Adult Welfare (IV&V)	DHS
Corrections Management (IV&V)	PSD
Other Major Modernizations Completed Since 2015	
Microsoft Office365 - Including Office, SharePoint, OneNote, Teams	ETS, Executive Branch Wide
Adobe eSign	ETS, Executive Branch Wide
Microsoft Azure Active Directory	ETS, Executive Branch Wide
MainFrame as a Service (MFaaS)	ETS, DLIR, DHS, DAGS, DOT, DAGS
Access Hawaii Committee Portal Infrastructure	ETS, Executive Branch Wide
Cybersecurity Endpoint Detection and Response	ETS, Executive Branch Wide



STATEWIDE IT PORTFOLIO MANAGEMENT

The departmental IT roadmap and portfolio management effort continues to inform the statewide IT spending prioritization and architectural modernization. During the monthly roadmap meetings between department IT staff and ETS, and with the help of the LeanIX portfolio management tool, ETS worked together with the departments to assess capabilities, criticality and both business and technical fit of the state's existing IT applications. This assessment yields a summary roadmap disposition called TIME for each IT application. TIME translates to whether to Tolerate, Invest in, Migrate or Eliminate each application.

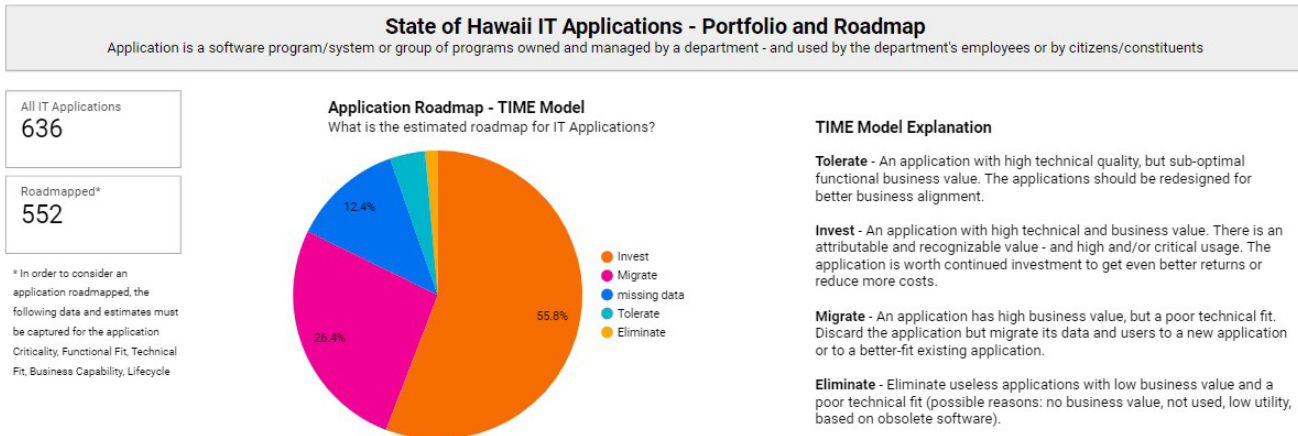
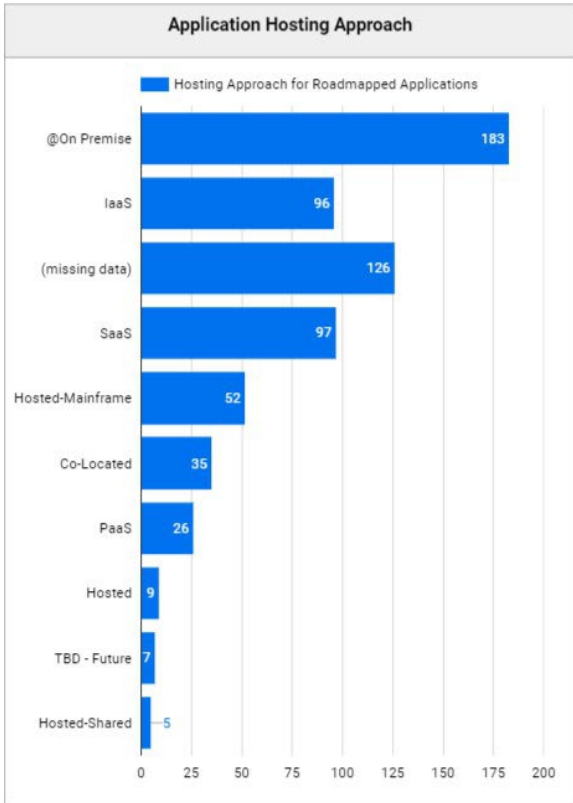


Figure - Public IT Roadmap, TIME Model

HAWAI'I PUBLIC IT ROADMAP DASHBOARD

ETS continues to provide public transparency of the departmental IT roadmap and portfolio management STATE OF HAWAI'I IT PORTFOLIO AND ROADMAP, available to the public on the ETS website at <https://ets.hawaii.gov/state-of-hawaii-it-portfolio-management/>.



Application Redundancy by Business Capability

Note: You can drill down on any row to view the applications (click a capability and right-click to drill down)

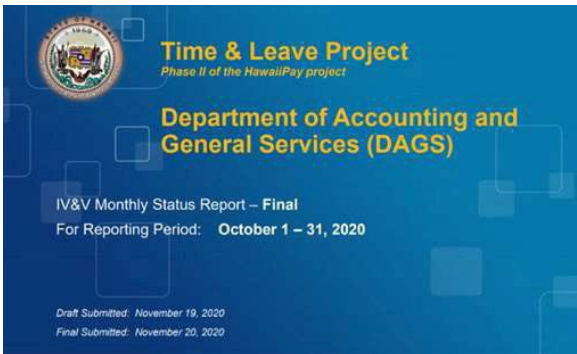
Business Capability	Applications Serving This Capability
Core Capabilities / Individual Rights / Business Practices Enforcement	30
Core Capabilities / Individual Rights / Licensing/Permitting	29
Core Capabilities / Constituent Benefits / Case Management	29
Core Capabilities / Health / Environmental Management and Health Services	26
Support Capabilities / Financial Management / Accounting	25
Core Capabilities / Transportation / Transportation Delivery	21
Support Capabilities / IT / Operations / Security	17
Support Capabilities / IT / Data Management / Document Management	16
Core Capabilities / Individual Rights / Service Regulation	16
Core Capabilities / Transportation / Transportation Operations	16
Core Capabilities / Constituent Benefits / Benefit Eligibility Determination	15
Support Capabilities / Property & Facilities	13
Core Capabilities / Economic Development	13
Core Capabilities / Public Safety	13
Support Capabilities / IT / Applications / Tools & Utilities	13
Support Capabilities / Financial Management / Financial Reporting	12
Support Capabilities / Customer/Citizen Relationships / Constituent Outreach	12
Support Capabilities / IT / Applications / Case Management	11
Core Capabilities / Health / Disease Outbreak Surveillance	11
Core Capabilities / Transportation	10
Support Capabilities / Human Resources	10
Support Capabilities / Financial Management / Budgeting	10

1 - 94 / 94 < >

Public IT Roadmap, Hosting and Capabilities



INDEPENDENT VERIFICATION AND VALIDATION REPORTS



Pursuant to section 27.43.6, HRS, and section 93-16, HRS, Independent Verification and Validation (IV&V) Reports for certain major systems are to be submitted to the legislature and posted on the ETS website.

IV&V provides a rigorous independent process that evaluates

the correctness and quality of the business product of the project to ensure that the product is being developed in accordance with customer requirements and is well-engineered.

In 2023, ETS provided IV&V oversight over the following projects:

- Department of Health's Behavioral Health Administration Integrated Case Management System
- Public Utilities Commission's Case & Document Management System
- Department of Human Services' Systems Modernization Project
- Department of Human Services Med-Quest Health Analytics Program
- Department of Labor and Industrial Relations, Disability Compensation Division's Modernization Project
- Department of Transportation's Financial Management Systems Project
- Department of Commerce and Consumer Affairs Business Registration Modernization Project
- Department of Accounting and General Services' Statewide Enterprise Financial System



IMPLEMENT DYNAMIC AND SUSTAINABLE IT OPERATIONS

(Also known as EVERGREEN OPERATIONS)

Implement dynamic and sustainable IT operations to ensure business systems are up-to-date and ready to support the current and future needs of business users and citizens at all times.

The following programs align with the key focus area of Dynamic and Sustainable IT Operations, which is one of the strategic priorities of the Hawaii Information Technology Strategic Plan.

SHARED SERVICES

ETS manages enterprise shared services centrally to leverage economies of scale (e.g., network, data management, unified communications, data center, and various cloud services).

- **Office 365** – Activated 14,265 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. A dramatic increase of Microsoft SharePoint storage was driven in response to the pandemic and increase in telework: 1.8TB (terabytes) of SharePoint storage was in use shortly before widespread awareness of COVID-19 in March 2020. By the end of October, 12.99TB of SharePoint storage was in use – a more than seven-fold increase in less than a year. In 2023, we consumed 55.7TB of storage as more users shift their workloads into the cloud.
- **eSign Service** – Departments statewide increased government efficiency within the executive branch through the use of eSign. Roughly 500,000 transactions were processed through the Adobe eSign service this year.
- **Government Private Cloud** – ETS is a VMware Service Provider and provides Hyper Converged Infrastructure and services to various departments.
- **Public Cloud Services** – ETS provides Amazon Web Services (AWS), Microsoft Azure, and Google Cloud services to various applications, and services.
- **Open Data Infrastructure** – The State's Open Data Infrastructure is managed and maintained by ETS.



- **Public Facing Website Infrastructure** – Various department and agency websites are housed and managed by ETS in AWS.
- **Network Services** – ETS has designed and maintains the largest computer network in the State of Hawaii that spans multiple islands.
- **HIWIN Radio System** – The Hawai'i Wireless Interoperability Network is the State's Radio infrastructure, which is used by first responders, departments, counties, and other various agencies.
- **Executive Legislative Tracker (ELT)** – Using Sharepoint, SQL Server and PowerApps, ETS designed a way for departments to search for and track measures during the Legislative Session. Departments collaborate and discuss proposed measures using this tool. Technical aspects of the application read the information on the capitol.hawaii.gov site and updates the tracker in near real time, store documents that are associated with a specific measure and has functions to send email from the application. The ELT has been in use for six years with additional functionality added every year. For the 2023 Legislative Session, the application garnered 410 users.
- **Executive Testimony Tracker (ETT)** – Using Sharepoint, ETT provides the executive branch departments a tool to submit and collaborate on testimonies during the Legislative Session. Submitting the testimony is automated through an email with an attachment. The system also organizes the testimonies for the executive department. For the 2023 legislative session, 5037 testimonies were submitted
- **Legislative Bill Enrollment** - To increase the efficiency and organization of the legislative bill enrollment process, the ETS team developed the Bill Enrollment system for the Office of the Governor in [April 2021](#). The system streamlines the gathering of comments and recommendations from the Departments/Attached Agencies, and handles the communications and transfer of documents between the parties. For the 2023 Legislative Session, 274 bills were processed for comments and recommendations to the executive branches.

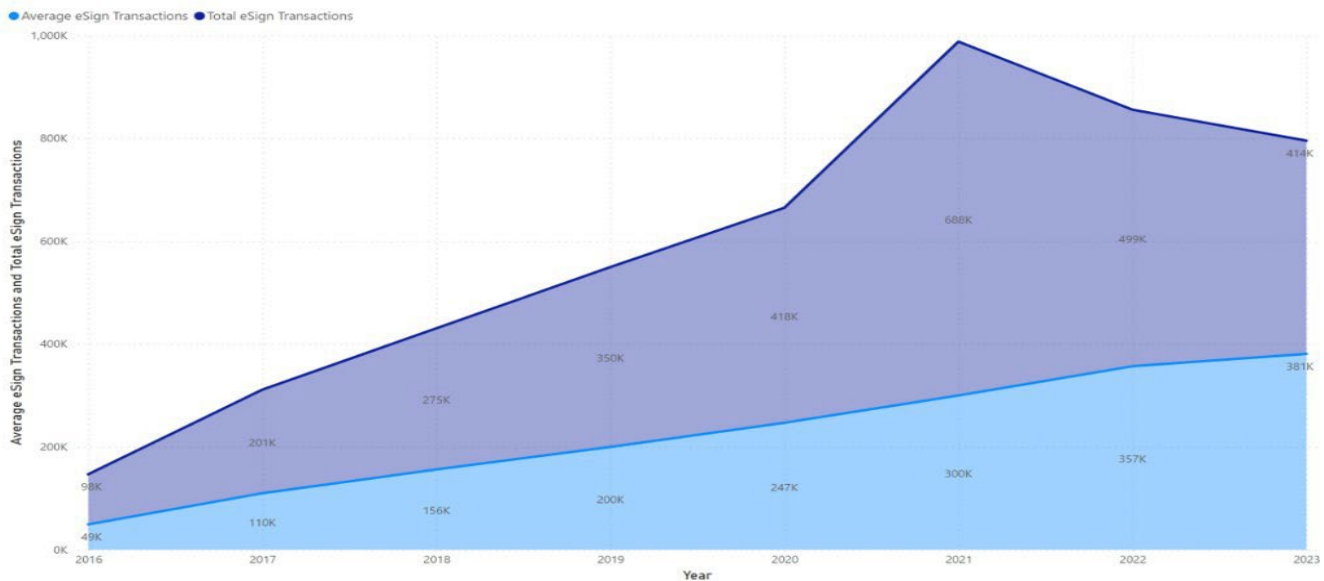


eSIGN

Eight years after eSign was officially launched, over 2.9 million eSign transactions have occurred. From onboarding new employees, to signing documents, 19 state departments are using eSign.

The application creates efficiency within state government through digitizing paper-based processes and reduces the environmental impact on our world.

Average eSign Transactions and Total eSign Transactions by Year



Average eSign Transactions and Total eSign Transactions by Year

		
342021750	18859148	119228400
Gallons of water saved	Pounds of waste saved	Pounds of wood saved



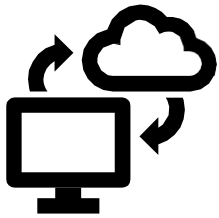
OFFICE 365

ETS manages 14,265 Office 365 licenses that are now being utilized by executive branch department users. Licenses include applications like Outlook, Microsoft Teams, OneDrive, OneNote, and SharePoint

Activated benefits include fortified security, greater disaster recovery capability, expanded applications and services, added tools for collaboration, and long-term budget sustainability.



WEB SERVICES



ETS manages the infrastructure that hosts the State's public facing websites, which includes 552 sites (department websites and its subsites) and provides other cloud hosting options.



ETS supports the application, which HiMod's payroll call center, Hawai'i Information Portal (HIP), uses as its customer relationship manager.

An average of 4,500 employees use the HIP call center.



HAWAI'I WIRELESS INTEROPERABILITY NETWORK (HiWIN)

ETS manages the State's radio system, which is used by first responders, federal, state and county other agencies. It is a system architected in such a way that if any portion of the system is isolated, it will continue to operate with the full functionality of the system at-large. Backed by the State of Hawai'i microwave network of links, the system joins sites that are designed to survive a category 4 hurricane.

ETS has recently partnered with DOT Airports to apply the vast technical capabilities of the HiWIN system connected by the microwave network to offer interoperable communication platform for all agencies likely to respond to an emergency at any airport statewide. This includes county, state, and federal agencies representing law enforcement as well as Fire, EMS, and other public safety functions. All harbors statewide use HiWIN and are connected over the microwave system, enabling instant statewide communications for almost any emergency.



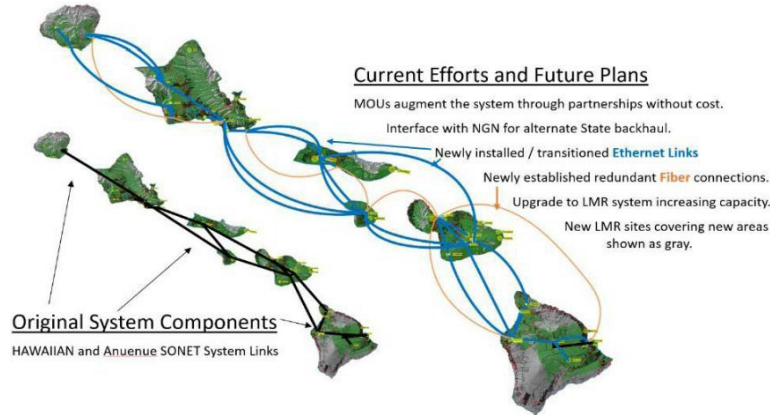
HiWIN Use In Lahaina Fire Response

The HiWIN system was one of the two communication systems that remained operational during the Lahaina fire and subsequent response. Furthermore, HiWIN was the only communication system that actually remained fully operational during this period. ETS was one of the first entities to arrive with equipment purchased for emergency data connections and creation of small bubbles of cellular system access which were deployed on Maui and at HIEMA on Oahu as well.



ANUENUE Interisland Digital Microwave Partnership

Radio Section System Status & Plans



The State maintains a vast network of resilient radio sites that are linked by microwave connections. The network consists of State sites as well as USCG sites, designed to meet the unique topography and climate challenges of the Hawaiian Islands, Anuenue's backhaul infrastructure can withstand the 155 mph winds of a Category 4 hurricane, run for one to two weeks on generators without commercial power, and survive in earthquake Zone 4-rated facilities built far away from tsunami inundation zones.

The partnership between the State with the USCG, known as Anuenue, provides resilient and survivable communication throughout Hawai'i. It is similar to other partnerships penned by ETS to share sites with counties thereby advancing connectivity without the cost of a new site build.

While the partnerships and overall network of microwave sites and links have also been designed to support all State Office Buildings to provide connectivity and continuity of government functions, if terrestrial connections such as fiber optic cables are cut or damaged, the foremost important role is to support the HIWIN network (discussed above) for First Responders and those supporting them serving in the broader public safety arena.

The ANUENUE Network infrastructure of high-capacity microwave links, radio towers, and ground facilities support systems used by Hawai'i's first responders, search and rescue, law enforcement, emergency services, and



critical government services during both routine operations and during natural disasters like hurricanes and tsunamis. The ANUENUE's 12 "high sites", located on remote mountain tops, connect with eight sites located at state office buildings and USCG properties across the islands.

State users of the ANUENUE include ETS, with the Hawai'i Wireless Interoperability Network (HIWIN); Maritime Wireless Network System; Hawai'i Emergency Management Agency; the Departments of Public Safety, Transportation, Health, and Land and Natural Resources; and the County of Maui Police Department and other agencies of all counties. The Coast Guard's primary use of the ANUENUE is its Rescue 21 maritime distress radio system, providing significantly improved coverage and location capabilities to locate mariners in distress.

USCG-sponsored federal users include the U.S. Army Pacific Land MobileRadio System, National Oceanic and Atmospheric Administration Emergency Weather Broadcast System, U.S. Customs and Border Protection, and United States Geological Service.





Enterprise Notification System (ENS) using Alert Media



ETS procured 10,000 licenses of the Alert Media services to create an Enterprise Notification System (ENS) for participating Executive Branch

Agencies' staff. The ENS gives the State mass notification capabilities using voice call, text message, email, or mobile app push notification. Outgoing notifications can target by organizational entities, specific geographic locations, as well as other kinds of categorizations. It is also possible for individuals to issue a request for assistance. The ENS is functionally deployed by seven agencies now with 10 other agencies in various states of deployment.

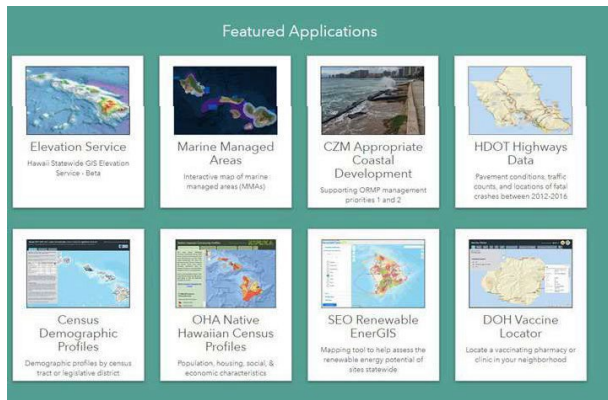
WEB ACCESSIBILITY

Web accessibility is measured using the globally recognized Web Content Accessibility Guidelines (WCAG) 2.0 level AA standards, which defines how to make web content more accessible for people with disabilities. Roughly 300K pages across 125 websites are being actively scanned and monitored.

In response to Act 172 SLH2022, relating to electronic information technology accessibility for persons with disabilities, ETS, in conjunction with the Disability and Communication Access Board (DCAB), has begun development of the "Hawai'i Electronic Information Technology Disability Access Standards." This publication will detail electronic information technology accessibility standards to be implemented by all state entities to require that all electronic information technology, developed, purchased, or used by a state entity must be made accessible to persons with disabilities.



GEOGRAPHIC INFORMATION SYSTEM PROGRAM



- The GIS Program is an Office of Enterprise Technology Services and Office of Planning joint effort.
- Approximately 1,000 active users in State's primary Cloud mapping organization.
- Established enterprise licensing agreements and cloud-based hosting services that encourages broad GIS adoption across all State of Hawai'i departments.
- Reduces redundant local databases, standardizes information analyzed by decision makers.
- Collects and distributes up-to-date authoritative GIS data to more than 400 state GIS data and system users state departments that develop and maintain a wide variety of data, maps and ERP applications — many of which are available to the public and/or relied upon by state personnel.
- Maintains a public-facing geospatial open data portal with access to most of the GIS data and imagery layers.
- Is used by agencies to develop and maintain a wide variety of data, maps, and ERP applications — many of which are available to the public and/or relied upon by state personnel.

GOVERNMENT PRIVATE CLOUD

ETS is a VMware Service Provider and provides Hyper Converged Infrastructure and services to various departments.



Storage Capacity (Terabytes Used) by Year

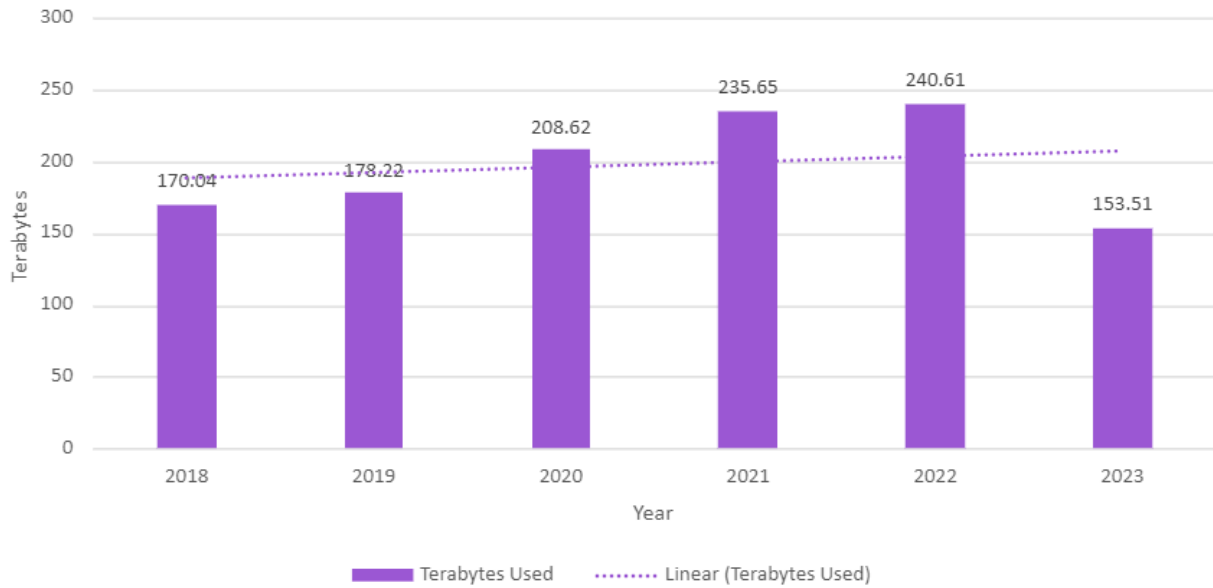


Figure 5: Government Private Cloud Storage Capacity (Terabytes Used) by Year

Total Virtual Machines by Year

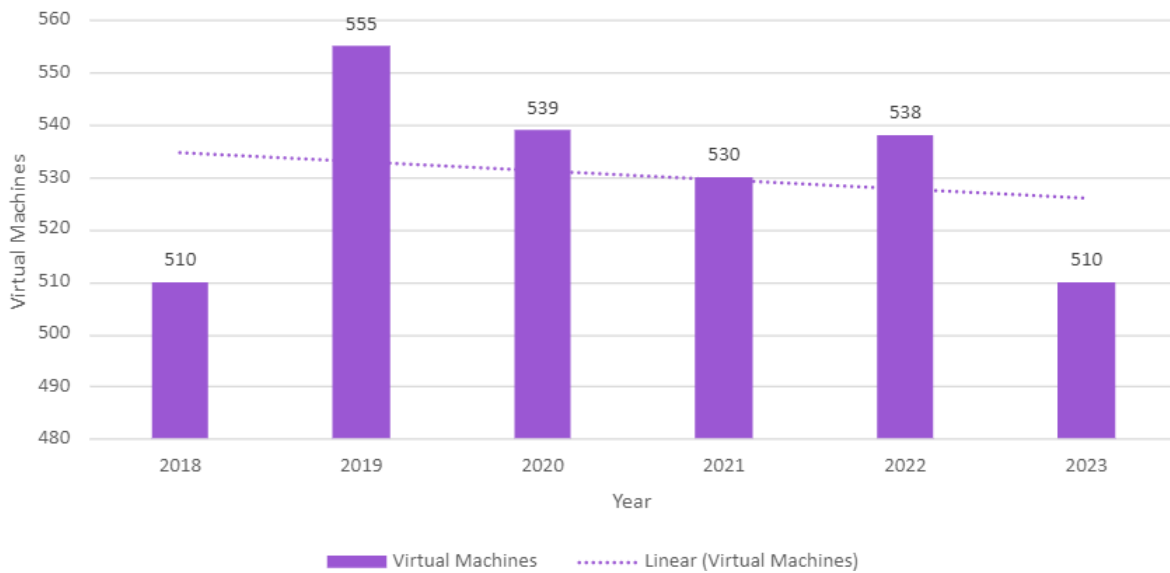


Figure 6: Government Private Cloud Total Virtual Machines by Year



PUBLIC CLOUD SERVICES

ETS provides Amazon Web Services (AWS), Microsoft Azure, and Google Cloud services as infrastructure to host various applications, and services.

PROFESSIONAL DEVELOPMENT

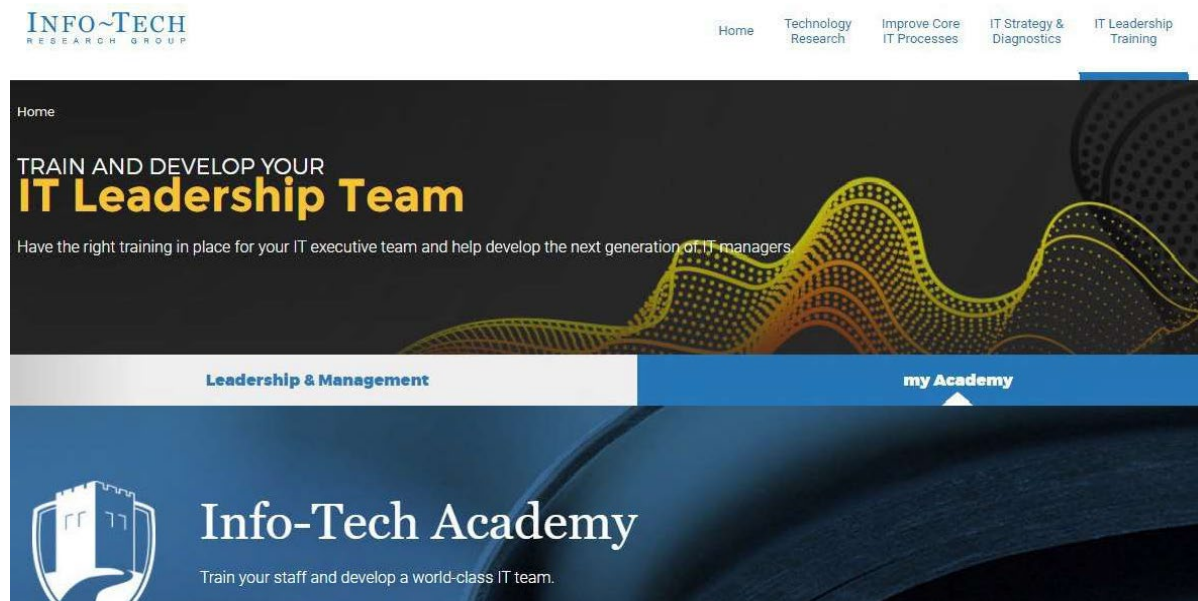
Establish a continuous learning culture and growth mindset to modernize how we work and enable the state to develop and sustain the digital workforce needed in a constantly evolving IT world.

INFOTECH ACADEMY



InfoTech Academy has a series of 45 online courses designed to help the IT leadership team master the core IT processes from the IT Management & Governance framework. Completion of a set of courses in any of the 9 major areas leads to a certificate.

In 2023, ETS staff continued to participate in guided Implementations and virtual Workshops covering various subjects.

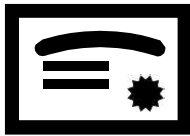




VENDOR SPONSORED TRAINING

ETS uses vendors to provide training on technologies used by the state. The training usually is a hands-on workshop on how to use a technology. Statewide trainings were offered on topics like productivity and collaboration, messaging and communications, web meetings, electronic signatures, accessibility, and telework. Statewide and focused trainings were offered by Microsoft, Adobe, and AlertMedia on topics like productivity and collaboration, messaging and communications, web meetings, electronic signatures, accessibility, open data, and telework.

CERTIFICATIONS



- Employees are encouraged to earn their certifications in the area of their profession.
- Provides an opportunity for our employees to submit for a salary increase because of their professional growth.
- If an employee passes their exam, they are reimbursed for the cost.

CAREER PATHS



- Many opportunities on a day-to-day basis for employees to grow, such as mentoring or shadowing opportunities, stretch assignments, and other learning opportunities throughout the organization.
- ETS has leveraged the Department of Labor Workforce Development Division's Student Internship Program (SIP) to provide paid internship opportunities for students approaching graduation or have recently graduated from college. Interns have the opportunity to gain valuable experience towards their future careers in the IT field. Our goals for the internship are to provide an environment for interns to apply knowledge learned from school curriculums, develop hands-on work experience, and become better prepared to enter the information technology and cybersecurity workforce.



DIGITAL GOVERNMENT SUMMIT

government
technology

2023

Hawaii
Digital Government Summit

SEPTEMBER 25 / HONOLULU



The 2023 Hawai'i Digital Government Summit, organized by Government Technology Magazine, is a collaborative forum to share information technology best practices, to hear about emerging technology trends, and to reflect on our future challenges.

Attendees connected with peers from the government and industry sectors to share ideas, best practices, and technology trends.

Recognized national speakers, Hawai'i IT leaders, and colleagues from other states shared their collective experiences and proven problem-solving strategies.

Topics included IT Consolidation in the State of Hawai'i; Cybersecurity Readiness and Response; The Future of Work; Real Talk About Change Management; A Modernization Journey: The New Hawaii Enterprise Financial System; Managing the Constituent Experience and Excellence; Data Makes Equality Possible; The Importance of Identity and Access Management for Government; and Department Paths to Modernization.

This professional development and learning event drew more than 200 participants from all levels of government in Hawaii.



HAWAI'I ANNUAL CODE CHALLENGE (HACC)

2023 Hawai'i Annual Code Challenge Returns to Live Judging

Two high school teams and a team from the University of Hawai'i at Mānoa took the top honors at the Eighth Hawaii Annual Code Challenge (HACC) on Nov. 18 on the UH West O'ahu campus. The program returned to live presentations and judging this year with the removal of COVID restrictions.



The HACC solicits challenges from state departments and community groups and asks student, amateur and professional coders to develop technology applications to help solve specific problems during a

four-week period.

The HACC was created to encourage engagement between Hawai'i residents and the local technology community to modernize state functions and services for a more effective, efficient, and open government. Another objective of the hackathon is to strengthen the pipeline of the IT workforce and expand the tech industry in our state.

HACC 2023 included five challenges, one each from the University of Hawai'i, ITS Ask Us; Tyler Hawai'i, Affordable Health Care; Hawai'i Pacific University CMDR, Large Marine Debris Reporting, Dispatching; Maui Institute of Art and Technology, Lahaina Digital Twin Project; and Zero Waste Oahu, Reusable Takeout Program App.

The 2023 HACC was sponsored by the State of Hawai'i Office of Enterprise Technology Services (ETS) in partnership with the University of Hawai'i.

Other sponsors include Transform Hawai'i Government, Hawaiian Airlines, Verizon, Google for Government, Tyler Technologies, Microsoft, eWorld Enterprise Solutions, Salesforce, Hawai'i Data Collaborative, AT&T and AWS.

Partners include IMAG Foundation, the Hawai'i Department of Education Computer Science Team, UH Mānoa Information & Computer Sciences, Hawai'i Pacific University, and the Hawai'i Technology Develop Corporation.

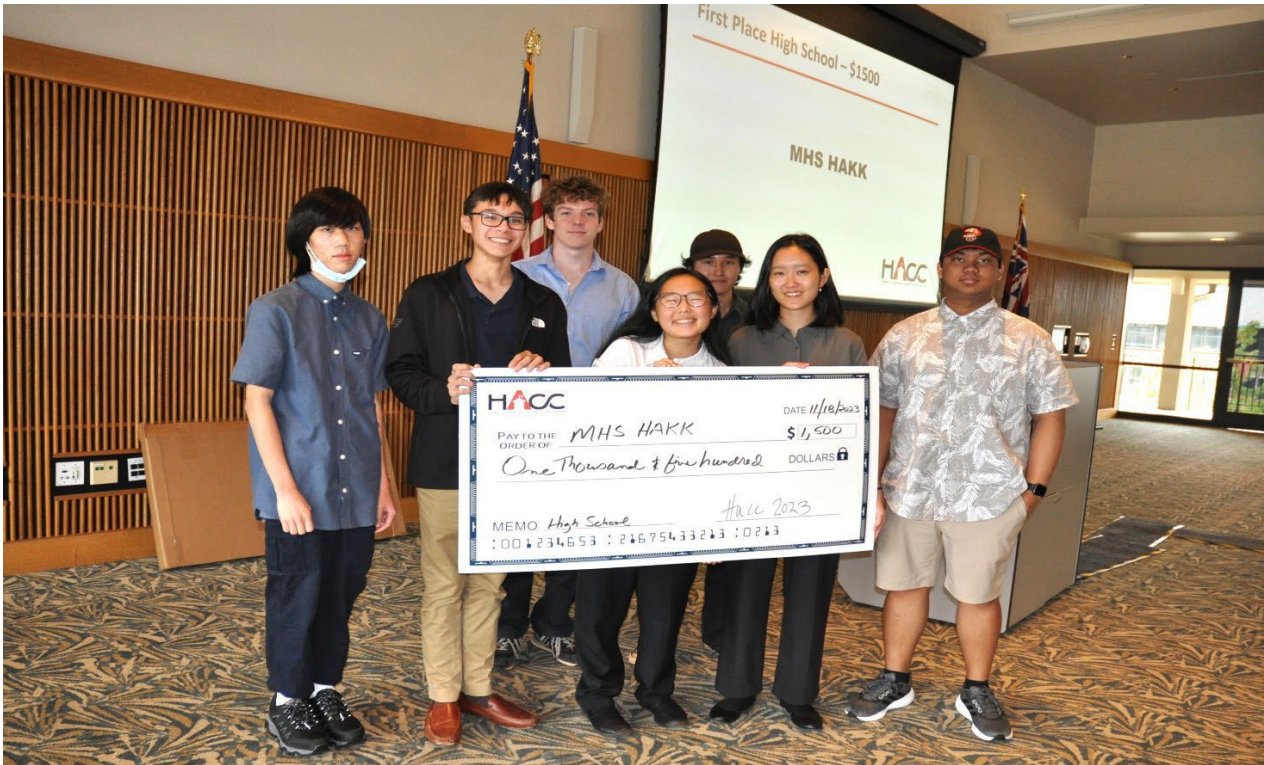


2023 HACC BY THE NUMBERS

- **187 PARTICIPANTS**
- **64 HIGH SCHOOL STUDENTS**
- **39 TEAMS CREATED**
- **26 TEAMS SUBMITTED SOLUTIONS FOR JUDGING**
- **22 CODE BASED SOLUTIONS & 6 NO/LOW CODE SOLUTIONS**
- **21 FINALIST TEAMS ON JUDGING DAY**

HACC CHALLENGES BY TEAMS

University of Hawai'i <i>(ITS Ask Us)</i>	10
Tyler Hawai'i <i>(Affordable Healthcare)</i>	9
Hawai'i Pacific University CRMR <i>(Large Marine Debris Reporting, Dispatching)</i>	7
Maui Institute of Art and Technology <i>(Lahaina Digital Twin Project)</i>	5
Zero Waste Oahu <i>(Reusable Takeout Program App)</i>	8



Mililani High School students on team MHS HAKK took first place in the high school category and a \$1,500 prize.

Mililani High School team MHS HAKK took first place in the high school category and a \$1,500 prize for their work to develop a solution for a challenge to help underinsured or uninsured individuals find and access affordable healthcare in Hawai'i.

Cassidy Ibanez is the team captain and members include Courtney Hisamoto, Kyle Bain, Nolan Carlisle, Miles Hackney, Toby James, Kyler Ching and Jourdan Hung.

In the coded category, first place and a \$4,000 prize went to team VENGEN for their design to create a web portal to facilitate civic engagement around rebuilding Lahaina, Maui, including surveys, forums, sharing design concepts with visual and data models for economic, environmental analysis.

Ethan Chee is the captain of the UH Mānoa student team and members include Timothy Huo, Michelle Leano, Eda Cadiena and Marissa Halim.

In the low/no code category, team T777+ took first place and a \$4,000 prize for their response to the affordable healthcare challenge. The team is from a mix of high schools also took second place in the high school category.

Joshua Li is the team captain and members include Brix Kozuki, Jacob Osada, Max Chin and Leo Zhang.