Information Technology Steering Committee (ITSC)

AGENDA

Thursday, January 14, 2020, 1:30 p.m.
Video/Audio Conference, Honolulu, Hawai'i

Click here to join the meeting
Or call in (audio only)
+1 808-829-4853, 498487802#
Phone Conference ID: 498 487 802#

I. Call to Order

II. Review and Approval of December 10, 2020 Meeting Minutes

III. Public Testimony on Agenda Items

Due to COVID-19, this meeting will be held via video and audio conference. Anyone wishing to testify may do so during the conference or may submit written testimony in advance of the meeting via e-mail to ets@hawaii.gov, Subject: *ITSC Testimony*.

IV. Cyber Security Planning

V. 2020 Annual Report

VI. Strategic Plan – Discussion and Appropriate Action

VII. Role of the ITSC

VIII. CIO Updates

1. Safe Travels Digital Platform
2. Telework
3. Unemployment Insurance Modernization
4. Major Enterprise Projects
5. Budget

IX. Good of the Order

A. Announcements

B. Next Meeting: March 2021

X. Adjournment

Individuals who require special needs accommodations are invited to call (808) 586-6000 at least three (3) working days in advance of the meeting.

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

STATE OF HAWAII
CIO ANNUAL REPORT
JAN. 7, 2021

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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. ETS also supports the management and operation of all state agencies by providing effective, efficient, coordinated, and cost-beneficial computer and telecommunication services.

The Office of Enterprise Technology Services (ETS) was established by Hawaii 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.

Hawaii 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 four meetings in 2020.

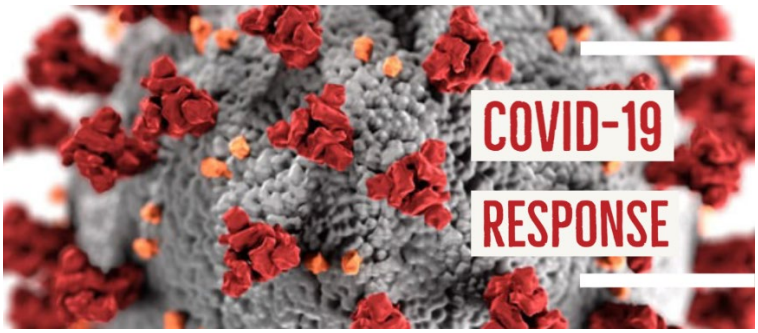
IT STEERING COMMITTEE MEMBERS (served during 2020)

Douglas Murdock (Chair), Office of Enterprise Technology Services, State of Hawaii

Jarrett Keohokalole, State Senate
Michael Nishida, First Hawaiian Bank
Christine Sakuda, Transform Hawaii Government
Kevin Thornton, Hawaii State Judiciary
Kyle Yamashita, House of Representatives
Marcus Yano, SystemMetrics Corporation
Garret Yoshimi, University of Hawaii

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

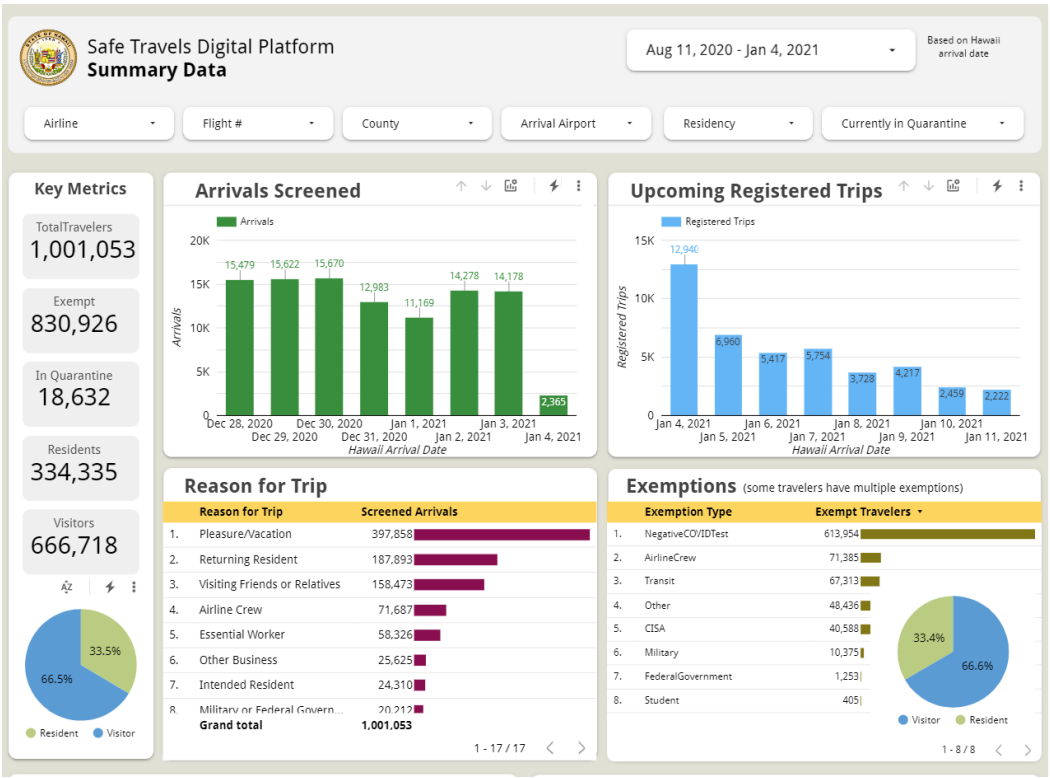
- Access Hawaii Committee (ex officio Chair)
- Information Privacy and Security Council (ex officio Chair)
- Enhanced 911 Board (ex officio)
- Hawaii Health Data Steering Committee (ex officio)
- Broadband Assistance Advisory Council (appointed)



SAFE TRAVELS DIGITAL PLATFORM

The Safe Travels Digital Platform supports the Safe Travels Hawaii program, which is a multilayered process designed to protect the health and safety of our visitors and residents from the spread of COVID-19. It has allowed for the opening of tourism in our state during the pandemic and put Hawaii on the path to economic recovery.

The state uses the Safe Travels Hawaii digital platform to gather trip and health information from travelers. Data gathered may be used by the Department of Health for contact tracing efforts and by law enforcement agencies to enforce quarantine rules.



Since the project was launched on August 11, 2020, more than a million travelers (transpacific and interisland) have used the Safe Travels Digital Platform.

The Safe Travels Digital Platform project is spearheaded by the Office of Enterprise Technology Services in collaboration with the Department of Transportation, Department of Health, Department of Defense, Hawaii Tourism Authority, Office of the Attorney General, and the counties.

ETS brought the system online very quickly using Google cloud technology and advanced system development methods. Initial operational capability occurred in only 6 weeks.

TIMELINE	
ETS Project Started	**June 29, 2020**
DOH Requirement Defined	**July 2, 2020**
Venders Evaluated, Additional Requirements and Interisland Upgrade	**July 2020**
Google/SpringML Hired	**July 24, 2020**
Soft Launch with Flight Crews	**Aug 11, 2020**
Full Launch	**Sept 1, 2020**
Pre-Travel Testing Launch	**Oct 15, 2020**

COST

- $2.2M for design, development, and implementation of the digital platform
- $1.1M for traveler tech support desk
- ETS costs next year approx. $75K month
- This does not include other costs such as airport expenses
- Funding for the project was paid for by federal CARES Act funding.

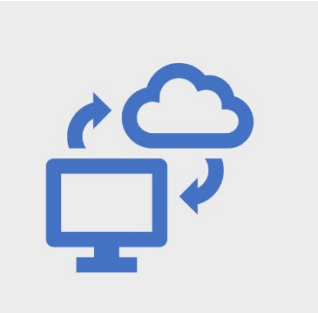
TRAVEL EXEMPTION ONLINE APPLICATION

The ETS staff developed an online system for the submission and approval process of quarantine exemptions issued by the Department of the Attorney General under the Safe Travels Hawaii program. The system was launched September 18, 2020.

On this site, travelers entering the State of Hawaii can apply for a limited exemption from the mandatory self-quarantine. As of December 2020, 13,664 requests for quarantine exemption were processed through the online system.

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 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 Skype and Teams; ETS adopts Adobe platform providing electronic workflow and electronic signatures; and ETS conducts continuous training and education activities for departments and employees to learn how to use and to redesign their business processes to apply those new productivity tools. This effort is continuing with our movement of our Enterprise Resource Programs to hosted or cloud environments and our current effort to shift from a physical mainframe to mainframe as a service.

ETS also provides leadership, technical guidance and administrative support to the Access Hawaii 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.

Here are some examples of work done in 2020 to support teleworking:

February 2020: ETS works with departments to issue Microsoft Teams licenses to all employees in order to conduct one-to-one or many-to-many virtual meetings, as needed.

February 2020: ETS begins on-going support to offices of the Governor and Lieutenant Governor to mobilize their staff for telework in advance of the work at home directive. ETS provides MFA, VPN, SSPR, PC imaging and laptop loans, MS Teams, SharePoint online file storage and access, web, and A/V conferencing and streaming.

Early March 2020: ETS assists DAGS Accounting division/Pre-audit/UARB to digitalize their work processes using Adobe eSign in advance of the work at home directive. This prepared them to continue their business functions remotely, including processing Summary Warrant Voucher, Contract Certification, Stop Payment Notification Order, SWV (PA), SWA (SAB) forms. Support continues to date.

March 6, 2020: ETS gathers remote computing business requirements from departments, e.g., number of critical users, critical apps and services, current remote capabilities, and data security requirements.

March 7, 2020: ETS begins enabling infrastructure to enable departments to meet specific telework requirements, beyond Office 365, such as provisioning additional VPN capabilities to access systems physically located in State facilities, like the mainframe and file servers, remotely rather than being in the office.

March 9, 2020: ETS creates specific telework webpage with policies, guidelines, and instructions for using the State's remote computing infrastructure. The Governor issues the work at home directive on March 17, 2020.

March 17, 2020: The telework website can be found here: https://o365.hawaii.gov/teleworking/

March 13, 2020: ETS continues to assist department IT coordinators prepare employees to implement work at home directive, e.g., how to use the different remote computing tools, how to continue serving the public remotely.

March 25, 2020: ETS provides additional VPN capabilities for more users and programs to securely connect with on-premise systems and resources physically connected to the State network, i.e., not migrated to the cloud such as secure access to desktop PCs and mainframe services from home to enable telework. ETS increased capacity to handle concurrent VPN sessions from 1,500 to 10,000.

April 3, 2020: ETS provided specialized focused support such as domestic and long-distance telephone services through Teams Calling to the State Procurement Office (SPO). This allowed allow SPO staff to procure critical items such as Personal Protective Equipment (PPE) while working from any location with internet access.

May 7, 2020: ETS administers virtual desktop infrastructure (VDI) environment for users to securely connect with the State's mainframe system applications from outside the state's network. It is used by DBEDT, AG-Legal, and Budget & Finance.

The following stats are from a few platforms, such a file sharing and collaboration tools, that employees are using to work from home. Gov. Ige issued a work from home directive for State employees in March, directing as many State employees to telework as possible. Here is a snapshot of the stats taken from March 17 to May 12. It shows employees' expanded adoption of IT tools to work from home, compared to use in the pre-COVID period, from January 12 to March 16.

As the pandemic went on throughout the year, employees continued high levels of usage of the state's remote work infrastructure.

O365 Outlook Email	Sent	Received	Read	
1/17-3/16	2752848	11674340	13474313	
3/17-5/12	3895147	15556438	18417283	
Increase	1142299	3882098	4942970	
% Growth	41.50%	33.25%	36.68%	
Teams	Chat Messages	Private Chat Messages	Calls	Meetings
1/17-3/16	4760	141691	503	934
3/17-5/12	70988	864022	15533	18112
Increase	66228	722331	15030	17178
% Growth	1391.34%	509.79%	2988.07%	1839.19%
Skype for Business	Peer to Peer	Organized	Participated	
1/17-3/16	97142	3850	15390	
3/17-5/12	144917	10462	34769	
Increase	47775	6612	19379	
% Growth	49.18%	171.74%	125.92%	
SharePoint	Viewed or Edited	Synced	Shared Internally	Shared Externally
1/17-3/16	812134	192766	1586	78
3/17-5/12	1424795	344324	4195	301
Increase	612661	151558	2609	223
% Growth	75.44%	78.62%	164.50%	285.90%
OneDrive	Viewed or Edited	Synced	Shared Internally	Shared Externally
1/17-3/16	903070	2371306	2524	314
3/17-5/12	2408594	4231530	12288	876
Increase	1505524	1860224	9764	562
% Growth	166.71%	78.45%	386.85%	178.98%

SUPPORT FOR LABOR AND OTHER AGENCIES

More than 200-thousand people filed for unemployment insurance as a result of the pandemic, causing an unprecedented stress on the unemployment insurance system. Since the surge of claims, ETS has been working diligently to assist DLIR in making changes to the system to address extreme volume and changes to the unemployment insurance program. Here are highlights of the improvements ETS developed or recommended to assist the Department of Labor and Industrial Relations (DLIR) in expediting claims:

- Online web application becomes available 24/7
- Waiting week period removed from benefits system
- Federal Pandemic Unemployment Compensation (FPUC) implemented
- Claims Status Check becomes available 24/7 off the mainframe

In a joint effort organized by the House of Representatives, ETS, along with DLIR, the Department of Accounting and General Services, Hawaii Tourism Authority, Department of Transportation, the Department of Taxation, and a few more departments, installed 280 computer stations and phones at the processing and call center stood up at the Hawaii Convention Center to address thousands of backlogged unemployment insurance claims. ETS also created more than 600 user accounts for volunteers assisting with the processing of unemployment insurance claims at the convention center. Additionally, ETS staff joined many volunteers to process backlogged claims and assist claimants at the call center.

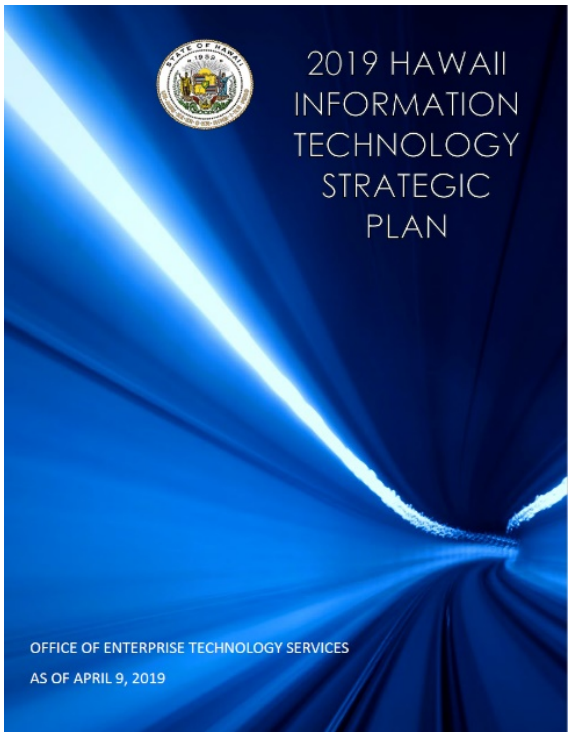
EMERGENCY OPERATIONS

Since the COVID-19 response began in March, ETS has provided 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 for newly created State Law Enforcement Coalition (SLEC) command center.

PUBLIC ACCESS TO MEETINGS

With state government offices limiting public access during the COVID-19 disruption, ETS staff have been working with many state boards and commissions to evaluate virtual meeting platforms to safely convene their public meetings and continue to conduct business. Several pilot demonstrations and implementations continue to integrate new technologies into the state meeting processes.

IT STRATEGIC PLAN PROGRESS IN 2020



The 2019 Hawaii 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 IT Strategic Plan can be found here: Plan

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 Hawaii Revised Statutes §27-43 and House Concurrent Resolution 94.

VISION, MISSION, VALUES

The Vision, Mission, and Core Values statements that guide the Strategic Plan are listed on the following pages:

VISION STATEMENT

Transformative information and technology-enriched government that serves all the people of Hawai‘i and the ‘āina*

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.

CORE VALUES

Aloha	**We treat everyone with dignity, respect and kindness, reflecting our belief that people are our greatest source of strength.**
Kuleana	**We uphold a standard of transparency, accountability and reliability, performing our work as a government that is worthy of the public’s trust.**
Laulima	**We work collaboratively with business, labor and the community to fulfill our public purpose.**
Kūlia	**We do our very best to reflect our commitment to excellence.**
Pono	**We strive to do the right thing, the right way, for the right reasons to deliver results that are in the best interest of the public.**
Lōkahi	**We honor the diversity of our employees and our constituents through inclusiveness and respect for the different perspectives that each brings to the table.**
Hoʻokumu	**We continually seek new and innovative ways to accomplish our work and commit to finding creative solutions to the critical issues facing this state.**

*The ‘āina (land) is not just soil, sand or dirt. The ‘āina is a heart issue for the people of Hawai‘i. The very word ‘āina brings forth deep emotion evolved from ancestral times when people lived in nature as an integral part of it. We chose to incorporate the ethical, philosophical, and spiritual aspects not only present in the state's vision and mission statements, but also that are present in the culture that make Hawai‘i.

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:

Partner for Successful Outcomes	**Shape the partnership between government functions and IT by creating a standard framework to ensure successful outcomes.** ❖ ***Team Lead: ETS Enterprise Program Manager***
Expand Statewide Cyber Security Strategy	**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.** ❖ ***Team Lead: ETS Chief Information Security Officer***
Enhance the Value of State Data	**Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing, and public use.** ❖ ***Team Lead: ETS Chief Data Officer***
Optimize Enterprise Systems	**Optimize ETS enterprise systems to leverage the state's investment in centralized IT services.** ❖ ***Team Lead: ETS Chief Operations Officer***
Extend IT Portfolio 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.** ❖ ***Team Lead: ETS Enterprise Architect***
Implement Dynamic and Sustainable IT 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.** ❖ ***Team Lead: ETS Chief Governance Officer***
Digital Workforce 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.** ❖ ***Team Lead: ETS Personnel Officer***

IMPLEMENTATION PLAN

For each of the seven Strategic Priorities, the following objectives will be implemented.

Near-Term Objectives (FY 2020: 12 months)

- Establish a strategy governance process, executive sponsor, charter, program lead, working group and user groups
- Develop a high-level prioritized reference model for best practices in tactics, techniques and procedures and begin measurement
- Establish a high-level Capability Maturity Model measurement framework and begin measurement
- Continue implementing and defining change management
- Adapt to a leaner budget environment by increasing the adoption and use of Open Source as well as lower-cost products and services to meet strategic IT needs
- Complete migration from on-premise mainframe to Mainframe as a Service (MFaaS)
- Team Leads begin reporting to IT Steering Committee at each ITSC Meeting

Longer-Term Objectives (FY 2021-2024, Years 2-4)

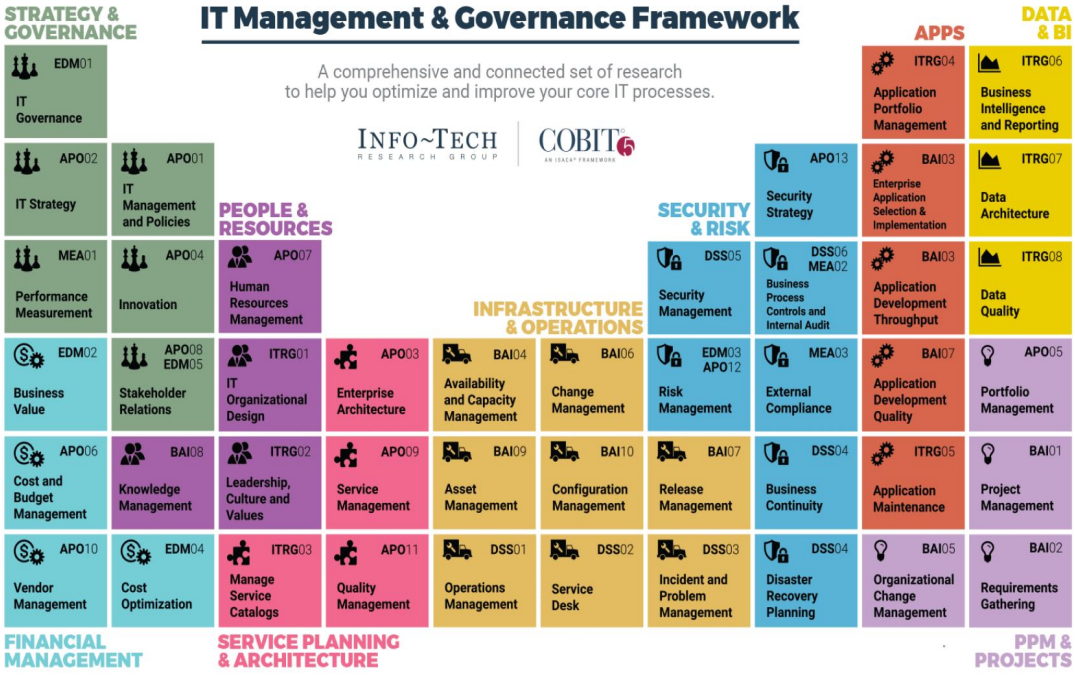
- Continue to operate Governance process
- Increase successful implementation in prioritized reference model and adjust as necessary
- Capability Maturity Model: Increase level attained and granularity for state, departments and agencies
- Identify & drive next-tier legislative changes/additions
- Adjust the Strategic Plan elements to maintain a current and relevant plan
- Team Leads continue reporting to IT Steering Committee during each ITSC Meeting

Additional Documentation

A reference book of work products developed during the strategic planning process will be used by ETS, the ITSC, team leads and working groups. It is presented as a separate volume that includes situation analysis, workshop notes, and detail for each strategic priority including Microsoft Word and PowerPoint versions.

2019 IT STRATEGIC PLAN ADOPTION PROGRESS

- In 2020, ETS continued to refine strategy governance process, executive sponsor, charter, program lead, and working group in each strategic area. Progress was limited due to the need to prioritize response to the crisis.
- 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 in 2019 and 2020 to develop common processes and tools for use by ETS and state agencies in managing IT operations.



- A high-level Capability Maturity Model measurement framework is available in the IT Management and Governance Framework for implementation in 2020. We are working on measurement dashboards.
- ETS added an organizational change management specialist to our staff in 2019 to help. ETS is also funding seven workshops for 2019-2020, one in each strategic plan area, to help state IT staff analyze processes that need to change and to improve our capability maturity. One workshop has been completed and several are scheduled for early 2020.
- In 2020 ETS invited other departments to participate in an Info-Tech multi-day seminar in Change Management with the goal of setting a common baseline understanding of the topic and developing it as a core competency together.
- A requirements gathering workshop was also held early in 2020 to provide additional guidance and strategies on how clear requirements contributes to the success of all projects and

modernization efforts. Key individuals who are spearheading and/or planning large-scale, statewide projects were invited to attend the three-day in-person workshop.

- In 2020, planning and discussion was completed on anticipated Cloud and Applications Vision Workshop; date to be determined for later in the year. Objectives include:
    - Gauge the alignment of State of Hawaii's cloud vision and application portfolio to business and technical drivers;
    - Diagnose the composition and dependencies of applications to reveal constraints, opportunities, and issues;
    - Build a Cloud and Applications Vision roadmap to optimize practices; and
    - Communicate the risks, benefits, costs, and plans to the Cloud and Applications Vision stakeholders for buy-in.
    - Reflect generally accepted industry best practices and pragmatic experience from similar companies and organizations.
- Info-Tech also provides online training in each of the core areas and certification in each of the areas. Several ETS members have already earned certifications through this program.

PARTNER 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 Hawaii Information Technology Strategic Plan.

The Hawaii 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 system. The team is currently working on a Time and Leave Management System and researching options for a new Financial Management System. HiMod is governed by an Executive Governance Committee.

STATEWIDE FINANCIAL SYSTEM REPLACEMENT

The 2020 Legislature granted funding to continue modernization programs to include finance operations and business processes. In mid-November, the State posted a Request for Proposal (RFP) to evaluation applications and systems integrators for the modernization of the finance, accounting and budgeting operations.

Sponsored by the Department of Accounting and General Services and supported by the Office of Enterprise Technology Services, the initiative will involve the key central agencies as well as a number of jurisdictions and departments to ensure that business processes may be aligned to the enhanced delivered functionality of a modern finance application.

Community partnerships were also launched to assist the State with the implementation of the new system and to support ongoing change management efforts.

PARTNER FOR SUCCESSFUL OUTCOMES

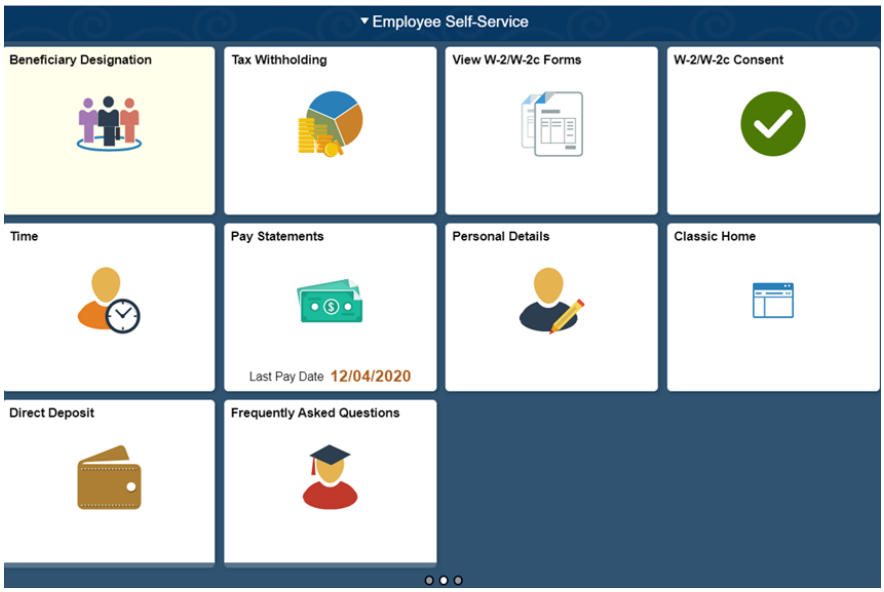
HAWAII PAY PROJECT

The HawaiiPay Project, which brought the State's payroll system into the twenty-first century with a modern, efficient platform (Hawaii Information Portal), went live with the first groups of employees in May 2018 and covered all employees with the inclusion of the Department of Education and University of Hawaii in January 2019. The system also provides payroll service for the Judiciary, Legislature and Office of Hawaiian Affairs.

- Nearly 70,000 State employees are enrolled for direct deposit.
- An average of 4,500 employees use the HIP call center monthly.
- Modernization Cost: $17,037,148 contract with CherryRoad Technologies, Inc. covering Payroll and Time and Leave Management.

PARTNER FOR SUCCESSFUL OUTCOMES

HAWAII INFORMATION PORTAL (HIP) CONTINUED EXPANSION



- The Hawaii Information Portal expansion has also extended the use of the Human Resources part of the system to both the Legislature and Office of Hawaiian Affairs to offer enhanced integration and workflow capabilities to these entities, which further leverages the statewide investment in the enterprise human resource, payroll and time and leave system.

- Due to the Hawaii Information Portal (HIP) continued expansion of functionality and addition of time and leave, the State has identified opportunities to engage in data sharing with other statewide systems such as the benefits system under the Employer-Union Trust Fund (EUTF) to start to reduce manual paper changes for addresses, union codes and termination status notifications.

- Single-Sign-On (SSO) capabilities were also implemented during the second quarter of 2020 to allow secure, remote access to HIP for payroll and human resources processors and employees in the Executive Branch. This capability allowed many employees who transitioned to teleworking to access the system from any location (home office or mobile).

PARTNER FOR SUCCESSFUL OUTCOMES

PAPER REDUCTION AND EXPANSION OF SELF-SERVICE

- The transition to online pay statements has reduced the paper issuance from over 3.2 million checks and statements annually to about 60,000 checks annually.

- The addition of online annual W-2 statements in 2020 has reduced the paper printing for about 50 percent of the statewide employee population and it is expected that more employees will opt for the online statement as employees may receive W-2s a few days earlier than the required January 31st deadline each year.

- An average of nearly 20,000 State employees log into Employee Self-Service each month to direct various changes to their records to include direct deposit, addresses, W-4 tax withholdings, payroll beneficiary, consent to electronic W-2s, emergency contacts and recently leave requests and changes.

TIME AND LEAVE PROJECT

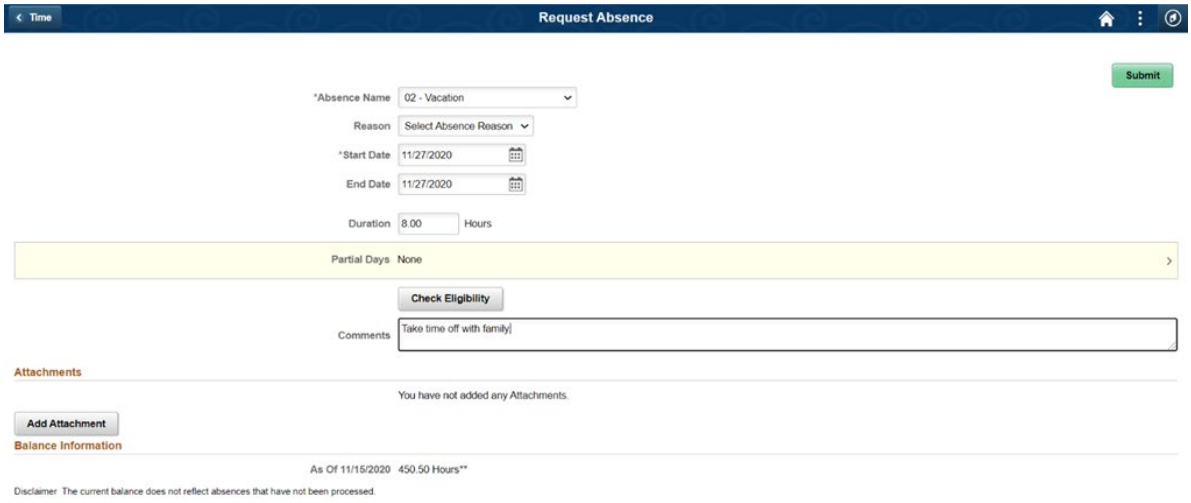
- Currently, most state jurisdictions process pay and leave paperwork and calculations manually before entering the gross pay calculations into the HIP system.

- The Time and Leave Project will allow participating state departments, agencies, and jurisdictions to process electronic timesheets and leave requests in HIP, replacing many manual forms. The new system will increase efficiency by standardizing practices and reducing pay processing times and pay errors.

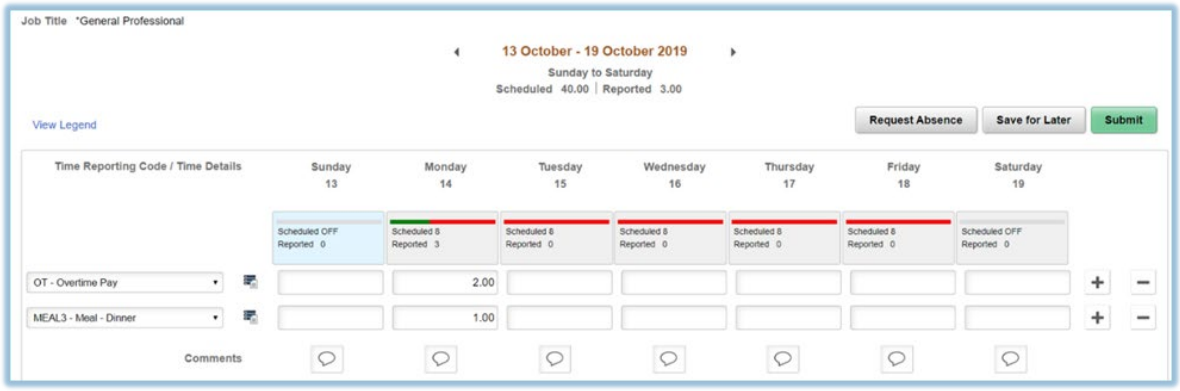
- The Time and Leave Project was launched by HiMod in May 2019 with the first departments scheduled to go live in May 2020. The project will complete by 2022.

PARTNER FOR SUCCESSFUL OUTCOMES

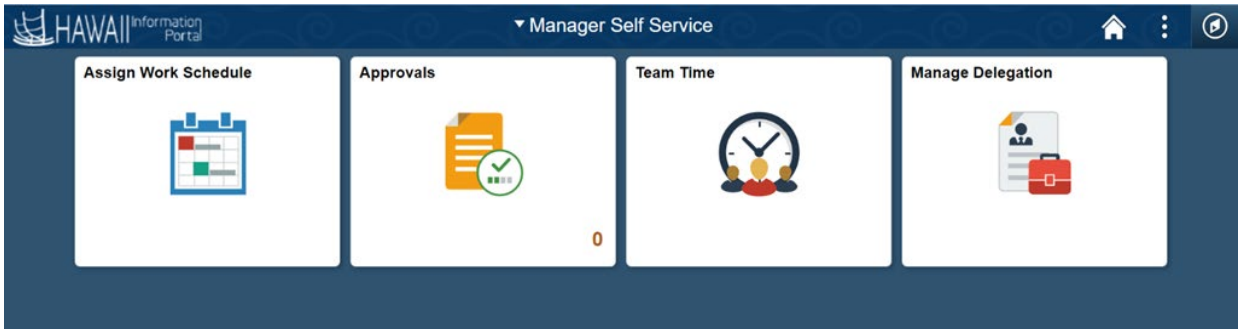
Online Leave Request Example



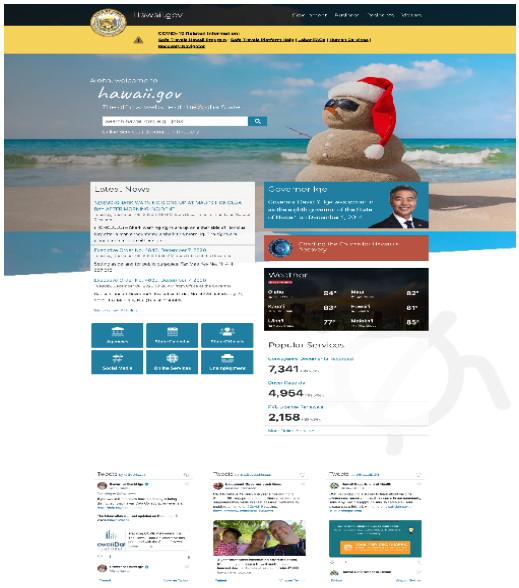
Online Leave Request Example



New Tools for Managers via Self-Service



PARTNER FOR SUCCESSFUL OUTCOMES



DIGITAL GOVERNMENT SERVICES

- In July, the Office of Enterprise Technology Services collaborated with NIC Hawaii, also known as National Information Consortium, on redesign of ehawaii.gov, which is the State's digital government portal.

- NIC Hawaii is the contracted State of Hawaii portal manager and has successfully partnered with 90+ state agencies and across jurisdictions to provide more than 160 online services for the State of Hawaii and counties.

- The primary focus of the redesign was to give the site an updated look and feel as well as improve the user experience through updates to the content and navigation. This was done by analyzing customer feedback, traffic data and past audience behavior.

- The site continues to use responsive features that adapt to the visitor's device, whether it's a smartphone, tablet or personal computer, and it meets accessibility guidelines to ensure information is available to all.

- The Access Hawaii Committee (AHC) manages the state digital government portal with the assistance of ETS. The CIO is the Chair of the AHC.

PARTNER FOR SUCCESSFUL OUTCOMES

- 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 portal provider 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.

- In November 2019, the portal contract was extended for the period of January 4, 2020 to January 3, 2022. The contract extension included additional terms including moving all NIC Hawaii services from our current on-island data center to the cloud. NIC Hawaii is in the process of moving our services to Amazon Web Services (AWS) and is expected to be fully migrated in 2021 Q1.

- Another contract requirement that resulted in significant NIC Hawaii effort is the Statewide Identity Management Initiative handled in collaboration with the Hawaii ETS team. The first phase of this requirement has been completed and a second phase is now in the planning stages.

EHAWAII.GOV RECOGNIZED

The State portal program earned the following awards in 2020:

- **Hawaii Business Express**
- **Outstanding Website Award (Web Marketing Association Web Award)**
- **MyPVL: One-Stop-Solution for Professional Licenses**
- **Government Experience Award**
- **W3 Award**
- **Hawaii Information Consortium Website Redesign**
- **Davey Award, Silver**

PARTNER FOR SUCCESSFUL OUTCOMES

DIGITAL GOVERNMENT SERVICES (CONTINUED)

- The portal program launched 15 new services/upgrades in Fiscal Year (FY) 2020. These services include:
  - Hawaii Awards & Notices Data System (HANDS) Small Business Phase II (State Procurement Office)
  - Medical Cannabis Registry (Department of Health)
  - Inspections and Permitting System (Department of Labor and Industrial Relations)
  - CXsuite customer feedback app (NIC Hawaii)
  - eBench Warrants (Hawaii State Judiciary)
  - Commercial Marine Dealer Purchase Reporting System (Department of Land and Natural Resources)
  - Legislative Document Access (City & County of Honolulu)
  - Go Hunt Hawaii (Department of Land and Natural Resources)
  - MyPVL (Department of Commerce and Consumer Affairs)
  - Liquor Licenses and Permits (County of Hawaii)
  - Access Hawaii Committee Document Repository (NIC Hawaii)
  - DBEDT Small Business Regulatory Review Board (Department of Business, Economic Development, and Tourism)
  - Legislative Reference Bureau site
  - Public Access Room (Legislative Reference Bureau)
  - BDSD Invest – Buy Hawaii, Give Aloha (Department of Business, Economic Development, and Tourism)

PARTNER FOR SUCCESSFUL OUTCOMES

ETS 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 the end of 2020:

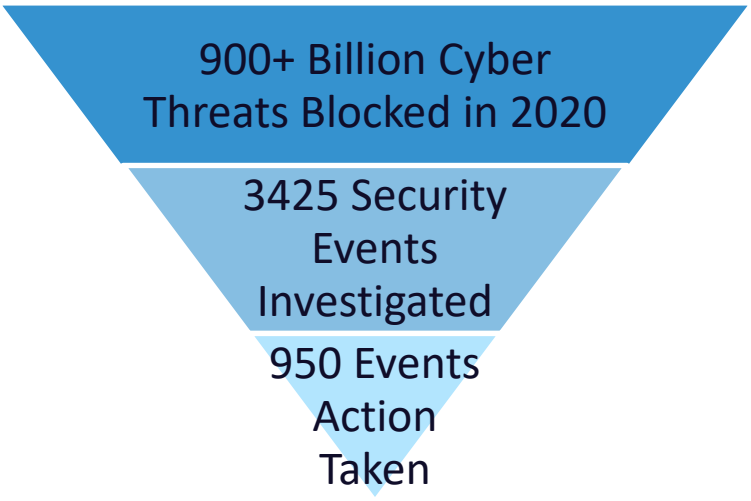
IN PROGRESS – Operational	Department
HiMod Payroll & Human Resources	DAGS/DHRD
Harbor Master Information System	DOT-HAR
Behavioral Health Inspire	DOH
DOE Financial Management System	DOE
OHA Financials	OHA
HiMod Time & Leave Management	DAGS-Statewide
IN PROGRESS – Developing	**Department**
Benefits Eligibility System	DHS
Disability Compensation	DLIR
Health Benefits Administration System	B&F-EUTF
COMING 2021	**Department**
Unemployment Insurance Modernization	DLIR
DOT-HWY Financial Management System	DOT-HWY
ERS Financials	B&F-ERS
Corrections Management	PSD
Statewide Financial Mgt System	DAGS-Statewide
COMING 2022	**Department**
E-Procurement System	DAGS-SPO
KEIKI Child Support System	AG-CSEA
Child & Adult Welfare	DHS
ERS Benefits Replacement	B&F-ERS
Vital Records Management Info System	DOH

EXPAND STATEWIDE CYBER SECURITY STRATEGY

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.

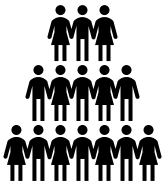
MISSON: *Protect and safeguard data passing through and stored on state government technology infrastructure.*

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



TEAM:

- Chief Information Security Officer

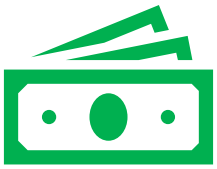


- Seven full-time ETS CyberSecurity Staff
- Other State Staff: approximately part time 20 employees on state teams maintaining data communication networks, enterprise software platforms, and cloud computing services
- External Support: Multi-State Information Sharing and Analysis Center provides remote monitoring with 365/7/24 alerts and advisories of state network and Internet activities

MS-ISAC®
Multi-State Information Sharing & Analysis Center®

EXPAND STATEWIDE CYBER SECURITY STRATEGY

CYBER SECURITY NEW PROGRAMS



- The 2019 Legislature appropriated $1,038,240 in fiscal year 2020 and $1,263,902 in fiscal year 2021 for cyber security capability enhancements by Office of Enterprise Technology Services.

So far, ETS implemented three applications executive branch wide to enhance its cyber security programs:

External email label: Makes external e-mail easy to identify while making internal e-mail more difficult to impersonate to reduce the risk of phishing. Throughout the calendar year, the email security solution detected over 50,000 malicious emails; 98% being blocked.

Email filtering: A new user digest classifies Email as spam or junk and sends it to a personal quarantine instead of being delivered to the inbox or junk folder.

Web enhancer: Provides content delivery network services, cyber-attack mitigation, and a web application firewall for the purposes of increasing security and performance of websites.

CYBER SECURITY TRAINING

ETS has been working with the State Department of Human Resources to provide Cybersecurity Awareness Training as part of the State's foundational knowledge set. Information Technology integrates with every area of State business, and educating and empowering employees to be safe and secure when using computers not only benefits the State but also our employees' homes.

EXPAND STATEWIDE CYBER SECURITY STRATEGY

PHISHING AWARENESS CAMPAIGN

ETS provides cyber security awareness campaigns quarterly 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.

12,064 USERS

7% CLICKED ON THE PHISHING EMAIL

Due to the abrupt disruptions caused by the 2020 CoVID-19 Pandemic and shifting of priorities, the cyber security team only conducted and managed two enterprise-wide campaigns. From the two campaigns, there was a 3% decrease of users who interacted with the campaign message.

ELECTION SYSTEMS

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.

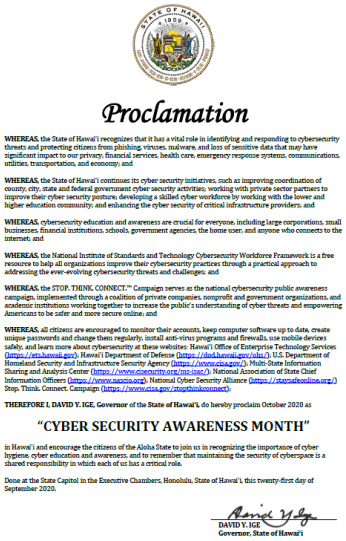
- ETS provides the computing, communication network infrastructure, and many layers of cyber security protections for the State Office of Elections digital assets.
- As the processes and systems that collect and count votes are not exposed to the Internet at any time, voters can be confident that election counting results are accurate and safe.
- The State of Hawaii was awarded more than $3M under the Federal government's 2018 Help America Vote Act.
- To see Hawaii's Program Narrative, click here.

EXPAND STATEWIDE CYBER SECURITY STRATEGY

CYBER SECURITY MONTH

Gov. David Ige proclaimed October Cybersecurity Awareness Month in Hawaii, in recognition of the state's role in identifying, protecting its citizens from, and responding to cyber threats.

Due to the pandemic, the Governor was not able to hold a proclamation signing ceremony this year.



Proclamation

WHEREAS, the State of Hawai'i recognizes that it has a vital role in identifying and responding to cybersecurity threats and protecting citizens from phishing, viruses, malware, and loss of sensitive data that may have significant impact to our privacy, financial services, health care, emergency response systems, communications, utilities, transportation, and economy; and

WHEREAS, the State of Hawai'i continues its cyber security initiatives, such as improving coordination of county, city, state and federal government cyber security activities; working with private sector partners to improve their cyber security posture; developing a skilled cyber workforce by working with the lower and higher education community; and enhancing the cyber security of critical infrastructure providers; and

WHEREAS, cybersecurity education and awareness are crucial for everyone, including large corporations, small businesses, financial institutions, schools, government agencies, the home user, and anyone who connects to the internet; and

WHEREAS, the National Institute of Standards and Technology Cybersecurity Workforce Framework is a free resource to help all organizations improve their cybersecurity practices through a practical approach to addressing the ever-evolving cybersecurity threats and challenges; and

WHEREAS, the STOP. THINK. CONNECT.™ Campaign serves as the national cybersecurity public awareness campaign, implemented through a coalition of private companies, nonprofit and government organizations, and academic institutions working together to increase the public's understanding of cyber threats and empowering Americans to be safer and more secure online; and

WHEREAS, all citizens are encouraged to monitor their accounts, keep computer software up to date, create unique passwords and change them regularly, install anti-virus programs and firewalls, use mobile devices safely, and learn more about cybersecurity at these websites: Hawai'i Office of Enterprise Technology Services (https://ets.hawaii.gov); Hawai'i Department of Defense (https://dod.hawaii.gov/ohs/); U.S. Department of Homeland Security and Infrastructure Security Agency (https://www.cisa.gov/); Multi-State Information Sharing and Analysis Center (https://www.cisecurity.org/ms-isac/); National Association of State Chief Information Officers (https://www.nascio.org); National Cyber Security Alliance (https://staysafeonline.org/) Stop. Think. Connect. Campaign (https://www.cisa.gov/stopthinkconnect);

THEREFORE I, DAVID Y. IGE, Governor of the State of Hawai'i, do hereby proclaim October 2020 as

"CYBER SECURITY AWARENESS MONTH"

in Hawai'i and encourage the citizens of the Aloha State to join us 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 twenty-first day of September 2020.

DAVID Y. IGE
Governor, State of Hawai'i

GIRLS GO CYBERSTART

Girls Go CyberStart is a state sponsored, ETS led initiative that encourages young women to explore the field of cyber security through a fun, interactive online program composed of digital challenges. The nationwide competition is organized by the Sans Institute.

There were 269 teams and 240 individual girls that showed up to give it their best. Hawaii is the only state that had a tie – the three teams reached their scores within minutes of each other so Girls Go CyberStart decided to reward all three!

This year's winners:

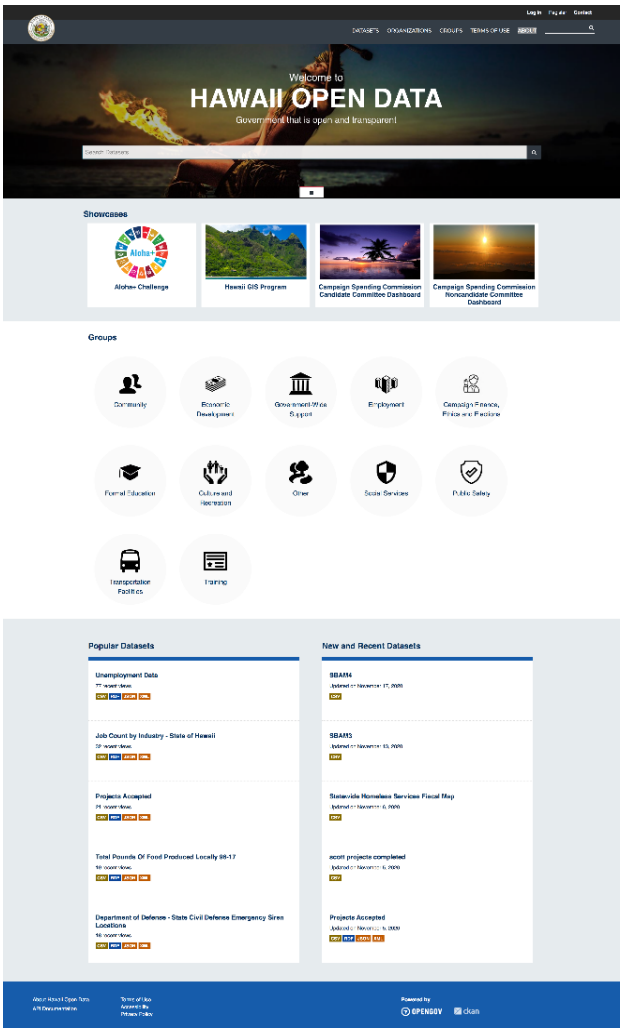
PRIZE	SCHOOL	RANKING of 269 Teams	GROUP NAME
1st State	Myron B. Thompson- A New Century	44	MBTA Cyber Shark Tech Club
2nd State	Kalani High School	56	Kalani Computer Coding
3rd State	Sacred Hearts Academy	70	SHA CyberLancers
3rd State	Keaau High School	71	Cougar Coders
3rd State	St. Andrew Schools	74	The Priory Cyber

ENHANCE THE VALUE OF 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.

OPEN DATA PORTAL



- A new and improved State data portal, Hawaii Open Data, is now available at opendata.hawaii.gov. The redesigned platform was launched in September.

- The platform was reconstructed under a brand-new platform, giving state data a new light and user experience.

- Hundreds of existing datasets were added and hundreds more were harvested from the State's ESRI platform were integrated.

- Visitors to the site will find datasets organized by six major topics: culture and recreation, economic development, employment, environmental protection, formal education, and government-wide support.

- ETS continues to finalize our financial transparency data to provide up-to-date State budget and expenditure information to our constituents and civic entities.

ENHANCE THE VALUE OF STATE DATA

- ETS facilitates executive branch departments' efforts to make appropriate and existing electronic data sets electronically available to the public through data.hawaii.gov, which now offers charting libraries and mapping tools for the creation of dynamic visualizations.

- More than 660 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 more than 3 million browser page views.

ALOHA+ CHALLENGE DASHBOARD

- The Office of Enterprise Technology Services supports the Aloha+ Challenge Dashboard through a State partnership with Hawaii Green Growth by providing website hosting services and ESRI license.

- The Aloha+ Dashboard was recently rebranded and now leverages ESRI as a platform. The online open data platform tracks progress, provides accountability, and ensure transparency on the Aloha+ Challenge.

- The Aloha+ Challenge Dashboard is designed for decision makers, practitioners, and the public to inform policy, data driven decision making, and inspire action on Hawaii's statewide 2030 sustainability goals.

OPTIMIZE ENTERPRISE SYSTEMS

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).

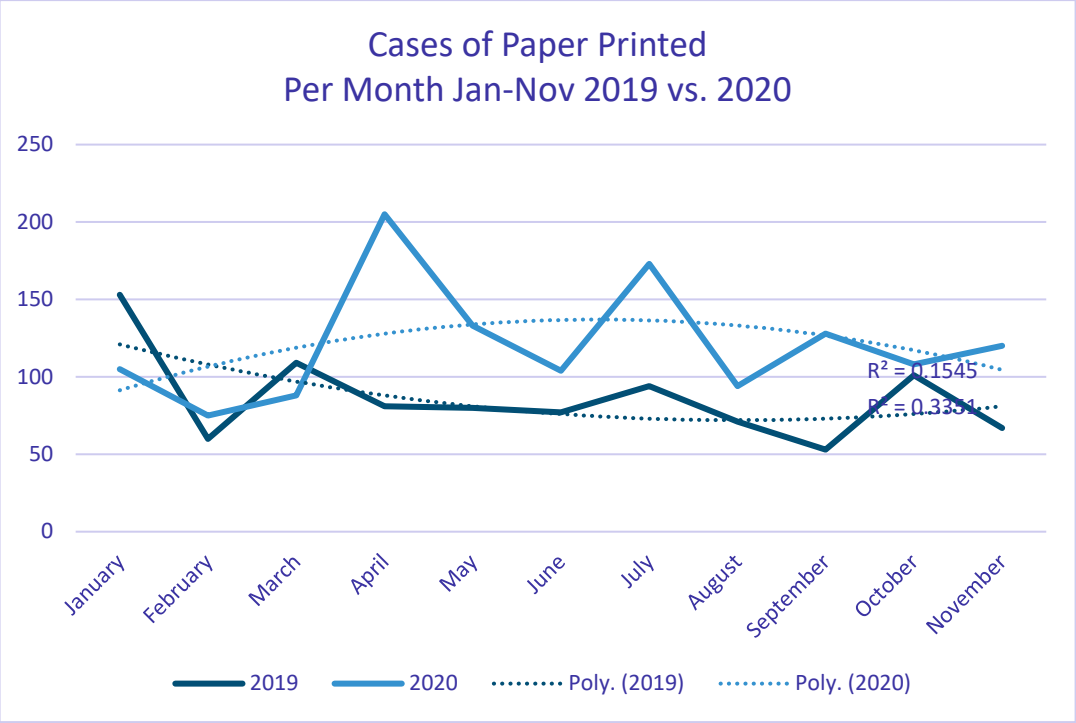
- **Shared Data Center –** ETS has three data centers: DR Fortress, University of Hawaii, and the Kalanimoku Building, for use by the departments.
- **Mainframe Services** – ETS provides Mainframe hosting and services for use by the departments. ETS converted the mainframe lease to IBM buying out the system on December 1, 2020. This is a prelude to migration from an on-premise mainframe to a Mainframe as a Service (MFaaS) solution. In 2020, ETS successfully implemented a remote cold Disaster Recovery (DR) site in Nebraska. This creates a much more practical DR solution compared to the previous solution where the DR site was less than 4 miles distant from the production site. ETS anticipates completing the move from an on-premise mainframe solution to MFaaS in late 2021 or early 2022.

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

OPTIMIZE ENTERPRISE SYSTEMS

- **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.

- **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.
    - *Paper use trended downward in 2019 and into early 2020 by -16.8% in the first quarter. However, paper usage for January through November 2020 rose 40.9% compared to the same time period in 2019 due to the pandemic related dramatic increase of unemployment insurance letters to claimants informing them of their eligibility, letters to employers notifying them that their employees are making a claim against them, PEUC and EB letters to claimants who potentially qualify for these benefits, and larger than normal reports. However, as we near the end of calendar year 2020, paper use/printing is trending down to near pre-pandemic levels.*

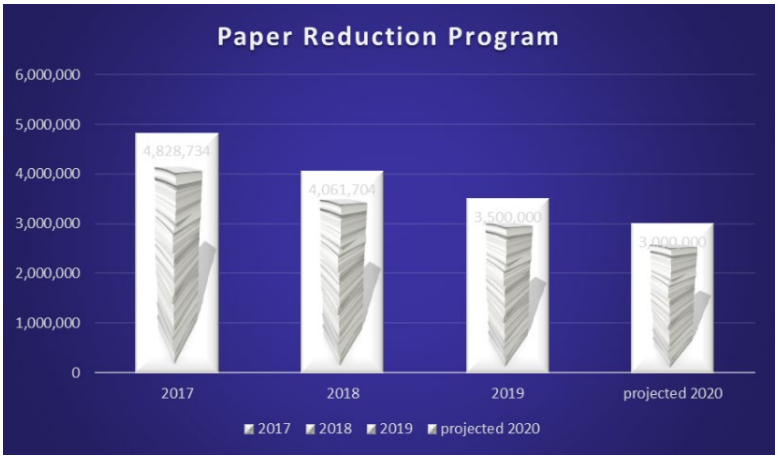


[1]

[1] **One case of paper = 500 sheets.**

OPTIMIZE ENTERPRISE SYSTEMS

PAPER REDUCTION PROGRAM: In Governor Ige's 2015 State of the State address, he pointed to the fact that the State goes through about one million pieces of paper a month – 12 million pages each year – and committed to helping the state go paperless as a means of transforming the culture of government to embrace and accelerate change. Since then, ETS has launched several paper reduction initiatives

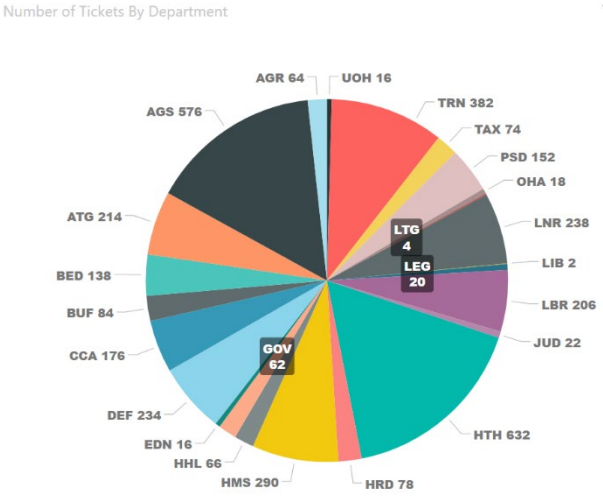


In 2017, ETS began transitioning departments into producing electronic reports instead of printing hard-copy documents.

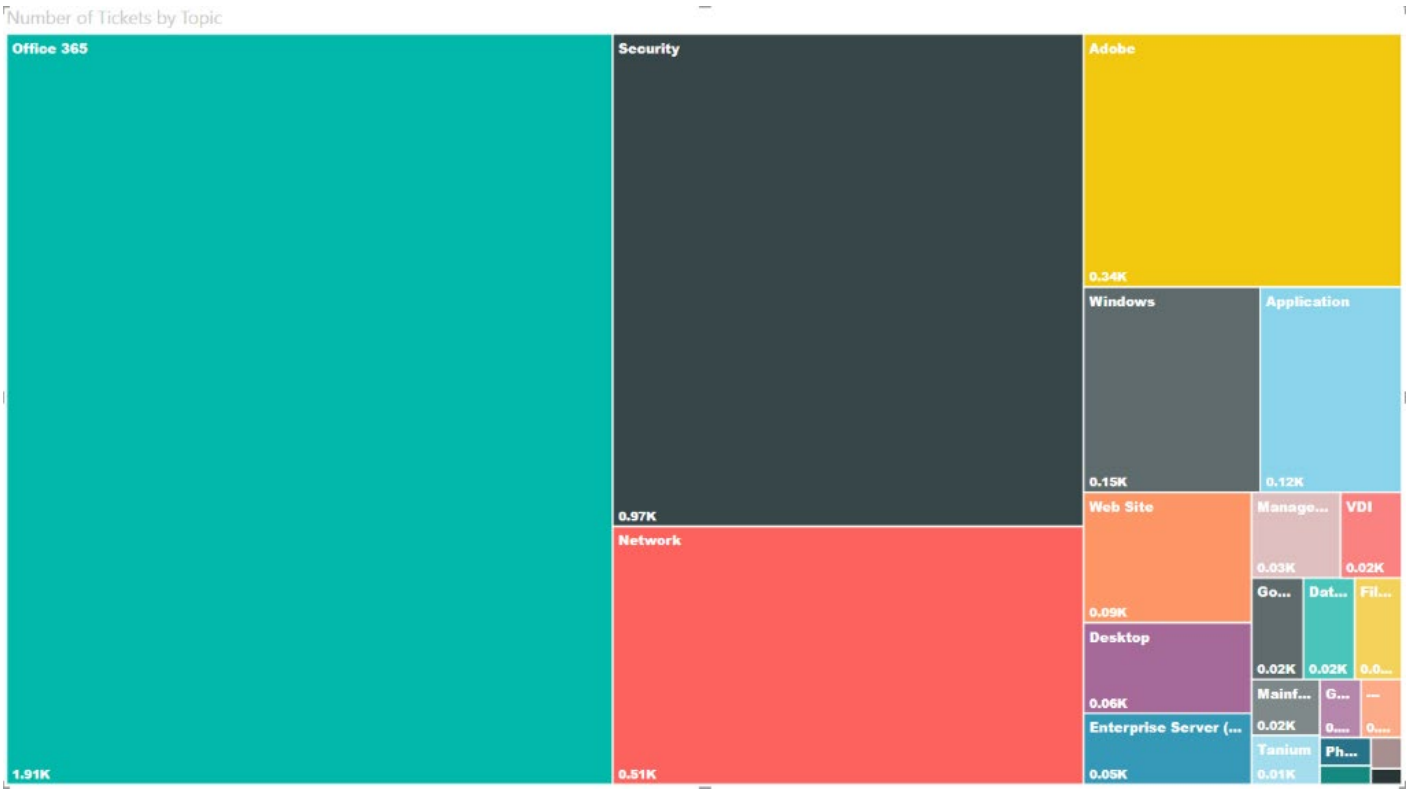
- In three years, the State is projected to save $500-thousand and 10 million sheets of printed paper though this paper reduction program.
- Additional paper reductions and cost savings are expected in the coming months as more departments eliminate many printed paper reports entirely and convert others to digital documents.
- The transition to online pay statements has reduced the paper issuance from over 3.2 million checks/statements annually to about 60,000 checks/statements.
- Paper use continues to decline each pay day, with more employees enrolling in direct deposit.
- Additional paper reduction for other employee self-service transactions include emergency contact updates, the recently added functionality of submitting tax withholdings online, and online W-2 delivery began in 2020 for the 2019 year.

OPTIMIZE ENTERPRISE SYSTEMS

SERVICE DESK



ETS responded to nearly 5,000 service requests in 2020. From responding to requests to unlock passwords to providing support for websites and applications, ETS' service desk provides executive branch departments with assistance.



EXTEND IT PORTFOLIO GOVERNANCE

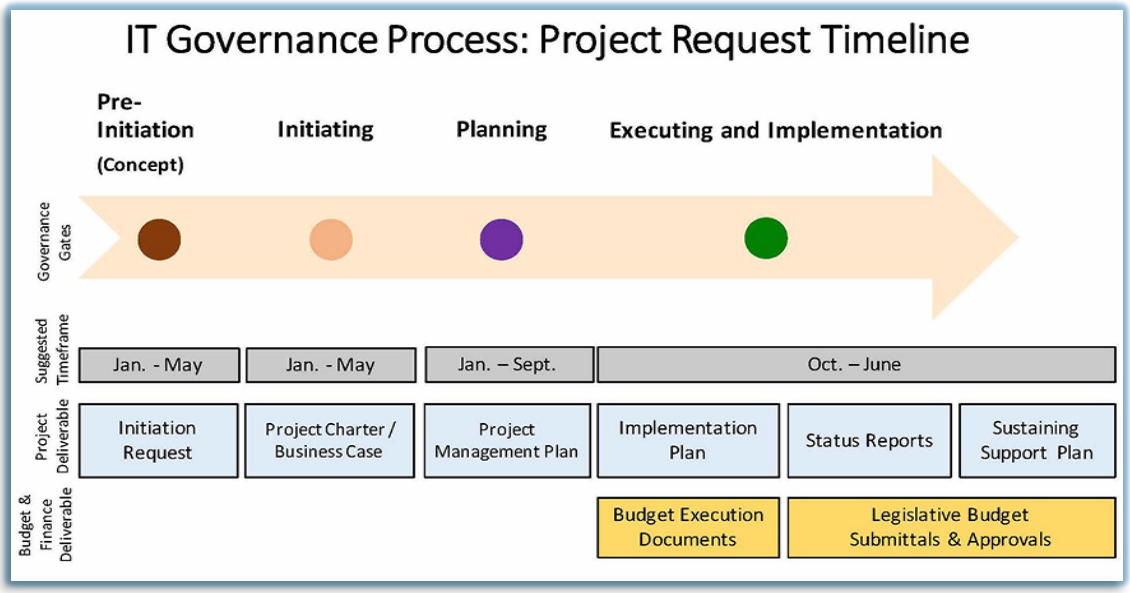
Extend the State IT Governance Model to better align the state's functions with resources and ensure the State follows industry best practices and garners the full benefits of its investments.

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.

IT PROJECT GOVERNANCE

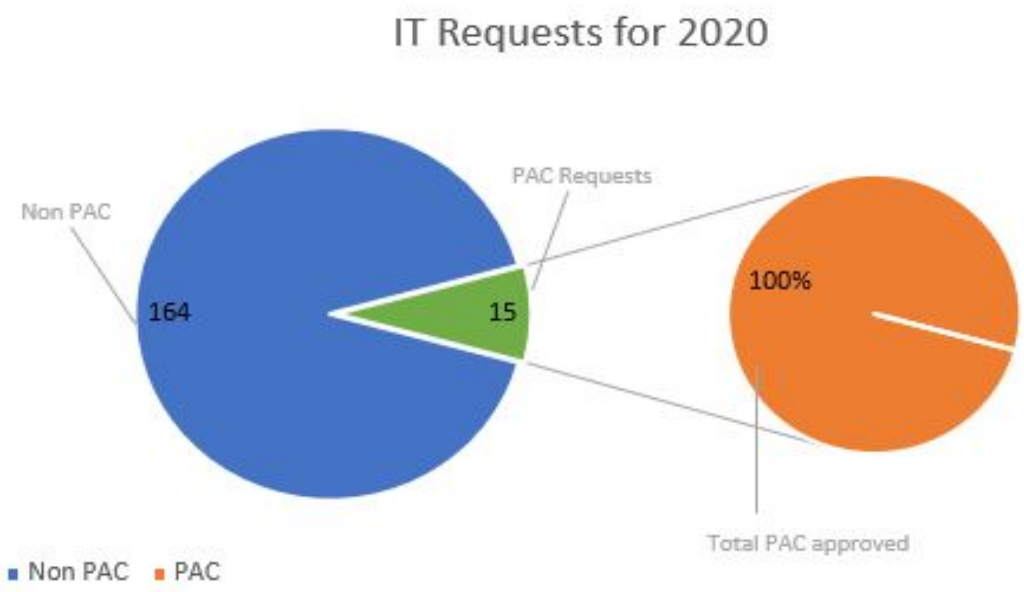
ETS provides IT governance for Executive Branch projects under Administrative Directive No. 18-03 Program Governance and IV&V Requirements for Enterprise IT Projects.

Information technology (IT) governance consists of processes and standards guiding the management and oversight of the State of Hawaii'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.



EXTEND IT PORTFOLIO GOVERNANCE

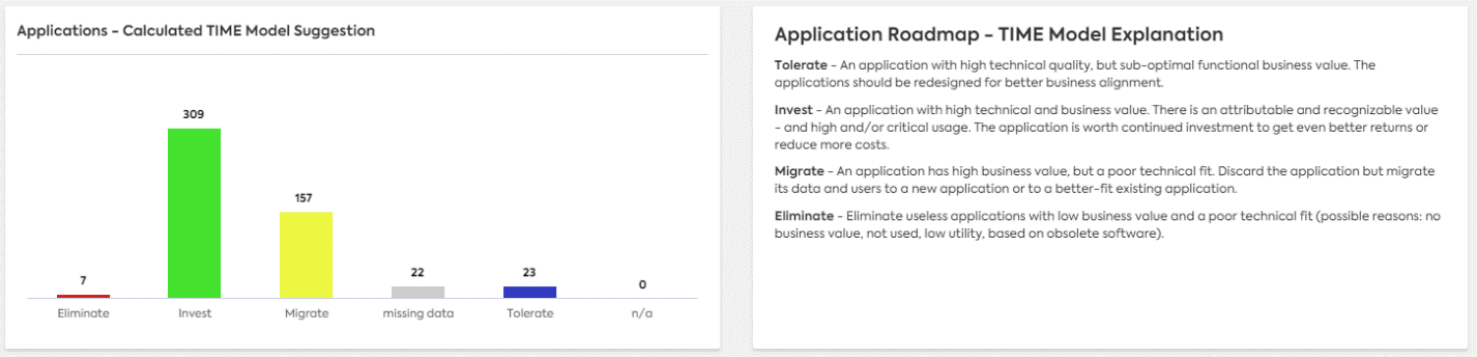
The charts below show project requests for 2020.



HAWAII DEPARTMENTAL IT ROADMAP DASHBOARD

During 2020, ETS continued to expand data collection and governance of departmental IT portfolios and roadmaps. 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.

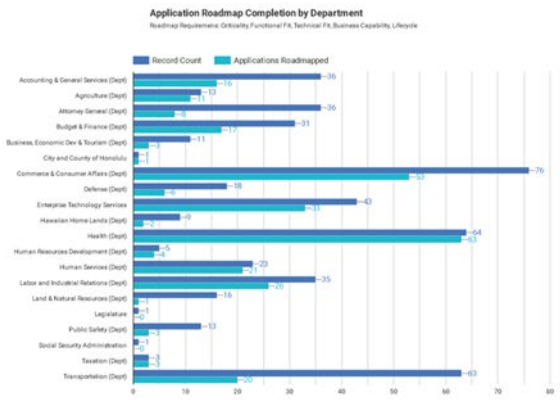
EXTEND IT PORTFOLIO GOVERNANCE



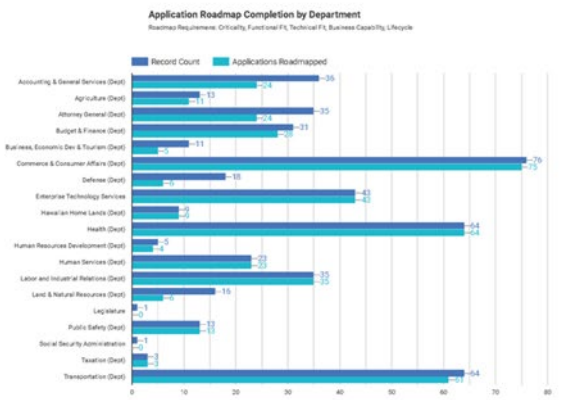
Similar to IT applications, work continued to assess value and risks of all active and planned IT projects – including both projects for maintenance of existing IT systems and projects for complete modernization of underserving IT systems.

Various metrics and related reports were established during 2020 for measuring and illustrating the IT portfolio management process. As an example, below charts demonstrate the continued progress with the departmental application roadmap discovery.

Status on 7/23/2020



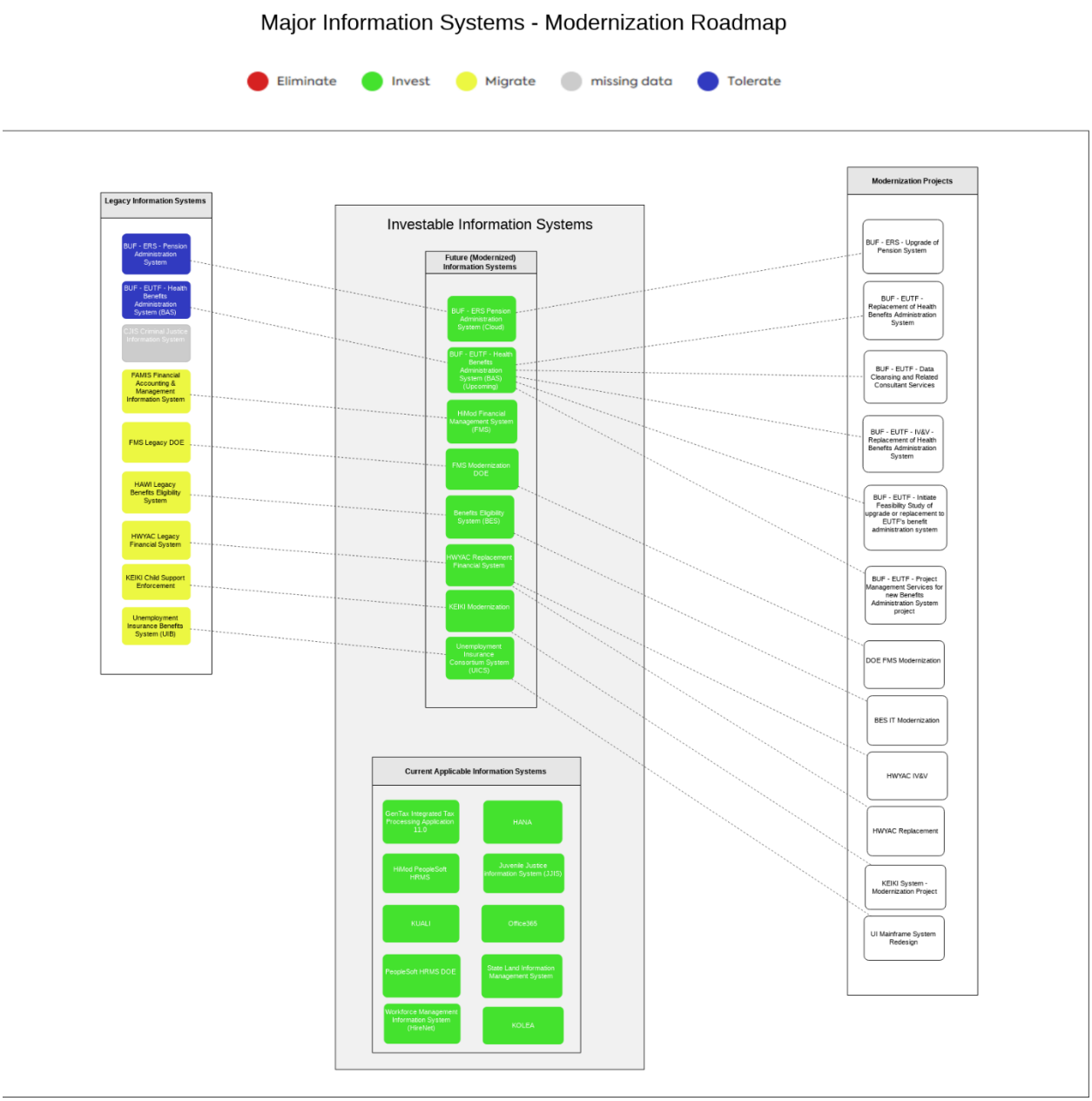
Status on 10/22/2020



Details of major information systems and the related major active and planned modernization projects continued to be enhanced.

EXTEND IT PORTFOLIO GOVERNANCE

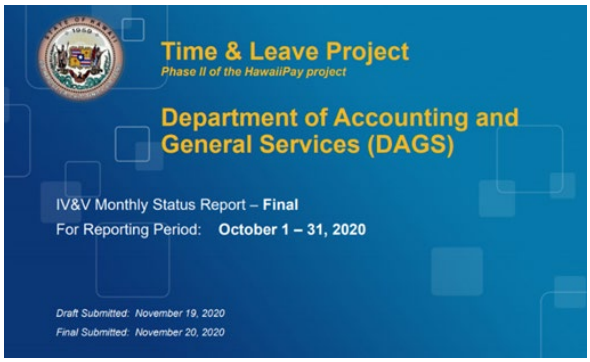
MAJOR INFORMATION SYSTEMS – MODERNIZATION ROADMAP



Finally, as part of ETS' challenge for the Hawaii Annual Code Challenge (HACC), the state-wide IT portfolio application and project data was made available as open data in the state's new OpenGov open data portal.

EXTEND IT PORTFOLIO GOVERNANCE

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.

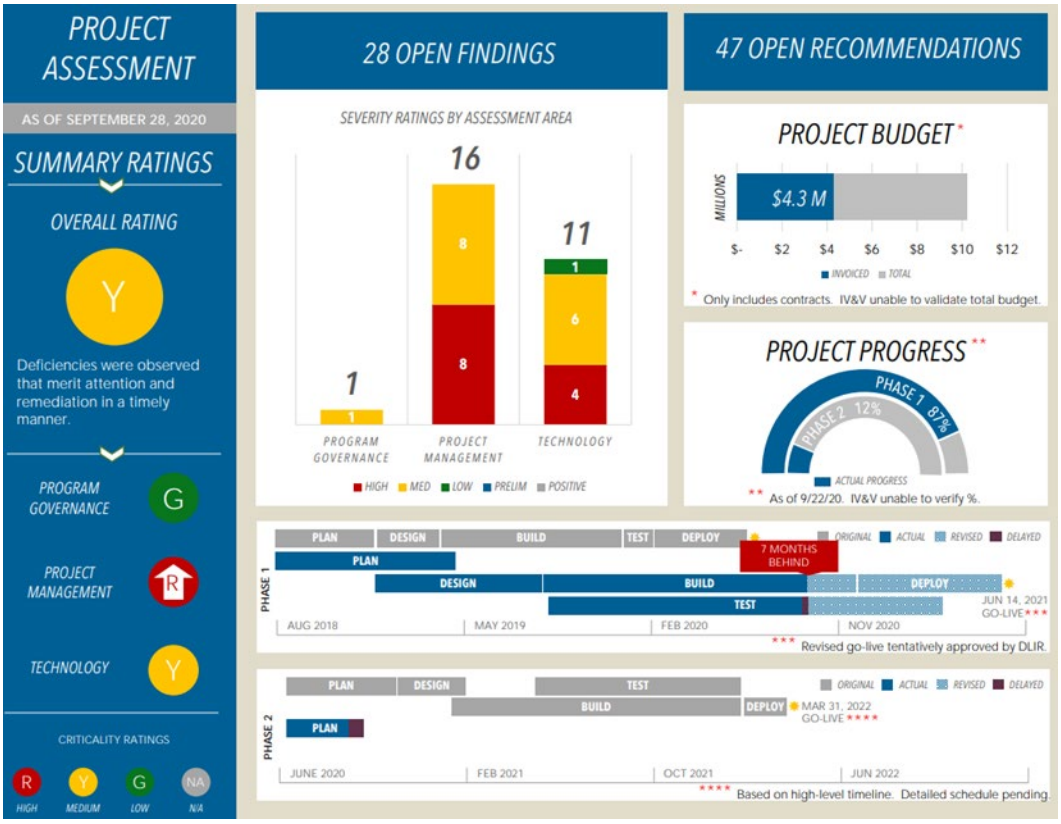
IV&V provides a rigorous independent process that evaluates the correctness and quality of the business product of the project to ensure that the product is being developed in accordance with customer requirements and is well-engineered.

In 2020, ETS provided IV&V oversight over the following projects:

- Department of Health's Behavioral Health Administration Integrated Case Management System,
- Department of Accounting and General Services' Time and Leave Project,
- Department of Human Services' Systems Modernization project,
- Department of Labor and Industrial Relations, Disability Compensation Division's Modernization Project,
- Employer-Union Health Benefits Trust Fund's Benefits Administration System, and
- Department of Education's Financial Management System Modernization project.

EXTEND IT PORTFOLIO GOVERNANCE

INDEPENDENT VERIFICATION AND VALIDATION REPORTS (CONTINUED)



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 12,390 Office 365 licenses that are now being utilized by branch department users. Benefits include fortified security, greater disaster recovery capability, expanded applications and services, added tools for collaboration, and long-term budget sustainability. A dramatic increase of Microsoft SharePoint storage was driven in response to the pandemic and increase in telework: 1.8TB (terrabytes) of SharePoint storage was in use shortly before widespread awareness of COVID-19 in March. By the end of October, 12.99TB of SharePoint storage was in use – a more than seven-fold increase in less than a year. It should be noted that most of this increase occurred shortly after teleworking became the norm, then storage use went from 1.8TB to 9TB in one month.
- **eSign Service** – Departments statewide increased government efficiency within the executive branch through the use of eSign. About 200,000 transactions are processed through the Adobe eSign service each year. The COVID-19 pandemic in 2020 accelerated the use of electronic signatures. The impressive 10.8% increase seen from October 2018 to October 2019 was eclipsed by the pandemic driven increase of 28% from October 2019 to October 2020.
- **Adobe Creative Cloud** – Departments statewide have access to the Adobe products suite to create PDFs, and other digital media and assets.

EVERGREEN OPERATIONS

SHARED SERVICES (CONTINUED)

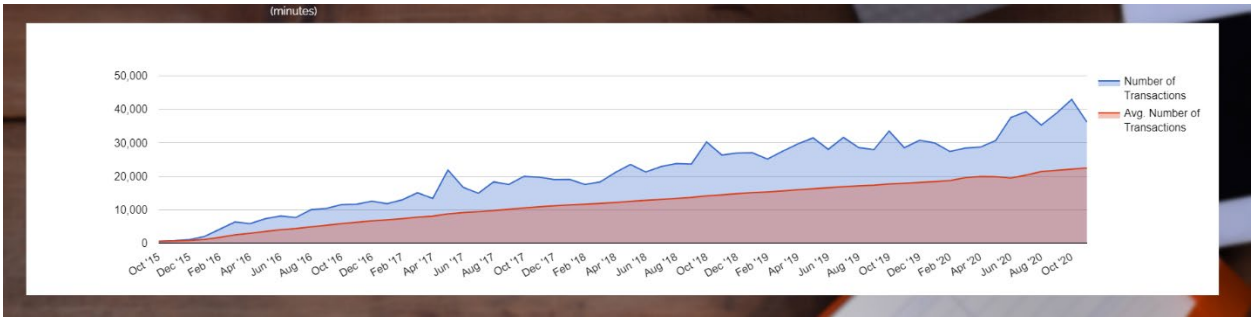
- **Government Private Cloud** – ETS is a VMware Service Provider and provides Hyper Converged Infrastructure and services to various departments.
- **Public Cloud Services** – ETS provides Amazon Web Services (AWS), Microsoft Azure, and Google Cloud services to various applications, and services.
- **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 Hawaii 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 four years with additional functionality added every year. For the 2020 Legislative Session, the application garnered 600 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 2020 legislative session, 1497 testimonies were submitted

ETS maintains a list of other services available for use or purchase through ETS contracts.

EVERGREEN OPERATIONS

eSIGN

Four years after eSign was officially launched, nearly 1.5 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 environmental impact by saving more than 61-thousand pounds of wood, 177-thousand gallons of water and nine-thousand pounds of waste.

7190400 Gallons of Water Saved	396480 Pounds of waste saved	2506560 Pounds of wood saved

EVERGREEN OPERATIONS

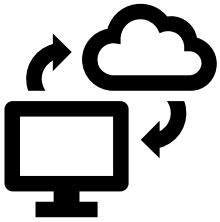
OFFICE 365

ETS manages 12,390 Office 365 licenses that are now being utilized by executive branch department users.

- Licenses include applications: Microsoft Teams, One Drive, Skype, 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 500 sites (department websites and its subsites) and provides other cloud hosting options.

aws

Azure

SALESFORCE

- ETS supports the application which HiMod's payroll call center, Hawaii Informaton Portal (HIP), uses as its customer relationship manager.

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

BRANDWATCH

ETS is working with social media management platforms, such as Brandwatch, to assist with content curation, monitoring and management, among other things. ETS assisted Hawaii County in using the tools during its disaster and volcano recovery. The tools are used to track social media content and help in the creation of communication strategies and correct misinformation.

EVERGREEN OPERATIONS

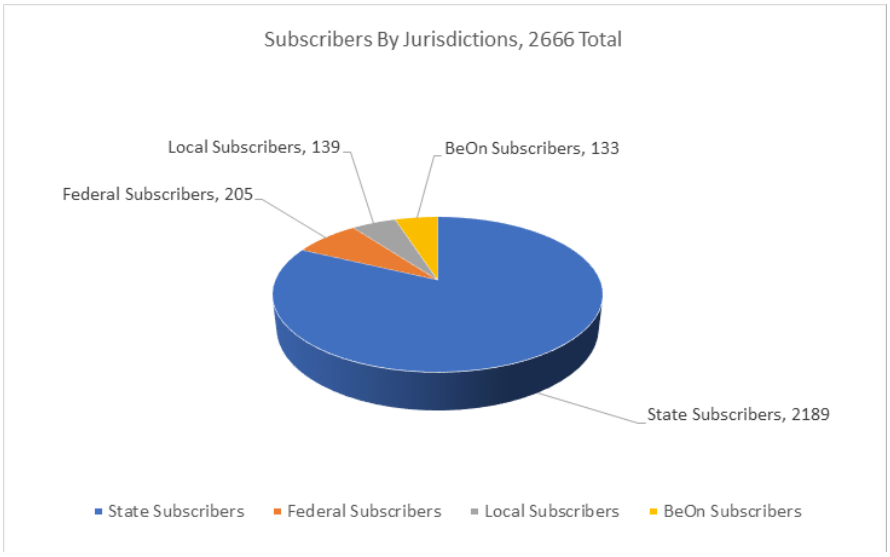
HAWAII WIRELESS INTEROPERABILITY NETWORK (HiWIN)

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 isolated, it will continue to operate with the full functionality of the system at-large. Backed by the State of Hawaii microwave network of links, the system joins sites that are designed to survive a category 4 hurricane.

HiWIN By The Numbers

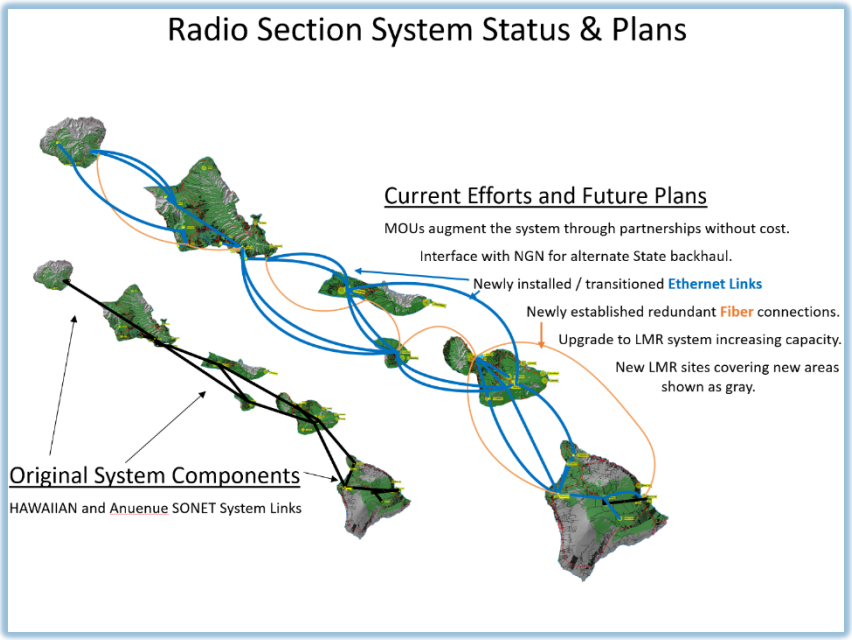
- 44 radio sites serve various federal agencies, County of Kauai, Kauai Island Utility Cooperative, City & County of Honolulu, Hawaii Emergency Management Agency, University of Hawaii, U.S. Coast Guard, County of Maui, County of Hawaii, U.S. Army Pacific Land Mobile Radio, and national parks.
- 26 of the 46 radio sites are managed by ETS.
- 20 of the 46 radio sites are managed by ETS Partners including City and County of Honolulu, County of Maui, County of Hawaii, and U.S. Coast Guard.
- Serves the communication needs of all airports statewide.

Roughly 31 agencies statewide use HiWIN, with more than 3300 users:



EVERGREEN OPERATIONS

ANUENUE Interisland Digital Microwave Partnership



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 Hawaii. 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.

EVERGREEN OPERATIONS

The ANUENUE Network infrastructure of high-capacity microwave links, radio towers, and ground facilities support systems used by Hawaii'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 Hawaii Wireless Interoperability Network (HIWIN); Maritime Wireless Network System; Hawai'i Emergency Management Agency; and 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 Mobile Radio System, National Oceanic and Atmospheric Administration Emergency Weather Broadcast System, U.S. Customs and Border Protection, and United States Geological Service.

EVERGREEN OPERATIONS

ANUENUE Interisland Digital Microwave Partnership (Continued)

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.

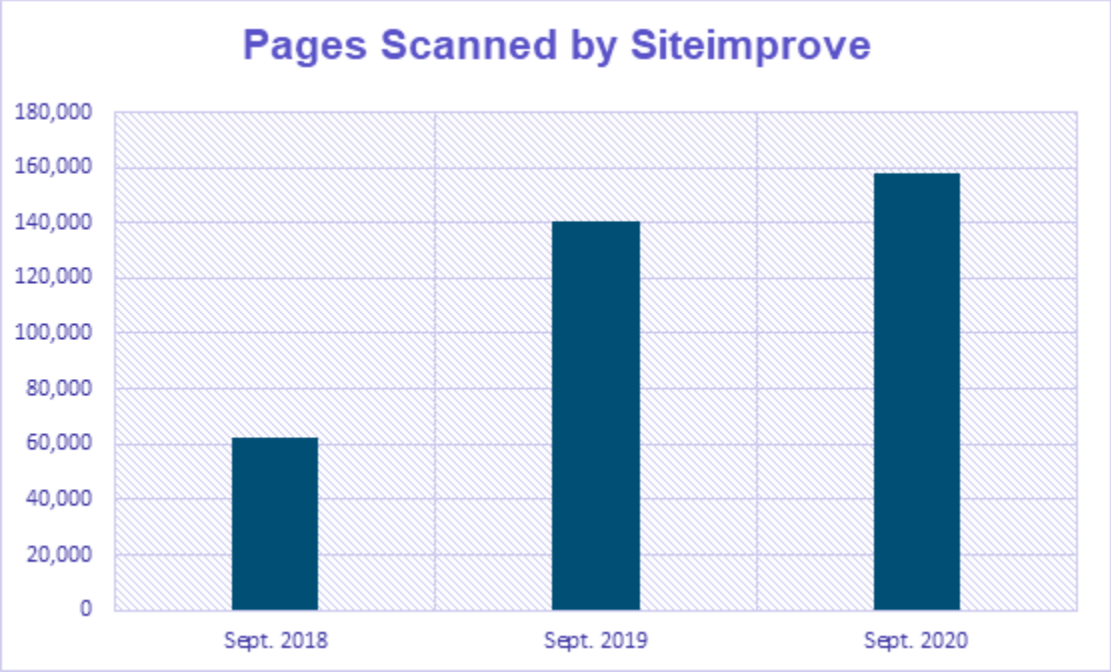
Enterprise Notification System (ENS) using Alert Media

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 three agencies now with eight other agencies in various states of deployment.

EVERGREEN OPERATIONS

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.



- Overall, numbers show that more executive state departments are adopting Siteimprove.

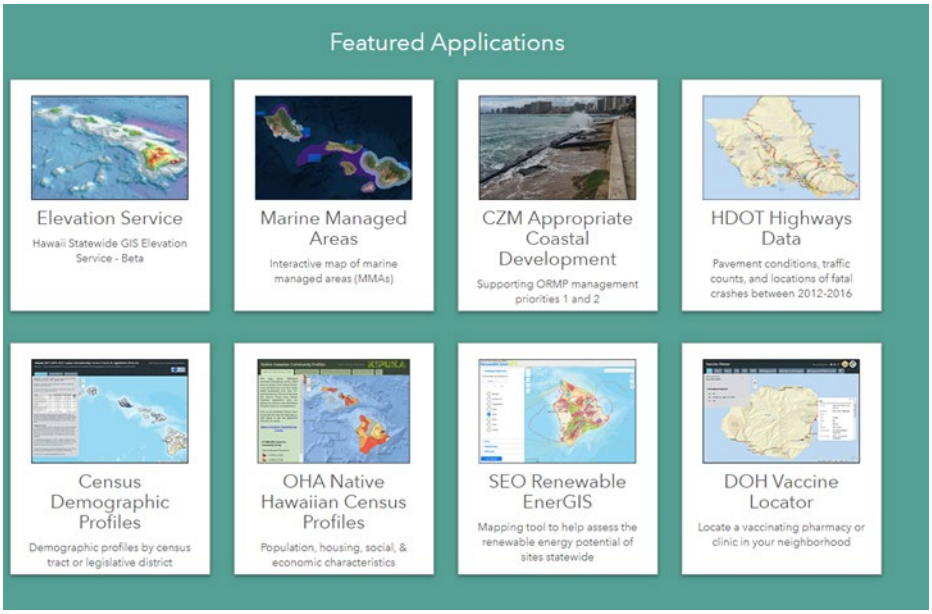
- The number of pages scanned in September was 157,864, that's compared to 62,154 pages in September 2018.

- Websites are now providing a more inclusive user experience by ensuring web accessibility standards are met, along with providing higher quality, digital performing sites without broken links and readability issues.

- Supported the Disability and Communication Access Board's user training series in web accessibility, along with the University of Hawaii Center on Disabilities; a series of workshops were held at the Capitol, providing students with the basics of creating documents and files with web accessibility in mind.

EVERGREEN OPERATIONS

GEOGRAPHIC INFORMATION SYSTEM PROGRAM

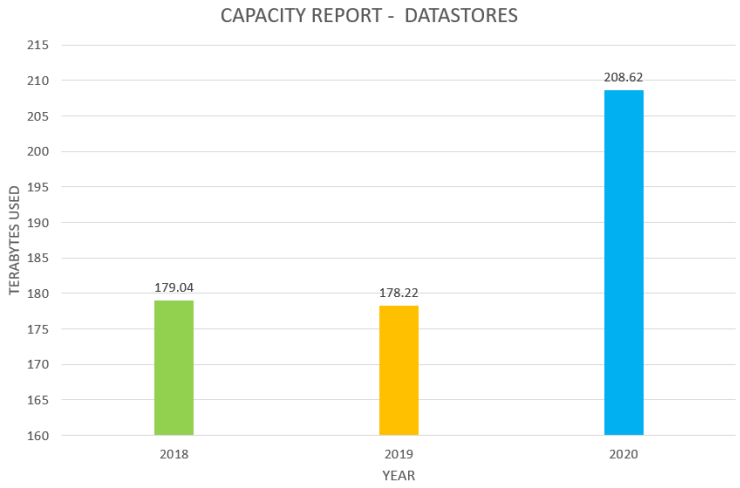


- The GIS Program is an Office of Enterprise Technology Services and Office of Planning joint effort.
- Approximately 700 active users in State's primary Cloud mapping organization.
- Established enterprise licensing agreements and cloud-based hosting services that encourages broad GIS adoption across all State of Hawaii departments.
- Reduces redundant local databases, standardizes information analyzed by decision makers.
- Collects and distributes up-to-date authoritative GIS data to more than 600 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.

EVERGREEN OPERATIONS

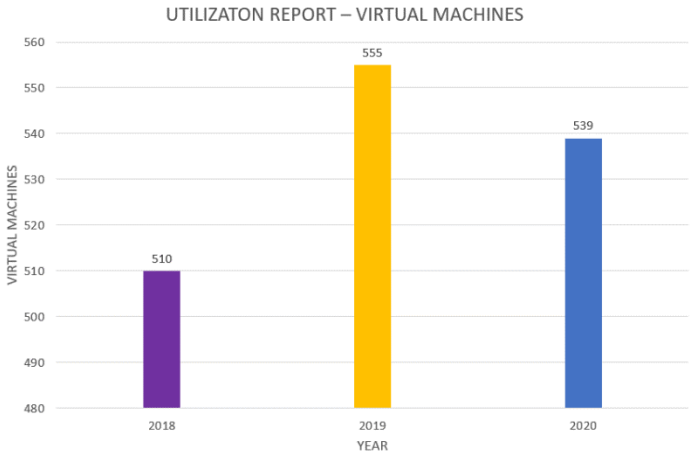
GOVERNMENT PRIVATE CLOUD

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 as infrastructure to host various applications, and services.



DIGITAL WORKFORCE 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.

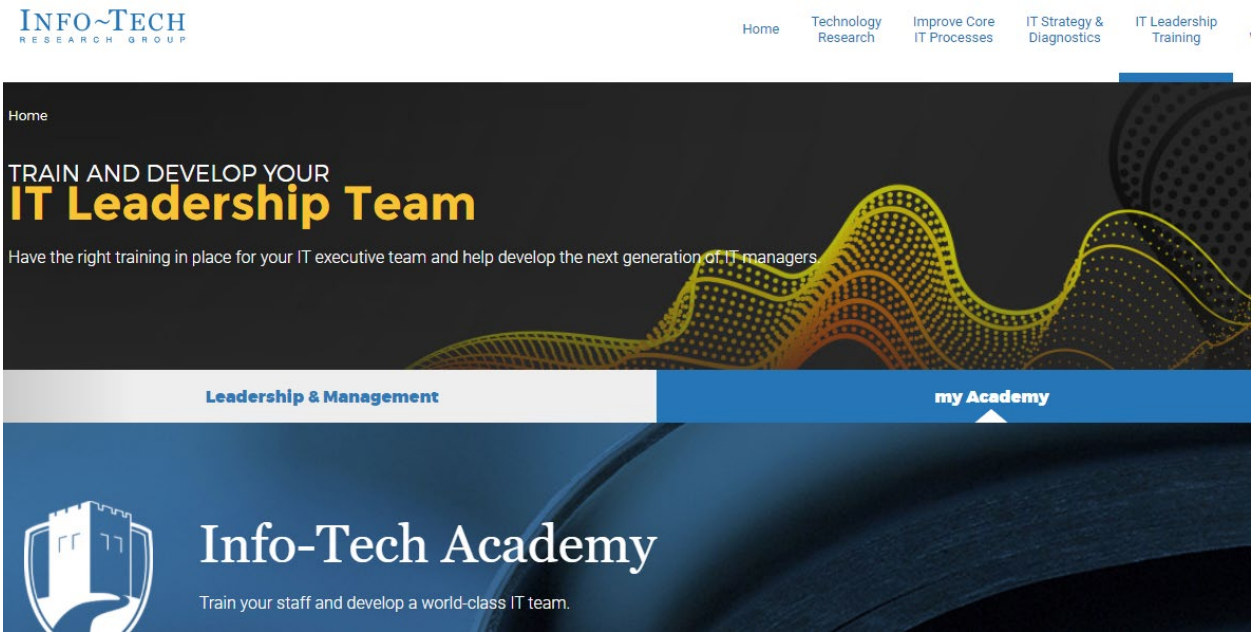
PROFESSIONAL DEVELOPMENT

ETS provides employees with linear learning (learning a complete process, programming language, or system from A to Z) and flow learning (learning about a narrow topic to solve a work-related problem or improve knowledge in a specific area).

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.

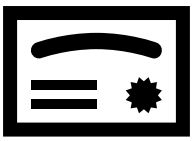
In 2020, ETS staff continued to complete courses and earn certificates. Guided Implementations and virtual Workshops covering various subjects have been scheduled, dates to be determined.



DIGITAL WORKFORCE DEVELOPMENT

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, OpenGov, 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.

WORKFORCE STATISTICS FOR CALENDAR YEAR 2020

- Employee Count with Vacancies – 181
  - 66 Exempt
  - 115 Civil Service
- New Hires – 12
  - 12 Exempt
- Internal Promotions – 4
- Resignations – 5
  - 4 Exempt
  - 1 Civil Service
- Retirements – 6

DIGITAL WORKFORCE DEVELOPMENT

DIGITAL STATES SUMMIT

The 2020 Hawaii 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.

This year, the Digital Summit shifted from an in-person event to two half days of virtual sessions, due to the Pandemic travel and gathering restrictions.

Recognized national speakers, Hawaii IT leaders, and colleagues from other states shared their collective experiences and proven problem-solving strategies. Topics included Safe Travels Program, Teleworking, Improving On-line Services, Cybersecurity, Managing Change, and more. ETS, state departments, and other partners provided summit programming content.

This professional development and learning event drew 350 participants from all levels of government in Hawaii.

DIGITAL WORKFORCE DEVELOPMENT

HAWAII ANNUAL CODE CHALLENGE (HACC)

Traditionally In-Person Event Pivots to Virtual Event In Response to COVID

Gov. David Ige's vision for the Hawaii Annual Code Challenge when it began in 2015 included providing an opportunity for civic engagement with the local technology community in modernizing state functions and services for a more effective, efficient and open government.

The HACC provides an expanded four-week timeframe meant to encourage interaction between community teams and state department personnel, ultimately resulting in sustainable solutions that are appropriately matched with technologies and platforms in use or being considered by the state. This event promotes the state as an innovative hub for future innovators.

OverEasi, a team from the University of Hawaii, took home the top prize of $4,000. The team proposed a solution for a challenge by NIC-Hawaii, called COVID-19 Chatbot, which asked participants to effectively design and deliver a chatbot that could quickly share up-to-date information and encourage desired healthy behaviors.

"I'm proud of all of the participants and applaud their efforts in putting forth creative and imaginative solutions to some of the state's most significant challenges. The level of participation is a testament that the pandemic and the need to pivot to a virtual event has not curbed the excitement and enthusiasm of our participants," said Gov. David Ige.

"It was exciting to see all of the innovative solutions and the talented teams right here in Hawaii. We hope to work with the winning teams to further develop their proof-of-concepts and implement them," Doug Murdock, Office of Enterprise Technology Services Chief Information Officer added.

DIGITAL WORKFORCE DEVELOPMENT

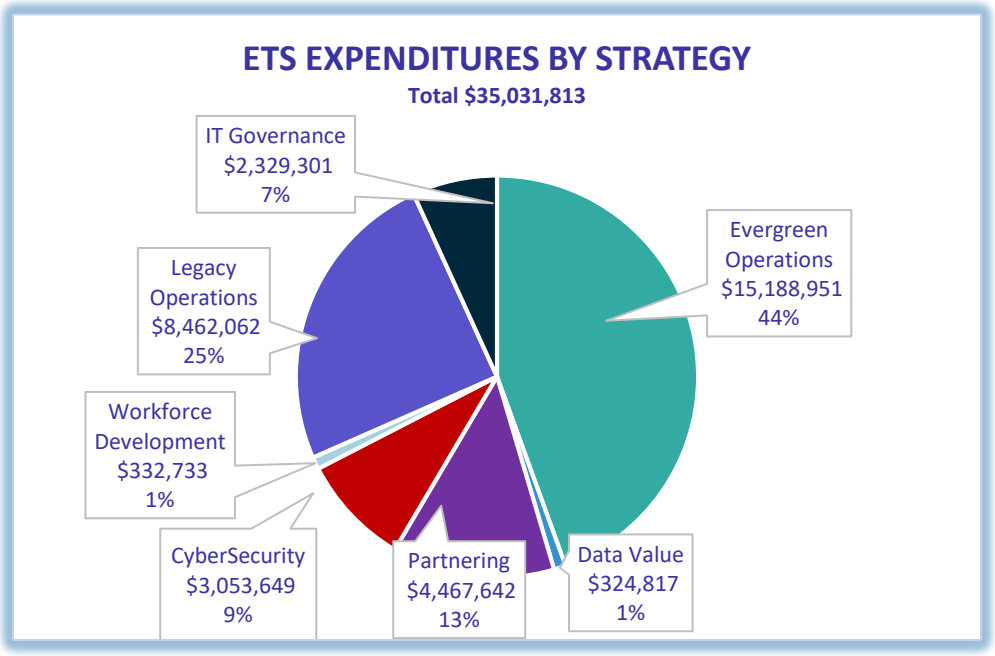
Mililani High School team DFE took home the high school category prize of $500 for their solution to a challenge proposed by the Office of Enterprise Technology Services, which asks the participants to find a way that would present the State Information Technology Portfolio to the public visually.

2020 HACC BY THE NUMBERS

- **140 PARTICIPANTS**
- **36 TEAMS CREATED**
- **18 TEAMS ESTABLISHED WORKING CODE**

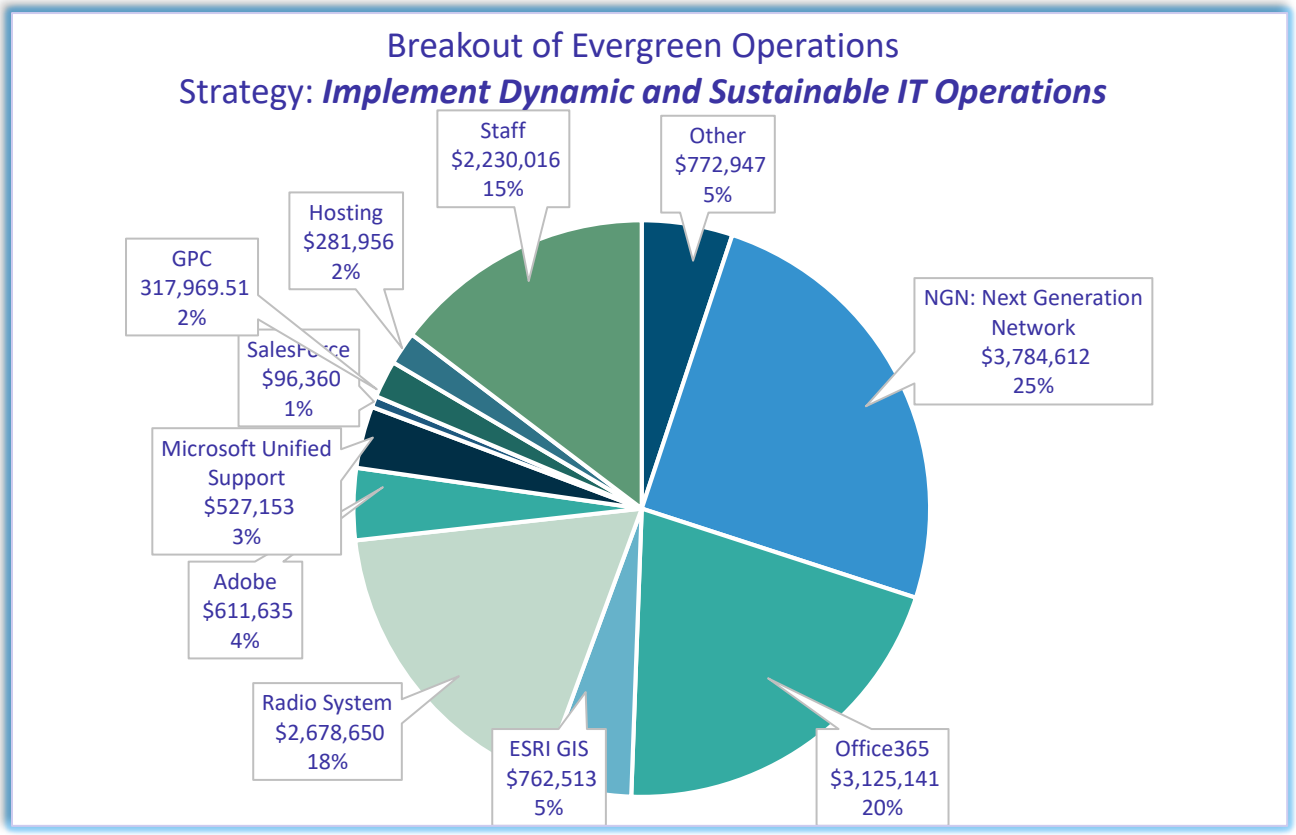
ANALYSIS OF FY2020 EXPENDITURES

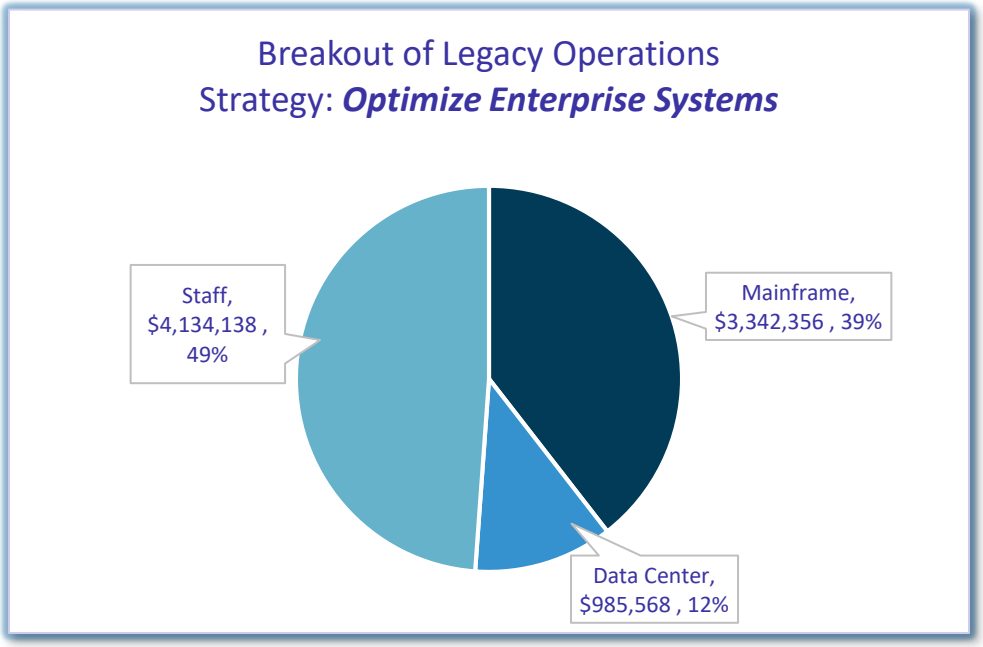
This section analyzes ETS's expenditures by strategic priorities.



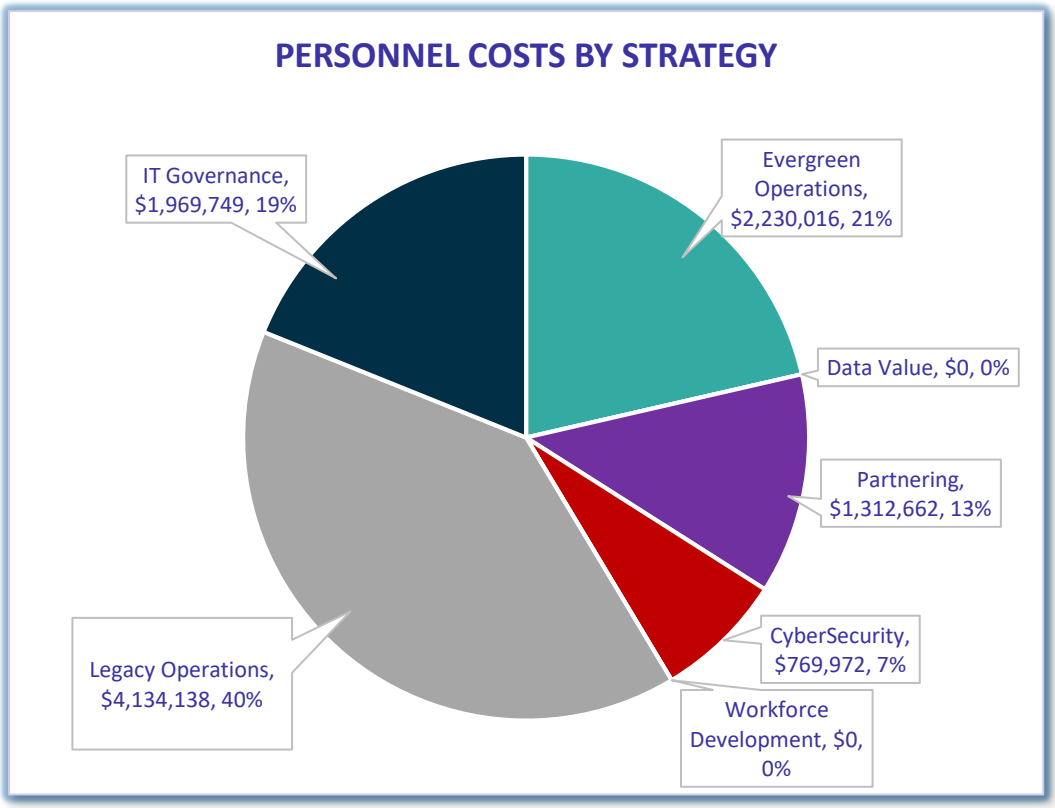
Partner for Successful Outcomes	Shape the partnership between government functions and IT by creating a standard framework to ensure successful outcomes
Expand Statewide Cyber Security Strategy	Extend the statewide cyber security strategy to protect the State's IT infrastructure and constituent data through adoption of cyber security industry best practices across the State's IT systems.
Enhance the Value of State Data	Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing, and public use.
Optimize Enterprise Systems (Legacy)	Optimize ETS enterprise systems to leverage the state's investment in centralized IT services.
Extend IT Portfolio 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.
Implement Dynamic & Sustainable Operations (Evergreen)	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.
Digital Workforce 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.

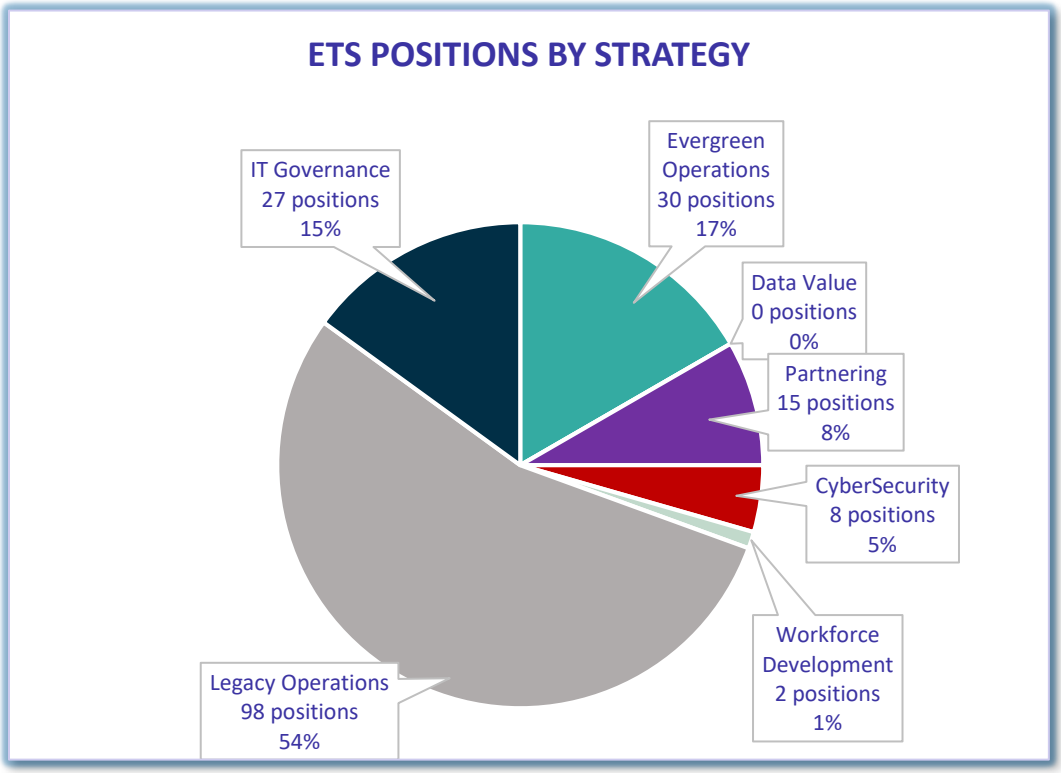
ANALYSIS OF FY2020 EXPENDITURES





ANALYSIS OF FY2020 EXPENDITURES





HAWAII INFORMATION TECHNOLOGY STRATEGIC PLAN

OFFICE OF ENTERPRISE TECHNOLOGY SERVICES

APPROVED AS OF APRIL 25, 2019

BACKGROUND

The Office of Enterprise Technology Services (ETS) was established by Hawaii 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.

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

PURPOSE

The purpose of this Strategic Plan is to:

- Clearly articulate the State Information 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 Hawaii Revised Statutes §27-43 and House Concurrent Resolution 94.

VISION, MISSION, VALUES

The Vision, Mission, and Core Values statements that guide the Strategic Plan are listed on the following page:

VISION, MISSION, CORE VALUES

VISION STATEMENT

Transformative information and technology-enriched government that serves all the people of Hawai‘i and the ‘āina*

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.

CORE VALUES

Aloha	We treat everyone with dignity, respect, and kindness, reflecting our belief that people are our greatest source of strength.
Kuleana	We uphold a standard of transparency, accountability, and reliability, performing our work as a government that is worthy of the public’s trust.
Laulima	We work collaboratively with business, labor, and the community to fulfill our public purpose.
Kūlia	We do our very best to reflect our commitment to excellence.
Pono	We strive to do the right thing, the right way, for the right reasons to deliver results that are in the best interest of the public.
Lōkahi	We honor the diversity of our employees and our constituents through inclusiveness and respect for the different perspectives that each brings to the table.
Ho‘okumu	We continually seek new and innovative ways to accomplish our work and commit to finding creative solutions to the critical issues facing this state.

*The ‘āina (land) is not just soil, sand or dirt. The ‘āina is a heart issue for the people of Hawai‘i. The very word ‘āina brings forth deep emotion evolved from ancestral times when people lived in nature as an integral part of it. We chose to incorporate the ethical, philosophical, and spiritual aspects not only present in the state's vision and mission statements, but also present in the culture that makes Hawai‘i Hawai‘i.

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:

Partner for Successful Outcomes	Shape the partnership between government lines of business and IT by creating a standard framework to ensure successful outcomes. ❖ *Team Lead: ETS Enterprise Program Manager*
Expand Statewide Cyber Security Strategy	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. ❖ *Team Lead: ETS Chief Information Security Officer*
Enhance the Value of State Data	Maximize the value of State data by designing, implementing and governing State systems for data stewardship, sharing, and public use. ❖ *Team Lead: ETS Chief Data Officer*
Optimize Enterprise Systems	Optimize ETS enterprise systems to leverage the state's investment in centralized IT services. ❖ *Team Lead: ETS Chief Operations Officer*
Extend IT Portfolio 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. ❖ *Team Lead: ETS Enterprise Architect*
Implement Dynamic and Sustainable IT 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. ❖ Team Lead: ETS Chief Governance Officer
Digital Workforce 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. ❖ *Team Lead: ETS Personnel Officer*

IMPLEMENTATION

For each of the seven Strategic Priorities, the following objectives will be implemented.

Near-Term Objectives (FY 2020: 12 months)

- Establish a strategy governance process, executive sponsor, charter, program lead, working group, and user groups
- Develop a high-level prioritized reference model for best practices in tactics, techniques, and procedures and begin measurement
- Establish a high-level Capability Maturity Model measurement framework and begin measurement
- Plan & begin implementing change management efforts
- Team Leads begin reporting to IT Steering Committee at each ITSC Meeting

Longer-Term Objectives (FY 2021-2024, Years 2-4)

- Continue to operate Governance process
- Increase successful implementation in prioritized reference model and adjust as necessary
- Capability Maturity Model: Increase level attained and granularity for state, departments and agencies
- Identify & drive next-tier legislative changes/additions
- Adjust the Strategic Plan elements to maintain a current and relevant plan
- Team Leads continue reporting to IT Steering Committee during each ITSC Meeting

Additional Documentation

A reference book of work products developed during the strategic planning process will be used by ETS, the ITSC, team leads and working groups. It is presented as a separate volume that includes situation analysis, workshop notes, and detail for each strategic priority including Microsoft Word and PowerPoint versions.

MAHALO NUI LOA

We would like to extend a very special thanks to everyone who participated in our strategic planning process:

Sarah Allen, State Procurement Office	Douglas Murdock, ETS & Department of Human Services
Tracy Ban, Dept. of Budget and Finance	Todd Nacapuy, ETS
Dwight Bartolome, Dept. of Health	Todd Omura, ETS
Della Au Belatti, House of Representatives	Mike Otsuji, ETS
Kaimana Bingham, ETS	Jennifer Pegarido, ETS
Brian Black, Civil Beat Law Center	Judy Mohr Peterson, Dept. of Human Services
Jennifer Brooks, Office of Information Practices	Capsun Poe, Dept. of Education
Robert Choy, Asst. to Rep. Belatti	Amy Saito, Dept. of Transportation
Mark Clemente, Asst. to Rep. Matsumoto	Steve Sakamoto, Dept. of Health
Brook Conner, Dept. of Education	Merissa Sakuda, Dept. of Business, Economic Development & Tourism
Rachel Faitau, ETS	Clay Sato, Office of the Attorney General
Vincent Hoang, ETS	Ryan Shimamura, Dept. of Human Services
Jodi Ito, University of Hawaii	Stuart Shirai, Dept. of Commerce & Consumer Affairs
Caroline Julian-Freitas, ETS	Jussi Sipola, ETS
Leila Kagawa, ETS	Phan Sirivattha, Dept. of Human Services
Jarett Keohokalole, State Senate	Corie Tanida, Common Cause Hawaii (former)
Arnold Kishi, ETS	Jaren Tengan, Asst. to Sen. Keohokalole
Tiger Li, Office of Hawaiian Affairs	Ben Trevino, Common Cause Hawaii
Lauren Matsumoto, House of Representatives	Donna Tsuruda-Kashiwabara, State Procurement Office
Keith Miyamoto, Employees' Retirement System	

IT STEERING COMMITTEE

Douglas Murdock (Chair), Office of Enterprise Technology Services, State of Hawaii

Todd Nacapuy, prior Chief Information Officer

Benjamin Ancheta, Ekahi Health System	Kelly Taguchi, Spectrum
Jared I. Kuroiwa, KHON2	Kevin Thornton, Hawaii State Judiciary
Aryn H. K. Nakaoka, Tri-net Solutions	Kyle Yamashita, House of Representatives
Michael Nishida, First Hawaiian Bank	Marcus Yano, SystemMetrics Corporation
Christine Sakuda, Transform Hawaii Government	Garret Yoshimi, University of Hawaii

SPECIAL THANKS TO

Leslie Mullins, Playbook Consulting for facilitating
and
Transform Hawaii Government for sponsorship

Strategy: Partner for Successful Outcomes

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

Desired Outcomes

- *Successful business process implementation*
- *IT systems are well-engineered and appropriately designed for their intended use*
- *Effective partnership between IT and business*
- *Procurement efficiency and cost savings*
- *Standard governance, business process re-engineering, program management, organizational change management and procurement systems followed*

Expected Benefits

- *Business process outcome improvement*
- *Confidence in state's ability to implement systems*
- *ETS/CIO are broker of technology solutions*
- *Successful procurement, design and implementation of department and agency IT projects*

Expected Challenges

- *IT may not have "consultant" skills to aid business*
- *Culture shift – both IT and business will need to see the value and initiate partnership*
- *Trust & understanding may be lacking between business & IT*
- *Time & re-prioritization – using consultants vs. State IT*

Key Strategic Stakeholders

- *Functional business owner/decision-maker*
- *IT leaders and next-tier teams tasked with the work*
- *Governance Groups*
- *Procurement*
- *Cabinet – buy-in to drive culture/process changes*

Metrics

- *Cost, schedule, and performance on development*
- *# of re-baselines*
- *CMM and Reference model score*

Strategy: Expand Statewide Cyber Security Strategy

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

Desired Outcomes

- *Safeguard state and constituent information*
- *Reduce vulnerability to external threats*
- *Immediate system-wide threat response*
- *Security efficiency through use of AI/ML*
- *Minimize storage of sensitive data*

Expected Benefits

- *Increased public trust in systems, state government*
- *Reduced/eliminated breaches*
- *Cost savings*
- *Safer data, applications, systems*
- *Increased system up-time (True 24/7 availability)*

Expected Challenges

- *Change Management – new systems, role, processes, relationships, behavior expectations*
- *Adequate, skilled staffing*
- *Adequate funding (CISO, staffing, Data Officer, training, technology)*
- *Legacy infrastructure & applications*
- *Evolving nature of threats*

Key Strategic Stakeholders

- *Cyber security specialists*
- *State IT Directors, leaders/management*
- *Employees (buy-in, good security hygiene)*
- *Legislature (funding & resource commitment)*
- *IT product and service providers and industry associations*
- *Federal government*

Metrics

- *# of verified cyber security incidents/year*
- *Training participation*
- *CIS Reference Model Scorings*
- *CMM level score*

Strategy: Enhance the Value of State Data

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

Desired Outcomes

- *Data Usage: State data is more valuable for economic and public purposes*
- *Transparency & Accessibility: All appropriate State-stored/managed data is available to the public and to other State departments, agencies, and users*
- *Increased awareness – all stakeholders know what is accessible and why specific data classes are not*

Expected Benefits

- *Increased constituent trust in government and civic engagement*
- *Improved cross-department, cross-agency, cross-sector collaboration that benefits Hawai'i*
- *Broader data visibility leads to problem identification & solutioning*
- *Increased data interoperability & sharing – more opportunity for informed decision-making*
- *Better service delivery & client experience*
- *Decreased redundancy – greater efficiency in government*

Expected Challenges

- *Change Management – new systems, processes, relationships, expectations (Culture of Sharing)*
- *Inconsistency across agencies – resistance to standardization*
- *Culture – public interest vs. sole client focus*
- *Adequate funding*
- *State & federal law – inter-agency sharing, confidentiality rules*
- *Fear of data integrity, quality, security, ownership/governance*

Key Strategic Stakeholders

- *Data Stewards: Department and program leadership (buy-in, commitment, support, use, reporting)*
- *State leadership and employees*
- *Office of Information Practices (OIP) and Attorney General*
- *Federal agencies*
- *Legislature (funding, policy changes)*
- *Open Data advocates and users including businesses*

Metrics

- *Visits to data.hawaii.gov site*
- *# of data sets inventoried and classified*
- *% of data sets available on data.hawaii.gov*
- *Reference Model & CMM Scores*

Strategy: Optimize Enterprise Systems

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

Desired Outcomes

- *Decreased IT costs and redundancy*
- *Role clarity, increased employee retention*
- *Streamlined, more effective communication*
- *Accelerated execution: Procurement, SDLC*
- *Enterprise systems are well-engineered and appropriately designed for their intended use*

Expected Benefits

- *Seamless operation of enterprise systems*
- *Expanded service catalogues*
- *Service level agreement transparency*
- *Prioritization of investments*

Expected Challenges

- *Large catalogue of systems including NGN, ERP/HRMS/Payroll, FAMIS/DataMart, Office 365, identity management (Active Directory), land mobile radio, GIS, eSign, hosting platforms (Mainframe, GPC), SharpCloud, cybersecurity suite, open data platforms, and Access Hawaii digital government portal*
- *Adequate skilled staffing and funding*
- *Change Management – new systems, role, processes, relationships, expectations*

Key Strategic Stakeholders

- *Executive branch department heads (buy-in, commitment, engagement/support, use, reporting)*
- *Citizens using open data or digital government systems*
- *DHRD (staffing)*
- *Legislature (funding)*
- *Employees (continuity of leadership, engagement)*

Metrics

- *Reference Model & CMM Scores*
- *SLA measures for systems*

Strategy: Extend IT Portfolio 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.

Desired Outcomes

- *Proactive and transparent portfolio planning and management though system life cycle*
- *Transparency into cost, schedule and performance and re-baselining of projects*
- *Sharing and reuse of existing hardware and software*
- *IT systems are well-engineered and appropriately designed for their intended use*

Expected Benefits

- *Transparency into system investment, performance and lifecycle including planning, investments, system health, modernization, end of service and system replacement*
- *Better planning by ETS and departments resource leveling to avoid spikes in budget and staff levels*
- *A more effective accountability framework*

Expected Challenges

- *Gathering, organizing and analyzing portfolio data from across the enterprise*
- *Resource constraints – funding, limited skillsets*
- *Buy-in to adopt required standards, shared services, common platforms vs. customized habits, systems*
- *Organizational commitment to share data*
- *Selecting appropriate performance indicators & best practices*

Key Strategic Stakeholders

- *State departments, agencies – IT and business partners*
- *ITSC*
- *Legislature*
- *Public/constituents/interest groups*
- *Vendors*

Metrics

- *# of systems monitored*
- *% of systems with complete information*
- *# of re-baselines*
- *Reference Model & CMM Scores*

Strategy: Implement Dynamic and Sustainable IT 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.

Desired Outcomes

- *IT Systems can be quickly configured to meet business needs*
- *Systems are healthy, stable and upgradeable*
- *IT systems are well-engineered and appropriately designed for their intended use*
- *State quickly benefits from new technology*
- *Legacy systems decommissioned*

Expected Benefits

- *Faster response to changing business needs*
- *New features available to businesses as soon as added*
- *System health maximized and down-time reduced*
- *Reduced risk in cyber security*
- *Reduced cost of hardware/software development, operation & maintenance*

Expected Challenges

- *Skills gaps in risk management & Agile methodology*
- *Procurement feature/process adds/changes needed*
- *Requires a long-term funding plan*
- *Differing agency priorities*
- *ITSM & GRC tools (skills & processes)*

Key Strategic Stakeholders

- *Business users & leaders*
- *Tech implementors & operators*
- *Citizens, Customers*
- *Legislators, Cabinet & Governor*
- *Procurement*

Metrics

- *# of systems on legacy /IAAS/PAAS/ SAAS*
- *Version and patch currency at n-1*
- *Reference Model & CMM Scores*

Strategy: Digital Workforce 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.

Desired Outcomes

- *State government consistently attracts high quality candidates for all IT job openings*
- *Culture and work environment that promotes/encourages remote work and flexibility*
- *Re-branding of government workforce as an Innovation Center with a culture that embraces digital tools/tech, flexible/remote work environment*

Expected Benefits

- *Build recruitment, hiring, training, assignment and staffing models*
- *Qualified talent at all levels (apprenticeship, entry, senior, enterprise-level)*
- *Expanded learning and cross-training to have some level of "generalists" depending on job class/type*
- *In-house development of IT talent*

Expected Challenges

- *Retention/turnover – pay, upward mobility issues*
- *Skillsets – need to be able to deal with legacy & new tech*
- *Competition with private sector*
- *Antiquated banding/hiring processes & rules*
- *Current climate, lack of learning/growing opportunity*

Key Strategic Stakeholders

- *Current & potential employees*
- *Unions (legislative change support)*
- *CIO & IT leadership*
- *Legislature*

Metrics

- *Vacancy aging*
- *Reference Model & CMM Scores*
- *Training completed*
- *Internal Promotions*