



Information Technology Steering Committee (ITSC)

May 25, 2022 Meeting Minutes

Remote Meeting via Interactive Conference Technology
1151 Punchbowl Street, Video Conference Center

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[\[2022-05-25 ITSC Meeting Recording\]](#)

Members Present:

Douglas Murdock, Chair, CIO, Office of Enterprise Technology Services (ETS)
Christine Sakuda, Vice Chair, Transform Hawai'i Government (THG)
Benson Choo, Finance Factors
Mel Horikami, Optimum Business Solutions
Senator Jarrett Keohokalole, Hawai'i State Legislature
Joel Kumabe, Unisys Corporation
Michael Nishida, First Hawaiian Bank
Christine Shaw, Department of Education (DOE)
Kevin Thornton, Judiciary, State of Hawai'i
Marcus Yano, CBTS Hawaiian Telcom

Members Excused:

Representative Kyle Yamashita, Hawai'i State Legislature
Garret Yoshimi, University of Hawai'i (UH)

Other Attendees:

ETS: Arnold Kishi, Todd Ogasawara, Todd Omura, Vincent Hoang, Al Bonilla, Brian Frey, Caroline Julian-Freitas, Bryce Fujii, Jussi Sipola, Juha Kauhanen, Janet Chiu, Joseph Lee, Sonny Kekipi, Kelli Wang, Catherine Arellano-Alcotas, Janey Yamashita
Members of the Public: Peter Fritz, Kiyo Noguchi, Ashley Bovey DeGeus

I. Call to Order

Quorum was established and the meeting was called to order at 10:31 a.m.

II. Public Testimony on Agenda Items [10:32]

Peter Fritz commented on SB2144 and inquired on the integration of accessibility standards. Chair Murdock replied that after the Governor signs the bills, ETS will begin the process.

III. 2022 Legislation [10:33]

Chair Murdock reviewed the bills passed during the recent legislative session:

- HB1885 Relating to Government Data [10:33]
(https://www.capitol.hawaii.gov/session2022/bills/HB1885_CD1_.pdf)
 - Establishes a chief data officer and data task force within the office of enterprise technology services to develop, implement, and manage statewide data policies, procedures, and standards and to facilitate data sharing across state agencies.

Chair Murdock commented that ETS is excited about this bill; it's something ETS has been in favor of for several years, and public input has helped to get the bill passed. Chair Murdock noted that the position and funding was also added in the funding bill, and he asked if the ITSC had any comments or questions.

Vice Chair Sakuda asked if funding was also added to support the task force or a data program. Chair Murdock noted the ETS goal was to have a data office with analysts, and

they will try for that in the future. The chief data officer (CDO) position is a good start. Vice Chair Sakuda noted that members of the public would be included in the data task force. ETS has not had a CDO before. She encouraged the ITSC to recommend and think about what qualities would make a good task force member. The CIO agreed.

- SB3284 Relating to Information Technology Services [10:36]
(https://www.capitol.hawaii.gov/session2022/bills/SB3284_CD1_.pdf)
 - Establishes a technology services consolidation working group to develop a plan for the phased consolidation of all state executive branch IT services and staff... within five years... under the Office of Enterprise Technology Services.

Chair Murdock said they will discuss this bill in detail under the Strategic Plan portion of the agenda and asked if there were any comments. Hearing none, he continued.

- SB2144 Relating to Electronic Information Technology Accessibility for Persons with Disabilities (https://www.capitol.hawaii.gov/session2022/bills/SB2144_CD1_.pdf) [10:37]
 - Requires the Office of Enterprise Technology Services, in consultation with the Disability and Communication Access Board and a working group composed of stakeholders, to develop and publish, and periodically review and update, electronic IT accessibility standards to be implemented by all state entities.

Chair Murdock noted that ETS has published standards that they will review and revisit once the legislation is signed. The first action will be to form the working group.

- HB1600 Budget [10:38]

Chair Murdock noted that ETS had requested 13 positions this year and ended up getting 14 positions, including the CDO. (Most positions require a 6-month delay in hiring.)

- ETS will recover the Administrative Services Officer (ASO) and the Human Resources Manager positions that were lost last year due to budget cuts. The ASO and HR Manager are critical for recruiting and retaining talent and getting everything done, including required contracts.
- For Departmental Cyber Security, eight positions were added. In the past, ETS was not looking at cyber security within the departments, mostly only networks and joint servers. The added positions will help to strengthen departmental cyber security.
- For a Citizen Identity project, three new positions were added, the goal being that citizens and beneficiaries of State programs will have one ID for all systems, i.e., taxes, professional licensing, and other services will be managed under a single unified login. Additional funding was also received for this project and for the Enterprise Financial System (EFS) project, mainly for licenses and automated testing.

Chair Murdock asked if there were any questions or discussions on the legislative session.

Caroline Julian-Freitas, ETS Senior Communications Manager, mentioned other legislation relating to the Information Privacy and Security Council (IPSC): SB3038 was signed into law as Act 011, to allow IPSC members to designate a person to act on the member's behalf, including for voting purposes, to ensure quorum.

IV. Strategic Plan [10:41]

- Introductions [10:41]

Chair Murdock introduced new leaders of strategic priorities: ETS Enterprise Program Manager Brian Frey for the *Partner for Successful Business Outcomes* pillar, and ETS Business Architect Juha Kauhanen for the *Enhance the Value of State Data* pillar.

- Discuss Changes Based on Consolidation Bill [10:42]

Chair Murdock shared a presentation (attached) providing details of SB3284, and he noted that many services are already shared or consolidated. ETS may consider making consolidation one of the strategic priorities. The Chair opened the floor to discussion.

Member Nishida asked how many departments and staff would be affected and if the CIO is doing anything to protect staff from leaving who have institutional knowledge. The CIO noted it is a phased consolidation, and they will work through the process. Member Nishida asked if there's a lot of staff, and the CIO said it depends how you count; it could be between 400-700 people, if ETS is included, and would be lower if the big departments are not included.

Member Horikami commented on workforce development refinement of job descriptions. From his experience, hiring managers often want everything, which makes it difficult for anyone to qualify, and asked if the CIO would be looking at that too. The CIO agreed and said they do need to look at that, and what does an entry level position look like. Over time when losing positions, we tend to give up entry level positions and sometimes management positions and the only positions left are the highly qualified ones. We want to make sure to allow for career progression where people can come in to learn and even as interns. Member Horikami agreed and said it should be considered strategically.

Member Kumabe asked if a training program would also be looked at for workforce development and if that would be something suggested by the ITSC or initiated elsewhere for budgeting purposes. The CIO is in favor of the ITSC recommendation. He noted three kinds of training: 1) college linear training, 2) mini courses for certification, and 3) just-in-time training, looking up answers on Google, e.g., as needed. We rely too often on the just-in-time training because it's free, and we should be working rather on getting certificates for staff in their chosen areas.

Member Shaw commented that in addition to the position descriptions, in the sense of duties and responsibilities, it would be good to look at aligning some of the minimum and desirable qualifications, because that's also scattered, making it difficult to progress. The CIO agreed and noted that there are positions that don't properly describe the position, e.g., positions identified as "engineer" that are not truly engineer positions.

Vice Chair Sakuda asked about the timing because the bill seems very encompassing, and then there's the strategic plan; what is top priority for this year. What should the ITSC focus on specifically. The CIO agreed and noted the short timeframe (six months) to report back to the legislature on a plan, so they will need to meet a couple times to determine what to report. Although the ITSC is not on the working group per se, it is an important advisory group. For the first six months, ETS will continue to recover from the

losses that happened during the pandemic, hiring people into key positions, hiring the cyber security positions to help the departments, and getting this plan together. We want to make sure a part of the plan includes identifying resources and maybe the preliminary plan for position movement in terms of where they report. He has yet to meet with the department heads for their input. Many departments may be for the consolidation, and some may not be. He is hoping the departments will recognize how much is currently already shared services.

Senator Keohokalole asked the CIO to expand on which departments did not opt into the enterprise transitions and if they are the same departments reticent to participate in consolidation. The CIO acknowledged some departments feel strongly that they want to have tight control over their business systems, so that will be most of the discussion. UH, DOE, OHA, and HHSC are already understandably excluded from the bill. DCCA is special funded and there will be issues about transferring funds. For departments that have a lot of federal funding, there will be discussion in terms of providing a fee for service or charge back situation. ETS would not want to become a vendor to departments, being required to charge for services, but with special funds or federal funding, there may be no other choice than to set up a payment system.

Member Horikami noted that large savings would be in consolidating with departments, for example, a shared financial platform as opposed to four different platforms. The CIO agreed and noted that's one of the areas ETS is working on right now, creating the Enterprise Financial System (EFS) for most of the state departments, where each has their own financial tracking system now. Another example is Teams Calling, where replacement of the current phone systems could result in potentially six or seven million dollars in savings; however, some of that savings will have to be reinvested into staffing up the process. Member Horikami noted that part of that is direct cost, but the indirect costs might be even in the workforce because you don't have to train, you can move people around, you have more flexibility, it's much more scalable. We're looking at consolidating smaller departments, but the large savings would be in UH, DOE, and others, at some point in time. The CIO noted that aside from the excluded departments, there are other big departments like Transportation, Health, Human Services, Tax, and Labor, where lots of savings are available. He mentioned that DOE and UH can get special educational pricing for software that's favorable that ETS cannot get, and they can save more than ETS can.

Vice Chair Sakuda commenting regarding department resistance to consolidation, and noted this initiative seems like an opportunity to be not an IT exercise, but how do we help government be more efficient, more effective, deliver services to the community better. She reflected on how the ITSC can convey the high-level priority and benefits of consolidating, and what can we do now, leading into 2023, to raise awareness and exert influence on why that's so important.

Member Horikami added that a framework, like an OSI model with different layers, where there's no reason not to have leveraged economies of scale, and an application layer that's more specific to a department's operational objective would make the discussion easier, more objective. The CIO noted some instances are done like that already, for example, we have one mainframe for seven different applications. Part of the discussion will be to convince the departments that we understand and respect their business need and we'll step up to meeting them. Member Horikami noted that this will

be important to our state especially as we move into a down business cycle, because we can't afford to fund every department the same way.

Chair Murdock noted that this is the prevailing model across the country right now. More than half the states are consolidated rather than federated like the state is now, a loosely aligned federation where ETS provides a lot of central services. There are other areas where ETS provides services beyond the executive branch, like payroll. ETS and DAGS provide payroll services for the entire state already, so there may be areas where it makes sense to become even more consolidated and provide more services to the departments and even the other branches of government. At some point, we will need to look at cyber security and whether we need to combine our efforts in that area.

Member Choo asked how accessibility and security would be handled for departments that did not consolidate. The CIO noted that bills passed this year address accessibility, and ETS currently runs accessibility testing on all the public-facing websites to give departments their scores and recommend those that need to be fixed. In the future, ETS may be in a position to take action to ensure accessibility where necessary, and that's an area where centralization should help. We are on a path to centralized cyber security as a necessity. We cannot afford to have weak spots in our security anymore. ETS was able to procure common tools for the executive branch for endpoint detection and response, among other things, and this year, positions were added to do more. ETS recognized the importance of security and protection of data.

Member Nishida asked if the CIO noticed development in the cloud. His organization did core centralization but began to see departments coding in the AWS environment because they need to be agile for customers. Now they are having to develop architecture standards on what the cloud should look like, how to protect the cloud, and regain some hold on the rogue departments. The applications and servers on premise are fine, but there is less control on the cloud environments. The CIO noted people are always finding the next good place to do shadow IT, whether it be on their computers or in the cloud or storing files in boxes instead of in SharePoint, and that's something we must continue to be diligent about.

Vice Chair Sakuda asked when to expect the final report from Info-Tech, if the report will be used for planning, and how the ITSC can help. Chair Murdock said he will check with Info-Tech. Chair Murdock noted today's discussion is valuable; the ITSC members shared their concerns and operational experiences, and that is the purpose of the ITSC, to bounce off ideas and get good feedback.

Chair Murdock asked the ITSC for their opinion on merging pillars of the strategic plan. He is contemplating merging *Optimize Enterprise Systems* and *Implement Dynamic and Sustainable IT Operations* together and creating a new pillar for *Consolidating IT Statewide*, as practicable.

Senator Keohokalole commented that the *Optimize Enterprise Systems* priority came to mind when the bill was introduced, and as discussed, not every department or their IT shop believes that consolidation is the right way to go, although there was also initial doubt that cloud was the right way to go. He does not lean one way or the other.

Member Horikami felt that *Optimize Enterprise Systems* would be the reason for consolidation, although there is no clear definition of what optimize means to the various departments. A framework would help to create a shared language and definition, through some sort of model.

Chair Murdock noted the original thought was to optimize existing systems and implement new systems, e.g., using software as a service and platform as a service options rather than running off a server. An example could be the mainframe transition to mainframe as a service. There is a subtle difference, and the two pillars could be merged, and possibly consolidation could be part of that as well.

Member Horikami agreed and noted that optimizing would not only mean cost effectiveness, but could also include quality and cyber security, which would make it much more effective if consolidated or working together to shore up entry points, hardware, and software. The CIO agreed the total picture mindset is important.

Chair Murdock believes the other pillars are clear as separate and important, but the pillars of *Optimize Enterprise Systems* and *Implement Dynamic and Sustainable IT Operations* can be merged, with consolidation included under them.

Vice Chair Sakuda commented on the need for a statewide data strategy and roadmap, as noted in the Info-Tech assessment, and now that the resources will be available to fill the gap, she looks forward to working with ETS to help support the progress on the data priority of the strategic plan. Chair Murdock appreciated the comment and noted that HB1885 contains writing about creating a strategy for data and ensure sharing data across departments where possible.

Vice Chair Sakuda remarked that shared data rides on top of shared services and consolidating IT, so they are nice complements to each other, and she agrees with Member Horikami's idea of a creating a shared framework for orientation. Chair Murdock noted that ETS Business Architect, Juha Kauhanen is good with data and is providing a good head start by doing analyses with departments and talking with other state CDOs.

Regarding the Workforce Development priority, Member Horikami said colleagues ask why we need to go to the mainland to hire and if UH curriculum needs to improve, but he thinks it's not that simple, that it's due to project complexities and lack of scale locally. He asked if it's possible to invest in funding to send a position away for a year to gain the required experience with a backup position to cover. Chair Murdock noted that positions were cut two years ago due to budget realities, and those type of positions may have been cut in the past. He agreed we have to try to grow our own talent. Todd Ogasawara, ETS Director of Operations, added that ETS has started trying different approaches, such as guided training onsite for specific tools and development techniques needed.

Member Kumabe noted that the year 0 standards development goal will be helpful, because training development is difficult without standardization. By reducing the pool of standards, we have a better shot of working with educational institutions to try to bring up students with the right technology experience and learning. Consolidating this effort with the current workforce development groups would be helpful in making sure we're all aligned between what the plans are for the state, industry, and educational institutions.

Chair Murdock added that the federal government is also asking why we need to go to the mainland to get help; why can't we grow talent in Hawai'i. DOE, UH, and some legislators have also been meeting to discuss how we build up that pipeline of IT talent. He asked Christine Shaw, DOE Interim Assistant Superintendent and CIO, about their efforts, such as the cloud academy.

Member Shaw noted the DOE has different types of technology academies, e.g., the Leilehua area complex is very strong in the cyber security area, and new initiatives are being explored, including AWS and Microsoft.

Member Kumabe mentioned the Chamber of Commerce has an IT workforce group, and Chair Murdock added that Cyber Hawai'i is involved in projects as well.

Chair Murdock noted the Governor has not signed the bill yet. He does appreciate the legislature's approach to create a phased plan or process versus implementing at once.

Vice Chair Sakuda asked if the CIO has any policy priorities that need to be cultivated before the next legislative session that would support the consolidation, strategic plan, or initiatives that may not have been passed that are important. Chair Murdock thinks the biggest policy issue is the IT job description classification process. It's going to be important to have a couple of series of job descriptions that apply to everybody. Right now, we have a bunch of those. Another policy issue that will have to be addressed, per the statute, is whether people will be exempt excluded or civil service bargaining unit members. HRS §27-43(a)(9) states the CIO shall employ persons exempt from chapters 76 and 89. The personnel policy issues will likely be requiring the most attention.

Member Horikami asked for clarification if the job title and description would determine whether the job category would fall under civil service versus exempt excluded, and the CIO replied that it could. That would be something they would need to figure out, what are the career tracks going to be and are they different for civil service and exempt. Exempt positions are basically budgeted for a one-year time frame, they must be renewed at the end of every fiscal year, and hiring and retention are at will.

Vice Chair Sakuda mentioned that the CIO Council may be a good resource to consult for IT classification. Chair Murdock said he does attend their meetings as able, and other states have done this effort also, e.g., California, who has the largest IT shop, got their job descriptions down to around eight or nine positions, so there are models out there. Through the National Association of State CIOs (NASCIO), of which Chair Murdock is a member, we can get information on what other states are doing. He hopes to meet with the state of California to hear how that unification of IT position descriptions evolved and how it's working out too.

Member Horikami asked how we can get access to those job descriptions, and the CIO said he is working on getting a copy.

- Info-Tech Research Group (ITRG) Final Report [10:41]

Chair Murdock noted that the finalized report was not yet received and will not be discussed today.

V. Good of the Order [11:35]

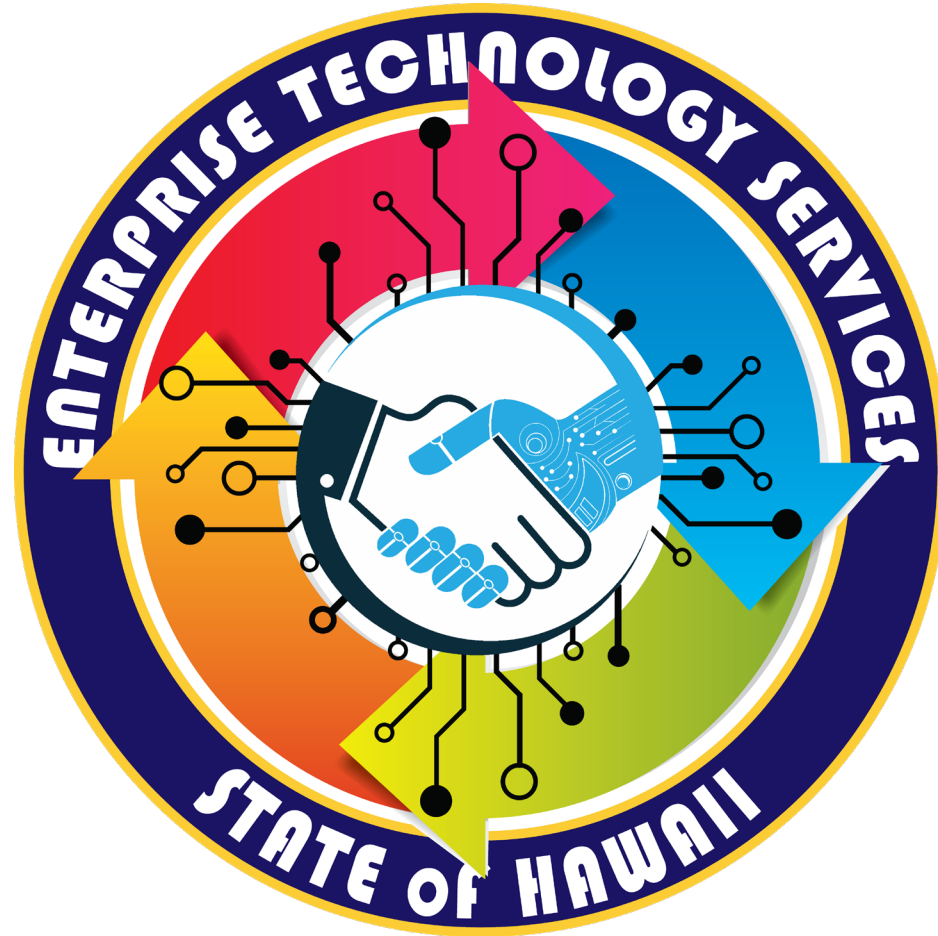
A. Announcements

- Awards
 1. ETS Safe Travels application won a Google Public Customer Cloud Award
 2. CIO Doug Murdock won the StateScoop 50 State Executive of the Year Award

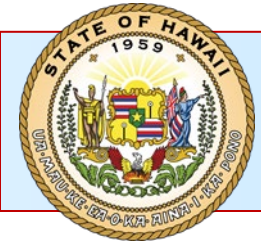
B. Next Meeting: To be determined, possibly late July, after the bill signing deadline

VII. Adjournment [11:36]

Chair Murdock called for a motion to adjourn the meeting and thanked the ITSC members for their time and valuable input. A motion was made by Vice Chair Sakuda, which was seconded by Member Horikami. With no objections, the meeting adjourned at 11:36 a.m.



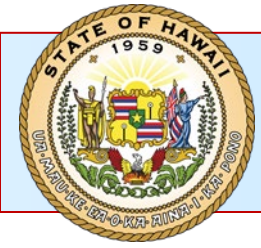
PEOPLE, PROCESS AND TECHNOLOGY



Consolidation: Senate Bill 3284 SD2 HD2 CD1



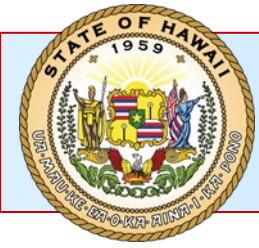
- Establishes a technology services consolidation working group
- To develop a plan for the phased consolidation of all state executive branch information technology services and staff,
- Within five years,
- Under the Office of Enterprise Technology Services.
- Where determined practicable by the working group,
- Excluding those of the Department of Education, Hawaii Health Systems Corporation, University of Hawaii, and Office of Hawaiian Affairs,
- Requires the working group to recommend ways to attract high-quality information technology professionals to the State
- And report to the Legislature.
- Dissolves the working group on 12/31/2023. (CD1)
- https://www.capitol.hawaii.gov/session2022/bills/SB3284_CD1_.htm



Consolidation: CURRENT SHARED SERVICES



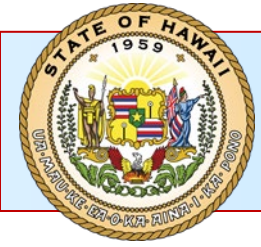
- Microsoft365 (Outlook, Teams, Sharepoint, OneDrive, etc)
- Adobe eSign
- ESRI ArcGIS
- Peoplesoft HRMS, Payroll, T&L
- FAMIS/Datamart Financials
- Azure Active Directory & B2C
- LeanIX Architecture & Inventory
- Open Data Platform (OpenGov)
- State Portal and Access Hawaii Committee
- AlertMedia
- MainFrame-as-a-Service (MFaaS)
- Government Private Cloud
- Power Series Server
- Internet & NextGen Network
- High-Speed Bulk Printing
- Cybersecurity of Network
- Endpoint Detection and Response
- Advanced Endpoint Prevention
- HiWIN Radio System & Anuenue system



Consolidation: WORKING GROUP MEMBERS



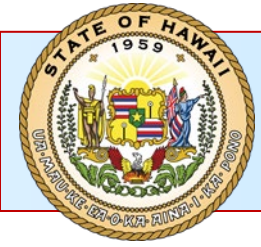
- Executive Steering Group (ERP)
- Working Group
 - In Legislation
 - CIO is Chairperson
 - Department Head or Designee
 - Other Inputs
 - ITSC & IPSC
 - Access Hawaii Committee
 - Legislature
 - ETS Staff & State Employees
 - Public
- *ETS IT Governance Will Manage the Process*
- *Reports before next 2 sessions*
 - *2023 Preliminary Status Report*
 - *Findings & Recommendations*
 - *Proposed Legislation*
 - *Funding Requirements*
 - *2024 Final*
 - *Findings & Recommendations*
 - *Plan for Phased Consolidation*
 - *Recommendation to Attract High-Quality Talent*
 - *Proposed Legislation*



Consolidation: YEAR 0 (22/23) EXPANDED SHARED SERVICES



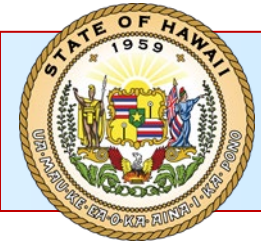
- Establish IT Governance Process in Each Department
- Cybersecurity Inside Departments
- MyHawaii ID Program
- Chief Data Officer
- Workforce Consolidation Development & Training Plan
- IT Purchase Agreements
- Standards
- Baseline User Satisfaction For Next Year Projects



Consolidation: YEAR 1 (23/24) EXPANDED SHARED SERVICES



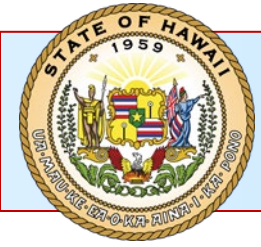
- Teams Calling
- Internet/network inside departments
- Common VPN/VDI
- Help Desks
- PC and device purchasing and support
- Small Department option
- Cloud Contracts
- Baseline User Satisfaction For Next Year Projects



Consolidation: YEAR 2 (24/25) EXPANDED SHARED SERVICES



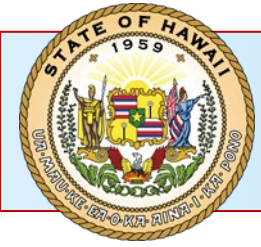
- PM of Systems in design, development and implementation (DD&I) process
- Baseline User Satisfaction For Next Year Projects



Consolidation: YEAR 3 (25/26) EXPANDED SHARED SERVICES



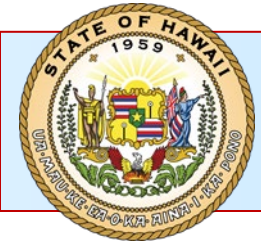
- Transition PM of Existing Major Systems



Consolidation: ENABLERS



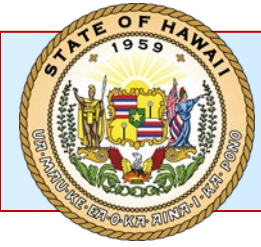
- Budget and position count/type analysis of departmental IT
- Authority and process for budget and position transfer
- Reorganized ETS structure
- Enhanced consolidated HR Position Descriptions & Recruitment Plan
- Departmental IT Services Manager Position Description
- Memorandums of Agreement/Understanding
- RACI Charts
- IT Product & Service Catalog and Procedure
- Service Level Agreements & User Satisfaction Surveys
- Location decisions (central or decentralized)



Consolidation: STATUTORY CHANGES TO HRS 27-43



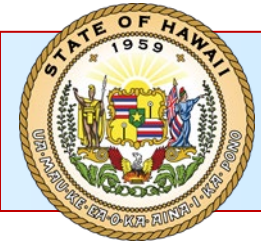
- Researching options, could be all new or modification
- ETS as Department, Attached Agency, or status quo in DAGS
- ITSC or change to board or commission
- Departments with autonomy (UH, DOE, HHSC)
- New Name
- Funding
 - Resource Study
 - Investment Fund
 - Special Fund
 - Fee for Service



Consolidation: OPEN QUESTIONS



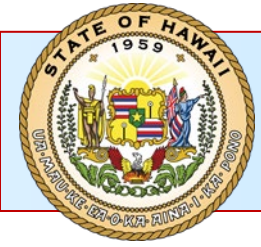
- Major System Management (existing systems)
- DDI Project Management
- Business Analysts
- Use of Funds
 - Federal Funds
 - Special Funds
 - Charge backs for MFaaS
- Personnel Position Characteristics
 - ETS: Exempt Excluded
 - Departments: Mostly Civil Service



Consolidation: CENTRALIZED OFFICES



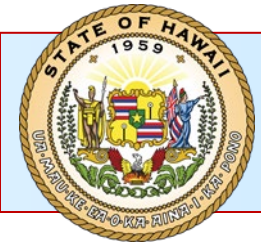
- Centralized
 - Governance
 - Help Desk
 - PC tech support
 - Cyber (SOC)
 - Networking (NOC)



Consolidation: WORKFORCE RECRUITING & DEVELOPMENT



- New Position Descriptions
 - Enhanced for modern terminology and duties
 - Consolidated state-wide
- Formalized Internship Program
- Exempt Position (See HRS 27-43 and SB 3284 Sec 2a2)
- Qualifications other than College Degree
- Career Path thru Departments and ETS



Consolidation: PLAN CONTENTS



- Executive Summary
- Background
- Scope and Assumptions
- Process
- Workforce Enhancement
- 5 Year Consolidation Plan
- Attachments
 - Studies & Analysis
 - Workgroup Meeting Minutes
 - Recommended Statutory Changes
 - Organization Charts



Hawaii IT Strategic Priorities

Partner for
Successful
Outcomes

Strategy

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

Enhance
Value of
State Data

Strategy

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

Extend IT
Portfolio
Governance

Strategy

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.

Digital
Workforce
Development

Strategy

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.

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

Expand
Statewide
Cyber
Security
Strategy

Strategy

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

Optimize
Enterprise
Systems

Strategy

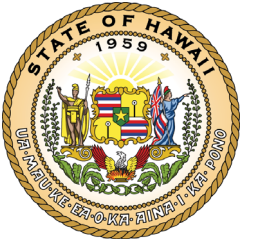
Implement sustainable IT operations to ensure business systems are up-to-date and ready to support the current and future needs of business users and citizens at all times

Implement
Dynamic &
Sustainable
IT
Operations

State IT Vision Statement

Transformative technology-driven government that serves all the people of Hawai'i and the 'āina





Digital Transformation of SOH Government

01

TRANSFORM ETS

Change focus
from services to
transformation

02

TRANSFORM SYSTEMS

Modernize Major
IT Systems for
better mission
execution

03

TRANSFORM IDENTITY

Unify digital
identity of state
citizens and
beneficiaries

04

TRANSFORM EXPERIENCE

Engage interactive
automation such
as AI/ML chatbots
and voicebots

05

TRANSFORM DATA

Collect and
analyze data to
make it more
decision ready

TRANSFORMATION IS A CONTINUOUS PROCESS

