

# Consolidation of IT Services Act 179. 2023 Planning - Executive Summary

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# 1 Introduction

ETS and the Executive Branch departments have been working on how the IT consolidation might occur, identifying key considerations and decisions points, gathering feedback from the Consolidation Working Group and forming recommendations to align with the strategic goals of [Act 179](#).

The Consolidation Working Group believes that the best way to implement consolidation without negatively impacting departments or the citizens and beneficiaries they serve, is to **continue to develop the shared services model**. Consolidation planning focuses on efficient provision of effective IT services across the departments, improving business capabilities and consequently lowering total costs. However, direct IT cost savings will be tracked and reported as well.

Filling vacant ETS positions, reclassifying legacy positions, and transforming ETS philosophy will be necessary for IT consolidation to be possible. ETS must be a great role model and a place that all state workers would like to work.

The IT consolidation effort will be complimentary to ETS objectives for the digital transformation of State government, shown in Figure 1.

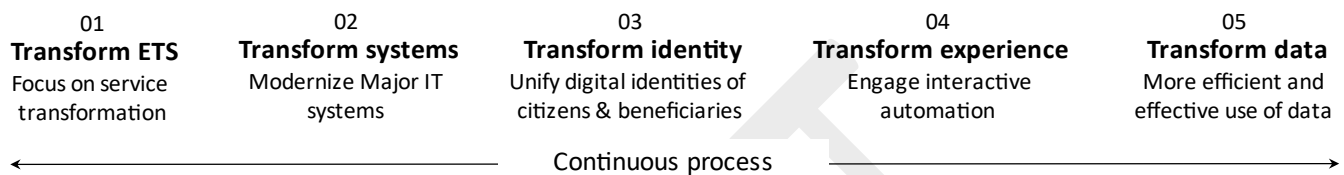


Figure 1. ETS objectives for the digital transformation of State government.

## 1.1 Intended Benefits of the Consolidation

[Act 179](#) summarizes the intended main benefits as (direct quote): *“to gain economies of scale and provide for a more efficient and secure use of technology and information management. The consolidation of information technology services will also help to ensure that the State remains in compliance with growing regulatory requirements for accessibility, information storage, data sharing, and security”*.

Table 1. is copied from the original [Project Charter](#) and it seeks to further itemize the benefits. In short: better services with lower cost.

ID	Benefit Description	Type	Impacted Stakeholders
1	Standard, streamlined processes	Qualitative	Executive Branch Departments, the Public
2	Consistent and predictable levels of service	Quantitative	Executive Branch Departments, the Public
3	Reduction in IT costs through leveraging economies of scale	Quantitative	Executive Branch Departments, the Legislature
4	Reduction in “IT burden” on Executive branch departments	Qualitative	Executive Branch Departments
5	Greater control over security	Qualitative	Executive Branch Departments, the Public
6	General reduction of risks	Qualitative	Executive Branch Departments, the Public

Table 1. Intended benefits of the consolidation.

## 2 Comparison of IT Operating Models and Their Suitability for the State

Table 1. below discusses high-level options to organize IT in diverse organizations such as State of Hawai'i. Working Group Committees are recommending the Hybrid – Extended Shared Services model for. **Gradual, structured consolidation, where and when it makes sense considering risks, effort and intended benefits.**

Operating model	Description and suitability
<b>Decentralized:</b> <ul style="list-style-type: none"> <li>Decentralized governance &amp; planning</li> <li>Decentralized management &amp; delivery</li> </ul>	<p>Applies when organizational units have few common customers, suppliers, or ways of doing business. Units offer different services to their customers, and thus central governance exercise limited control over the units.</p> <p>This model does not apply ideally for the State as it forfeits the benefits shared services for the common, shared services and centralized planning and governance across most services.</p>
<b>Coordinated:</b> <ul style="list-style-type: none"> <li>Centralized governance &amp; planning</li> <li>Decentralized management &amp; delivery</li> </ul>	<p>Like the Hybrid model, except the Hybrid is more flexible in governance and planning aspects. Calls for high levels of integration and standardization of common processes. Units would share one or more of the following: customers, products, suppliers, or partners customers being the obvious at the State. The benefits would include more standardized customer service, cross services, and transparency across processes.</p> <p>While some business capabilities and processes can be integrated, departments have unique business capability needs, demanding unique IT capabilities systems, process, and people, rendering a fully centralized planning impractical and nonvalue adding for the state, in addition to centralized management and execution.</p>
<b>Centralized:</b> <ul style="list-style-type: none"> <li>Centralized governance &amp; planning</li> <li>Centralized management &amp; delivery</li> </ul>	<p>Organizational units (departments) are tightly integrated around a standardized set of processes. Maximizes efficiencies of services though fully integrated data and driving variability out of business processes.</p> <p>This model does not apply ideally to the State for the same reason as the Coordination model – high variability of departments needs and core processes.</p>
<b>Hybrid - Extended Shared Services:</b> <ul style="list-style-type: none"> <li>Federated governance &amp; planning</li> <li>Federated management &amp; delivery</li> <li>ETS centers of management &amp; execution excellence</li> </ul>	<p>Combines the beneficial aspects of all models, fit for Hawaii: Extending governance and delivery of services and IT processes that are common to all or most departments, with departments retaining ownership of those IT capabilities that are supporting business processes and needs unique to single or few departments. ETS develops key IT policies, standards, and plans, around which the departments detail their plans, management, and execution. ETS monitors and enforces compliance of key policies and standards, driving process efficiencies and efficacy.</p> <p>Departments largely retain ownership and resources to manage and operate Line of Business specific systems and data.</p>

Table 2. Operating model analysis.

### 2.1 The Recommended Model: Hybrid - Extended Shared Services

Figure 2. provides an illustrative overview of the recommended Hybrid Service Model at State of Hawai'i, now.

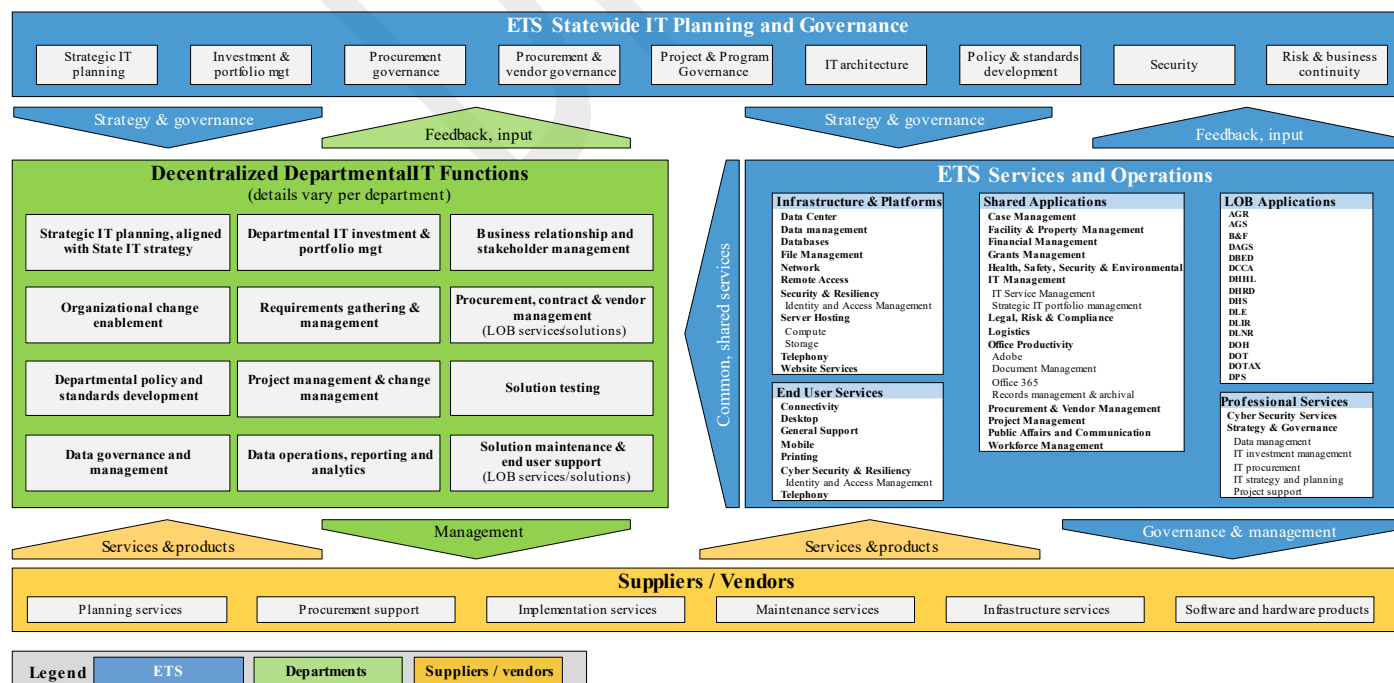


Figure 2. Illustrative overview of the Hybrid Shared Service Model in the State of Hawai'i.

The illustrated model is subject to changes, displaying major components, service categories, and activities.

### **3 Summary of Recommendations for Consolidation Actions**

The following sub-chapters summarize the key recommendations coming out of the committees.

#### **3.1 Cost, Benefit and Timing Analysis of Changes**

Ultimately, before any major changes a thorough business case (value/benefits, cost, risk) analysis should be done, per change domain and per major service change.

#### **3.2 Ensure Delivery Capabilities and Extend Current Shared Services**

ETS and the State overall have limited resources to take on additional implementation projects and there are a multitude of dependences between initiatives, that are unavoidable determinants for how and when specific Services can be centralized. ETS needs to [assure the foundations](#) of IT service processes and capabilities are sound before taking on major new service delivery responsibilities.

Best approach is to continue extension of service types that are already provided by ETS in some scope and capacity, particularly Infrastructure and Platform, End User and Professional Service, and Shared Applications type of services (see [Chapter 6.1](#) and [6.3](#)).

#### **3.3 Continue Ongoing and Scheduled Systems Modernizations**

ETS will continue to direct resources to support the major ongoing and planned enterprise systems renewal projects, such as Enterprise Financial System (EFS) modernization and DLIR's Unemployment Insurance System Modernization.

It is essential that these modernization efforts succeed as planned, as they will provide baselines in all areas of implementation for other subsequent consolidation efforts of similar scale. Especially those that are to be maintained and operated under the State Shared IT Services umbrella - such as EFS - will require concerted efforts and focus from ETS.

#### **3.4 Develop and Offer New Shared Services in a Phased Manner**

Some of the Working Group Committees (for example Service Utilization, Governance Structures, Portfolio Management, Vendor Management) identified new opportunities to be considered for consolidation. These are identified and evaluated for effort/complexity and value, but not planned yet in detail.

High value and low complexity (effort and cost) services should be prioritized as new Shared Services are planned, defined, and implemented. The detailed planning and design per service area and per service would take place mostly in 2024.

[Chapter 6.4](#), provides an overview of identified new Shared Services.

#### **3.5 Execute Infrastructure and Facilities Consolidation**

Infrastructure and Facilities Consolidation has been in focus before Act 179 and the dedicated Working Group Committee has produced the most detailed plan on this area out of any of the Committees, including indicative timeline and budgets for the individual projects.

For further details, see [Chapter 7.10](#).

#### **3.6 Analyze Common (Shared) Enterprise Applications for Consolidation**

Common enterprise applications refer to applications that are used by all or most departments, serving usually common business capabilities such as finance, HR, facilities management, and some more specialized capabilities such as case and grants management.

Some of these applications are already centralized, such as finance (FAMIS) and HR (HIP). ETS is looking to analyze further consolidation and centralization opportunities in this space, such as for IT management and office productivity service categories.

For the service categorization and taxonomy model at the state, see [Chapter 5](#) and [Chapter 6](#) for the consolidation opportunity analysis summary.

### 3.7 More Collaboration and Sharing of IT Expertise Cross Departments

Some committees also discussed opportunities and means where departments which have specialized expertise in some areas could support other departments more easily in those areas will be identified and analyzed.

The viable opportunities would then be enabled and supported by ETS working with the departments extending their services.

An example of a potential opportunity are Geographical Information System (GIS) services, which could be leveraged more by many departments and where certain departments (e.g., DOT) have a long history of internal capability and expertise.

### 3.8 Limited Transitions of Staff from Departments to ETS

Such transitions limited to roles that are mostly solely focusing on redundant and standard, common IT processes and technologies, as mentioned in the above point, and to those departments wanting to transfer staff to ETS (smaller departments typically).

This will allow the already resource strapped department IT functions to continue supporting the core IT capabilities unique to the departments, and extend more efforts to development tasks, as opposed to common/shared tasks, which can be sourced from ETS.

Some future staff transitions may occur as and/or after departments modernize existing and legacy systems and migrate to shared services offered by ETS.

Organizational Change Management will be an important aspect of successful transitions and dedicated capability will be supporting this during the consolidation.

### 3.9 Funding Model of Shares Services

The Financial Model Committee, based on the general direction the consolidation plan is taking, the committee felt the existing financial model would continue. The committee did mention several financial constraints, such as federal grant limitations or changes in statute that may be required, if more extensive consolidations were recommended.

### 3.10 Data Governance and Management

Data governance and management needs to be formalized across the state to enable better data sharing between departments, programs and applications and improve data quality, while ensuring data security. These would ultimately benefit service planning, operations, and constituent service delivery.

State data strategy will be developed, governance structures (roles, committees, policies, and standards) will be set, and shared tools and technologies will be implemented to formalize and standardize data governance and management. The new state CDO will be leading these efforts and helping departments in use-case based, focused manner.

### 3.11 Workforce Development and Training

Adopting progressive, proven industry and public sector best practices for employee recruitment, compensation, benefits, and career building can effectively **Recruit, Develop, and Retain** the State of Hawaii Government Technology Workforce.

Key recommendation is for the State to develop and implement a standardized workforce development program, focused on training courses, job rotations, career pathways, internships, mentorships, and other job and skill building opportunities. Specific areas of training and workforce development include:

- Strategic IT Portfolio Management.
- IT Procurement.
- IT Project Management.
- IT Service and Operations Management.
- Business and Vendor Relationship Management.
- Security and Privacy.
- Data Management.

- Artificial Intelligence (AI) use and application.

To improve entry-level recruitment, the State will collaborate with the lower and higher education community to expand funded government technology student internship and externship opportunities providing hands-on experience that transition into regular government employment. To optimize recruitment, promotion, and job-sharing opportunities, the State will explore expanding temporary exempt technology positions that offer flexible compensation, flexible duties and responsibilities, flexible minimum qualifications and skill sets, and shorter, faster recruiting and hiring processes. This has been a successful model for the Office of Enterprise Technology Services whose enabling Legislation (HRS Section 27-43) provides creating and hiring its employees as temporary exempt.

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## 4 Implementation Scenarios

How the implementation of consolidation could happen was an underlying theme and a recurring discussion topic within the committees.

Consensus across the committees (the topic was discussed, more or less, in all committees) was that a full-scale centralization would not be viable and would not produce business intended benefits and value.

To implement the recommended model – Hybrid / Extended Shared Services – three scenarios were identified.

- Menu of Services
- Willing Transition
- Enforced

Menu of Services and Willing Transition scenarios can co-exist.

### 4.1 Menu of Services

ETS would offer its consolidated services as and menu, where some would be more strongly recommended and even mandated, and some would be more discretionary for the departments to choose using.

The idea would also be that ETS services would be competitive compared to alternatives and would provide the best value and ease of implementation for the departments to choose over alternatives.

### 4.2 Willing Transition

Some departments may be inclined to have their IT capabilities and staff to be transferred to ETS. These departments typically tend to be smaller departments, with limited internal capabilities.

Other departments, with larger and more capable IT, would largely retain their current IT capabilities and staff, while transitioning standard IT processes and common solutions to ETS and allowing departmental IT staff to focus on more value adding and developmental activities.

### 4.3 “Enforced”

This scenario would mean that most of the current, extended and newly identified services provided by ETS would be mandatory for the departments to consume from ETS and that no alternatives would be allowed except case-by-case approval.

## 5 ETS Shared Services and State IT Service Catalog

In 2022, a 4-day workshop hosted by ETS and lead by Info-Tech Research Group was held from August 30 to September 2, 2022. Participants of this workshop included ETS leaders, department IT Coordinators and various IT staff. Their organization provided, and the Info-Tech team consolidated the work output into a spreadsheet. The data was analyzed by ETS to make an initial view of the 633 services, and which might become “shared services”.

A second data set was taken from the ETS Service Desk ticketing system. A list of the categories used to categorize service requests and incidents received by ETS customers was captured to identify current services for which ETS was providing support.

Additional classification of ETS services in the list was modeled after [Version 4.0 of the Technology Business Management Taxonomy](#) specification. The resulting taxonomy was defined as Type > Category > Subcategory > Service / Solution.

The resulting State-wide IT Service Catalog is presented in Figure 3. below.

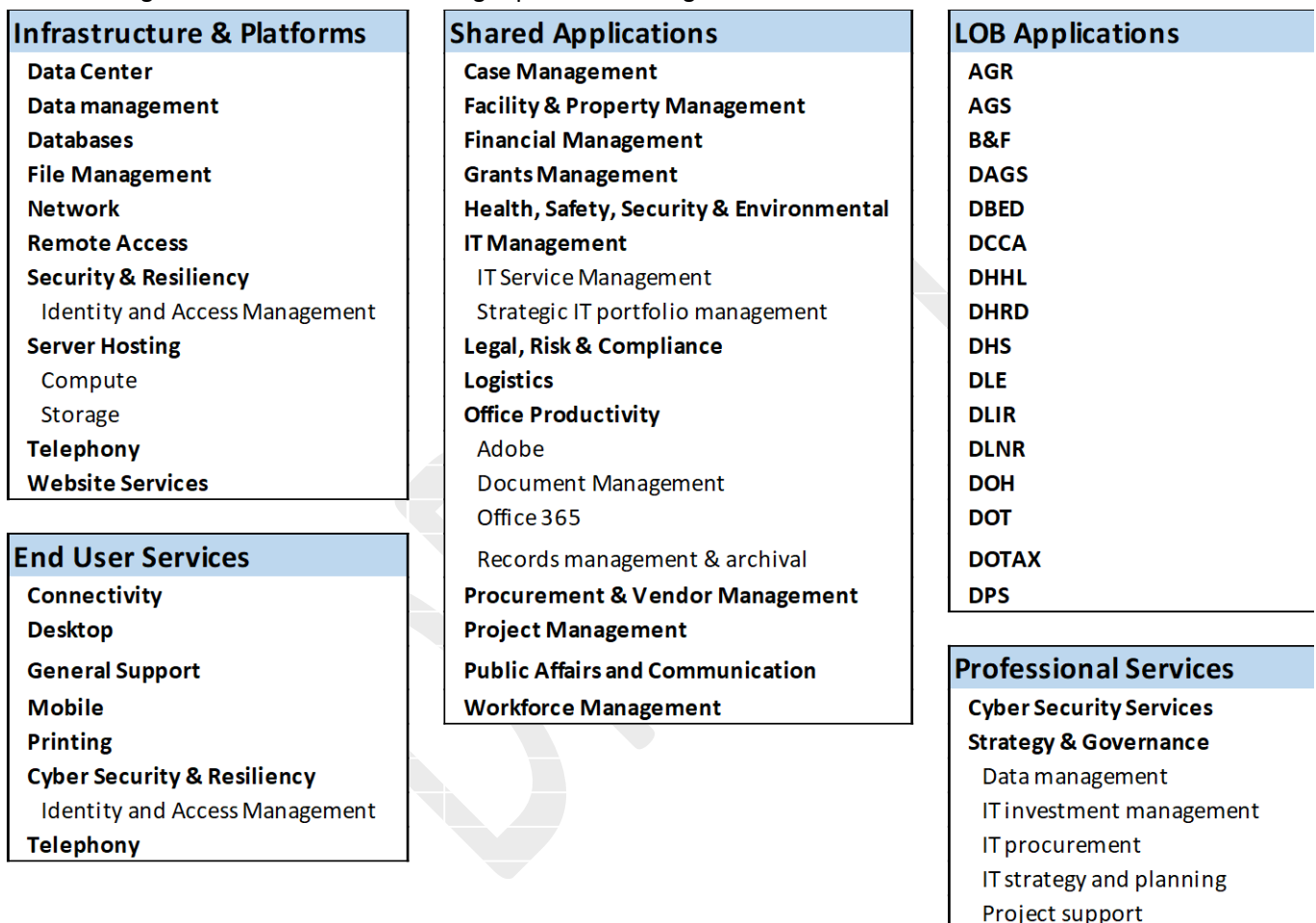


Figure 3. State IT Service Catalog, per Service Type (5), Category and Subcategory.



## 6 Extended and New Shared Services

### 6.1 Summary of IT Service Consolidation Opportunity

Figure 4 summarizes the analyzes across the Consolidation Working Group Committees on which services would provide most value consolidated, and with the least amount of effort and lowest complexity to implement the consolidation. This overview does not go into individual service, showing the category and subcategory level, where the subcategories have been defined.

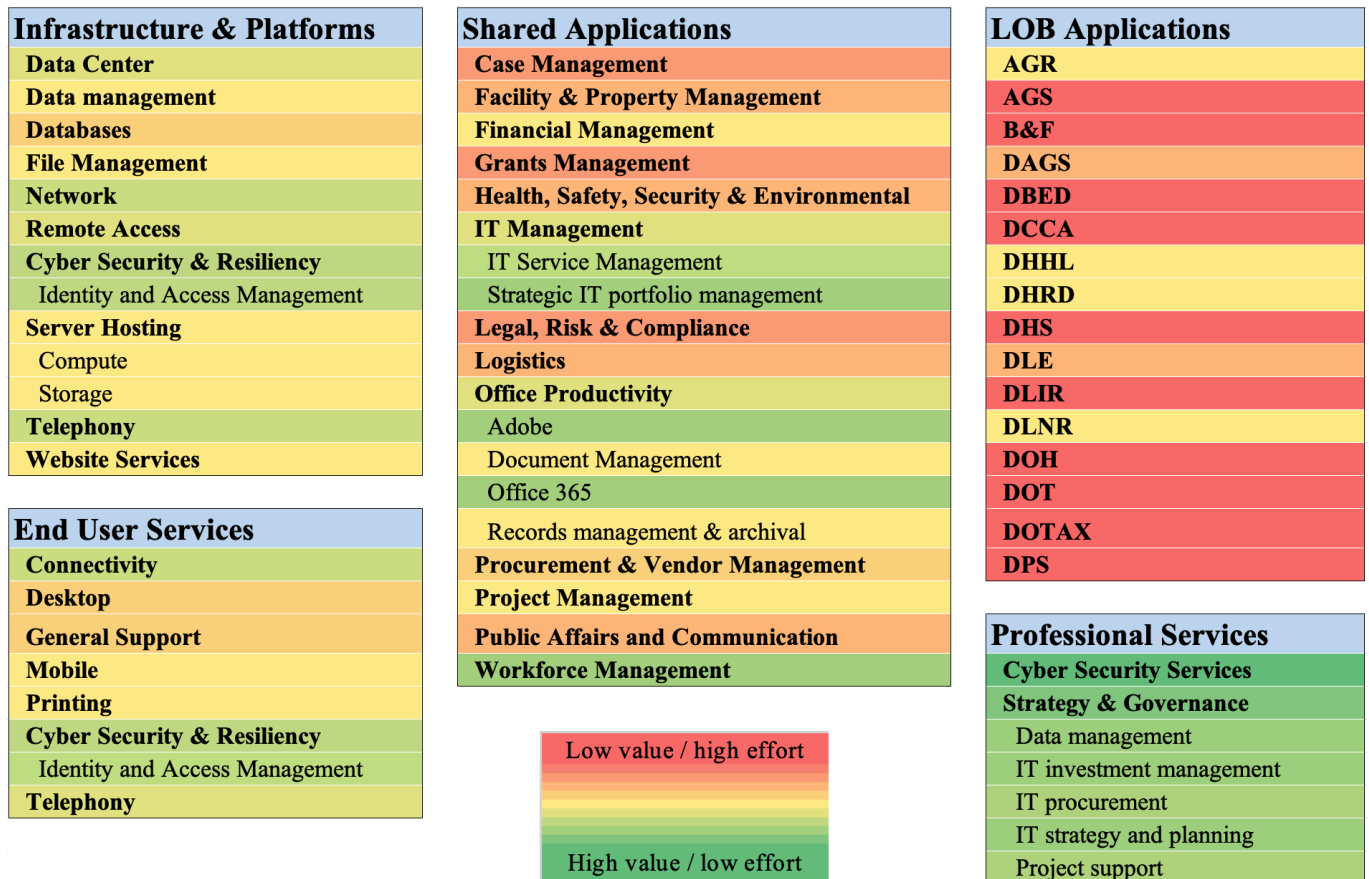


Figure 4. Indicative overview of IT Service consolidation business case analysis.

This analysis was taken also to service level, and this can be found in [Vendor Management Committee Report and its appendices](#). Most value, meaning least effort and largest benefit of consolidation generally is with Infrastructure and Platform type of services, End User Services, and Professional Services, followed by Shared Applications with more effort needed. The most difficult type to consolidate is the Line of Business Applications. However, all Line of Business Applications use the consolidated, ‘weightbearing’ Infrastructure and Platform Services as well as in many instances Professional and End User Services.

In addition to the Services listed in this chapter, committees identified actions towards improvement of the current services and enablement and adoption of the extended and new services. Committee recommendations are summarized in [Chapter 7](#).

### 6.2 Current Service Delivery Capabilities Improvements

Before taking on new or extending current services, foundations of IT service management and delivery need to be assured to ensure uninterrupted delivery of services. Following sub-chapter summarize some of the identified short- and medium-term actions. Improvements to current services are detailed in [Chapter 6.2](#) and [Vendor Management Committee Report](#).

Below and observations in the Vendor Management Committee Report are not a fully conclusive list of all potential improvement opportunities but highlight the critical ones.

#### 6.2.1 Service Retirements

To take on and improve / extend current services requires continual, critical assessment of services for their value and utilization vs maintenance cost/effort to plan for due retirements. Services are continually

evaluated for modernization and/or further consolidation and standardization of technology infrastructure and platforms.

### 6.2.2 IT Planning and IT Service Management

New IT service catalog structure will ease customers interaction with ETS services through a universal structure for all departments. This structure and taxonomy enable governing, management and transition of service delivery responsibilities between entities more fluently.

New, consistent state-wide ITSM tooling would improve IT planning, IT support, IT service management, capacity management, asset management and configuration management. Improved tooling provides better understanding of services' alignment with business and IT objectives, IT expenditures per asset and service, and assurance that services/systems are reliable and available.

Increased staffing for ETS will be required to provide improved support and service levels of ETS services.

### 6.2.3 Policies and Standards

Departments are asking for more policies, standards, and guidelines on IT, as they know that the systems they use and look to procure are parts of a bigger whole and need to work together and integrate with other, reliant, or feeding systems, and may also have requirements to be compliant with laws and regulations, national, local, and internal to the state.

ETS will be developing and updating IT policies in 2023-2024, to not only address the changes brought up by the consolidation / centralization efforts, but also due to requirements set by the rapidly evolving external factors, including technology. These policies will be published to state entities internally and some also publicly at ETS' website.

### 6.2.4 Communications and Training

ETS will develop and adopt improved guidance documentation and self-help options. A technical service catalog will be developed along with the IT service management tooling to help customers learn, find, and request ETS provided services more easily through improved service descriptions with costs and SLAs.

ETS will provide trainings, manage the training schedule, and assist with the coordination of trainings across the various ETS teams and client departments. Trainings can be augmented by strategic vendors and further sourced through enterprise support contracts.

### 6.2.5 Staffing

ETS and the service qualities would greatly benefit from additional resources for several areas at ETS, even with possible staff transitions from the departments. Headcount estimates depend on the scope of expanded and new services.

## 6.3 Suggested Extensions of Current Shared Services

Table 2 below summarizes the services identified to be extended.

Type	Category	Service	Value	Effort	Timing
Infrastructure & platforms	Cyber Security	Active Directory	High	M/H	M
Infrastructure & platforms	Cyber Security	Multifactor Authentication	High	L	S
Infrastructure & platforms	Cyber Security	Vulnerability Scanner	High	L	S
Infrastructure & platforms	Network	VOIP / Call Center Systems	High	L/M/H	M
Infrastructure & platforms	File Management	File Shares	High	L/M	M
Infrastructure & platforms	File Management	Secure FTP (File Sharing)	High	L	S
Infrastructure & platforms	Network	Virtual Private Network (Client)	M/H	L	S
Infrastructure & platforms	Server Hosting	Virtual Server Hosting	Med	M	S
Infrastructure & platforms	Cyber Security	DNS	Med	L/M	M
Shared Applications		Enterprise GIS	Med	M/H	L
Professional Services	Strategy & Governance	Data management	High	Low	S/M
Professional Services	Strategy & Governance	IT investment management	High	Low	S/M
Professional Services	Strategy & Governance	IT procurement	High	Low	S/M
Professional Services	Strategy & Governance	IT strategy and planning	High	Low	S/M
Professional Services	Strategy & Governance	Project support	High	Low	S/M

Professional Services	Cyber Security	Training	High	Low	S/M
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**Table 3. Suggested extensions of current Shared Services.**

Value and effort estimates correlate with prioritization and implementation timing. Timing value indications are: S = 3-12 months, M = 6-18 months, L = 12-24 months. To plan, design and implement.

## 6.4 Suggested New Shared Services

Recommendations across Working Group Committees are summarized in table 3 below. As noted above in Chapter 6., this list is evolving, non-conclusive, as of August 2023.

Type	Category	Service	Value	Effort	Timing
Infrastructure & platforms		Endpoint Remote Access	H	L	S
Infrastructure & platforms		Active Directory Monitoring	M/H	L	S
Infrastructure & platforms		Network Monitoring/Config Mgmt.	M/H	M	S
Infrastructure & platforms		Virtual Desktop Infrastructure (VDI)	M	H	M
Infrastructure & platforms		Backup Solution	M	L	S
Infrastructure & platforms		Syslog/SIEM/Log Analyzer	M	M	M
Infrastructure & platforms		VPN (Site to Site – Internal/Ext)	L	H	M
Infrastructure & platforms		Data management platform	M/H	M/H	M/L
Infrastructure & platforms		BI and Analytics platforms	M/H	M/H	M/L
Infrastructure & platforms		Enterprise payment gateway	M/H	M/H	M/L
Shared Applications	Office Productivity	Content/Document Management	L	L/M/H	M
Shared Applications	IT Management	Help Desk Solution (part of “IT ERP”)	M	M	M
Shared Applications	IT Management	IT Asset Management (part of “IT ERP”)	H	M	M
Shared Applications	IT Management	“IT ERP” – <a href="#">see chapter 7.2.3.</a>	H	H	L
Shared Applications	IT Management	Data Management & Analytics Platforms	H	H	L
Professional Services	Strategy & Governance	Data governance and management	H	M/H	L

**Table 4. Suggested new Shared Services.**

Value and effort estimates correlate with prioritization and implementation timing. Timing value indications are: S = 3-12 months, M = 6-18 months, L = 12-24 months. To plan, design and implement.

## 6.5 Shared / Common Enterprise Applications

See [Chapter 3.6.](#)

## 6.6 High Level Roadmap of Consolidation Activities

Figure 5. below shows a suggestive, indicative roadmap of the required changes. Showing the different components of the overall change. Timings will evolve to a degree and details will clarify as the work progresses.

Area	2023	2024	2025	2026	2027	2028	
Strategic planning & governance	Policy and process updates						
		New roles, updates					
		Oversight group updates					
		Tools					
Management processes and tools	Investment & portfolio mgt						
		Procurement & sourcing					
		Program and Project management					
		Vendor management					
		Service and operations management					
		Security					
Delivery capabilities and tools	Solution implementation and project delivery						
	Service management						
		Operations management					
Extended and new Shared Services  (bulk of effort and cost)	Infrastructure and Platforms (current extended)						
		Infrastructure and Platforms (new)					
		Shared (common) Business Applications					
		Professional Services					
		End User Services					
		Line of Business Applications (selected departments)					
Human capital and workforce development		Staff transitions to ETS					
	Training development and delivery			Continual			
	Recruitment processes		Continual				
	Compensation models						

Figure 5. Major activities indicative timeline.

## 7 Summaries of Working Group Committees' Reports

### 7.1 Human Resources Committee

For the Committee report see the Appendix document (combined Committee Reports).

According to the [Act 179 2022](#), and as stated in the [Act 179 IT Consolidation 2022 Preliminary Status Report for the State of Hawai'i Legislature](#), the mandate and goals of the Governance Structures Committee are to:

- Determine the scope of positions within the IT consolidation effort, factoring in any constraints such as federally funded and special funded positions that cannot be moved.
- Identify each position within the scope of consolidation.
- Analysis of existing staff – staffing levels, job titles, benchmarks, key strengths, gaps and challenges.
- Determine future state roles and functions, standardization of positions, and staffing levels.
- Recommend an approach to filling skill gaps.

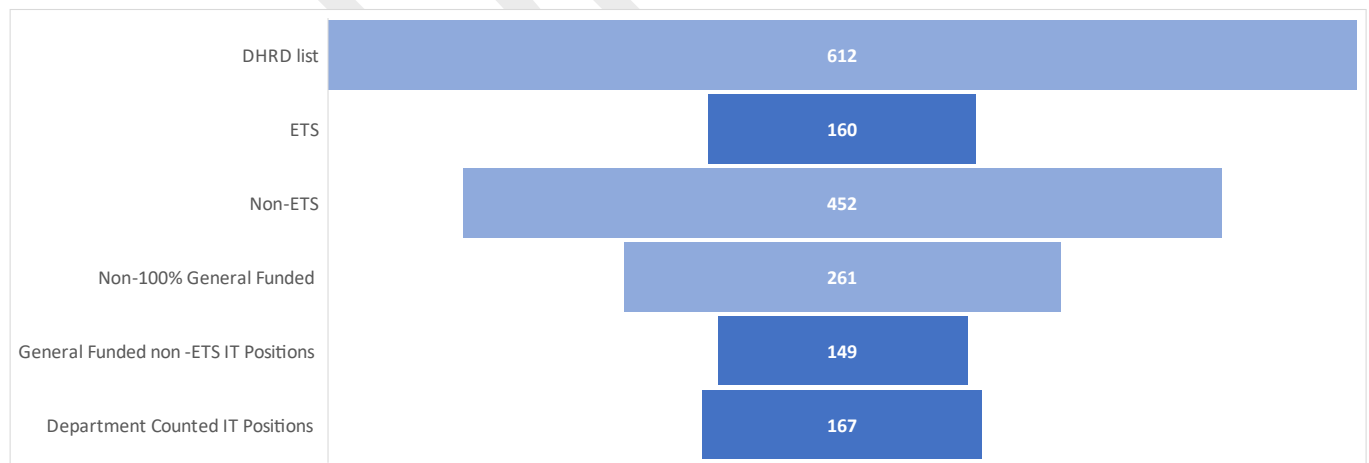
Definition of “IT positions” at the state is vague and the committee found the analysis of positions difficult, with a mixture of exempt and civil service positions. The committee approved a definition for “IT position” as: “Workers who create or maintain computer applications, systems, and networks”. This was adapted from the U.S. Bureau of Labor Statistics’ definition (<https://www.bls.gov/ooh/computer-and-information-technology/home.htm>).

Committee identified the relevant laws and policies to be:

- The Merit Principle (HRS §76-1)
- DHRD Policies
  - 200.001, Position Classification and Compensation System
  - 200.002, Basic Policies and Practices in Position Classification
  - 1000.001, Exempt Service
- CIO’s Statutory Authority (HRS §27-43(8)) to employ persons exempt from §§76 and 89.

#### 7.1.1 Current IT Positions and Staffing Levels

DHRD provided the committee an extract of civil service positions and exempt positions. DHRD noted that research into specific position duties was necessary to determine if exempt positions were IT positions. After committee removed the non-IT positions from the list, 149 general-funded IT positions remained. These positions were classified by the committee as IT positions and verified by department Administrative Services Officers, Business Management Officers, or Deputy Directors (as applicable). Departments themselves report a total of 167 IT positions.



**Figure 6. Current IT Positions at the state.**

The committee used an industry standard benchmark – a ratio of 2.71% IT Positions to IT Users as a comparison benchmark. The committee concluded that almost all departments are currently understaffed in IT support according to the ratio of their general-funded IT positions to IT Users, which is 1.77% on average at the state.

#### 7.1.2 Current IT Staff Competency Levels

The committee conducted a survey on the key strengths, gaps, and challenge of the existing IT Workforce, including eight (8) questions. All departments except for Law Enforcement participated in the survey.

Key strengths mentioned by departments were business domain knowledge & business analysis and service desk & end user support functions. Project management was seen strong too, but with more variance.

Key challenges were noted in database management, cloud infrastructure management, IT audits and cybersecurity, procurement management, vendor management, service management, and IT asset management.

### 7.1.3 Staff Transitions and Training

Scope of positions to be consolidated and transitioned to ETS should be initially very small and demand (from the departments) driven. Recommended position types in scope should be limited to roles that currently manage or execute task that are common to all / most departments. The recommendation is to centralize tasks, processes and technologies and that transition of people would be driven by the process and technology centralization if anything. Common and standard processes and technologies would be transitioned from the department IT staff to ETS.

Specialized or unique department specific services remain and are strengthened at the departments, via specialization and training. Departmental IT will have more time to focus on core business support and development activities, instead of tasks which ETS can adopt and handle, better than the departments.

Existing staffing levels at ETS and at the departments are sufficient to execute current tasks, but additional or peak capacity resources are lacking. Operative tasks consume most capacity, and capacity for development-oriented tasks is lacking. Hence, centralizing burden of common tasks and technologies would free resources at the departments to more value adding and development-oriented activities.

Both department and ETS staff will need to be continually trained through standardized training programs, for example in areas of:

- Project and project portfolio management
- Security and compliance
- Procurement and vendor management
- Data management
- Artificial Intelligence.

### 7.1.4 Shifting of Roles and Responsibilities (Service Delivery Models and AI)

Overall, not just at the State, IT professionals' roles are shifting towards less operational responsibilities. Routine and manual tasks such as server provisioning, patching, and network configuration are increasingly automated (AI) and provided by vendors within the cloud environments they manage. This means moving to setting up and maintaining the automation workflows and managing vendors' performance over execution the detailed technical tasks. Departments' IT staff will have more time to focus on innovation and planning & managing strategic initiatives and vendors.

These transformations happen gradually, with some effects now or in the very near term, while some taking years. Inhouse IT expertise will always be required, but most IT services will be delivered by vendors, who need to be selected and managed with care. AI powered automation will lessen the IT staff focus on operational tasks, automating some management tasks, and making space for management of automation, AI systems, and strategic business partnership activities.

### 7.1.5 IT Staff Roles

Future IT roles and functions at the departments should include a Service Manager role, which would oversee and manage business relationship management, vendor management (including ETS and external vendors), project and maintenance oversight. Future roles and functions at ETS and departments should include:

- **Service Owner** – Oversees service types and or categories, business relations and vendor management. Example: A CISO would be a service owner of cybersecurity related services.
- **Service Manager** – Oversees a group of connected / related services, business relations and vendor management. Example 1: An ETS branch manager would be a service manager of a group of services in his or her domain. Example 2. A department IT coordinator or IT expert would be a Service Manager of a highly business critical Line of Business Application.
- **Chief Data Officer** (larger departments)
- **Data Steward** – Role connecting business and IT, typically from business side, but with enough skills to converse with IT on technicalities of data management.
- **Data Architect.**

## 7.2 Strategic Steering and Governance Structures Committee

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Assess HRS, HAR, executive orders, and other policies and procedures on IT governance, determine if additional changes are necessary to adopt additional centralized shared services, and make formal recommendations if so.
- Review ETS governance structures against any available in sister states, and as necessary, define new roles, responsibilities, and oversight groups to provide future state leadership.

The committee focused its scope at the state and at department level on the following:

- Governance artifacts - laws, executive orders, standards, procedures, guidelines.
- Roles - responsibilities and accountabilities.
- Oversight groups - governance bodies.
- Governance processes and tools.

### 7.2.1 Governing Bodies

No major changes were deemed necessary to the existing IT governance structures to adopt additional centralized shared services. The main recommendations are to:

- Retain all current formally established IT governance bodies except the Strategic Priority Working Groups, which can be disbanded, as most have not been actively convening.
- Adjust the roles and responsibilities of current governing bodies:
  - IT Steering Committee (ITSC) to have a more tangible and impactful mandate, not only assistive to the CIO.
  - Project Advisory Council (PAC) to act in the earlier stages of the projects as opposed to only just before procurement stage.
- Adopt new structures, “User Groups” or “Communities of Practices”, that are open for all staff involved in IT on voluntary registration basis. User Groups report to the state CIO and are facilitated by an ETS subject matter experts and attended by ETS leadership, management, and subject matter experts as per their focus areas. Purposes and responsibilities of each group are detailed in the Appendix to the Governance Structures Report. For example:
  - Strategic Steering and Planning
  - Shared Services and Solutions
  - Procurement and Vendor Management
  - Business and Data Governance
  - Technology and Security

Below figure 7. provides an overview of the governing bodies.



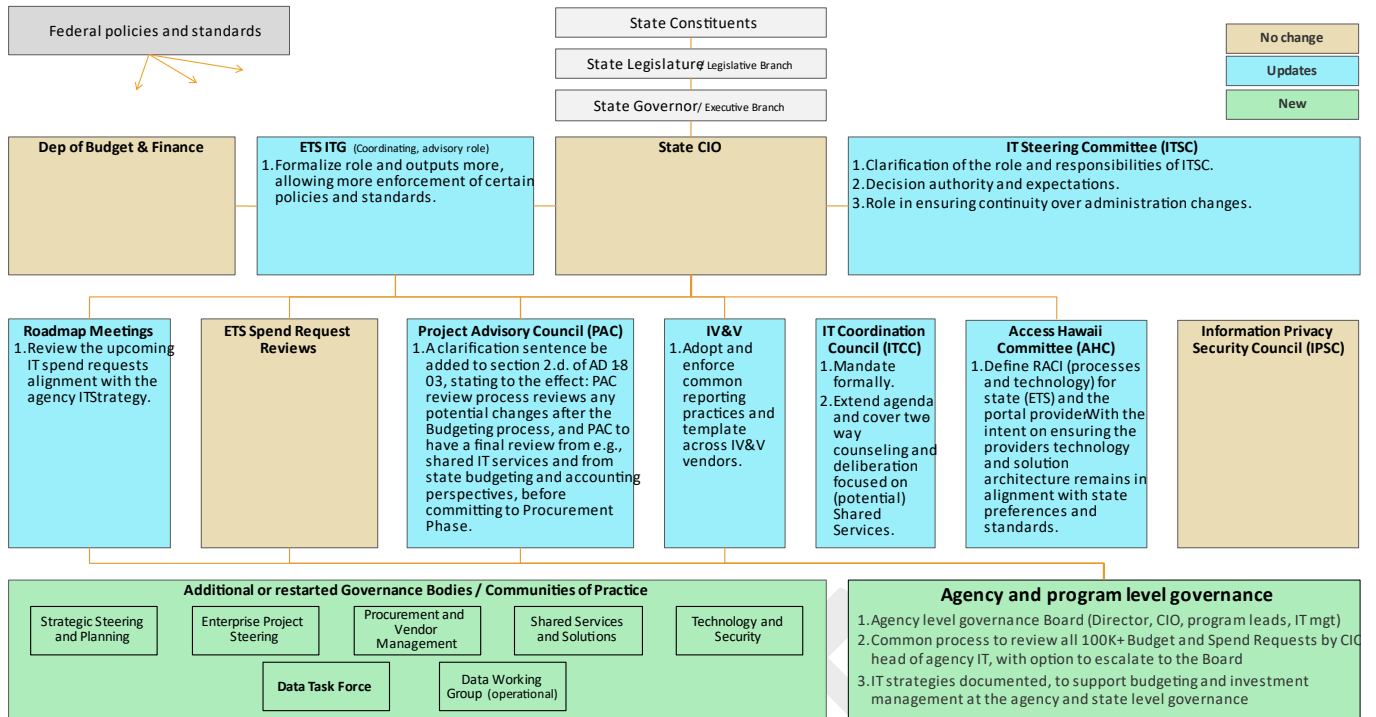


Figure 7. Governance Committee's vision for future Governance Bodies.

### 7.2.2 Processes

On the process side the Committees key recommendations were aligned with recommendations of the other committees, particularly Sourcing and Procurement and Project Portfolio Management committees.

### 7.2.3 Tools and Technology

The committee also agreed that a centralized tool or a few centralized tools for IT management and governance across the state for all departments to use and share with ETS would be beneficial. This toolset could be a single solution – an IT ERP – covering needs from IT strategic planning and budgeting to projects, operations, and IT service management, with underlying core components such as IT asset (financial view) and configuration management (technology components). The tool can also be a mix of a few, highly integrated best of breed solutions, such as the current portfolio management tool and best of breed solutions for service and operations management.

## 7.3 Change Management and Communications Committee

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Identify key stakeholder groups and analyze their level of influence and interest.
- Formalize a plan to ensure that all stakeholders are informed of changes and engaged, and the level of readiness stakeholders should have to prepare for the IT consolidation effort.
- Identify considerations for transition with regards to staff retention and satisfaction.
- Develop a plan for communication, including vendors, central state offices, legislators, unions, etc.
- Determine they key factors to communicate, the means of communication, and the timing. Define the communication process, including who should sign off on communications.

The Committee, based on the general direction the consolidation plan is taking, is not expecting, and not recommending major organizational change initiatives. The [draft OCM plan](#) will be furthered as the scope and timing of changes are agreed. Below three aspects are crucial in managing the changes.

Good **communication, sponsorship and championing** is vital for the success here. Executive level directors (sponsors) will be the primary sources of organizational messaging and the managers and employee supervisors (change champions) for personal impact matters. Sponsors and change champions will communicate the ‘why’ of the effort and clearly and continuously communicate to their departments all updates and progress. An employees’ immediate supervisor is responsible for ensuring forward momentum with the ability to remove barriers for a successful transition.



**Employees being influencers of the planned changes** as much as they are subjects. They will have a voice in the scoping, planning, design, and implementation of the changes. Employees will have a collective voice and an individual freedom of choice in the significant decision points along the change.

Prerequisite skills and knowledge of the affected staff for their planned future responsibilities and tasks will be accomplished through various **training programs**.

## 7.4 Organizational Structures Committee

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Document current state IT organizational structures in use in Hawaii.
- Research organizational model alternatives based on sister states data.
- Identify challenges and pain points in the current organizational structures.
- Recommend the optimal organizational structure to be utilized by ETS.

### 7.4.1 Sister State References

Most sister states have or are moving towards a hybrid organizational structure (Committee Report Ch. 4.1 and 4.3). Two key reasons for decentralization being 1) federally funded department specific projects and assets, and 2) unique IT needs, best managed within the department. Main reason for centralization being the benefits of central planning, governance, management and governance of common processes, services, and assets.

### 7.4.2 Process

Committee identified quality criteria used to evaluate the various organizational structure orientations and approaches: asset, process, customer, and service based. The service-based orientation had the highest percentage score of 39% as this orientation would improve the IT service quality, service management processes, and service governance.

### 7.4.3 Recommendations

Committee recommends that a common service catalog structure and taxonomy to be adopted across the state, making it easier to measure service levels, quality and user satisfaction uniformly transition services between departments and ETS as desired and needed. Committee also recommends specialized training and reshaping the departmental IT roles to focus on the core service management tasks, while transitioning common, standard tasks to ETS.

## 7.5 Sourcing and Procurement Committee

For the Committee report see the Appendix document (combined Committee Reports).

The committee’s goals were to identify:

- Pain points in the current IT procurement process.
- Opportunities to leverage economies of scale.
- Policy changes and model to leverage economies of scale, including contracts consolidation.
- Other opportunities to capture cost savings and efficiencies.

**Procurement** was defined as the umbrella process under which purchasing, sourcing, requisitions and purchase orders are, in the report specifically focusing on the processes after purchases. **Sourcing** was defined as a subset of procurement before purchases, including understanding the supply ecosystem, defining channels and procurement methods that provide the greatest value (fit/cost).

### 7.5.1 Challenges and Pain Points

Table 2. summarizes the identified key issues with IT procurement and sourcing at the state.

Pain point	Implications	Cause
Capacity and capability for sourcing tasks is lacking at departments.	Cutting corners in the process, resulting in increased implementation and operational risks.	Lack of resources. Redundant procurements.
Leveraging of vendor contracts between the various programs and departments is lacking. Lack of cooperative purchasing.	Redundant procurements and operational IT systems.	Lack of cross departmental collaboration and information sharing.

Federated purchasing.		
Pricelists may not always be used in the most appropriate and value adding ways.	Increases risks in the implementation and operational states, particularly with more complex and larger procurements.	Tight schedules and pressure to act and deliver fast. Lack of resources and capability to execute longer, proper procurement processes.
Capacity and capability for procurement and vendor management tasks is lacking at departments.	Vendors' performance is not well tracked and managed. Contract management difficult. Switching vendors difficult.	Staff time consumed in common, standard tasks, that ETS could take over. Not enough specialized capacity at ETS to support departments.
Lack of transparency: HANDS does not show all the solicitations and associated procurement history.	Hinders the overall state level monitoring and governance activities.	No strong enforcement.

**Table 5. Pain points in IT procurement and sourcing at the state.**

**7.5.2 Recommended Actions**

Following are key recommendations to improve IT procurement and sourcing at the state:

**Development and approval of a state technology platform strategy and guidance:** This strategy would define the preferred technology platforms and strategy conformance rules. The platform strategy is essential for any consolidation in that it would define the preferred platforms which would host most of the suggested future shared and consolidated IT solutions and services at the state. Technology platform and guidance would support departments' sourcing decisions, solution selection processes, and promote use of standard master contracts and master service agreements.

**Resourcing and upskilling:** More dedicated procurement professionals as well as more formally trained nondedicated staff to help departments with procurement, from sourcing to post purchase contract & vendor management: One (1) IT Procurement Officer and two (2) fulltime procurement managers. ETS staff and Department IT Service Managers trained (NASPO, SPO and ETS standards & guidelines).

**Establishment of a Procurement and Vendor Management Community of Practice,** to handle current and upcoming IT procurement cases, procurement vehicle (price lists) related matters, statewide contract, cross department opportunities, vendor performance and management issues, prepare policies, standards, practices, and guidelines for the area.

**Updating key procurement and sourcing policies, standards, and guidelines:** These policies focus in more clearly stating the:

- Use of pricelists.
- Conditions for, application, and the process of cooperative procurement.
- Revise procurement law, policy to allow for contract piggy-backing when certain criteria met.

**More consistent and stringent use the IT procurement tools provided by ETS and SPO, such as:**

- Solution alternatives assessment guideline and tool.
- Procurement method guideline.
- IT RFP checklist and RFP template.
- IT contract special provisions checklist and special provisions template.

**7.6 Project and Portfolio Management Committee**

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Survey and analyze current project portfolio management approaches within departments and agencies.
- Recommend revised project scope-aware policy, standards, and guidelines for IT project portfolio management.
- Analyze and recommend a centralized project portfolio management approach.

Committee's key changes at ETS include:

- Expanding the ETS Program Transformation branch or establish a more comprehensive new statewide IT project management matrix organization and floating positions.
- ETS to acquire/develop tooling and a process for departmental/divisional IT project prioritization. There is a pilot underway with ETS, DHS, and DCCA to document departmental/divisional business goals and IT goals/objectives.

Committee's key policy change recommendation is to align IT projects with strategic plans, improve project status reporting, adopt project closure terms and responsibilities, adopt benefits tracking. Standards adoption recommendation focuses on project management and portfolio tooling, external project management.

Additional recommendations for short term actions include:

- Adopting a common IT portfolio management framework.
- Adopting a common IT project management framework. For example, use the PMI project lifecycle, with agile / hybrid options.
- Establishing a regular meeting with each department to review and approve the department's multiyear information technology strategic and tactical plans and road maps – see Governance Structures 'Strategic Steering and Planning User Group' –recommendation.
- Aligning project initiation with portfolio level business and IT strategy.
- Changing the role of PAC to be more impactful.
- Changing the timing of Project Advisory Council (PAC) reviews to coincide with the periodic departmental IT strategy review meetings.
- Emphasizing PAC's focus on large departmental IT projects as part of portfolio intake, ideally before detailed planning and budgeting.
- Adopting project portfolio sharing.
- Creating a standardized format and schedule for ETS to share project portfolio and strategy with departments. This enables departments to align their project portfolios with ETS.
- Establishing a process and standardized format for departments to view other departments' project portfolios, to accelerate collaborative planning for enterprise assets, shared solutions, and initiatives.

## 7.7 Vendor Management Committee

For the Committee report see the Appendix document (combined Committee Reports).

As ETS continues to focus on the "Shared Services" model for consolidation, it will be important for ETS to develop itself as a service provider. A service provider should have a well-defined set of services it provides and a strategy on how to best deliver those services to its customers.

To improve IT service management (ITSM) capabilities of ETS, further planning and development need to occur in each are of the People, Process, Technology (PPT) framework as it applies to ITSM. It was evident from the customer surveys and feedback that ETS must improve its ITSM capability around its current services.

The following improvements were identified as high priority:

- Modernize the ETS Service Desk tooling.
- Develop and publish a service catalog.
- Increase ETS Service Desk staff to align with the growing number of shared services.
- Develop and publish more policies and standards.
- Improve the communication plan, training, and awareness for ETS services.

It is important to consider that when services are consolidated, centralization can diminish an agency's ability to directly support its users and their unique needs. Department IT staff will have less control and decision-making authority over the service, which may reduce flexibility in tailoring support to their specific user needs. The overall effectiveness of the centralization will highly depend on how well ETS can manage and deliver its services. Thus, ITSM is critical to the success of the entire IT consolidation project.

## 7.8 Financial Model

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Analyze current state funding approaches for IT expenditures.
- Determine if there are effective and whether they support a shared services model.
- Study possible funding models and determine the pros/cons of each option and make a recommendation for the best model/method available.
- Ensure sustainability of ETS' budget to deliver on shared services.

The Financial Model Committee, based on the general direction the consolidation plan is taking, the committee felt the existing financial model would continue. The committee did mention several financial constraints, such as federal grant limitations or changes in statute that may be required, if more extensive consolidations were recommended.

## 7.9 IT Network, Communications and Security Committee

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Assess the State’s current network utilization and network infrastructure assets (voice, video support, telecommunications, etc.).
- Identify current pain points and cost inefficiencies and recommend steps to address those.
- Identify any opportunities for third party management.
- Recommend a strategic plan for the optimization of network infrastructure.

The Committee recommends that a phased approach is used to:

1. Determine what should be consolidated with regards to telecommunications, network, and security;
2. Identify what are the requirements, risks, and parameters to consider when evaluating that specific area or scope to consolidate; and
3. Determine based on the factors above what can ultimately be consolidated and to what degree.

As part of the phase-in schedule provided for in the Act, the first year will include all shared services designated as “Low” effort in [Chapter 6](#). All other services in Chapter 6 with an effort rating other than “Low” will be evaluated in the subsequent years to determine what will be managed by ETS, what will be managed by the departments, and which will be hybrid responsibilities based on factors such as resources, cost, risk, capability, cost savings, and feasibility.

### 7.9.1 Network

ETS plans to continue providing Wide Area Network (WAN) to internet support to the departments. Goal is to extend WAN support for department remote offices, create reasonable network service level agreements based on 3rd party support which will be reimbursed by departments. Evaluation for future service delivery include: 1) “remote hands” – service from colocation providers or outsourced professional services, and 2) 24x7 network monitoring.

### 7.9.2 Compliance

ETS will continue to provide statewide minimum network and security requirements. Goal is to ramp up compliance requirements based on organization’s maturity. Departments with federal requirements have highest compliance standards and those specific departments will continue to align with those standards and not drive other departments to meet the same standards.

### 7.9.3 Security

ETS plans to uphold providing enterprise services as they do currently. ETS will continue to provide statewide minimum-security requirements. Goal is to assess how ETS security can expand 24x7 monitoring utilizing 3rd party professional services along with State workers for awareness and layered support.

## 7.10 Facilities Strategy and Management Committee

For the Committee report see the Appendix document (combined Committee Reports).

Pursuant to [Act 179 IT Consolidation 2022 Preliminary Status Report for the State of Hawai'i Legislature](#), the Facilities Strategy and Management Plan Committee was created to deliver on the stated mandate and goals.

The scope of this committee was to:

- Assess the State’s current footprint for people and physical assets, including data center utilization, and any future plans for cloud utilization and third-party Infrastructure-as-a-Service (IaaS).
- Recommend a strategic plan for the optimization of office space and data centers.
- Identify current pain points and cost inefficiencies and recommend steps to address those.

The following studies were commissioned by ETS in partnership with Kyndryl to deliver on the stated scope:

- Data Center Inventory Study (May 2023) and Application Disposition Study (October 2023)

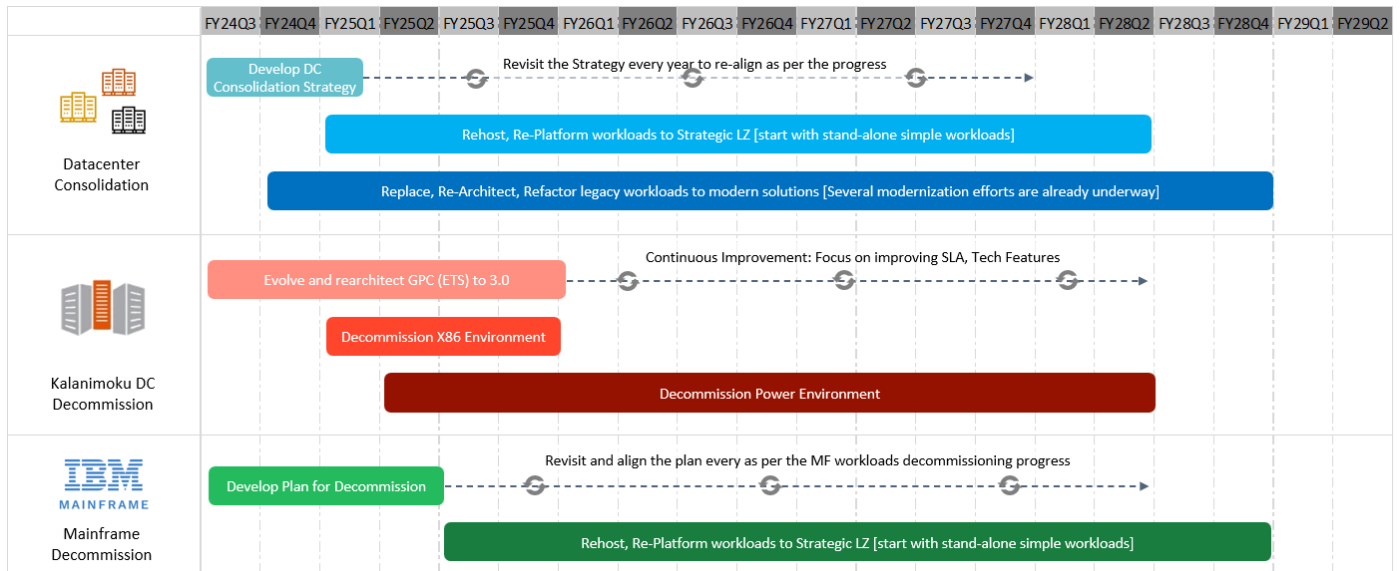
The Data Center Inventory Study targeted 25 physical locations comprising of 34 Agency “IT spaces”, including Kalanimoku, that resulted in the following observations:

- Identified were 469 physical devices targeted for decommissioning with an additional 26 devices identified as past EOL but not currently slotted for decommissioning.
- Data Center Consolidation estimates include reductions in overall space of 9,800sf and power of 38KW, resulting in annual power and cooling savings of \$180K and \$150K, respectively.
- With continued rationalization and modernization efforts to move perhaps even more application workload to various cloud service providers, it’s quite possible that the data center consolidation estimates would result in further reduction in required space and power, thus realizing increased savings over time.
- ETS is targeting complete decommissioning of the Kalanimoku Data Center by 2026. Remaining computer systems, communication networks, and high-volume printing services are in the process of migrating out to transform the data center floor space into general office space, hotel office space, conference room, and cyber security room.

The Application Disposition Study targeted 666 applications that resulted in the following observations:

- Cloud Adoption: More than 45% of the State-wide application workloads reside on Cloud:
  - Public Cloud – 21%
  - Government Cloud – 0.3%
  - Private Cloud (Co-Locations) – 12%
  - ETS Government Private Cloud (GPC) – 13%
- Modernization Efforts for Legacy Systems: 66 mission critical systems reside on mainframe (57) and power (9).
  - For ~55% of the applications, either in progress or planning is underway.
- Inventory of Application and Infrastructure: ETS’ LeanIX tool manages and maintains application portfolios. However, not all applications are listed here. Apart from applications, the repository also contains several IT cost items which are not necessarily applications.
  - LeanIX is missing robust CMDB capabilities (e.g., OS, DB and Application technical details)
  - Infrastructure to Application dependency mapping not readily available. Of the 3625 devices, 234 devices match an application in LeanIX, and 252 devices do not match an application in LeanIX
  - Impacts the detailed plan and effort of modernization program and decommission effort.
- Business Criticality of Applications: Over 2/3rd of the applications.
- Retired/Abandoned: ~11% of the applications not been decommissioned and use valuable Infrastructure.
- SaaS Applications: 32% of active applications. 1/3<sup>rd</sup> managed by Tyler Technologies and hosted from AWS
- Shared Services Infrastructure (ETS GPC): Only 13% utilize internal state-owned shared services infrastructure.
  - Of the larger departments (in terms of application counts) HMS, HTH and TRN should explore ways and opportunities to move more On-premises or CoLo workloads to ETS GPC
  - Existing hardware nearing end of lifecycle (less than 12 months) and located completely on Oahu.
  - Support staff located locally (e.g., no out of region support, typical recommendation resources distributed 100+ miles in event of disaster)
- Additional infrastructure cost savings: Possible with consolidated shared infrastructure services, hyperconverged infrastructure and removal of physical equipment targeted for decommission.
- EOL OS: 54 servers running EOL OS
  - Applications are from HTH, TAX, DEF, AGR

The Five-Year Roadmap for Application and Infrastructure Consolidation:



**Recommended Next Steps:**

1. Application Portfolio Rationalization – Identify Applications & Infrastructure → Completed – October 2023.
  - a. Full Application Portfolio Discovery & Analysis (R-Factor analysis).
  - b. Determine Readiness for Cloud or retirement to plan the MF/DC Exit.
2. Establish an Enterprise Governance Strategy & Structure
  - a. Create Strategic Steering Committee and link to program strategic vision to ensure goals are met (ensure all key stakeholders are represented).
  - b. Program management office to orchestrate multi-stream migration and modernization efforts.
3. Start PoC and Break Application Migration Execution into Manageable ‘Chunks’ (e.g., Wave Plans)
  - a. Execute a PoC for 3-5 agencies; establish blueprint for remaining agencies.
  - b. Deep dive on application affinity and wave planning across Mainframe, Power and each agency.
4. Define the Cloud Operating Model of the Day 2 Services and Supporting Workforce
  - a. Cloud Support organization, methods, tools and overall AMS & Infra Approach.
  - b. Upskilling current state workforce (Infrastructure, NW and Application).
  - c. Automated Platforms, application on-boarding patterns & developer experience.
5. Define Application Landing Zone / Re-architecting the GPC from 2.0 to 3.0
  - a. Leverage 3rd party Hyperscalers for economies of scale.
  - b. Address communication channels between HI and CONUS in NGN new strategic design utilizing direct connect or satellite options to support geographically dispersed GPC 3.0 model.
  - c. Limit the scope of GPC 3.0 to latency dependent or legal requirements to host on island.
  - d. Allow an opportunity for State staffing resources upskilled to support automation, compliance, disaster recovery and SLA support for critical workloads while removing the requirement to administrate low level tasks like facilities, hardware and operating systems.
6. Finalize Next Generation NW Strategy and Build Execution Plan
  - a. NGN Assessment, Strategy & Roadmap.

**7.11 Service Utilization Management Committee**

For the Committee report see the Appendix document (combined Committee Reports).

Goals of the Committee were to:

- Analyze current and planned use of resources, forecast future use, and develop models for best utilization.
- Determine how to use existing assets more efficiently and effectively and plan for effective uses of shared services.
- Identify opportunities to leverage alternative models such as managed services, pooled storage, and virtualization.

Recommendations were focused on core IT offerings given the foundational roles and benefits they typically provide with consolidation efforts. Benefits such as singular identities, increased stability and implemented standards and additional integration capability between applications/services, all of which could allow for further increases and successes in consolidation efforts. Other common benefits sought were potential cost savings/economies of scale, reduction of duplicative systems, and recommendations towards more modern offerings.

### 7.11.1 Recommendations with Existing Shared Services

Committee recommendations are summarized in table 3 below.

Existing Shared Service	Recommendation	Priority	Complexity
Active Directory	Departments migrate into ETS's Enterprise Active Directory.	High	Med/High
Multifactor Authentication	Departments utilize Azure AD instance managed by ETS for any multifactor authentication (MFA) needs.	High	Low
Vulnerability Scanner	Departments utilize the Tenable instance and CISA solution provided by ETS.	High	Low
VOIP / Call Center Systems		High	Low/ Med/ High
File Shares	Departments migrate files to Office 365 (OneDrive, SharePoint, Teams)	High	Low/Med
Secure FTP (File Sharing)	Departments utilize the Axway Secure FTP (SFTP) service provided by ETS.	High	Low
Virtual Private Network (Client)	Departments utilize the Palo Alto (Global Protect) Remote VPN service.	Med/High	Low
Virtual Server Hosting	Departments migrate virtual server workloads where applicable into GPC.	Med	Medium
DNS	Departments migrate into ETS's existing DNS service. Typically, this would be done during Active Directory migrations, but it was found some departments are hosting separate domains on their own DNS servers.	Med	Low/Med
Enterprise GIS	<ul style="list-style-type: none"> <li>Departments continue using existing Esri Enterprise GIS platform solution (ArcGIS Desktop, ArcGIS Enterprise, ArcGIS Online, ArcGIS Hub, etc.) for GIS mapping, analysis, internal and public facing GIS applications, etc.</li> <li>Departments consider migrating non-Esri GIS software/applications/solutions to Esri platform, where feasible.</li> <li>ETS, with GIS Program support, research and consider pooled/shared/enterprise servers using RBAC and other tools, improving governance, use of best practices, and potentially reducing licensing costs as well as IT resource usage.</li> </ul>	Med	Med/High
Patch Management	Departments utilize Tanium for patching their user endpoints where applicable.	Low	Med/High

**Table 6. Service Utilization Committee recommendations on existing Shared Services.**

### 7.11.2 Recommendations for Potentially New Shared Services

Committee recommendations are summarized in table 4 below.

New Shared Service	Departments to utilize	Priority	Complexity
Asset Management	Various products mentioned in this report to help automate capturing inventory of IT assets.	High	Medium
Endpoint Remote Access	Standard tool(s) for access/support of endpoint users and devices that meet the defined requirements.	High	Low
Active Directory Monitoring	Tenable.AD. Can be integrated into ServiceNow for ticket creation automation.	Med/High	Low
Network Monitoring/Config Management	Network Monitoring and Configuration Management service provided by ETS.	Med/High	Med
Help Desk Ticket System	ServiceNow as the cloud-based platform for automating IT management workflows.	Med	Med
Virtual Desktop Infrastructure (VDI)	Centralized VDI solution managed by ETS.	Med	High
Backup Solution	Departments to migrate to their own Cohesity instances for those who continue maintaining their own server environments.	Med	Low



Syslog/SIEM/Log Analyzer	Microsoft Azure Sentinel, to centralize threat collection, detection, response, and investigation efforts.	Med	Med
VPN (Site to Site – Internal/External)	Site to Site VPN services provided by ETS using centralized VPN concentrators.	Low	High
Content/Document Management	Microsoft SharePoint Document Management System with their optional Syntex add-on.	Low	Low/Med/High
Data management, reporting & analytics	Solutions provided by ETS (not currently in ETS portfolio)	Med/High	Med/High

## 7.12 Workforce Development and Recruiting Committee

For the Committee report see here.

The committee's goals were to review and suggest practices that would effectively **Recruit, Develop, and Retain** high-quality information technology professionals for Hawaii State government.

As the number of unfilled technology jobs at all levels, across all sectors, continues to grow exponentially, public sector and private industry employers locally and nationally are implementing multiple, interlocking workforce building programs to recruit, develop, retain, and compensate technology employees who are in extremely high demand and in short supply. For Hawaii State Government to successfully recruit and retain qualified employees in this highly competitive technology job market, it must embrace a broad collection of solutions and demonstrated best practices.

Recommendation: Based on proven best practices and successes within the technology industry and other government jurisdictions, applying these recommended solutions will address specific challenges identified with recruiting qualified talent and retaining Hawaii state government technology employees:

- Expand adoption of **temporary exempt** technology **positions** that offer flexible compensation, flexible duties and responsibilities, flexible minimum qualifications and skill sets, and shorter, faster recruiting and hiring processes. This has been a successful model for the Office of Enterprise Technology Services whose enabling Legislation (HRS Chapter 27-43) provides creating and hiring its employees as temporary exempt, which are not subject to requirements of HRS Chapters 76 and 89.
- Provide **competitive salaries** at entry levels and subsequent career points. Local and national salary surveys consistently place Hawaii government at the lower end and bottom.
- Consider adding **flexibility** to **benefits** packages, such as pension funds that offer portability common to technology employees who change jobs often.
- Adopt **performance-based** compensation and rewards program, as existing programs deemed not competitive or relevant.
- Offer uniform **remote work** and flexible scheduling options, essential for technology employees who have been leading the national shift to more tele- and remote work.
- Develop technology **career ladders** that define career progression, job growth, future pathways, rotating job assignments, mentorship programs, and internal promotional opportunities within State government.
- Build **formal training program** offering leadership, management, and administrative skills training required for advancement within government, e.g., collaborate with proven consulting and training organizations that already deliver such programs to industry and government, e.g., CIO training academies, leadership institutes.
- Provide **incentives** such as fellowships, tuition assistance, and other financial support for individual development and enhancement to improve internal employee skills and knowledge as they progress through their government careers, e.g., obtain and maintain professional credentials and technical certifications for skills growth, rather than to only meet job requirement); attending conferences & vendor summits, joining professional organizations and associations.
- Encourage **formal** and **informal** programs where technology employees share information, success stories, and best practices, e.g., Centers of Excellence, brown bag lunches to learn.
- Deliver formal internal and external **professional development** programs to train, reskill, and upskill employees in these identified areas of need.
  - Strategic IT portfolio management.
  - IT Procurement.
  - Project Management.
  - IT Service and Operations Management.
  - Business and Vendor Relationship Management.
  - Security and Privacy.



- Data Management
- Artificial Intelligence (AI) use & application
- Migrate from education degree requirement to **skills and experience-based credential** hiring for selected positions, reflecting prevailing practices within tech industry, e.g., for many positions, experience and demonstrated practical skills considered more important qualifications than academic degrees.
- **Collaborate** with lower and higher **education community** to expand funded government technology student internship and externship opportunities providing hands-on experience that transition into regular government employment.
- Transition decades old static state government position descriptions to **dynamic position descriptions** that reflect modern, current, and flexible needs of today's technology positions, e.g., update minimum and preferred requirements for technology positions consistent with rapidly changing industry practices, align position and job titles with current industry standards and usage.
- **Shorten** significantly the **lengthy recruitment processes** and time to hire – extremely critical in highly competitive technology job market.
- Encourage **creative recruitment practices** and **collaborations** between technology employers and HR at all recruitment levels., e.g., while technology hiring managers best know the type of candidates they need, HR managers may have more resources and expertise to find and attract those candidates.
- Establish **marketing program** to highlight advantages and experience of working in public service.
- Highlight **personal financial incentives** only available when taking a government position, such as loan forgiveness and payment reductions for student loans.
- Although not directly a workforce development practice, adopt emerging automated and **artificial intelligence (AI) tools** to handle routine and repeatable tasks allows employees to focus on tasks requiring higher-level skills, which may reduce the technology staffing shortage and need for additional staff, e.g., develop enterprise-wide AI training and orientation programs to explore possibilities, to build internal expertise on this emerging AI technology.

These findings come from extended discussions with and review of successful practices in other states and government jurisdictions, the National Association of State Chief Information Officers (NASCIO), National Governor's Association (NGA), Hawaii CIO Council, University of Hawaii, and Professional IT Recruitment organizations.