DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
ANNUAL REPORT ON GOALS, OBJECTIVES AND POLICIES
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Program ID/Title: AGS-130
        Enterprise Technology Services – Governance and Innovation

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I.   Goals

   Pursuant to Act 58, SLH 2016, the functions of the Office of Information Management and Technology (OIMT/AGS-130) and the Information and Communication Services Division (ICSD/AGS-131) of the Department of Accounting and General Services (DAGS) are consolidated under the Office of Enterprise Technology Services (ETS), led by the Chief Information Officer (CIO) of the State of Hawai'i.

   Programs under AGS-130 will continue to identify, prioritize and advance programs and projects with the greatest potential to increase efficiency, reduce waste, and improve transparency and accountability in State government.

   See also AGS-131 "ETS – Operations and Infrastructure Maintenance" Annual Report for Goals, Objectives and Policies.

II. Objectives and Policies

   The CIO has identified seven priority areas to continue progress achieved thus far and further identify, prioritize and advance programs and projects that achieve ETS' stated goals. These focus areas are in alignment with the Ige Administration's priority goal to ensure an effective, efficient and open government, and supports the legislative intent in cited statutes.

   A. IT Workforce Development — IT workforce development consists of the implementation of programs, strategies and reforms to develop and empower the State's IT workforce to increase ability to modernize government processes, systems, solutions and services while reducing overreliance on third-party consultants.

    In assessing the State's current IT workforce and capacity, it is important to note that Reductions in Force (RIF) of the 1990s and 2000s — however necessitated by economic forces — caused staff levels in the former ICSD to plummet from greater than 300 to less than 150. In addition, the division's funding remained static or was reduced over the same time period. These factors resulted in decentralization of procurement, diminished governance, and overreliance on consultants.

    IT workforce development efforts will involve the establishment of flexible programs to attract and retain individuals possessing modern IT disciplines to fill service and

skill gaps within the State's IT operations, building outreach campaigns to recruit candidates from non-traditional sectors, and continuing to develop internship and apprenticeship programs to expose government opportunities to high school graduates as well as two-year and four-year degree program participants.

B. IT Governance — IT governance involves the establishment of processes and standards that guide the management and oversight of the State's IT and information resource investments, acquisitions and projects, as outlined in statute (HRS Section 27-43) and enhanced by Act 58, SLH 2016, to seek efficiencies and cost-savings through economies of scale, leveraging of shared assets, reduction of waste, and alignment with statewide IT strategies and industry best practices. This includes the implementation of governance procedures across enterprise programs and projects to ensure successful outcomes and positive return on investment (ROI), to the extent possible, and efficiently managing the statewide portfolio to ensure projects are prioritized appropriately and resources are sufficiently managed. Objectives include the reduction of operations and maintenance contracts year over year.

C. Services-Oriented Infrastructure — Also known as enterprise shared services, centrally managed service-oriented infrastructure (SOI) leverages the State's enterprise status and related economies of scale (e.g., network, security, data management, unified communications, data center, and various cloud services).

D. Enterprise Programs and Projects — Enterprise programs and projects maximize positive ROI by leveraging economies of scale and setting standard platforms for IT systems. Under this priority area, ETS will facilitate the establishment and execution of programs and projects identified as priority and/or enterprise in scope (e.g., tax, health and human services, asset management, budget, finance, grants, human resources, payroll, procurement, and time and attendance).

E. Open Government — Open government initiatives will build on established open data and transparency platforms to facilitate open government mandates outlined in statute (HRS Section 27-44).

F. Cyber Security — Ensuring a sound cyber security posture for the State will involve the establishment of statewide policies and standards, maintain the security posture of the State Network, and direct departmental remedial actions, if necessary, to protect government information or data communication infrastructure, in accordance with statute (HRS Section 27-43.5) and enhanced by Act 58, SLH 2016.

G. IT Cost Transparency — Cost transparency for IT initiatives will facilitate the Ige Administration's priority for an effective, efficient, and open government, restoring the public's trust in government by committing to reforms that improve transparency and accountability.

III.   Action Plan with Timetable

A. IT Workforce Development

1. Past Year Accomplishments

a. Established IT workforce development as an ETS priority and outlined a strategic plan that included a variety of recruitment outreach activities, employee skills development and enhancement opportunities, and an assessment on current positions and future needs for talent. In the initial year, a new baseline assessment was completed in terms of identifying areas within the office where development programs could be built to include any of the following:

    i. skills expansion and enhancement through alternative training as well as project work;

    ii. completion of two employee surveys that identified areas of interest and motivation for career development and advancement;

    iii. identification of specific work standards, program goals and training curriculum options for the establishment of an IT apprenticeship program;

    iv. integration of IT college students into the Transformation Internship Program (TIP) in order to help develop and build internship opportunities that are project based for enhanced learning and experience; and

    v. establishment of career paths that bridge gap areas between current IT skill set and future requirements and positions.

b. Successfully consolidated the authority, operations and resources of the former OIMT and ICSD with the passage of Senate Bill 2807 SD2 (now Act 58, SLH 2016) and adopted the use of ETS for the unified team. The reorganization is intended to create greater efficiency in State government and clarify roles and responsibilities in new governance processes.

c. Expedited the filling of vacancies to mitigate unnecessary reliance on third parties. In FY16, ETS successfully filled 29 positions, but retention continues to be a challenge.

d. Launched a webpage promoting current "IT positions in recruitment" to further facilitate the filling of vacancies.

e. Repurposed award-winning State Transformation Internship Program (TIP) to support IT workforce development efforts, entering into partnerships with the University of Hawai'i and DevLeague to create on-the-job-training opportunities. TIP was originally launched in 2013 in partnership with DHRD to provide Hawai'i undergraduate and graduate students the opportunity to work alongside innovators within state

government and gain hands-on experience in a wide range of areas. The
program was re-calibrated for the 2016 summer session to provide a
project-based learning experience where IT students from various
universities were onboarded to plan and assist with execution of the
State's first-ever Hawai'i Annual Code Challenge.

f. Expanded focus on providing a multitude of learning opportunities to
current and new employees throughout the executive branch. Training
sessions have been made available to all employees for voluntary
participation where individuals may update their skills on common
applications, such as Office 365 and SharePoint tools among others.
There were also 37 different content areas provided that addressed skill
gaps in a variety of functional areas to include technical training as well as
soft-skill training. Delivery and access to trainings have been very
flexible to offer options to employees to balance their daily workload and
project demands to include in-person, webinar and off-site seminars and
conferences. ETS has also invested in online content libraries that provide
a self-paced environment for employees who wish to learn new
technologies and attend training modules from their desks.

g. Received the Legislature's approval for three new cybersecurity positions
to help further build the State's cyber security program. These new
positions will also allow ETS to pursue cost-effective solutions for
Hawai'i's cybersecurity needs by providing additional training to State
employees. Training employees enables the State to shift a majority of
security work previously done by contractors to skilled State personnel.
(See Cyber Security priority below for additional information.)

2. One Year

a. Implement strategic plan for IT workforce development.

b. Launch Civil Service IT Broadbanding Pilot Project. The pilot is in
partnership with DHRD to update the current position classification
system that is more than 40 years old, inflexible, complex, labor intensive,
and unresponsive to changing needs, particularly as it relates to IT
positions. Re-describing State IT positions to more appropriately match
modern technologies and processes will further ongoing efforts to hire and
retain IT personnel and expand career path opportunities for public sector
workers. Broadbanding will also enable ETS to be more competitive with
the commercial world in the recruitment of IT workers and allow for
current IT workers to choose a technical career, which may not require
managing individuals. In conjunction with the broadbanding pilot, ETS
has developed a few career paths that incorporate the new broadband
structure and a progression of jobs and skills that include existing
positions as well as additional levels in a specific career path (e.g.,
application development, help desk application, and system support).

    c. Execute ETS' formal reorganization of the operations across former OIMT/ICSD units and branches to reflect the modern enterprise infrastructure, production, operations, staff and required roles.

    d. Hold the State's first Hawai'i Annual Code Challenge to engage the local tech community in government modernization and expose individuals within Hawai'i's IT workforce to State career opportunities.

    e. Launch a pilot program with LinkedIn to expand recruitment opportunities in terms of targeted campaigns and coordinated outreach with the entire LinkedIn community in any geographic region. The LinkedIn presence will also provide ETS with the opportunity to re-brand and re-position ETS and State government with the IT workforce who may be actively seeking new job opportunities or others who may not be actively pursuing opportunities, but may be possible job fits based on work experience and knowledge.

    f. Work with the colleges and universities to identify opportunities to offer project-based learning to masters' program students as well as determining if there is relevant curriculum and coursework that may be adopted by ETS and slightly modified to offer training options to employees.

    g. Work with other large employers in the State to develop an apprenticeship program that will target IT specialty and skills, while conducting outreach to underserved communities and individuals. Implement initial outreach and recruitment activities for apprenticeship work in the designated fields outlined in the grant. For example, the American Apprenticeship Incentive Grant is a federally funded program that is administered by the Department of Labor and Industrial Relations (DLIR) in which employers within the State receive nearly $3 million to establish apprenticeship programs and opportunities. The work program standards have been drafted with targeted apprenticeship jobs have been prioritized for ETS. The program will require union review as it will be submitted to the DLIR Workforce Development Council for review and approval in the coming months.

    h. Continue strong focus on providing a multitude of learning opportunities to current and new employees.

3. Two Years

    a. Continue the filling of vacant positions, focusing on the reduction of single points of failure while expanding capacity to support priority initiatives and service-oriented infrastructure.

    b. Conduct assessment of effectiveness of the Civil Service IT Broadbanding Pilot Project.

    c. Establish multiyear track-record for Hawai'i Annual Code Challenge.

    d. Continue career path development and to offer relevant training and learning development to employees who are interested in enhancing their

skills to migrate to different jobs over time.

4. Five Years

    a. Reduce vacancies within ETS to 10 percent, effectively addressing vacancies and maintaining workforce sustainability, and eliminating single points of failure and measurably expanding capacity to support priority initiatives and service-oriented infrastructure.

    b. Operationalize ETS' formal reorganization, including any statutory amendments necessary for operations including but not limited to budgetary requirements and boards and commissions de facto membership.

    c. Build upon the foundation of the IT Broadbanding Pilot Project to provide paths of career growth for State employees in additional bargaining unit positions that are IT related.

    d. Continue now established multiyear track-record for Hawai'i Annual Code Challenge.

H. IT Governance

1. Past Year Accomplishments

    a. Developed and launched a governance process for IT projects identified in Act 119, SLH 2015, as well as "enterprise" and/or priority projects. This process is designed to identify and maximize opportunities for efficiencies and cost-savings, reduction of waste, positive ROI, and overall success. The process requires that enterprise and/or priority projects adhere to a review gate process specific to the prescribed project lifecycle (pre-initiating, initiation, planning and execution).

    b. Established an ETS contract management process, where draft RFPs and draft vendor contracts for enterprise IT projects and initiatives are reviewed for best practices, and to ensure IT-related terms and conditions favorable to the State are included in the documents.

    c. Refined the IT request to spend process (i.e., Form T205), which enhanced the depth and effectiveness of reviews of departmental hardware, software, telecom and services requests over $100,000. Initial results have yielded elimination of unnecessary items/services, improvement of the specificity of project timelines and plans, and in some cases, renegotiation of proposed contract prices in the favor of the State.

    d. Reinstituted the gathering of departmental IT requests to spend under $100,000, providing a more complete picture of overall IT spend

throughout the executive branch. Analysis of data is underway, looking for trends and opportunities for shared services.

e. As part of the upcoming biennium budget request submittal, ETS has started to collect and analyze departmental IT roadmaps to ensure budget requests are in alignment with department strategy, as well as statewide ETS plans and direction.

f. Provided input and feedback to the Department of Budget and Finance on departmental IT Form A requests for the biennium budget submittal. Reviewed and evaluated IT Form A requests against established criteria.

2. One Year

a. Continue to refine governance processes for IT projects and, in conjunction with the Department of Budget and Finance, incorporate the process into budget request process, in accordance with Act 58, SLH 2016. This includes working with each executive branch department and agency to develop and maintain its respective multi-year IT strategic and tactical plans and roadmaps that are part of the State's overall information technology strategic plans, roadmaps, and directions.

b. Initiate efforts to work with the DAGS Accounting Division to implement consistent accounting codes and criteria to ensure improved accountability with regard to departmental IT expenditures. Objectives include to address findings by the State Auditor's office regarding IT expenditures across the executive branch (SCR162 2015).

3. Two Years

a. Continue to refine IT governance process to maximize success and successfully utilize departments' multi-year IT strategic and tactical plans and roadmaps in the development of the State's overall IT strategic plans, roadmaps, and directions to prioritize initiatives.

b. Assist the DAGS Accounting Division in the implementation of consistent accounting codes and criteria to ensure improved accountability with regard to departmental IT expenditures.

c. Operationalize remaining statewide IT policies, standards and procedures. Also establish central site for electronic posting and tracking statewide IT policies.

d. Through the IT cost transparency model, directly map statewide IT expenditures to operational versus capital expenditures.

4. Five Years

a. Demonstrate value of IT governance process over time and ability to qualitatively and quantitatively measure success criteria and outcomes.

b. Continue to refine, mature and evolve the above-mentioned statewide policies, procedures and standards. Ensure sustained maintenance of site for posting and tracking statewide IT policies.

B. Services-Oriented Infrastructure

1. Past Year Accomplishments

a. Identified SOI under the preliminary categories of network, security, governance, data management, unified communications, and shared services, and aligned with strategic benchmarks identified in the AGS-131 "ETS – Operations and Instructure Maintenance" Annual Report on Goals, Objectives and Policies — including projects listed below.

b. Migrated 12,453 executive branch department users to Office 365, excluding the Departments of Education and Taxation and the University of Hawai'i). Benefits include fortified security, greater disaster recovery capability, expanded applications and services, added tools for collaboration, and long-term budget sustainability.

c. Launched and expanded eSign Service to departments statewide to increase government efficiency within the executive branch. One year after the governor's office piloting the capability, more than 65,000 (and counting) unique electronic transactions have been processed across departments, representing a reduction and associated savings in the use of paper, ink, and process time.

d. Upgraded cloud services to implement independent server failover as part of SOI. With the upcoming addition of independent failover capability as well as application high-availability with clustering, the focus shifts to business continuity, even in the face of unforeseen events. Service-level agreements and cost options will be defined for State departments and agencies to make use of the enterprise asset.

e. Formalized a memorandum of understanding with the University of Hawai'i IT Center under which some IT systems currently housed at that State's primary data center in the downtown Kalanimoku Building are migrating to the UH IT Center to the extent possible to provide resilient backup. The agreement outlines a rate structure under which ETS will remunerate the university for its costs each year, including a "true up" based on actual expenses from the previous year.

2. One Year

a. Deploy platform as a service for rapid app development.

       b. Implement strategic benchmarks identified in the AGS-131 "ETS – Operations and Instructure Maintenance" Annual Report on Goals, Objectives and Policies.

       c. Build out ETS-led SOI and expand departmental costumer base while demonstrating return on investment and cost-avoidance achieved through economies of scale and efficiencies.

3. Two Years

       a. Continue to build out ETS-led SOI and expand departmental costumer base while demonstrating return on investment and cost-avoidance achieved through economies of scale and efficiencies.

4. Five Years

       a. Operate sustainable ETS-led SOI, including the maintenance of a sufficient workforce and funding resources, and continue to offer to stable department customer base, expanding where opportunities present themselves.

C. Enterprise Programs and Projects

1. Past Year Accomplishments

       a. Expand on the Ige Administration's targeted approach for large IT programs and projects by implementing a strategy of modularity. An enterprise modularity framework is instrumental for ETS to facilitate governance of the IT modernization and transformation initiatives currently underway and planned for the future. A successfully defined and implemented enterprise modularity framework will allow ETS to:
           i. Drive reusability
           ii. Align pace of change with system agility
           iii. Eliminate vendor dependency
           iv. Promote innovation while lowering the total cost of ownership

       b. Collaborated with DAGS to select CherryRoad Technologies Inc. to modernize payroll and time and attendance systems to provide greater functionality and efficiencies in serving more than 75,000 full- and part-time employees statewide. The current DAGS central payroll system provides paychecks and deposits to employees across the executive, judicial and legislative branches (including the Department of Education and the University of Hawai'i), as well as the Office of Hawaiian Affairs, and the Hawai'i Health Systems Corporation. In addition to being more than four decades old, the system runs on the mainframe and relies heavily on paper-based processes.

     c. Initiate internal status reporting capability for all priority initiatives for effective governance and program management.

2. One Year

     a. Work with various departments, as appropriate to provide IT governance and independent verification and validation on large projects. Projects may include but not be limited to:
         i. Tax System Modernization;
         ii. KOLEA and related health IT initiatives;
         iii. Payroll Modernization and Automation; and
         iv. Financial Management and Budgeting System Modernization
     b. Develop and assign ETS resources to provide sufficient oversight, support, and verification and validation to the aforementioned priority initiatives, as necessary.

3. Two Years

     a. Provide effective ongoing oversight, support, and verification and validation to the aforementioned priority projects, refining processes as necessary.
     b. Provide internal status reporting on all priority projects to facilitate responses to address project success needs.
     c. Establish competency centers and knowledge management protocols to effectively manage and operate enterprise applications and systems. This will assist in future transitions from system integrators and implementation team to State-operated systems.

4. Five Years

     a. Ensure sustainability of the above oversight functions and demonstrate effectiveness.
     b. Operationalize competency centers and knowledge management protocols to effectively manage and operate enterprise applications and systems. This will assist in future transitions from system integrators and implementation team to State-operated systems. Assist with transition of special project exemption hires to roles that will support the management, operations and maintenance of enterprise systems.

D. Open Government

1. Past Year Accomplishments

    a. Pursuant to HRS Section 27-44, continued to facilitate executive branch departments' reasonable efforts to make appropriate and existing electronic data sets maintained by the department electronically available to the public through the State's Open Data Portal (data.hawaii.gov), which now offers charting libraries and mapping tools for the creation of dynamic visualizations. Today, 665 data sets are publicly available through the portal with 3,468,187 browser page views providing residents, analysts, and civic developers with unprecedented access to state data.

    a. Continued work on the Aloha+ Challenge Dashboard (dashboard.hawaii.gov/aloha-challenge). Released measures for Natural Resource Management.

    b. Worked with the Department of Business, Economic Development, and Tourism / Coastal Zone Management to develop the Ocean Resource Management Plan Dashboard. The dashboard is scheduled to be released this year.

    c. Hired State Portal Manager to facilitate the CIO-chaired Access Hawai'i Committee's legislatively mandated duty to oversee the State portal program.

2. One Year

    a. Continue to work with departments and agencies to expand and refine available data with regularly updated information.

    b. Develop a data analytics program for the State.

    c. Complete Web Accessibility Initiative to update information and training to State departments and agencies to help ensure that their respective websites meet federal accessibility guidelines. Accessibility of official State of Hawai'i websites is of paramount importance to serving all citizens. The project coincides with rulemaking being conducted by the U.S. Access Board is expected to result in modifications to relevant national standards, including the Website Content Accessibility Guidelines (WCAG). Currently, eHawaii.gov web managers strive to meet WCAG 2.0 AA level standards for website accessibility. ETS will coordinate with the state Disability and Communication Access Board to ensure maximum administrative compliance.

3. Two Years

    a. Review and publish all policies, procedures and standards related to the open data, including benchmarks outlined in the AGS-131 "ETS – Operations and Infrastructure Maintenance" Annual Report on Goals, Objectives and Policies. State policy on open data will ensure that the Federal Directive on Government Transparency is properly followed via practices and procedures of reporting and archiving data. ETS will

coordinate with the Office of Information Practices to ensure maximum administrative compliance.

4. Five Years

    a. Ensure appropriate resources and mandates are in place for regularly maintained and accessible public-facing open data assets in accordance with the aforementioned policies, procedures and standards.

E. Cyber Security

1. Past Year Accomplishments

    a. Transitioned the Security Operations Center (SOC) from a vendor-led operation to a more sustainable State personnel-led team.

    b. Received the Legislature's approval for three new cybersecurity positions to help further build the State's cyber security program, which protects all three branches of government that today share a common access point to the Internet where most cyber threats originate. ETS is in active recruitment for the following new cybersecurity positions approved in the 2016 legislative session:

        1. Chief Information Security Officer (CISO) — for establishing security standards and to ensure that the State stays current with best practices in security.

        2. Two cybersecurity support positions — for operations (The focus of existing staff has been on perimeter security and the next phase to build the end-point security platforms. These additional staff will help departments secure their endpoints and to proactively search for vulnerabilities in the network).

    c. Initiated security audits of executive branch departments and agencies regarding the protection of government information and data communication infrastructure, and direct specific remedial actions to mitigate findings of insufficient administrative, technical, and physical controls.

    d. Increased the SOC's visibility into department networks in conjunction with the deployment of industry-standard security tools.

    e. Submitted annual and quarterly reports to the Legislature providing high-level information on the health status of departments' IT environment as it relates to functionality, risk and maturity, as well as periodic information security and penetration audits of the executive branch IT systems, pursuant to Sections 42(1) and 42(5) of Act 119, SLH 2015. These reports are available online at ets.hawaii.gov.

    2.   One Year

        a. Fill aforementioned cybersecurity positions to help further build the State's cyber security program.

        b. Initiated operationalization of statewide IT policies, standards and procedures in the priority category of cyber security.

        c. Continue to increase the SOC's visibility into department networks in conjunction with the deployment of industry-standard security tools.

    3.   Two Years

        a. Operationalize statewide IT policies, standards and procedures in the security category.

    4.   Five Years

        a. Continue to maintain and deploy industry-standard security tools and practices to increase protection against network-based threats.

F. IT Cost Transparency

    1.   Past Year Accomplishments

        a. This is a new CIO priority area.

    2.   One Year

        a. Launch "technology-based management" (TBM) financial model and tools within ETS.

        b. Reduce IT operational and maintenance contracts by 10 percent over two years.

    3.   Two Years

        a. Demonstrate effectiveness and benefit of TBM model.

        b. Reduce IT operational and maintenance contracts by 10 percent over two years.

    4.   Five Years

        a. Roll out and apply TBM model to all IT expenditures statewide.

IV.   Performance Measures

      A. IT Steering Committee Assessment — Solicit committee's assessment of the CIO effectiveness year-over-year, as measured by success in achieving benchmarks under stated CIO priorities.

      B. Program Standard Measure — Monitor and evaluate ETS measures of effectiveness for delivery of service.

      C. Cost Effectiveness Measure — Annual costs and returns on investment will be calculated, monitored and evaluated. Corrective measures will be implemented for any significant variance, as needed.