DEPARTMENT OF ACCOUNTING AND GENERAL SERVICES
ANNUAL REPORT ON GOALS, OBJECTIVES AND POLICIES

January 2022

Program ID/Title: AGS-130 / Enterprise Technology Services – Governance and Innovation*

AGS-131 / Enterprise Technology Services – Operations and Infrastructure Maintenance*

Pursuant to HRS 27-43, all functions of the programs formerly associated with AGS-130 (ex-Office of Information Management and Technology) and AGS-131 (ex-Information and Communication Services Division) are consolidated within the new Office of Enterprise Technology Services as led by the Chief Information Officer, effective July 2, 2016.

Starting FY22, the OETS budget will be consolidated under AGS131, which will include activities, positions, and funds from AGS130. As OETS has integrated all functions from the formerly separate OIMT and ICSD organizations, maintaining the separate AGS131 and AGS130 account structure is no longer necessary. Using two accounts has proven to be cumbersome, unwieldly, and inefficient, requiring tedious duplicate fiscal and personnel reporting. Combining the two accounts will more accurately reflect OETS programs, organizational structure, and functions, and will allow for effective use of program resources.

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I.   Goals

Identify, prioritize and advance programs and projects with the greatest potential to increase efficiency, reduce waste, and improve transparency and accountability in State of Hawai'i government.

Provide efficient, effective, and available information technology (IT) enterprise services and support in the areas of data center, cybersecurity, computing (mainframe and open systems), telecommunications, application development, and web-based services for the purpose of assisting State government agencies in fulfilling their current and future business mission and objectives.

II.   Objectives and Policies

Program objectives are arranged by branch under proposed organizational structure:

Production Services Branch — Schedule, execute and monitor production jobs for State departments and agencies, as well as monitor the State networks and maintain the operation of the State data center.

Systems Services Branch — Provides systems software support and programming, database management and operational support for the Enterprise Mainframe System (z) and all Third-Party Software, Enterprise Power System , Enterprise Spectrum Protect Backup and Restore System, mainframe user access management and disaster recovery. Manage accurate charge back system as well as maintain compliance to audit standards set by IRS, SSA and State Auditor

Technology Support Services Branch — Provide support, maintenance and development of hardware, software, and infrastructure for on-premises and Cloud applications.

Client Services Branch — Provide applications development, enhancement, maintenance, technical support, and consultant services for State departments and agencies to meet their business objectives.

Enterprise Systems Branch — Provide ongoing operational maintenance and management support for enterprise systems (e.g., enterprise payroll and human resources systems). Assist with implementation of statewide Time and Leave applications.

Network Branch — Provide statewide telecommunication services (e.g., data network, radio network, and telephone systems) for daily business operations of the State of Hawaii's executive, legislative, and judicial branches, including telecommunications interfaces to federal and county governments; provide land mobile radio communications for public safety entities and radio microwave network connection interfaces to other county and federal agencies for first responder and emergency communications; provide technical support on voice and telephone systems to State government entities.

Security Branch — Manage the statewide cybersecurity program to secure and protect electronic assets and data stored on State computer systems or transported through the State's networks.

Enterprise Architect Branch — Develop and implement statewide technology policies, guidance, and standards; provide Departmental guidance for Business and IT decisions that supports the State's strategic plan and investments and improves the ability to deliver responsive, cost-effective government functions and services.

Program Management Branch — Provide management, business consulting services, and business applications support to agencies to effectively develop and maintain new technology applications and improve service delivery through effective integration of technology solutions; provide program management development support for enterprise technology programs and projects (e.g., enterprise payroll).

III.   Action Plan with Timetable

Past Year Accomplishments

Production Services Branch — Effectively managed production jobs for State departments and agencies, monitored the State networks, and maintained the operation of the State data center. Replaced the UPS batteries for the two large units supporting the data center.

Systems Services Branch — To maintain security, operational capability and comply with regulatory standard/requirement, the Mainframe Systems operating system has been upgraded to the next supported version. The mainframe system is currently hosting major departmental applications such as welfare administration, unemployment and disability compensation, child support and financial and asset management. To leverage on new features and functionality delivered only in the updated release, the Mainframe Adabas Software has been upgraded to the next supported version. The mainframe database systems are being used for major departmental applications such as welfare administration, unemployment and disability compensation and child support. The ETS Team has started the technical upgrade of the Power Systems infrastructure that is currently hosting Departmental applications related to public safety, business registration and professional certifications, digital archiving and enterprise backup and restore. Procurement of the new and consolidated infrastructure that includes compute, storage and network equipment has been completed. The ETS Team has provided technical and managerial support to DHS, DLIR and CSEA during the audit engagement conducted by the IRS. ETS ensured that the infrastructure and processes for mainframe application hosting services comply with IRS Publication 1075 and resolve audit findings according to risk category. The MFaaS Team successfully conducted the Mainframe Disaster Recovery System Test at the IBM Omaha Data Center. The operating systems, database systems as well as application software of the mainframe host systems were verified to be operational. The testing was done to ensure that ETS and DHS have the operational capability to fail over to the disaster recovery site in case of real disaster that could happen at the existing ETS Kalanimoku Data Center. System logs were verified and downloaded. The system logs will be used as reference to document a comprehensive Mainframe Disaster Recovery Process. The MFaaS

Team attended Change Management Workshop to establish process for normal change and emergency change. The MFaaS Team has implemented the process using the available productivity tools. The adaption of the process enabled management to regain control of all changes happening in the mainframe environment.

Technology Support Services Branch — Completed migration of Department of Taxation to Office 365 which completes migration for the entire Executive branch. Decommissioned legacy Lotus Notes & Active Directory environments. Migrated ETS to Teams Calling from Hawaiian Telecom phone lines, which provided cost savings and better communication abilities for teleworking with external parties. Increased adoption amongst departments of M365 (particularly Teams, license management, Unified Security Risk and Quality Assessments). Coordinated Microsoft Azure training & certifications across the Executive Branch. Replaced backup solution, completed a major software stack upgrade, and continued to research hybrid cloud options for ETS-managed local private Cloud service (Hawai‘i Government Private Cloud). Continued hardening the State's Active Directory infrastructure. Made further progress on the research and implementation of a citizen identity solution with more departments interested and starting to use it for various public facing systems. Moved TSSB hosted websites behind Cloudflare security services and secured external access with cloud identity and access management services. Progressed on implementing full HTTPS for all hosted websites. Supported the technical development and operations of the State of Hawaii Safe Travels program and Attorney General's Quarantine Exemption program. Continued support for various pandemic related initiatives and the enablement of telework technologies. Implemented the Hawaii SMART Health Card feature.

Client Services Branch —   The branch assisted the Department of Labor and Industrial Relations (DLIR), Unemployment Insurance (UI) Division with the implementation of the following programs: 1) Federal Pandemic Unemployment Compensation (FPUC), 2) Pandemic Emergency Unemployment Compensation (PEUC), 3) Low Earnings Act (LWA), 4) Multi Earner Unemployment Compensation (MEUC), 5) Pandemic Unemployment Act (PUA extension), 6) Extended Benefits (EB20) and 7) American Rescue Plan Act (ARPA). In addition, for DLIR UI, the branch aided with data and business analysis, and data conversion for the new Hawaii Unemployment Modernization (HUIMod) System. For the Campaign Spending Commission (CSC), the branch implemented a re-write of the Candidate Filing System (CFS), Candidate Filing Public System (CFSPublic) and the CSC Mass Email System (CSCEmail). The applications were re-written using an updated platform which will provide better support and security going forward. The branch also provided support for the new Salesforce

application of the Department of Commerce and Consumer Affairs (DCCA), Professional and Vocational Licensing Division (PVL). Support included assistance with preparations for the June 2021 renewal of nurses, private detectives, guards, and plumbers.

Enterprise Systems Branch — Ongoing maintenance and support of the Enterprise Human Resources Management System (HRMS) and Payroll systems, also known as Hawaii Information Portal (HIP). Built, maintained, and supported interfaces to all agency HR, Payroll, and financial data sources. Successfully implemented Time & Leave applications for the Executive and non-Executive branches. Implemented HR in HIP for LEG, OHA, and Stadium.

Network Branch — Added 6 new sites into the State's Institutional Network (INET) providing high-speed connectivity to sites on the Big Island and Oahu. Replaced equipment at key locations with greater capacity while requiring less space and power. Established a public cloud exchange for connectivity between the State network and public clouds i.e. Microsoft Azure. Provided assistance with establishing redundant connectivity between the State and county networks. Established a framework for enterprise WiFi connectivity.   Increased the reliability of the State's radio systems by performing network topology changes. Added Hawaii Wireless Interoperability Network (HIWIN) Land Mobile Radio (LMR) coverage/connectivity to Kona Judiciary. Project doubling HIWIN LMR system capacity nearly complete. Executed Memorandum of Agreement (MOA) with DOT Airports to serve their radio communication needs using the HIWIN system. Maintained radio facilities and infrastructure. Upgraded radio microwave backhaul to Ethernet standard format which will facilitate increased connectivity and redundant routes.

Security Branch — Aligned priorities to address mitigations for most frequent cybersecurity attacks. Performed enterprise-wide compromise assessments and emphasized cyber hygiene concerns. Exercised detection and response capabilities.

Enterprise Architect Branch — Published statewide IT roadmaps to facilitate transparency in the IT planning, budgeting, procurement, and maintenance processes. Initiated enterprise application portfolio management (APM) throughout the Executive Departments. Strengthened governance procedures and implemented technical architecture improvements for the statewide internet portal providing digital services for constituents. Worked with the departments and established clear goals and metrics for the statewide IT portfolio governance improvement. The IT Portfolio Working Group continues to meet with the goal of improving the statewide guidance and governance. For Business Architecture, as

part of the overall enterprise architecture and IT portfolio governance improvement, the EA Branch continues to work with the departments to establish a business architecture framework for the state - with each department's IT systems continuously recategorized for the business capabilities they serve. In the roadmap meetings with the departments the department-level application ("IT system") portfolio is frequently revisited for each application's business criticality and functional business fit. For Solution Architecture guidance, the EA Branch continued to refine the overall IT project portfolio and the spend request process. Triple data entry related to the ETS-205 form was eliminated, and the quality of the requests is now clearly improving and becoming more benefits-oriented and in general justified by measurable business value estimates. The EA Branch recently simplified the roadmapping and project portfolio guidance at https://ets.hawaii.gov/it-governance/ and published a simple but hopefully clear public IT roadmap at https://ets.hawaii.gov/state-of-hawaii-it-portfolio-management/. For Technical Architecture guidance, the statewide application portfolio is continuously assessed for technical fit in meetings with the departments – and the evergreen architecture opportunities are repeatedly discussed – including guidance towards automated testing and automated deployment. This is clearly starting to resonate with the departments and the footprint of Salesforce and utilization of PaaS platforms – AWS, GCP and Azure - is continuously expanding. Any requests for legacy, state-owned and managed infrastructure spending is systematically redirected to not just IaaS but rather PaaS and SaaS.

Program Management Branch — As part of DAGS Accounting Division's Enterprise Payroll and Time & Attendance Modernization (HawaiiPay) project, accomplished successful payroll Go-Live implementation for Groups 1 (DAGS and DHRD) and 2 (all other remaining jurisdictions, departments, and agencies – except UH and DOE) to the new Cloud-enabled services environment.

One Year

Production Services Branch — Maintain effective and efficient day-to-day operations of production job execution and monitoring of the State network and data center.

Systems Services Branch — Continue to improve uptime availability and security of the Enterprise Mainframe System z, Enterprise Power System and Backup and Restore infrastructures. Complete the host migration and transitional processes of the Mainframe System from the current on-premised environment to an off-premised environment. Develop an inventory of all mainframe applications and track departmental plans for the migration off the Mainframe System.

Develop a plan to cross train and re-tool staff that will be affected by the sunsetting of the Mainframe computing platform.

Technology Support Services Branch — Increase adoption amongst departments of M365 (particularly Teams, license management, Unified Security Risk and Quality Assessments). Continue hardening the State's Active Directory infrastructure. Assist other departments and offices with their requests to implement Teams Calling. Lead a proof-of-concept project for mobile device management across several departments. Research hybrid solutions and managed service options for ETS-managed local private Cloud service (Hawai'i Government Private Cloud). Continue working with the departments to expand a citizen and B2C identity solution and evaluate fraud protection and identity-proofing services. Implement a state web site template redesign and full HTTPS for all hosted websites. Provide support in securing the elections' infrastructure for the 2022 Elections. Support for various pandemic related initiatives and the enablement of telework technologies.

Client Services Branch — Continue to reprogram the Non-candidate portion of the Campaign Spending Commission's systems and assist the DLIR-UI in the replacement of their mainframe systems. Create or participate in pilot projects and proof of concepts to gain experience in new technologies and determine potential applicability within the State.

Enterprise Systems Branch — Maintain and support the Enterprise HR, Payroll, and Time & Leave systems including interfaces, reporting, security, and transaction processing. Improve on current processes to improve transaction efficiency and data use. Assist with integrations to/from the new Financial Management System.

Network Branch — Increase the number of sites with broadband connectivity, provide network redundancy between agencies and the State's network, assist with the deployment of enterprise WiFi, and expand the use of the public cloud exchange. Expand radio microwave and LMR networks by adding new sites at no additional site development costs through the use of MOAs. Assist DOT Airports and other users with transitioning to HIWIN for interoperable communications. Maintain radio facilities and infrastructure.

Security Branch — Implement solutions to get visibility and measures on State assets to ensure secure configuration and operation. Provide broad and effective security software to prevent information systems from compromise and misuse. Disseminate standards, guidance, and security awareness training to increase department capabilities to be more resilient against cybersecurity attacks.

Enterprise Architect Branch — Publish initial statewide IT enterprise architecture framework. Maintain and manage statewide IT enterprise applications portfolio and roadmaps; demonstrate effectiveness of IT planning, review, approval, procurement, and implementation processes. Provide enterprise architecture assistance to Departmental initiatives such as the DHS technology modernization, DLIR UI Modernization, DCD eCMS Modernization, and AGS KEIKI modernization. Continue planning and strategy refinement for procurement of new contract for the Statewide Internet Portal provider.

Program Management Branch — Execute the second phase of the enterprise modernization efforts to include the implementation of the Time and Leave system extended to all jurisdictions and departments serviced for payroll processing in the Hawaii Information Portal (HIP) system. Continue work streams to stabilize payroll operations and required support for departments and third parties (benefit administrators, unions, etc.) and successfully transition to operations, with support from the contractor through the managed services arrangement provided through the contract. Additionally, the branch will begin to extend program/project management services in support of enterprise projects across State departments following the establishment of a working group to solicit feedback, priorities, and interests from departments.

Two Years

Production Services Branch — Maintain effective and efficient day-to-day operations of production job execution and monitoring of the State network. Systems Services Branch — Establish a fully operational business disaster recovery process in coordination with major mainframe user departments that will include documentation and periodic departmental testing Acquire Power System maintenance services to enhance security and keep the version of operating system software current in compliance with regulatory requirements.

Technology Support Services Branch — Implement the next phase including the standing up of a hybrid cloud environment and research replacement hardware for ETS-managed local private Cloud service (Hawaiʻi Government Private Cloud. Maintain and further enhance the State's Active Directory infrastructure, assist executive branch departments in maximizing and securing O365 and other Microsoft products used across the state, increase adoption of Adobe Sign, and further implement the new web platform for the State.

Client Services Branch — Expedite the development of quality application systems by utilizing new/improved application development platforms and tools.

Enterprise Systems Branch — Ongoing updates for post go-live deployment of HIP HR, Payroll, and Time & Leave for all departments and agencies

Network Branch — Continue to increase the number of sites with broadband connectivity, increase network redundancy between agencies and the State's network, continue with assisting with the deployment of enterprise WiFi, deployment of software-defined (SD) wide area network (WAN) technologies. For the radio microwave and LMR networks, revise existing partnership agreements or develop new partnerships for mutual benefit with entities such as the County of Hawaii, County of Maui, University of Hawaii, and the U.S. Marine Corps. Transition DOT Highways onto HIWIN to provide their first responders with improved response times during natural disasters utilizing HIWIN's ubiquitous coverage on Oahu and interoperable communications between various first responder agencies. Establish microwave radio data connectivity to State Office Buildings to utilize during emergency situations when terrestrial connections or other communication links may become inoperable.

Security Branch — Prioritize cybersecurity initiatives based on risk and impact. Increase collaboration with federal and local infrastructure partners to provide whole of community approach to cybersecurity.

Enterprise Architect Branch — Refine statewide IT enterprise architecture framework. Refine statewide IT enterprise applications portfolio and roadmaps; continue to demonstrate effectiveness of IT planning, review, approval, procurement, and implementation processes. Continue to provide enterprise architecture assistance to Departmental initiatives such as the DHS technology modernization, DLIR UI Modernization, DCD eCMS Modernization, and AGS KEIKI modernization. Prepare for release of Request for Proposal for new contract for the Statewide Internet Portal provider.

Program Management Branch — Under the Hawaii Modernization effort we plan to continue the enterprise system to include the financial system modernization and other related modules. Establish and expand transition plans to transfer from project implementation to operational units within the State for Time and Leave as there will be departments transitioning in the four deployment groups. Continue efforts to provide advisory support of other enterprise projects with key project management rigor and best practices and lessons learned to be shared with other departments seeking project support.

Five Years

Production Services Branch — Maintain effective and efficient day-to-day operations of production job execution and monitoring of the State network.

Systems Services Branch — Sustain the operation of the Enterprise Mainframe System z and gradually decrease the costs of operation until all the applications have been migrated off the Mainframe System. Develop a plan for the Enterprise Power System and Backup and Restore infrastructure in anticipation of the completion of current lease agreement.

Technology Support Services Branch — Assist executive branch departments in maximizing Office 365, Adobe Sign, and the new State web platform, and maintain and further enhance the State's Active Directory infrastructure. Continue implementing enhancements to the ETS-managed local private Cloud service (Hawai'i Government Private Cloud).

Client Services Branch — Evaluate and refine technologies, processes, and services.

Enterprise Systems Branch — Ongoing updates for post go-live deployment of HIP Enterprise Human Resources, Payroll, and Time & Leave applications for all departments and agencies. Implement successful systems in support of phase two deployment of DAGS Accounting Division's HawaiiPay project and the Financial Management System project.

Network Branch — Improve the State's telecommunications networks through the addition of high-speed connectivity and network redundancy. Migration to software defined wide area networks. For radio microwave and LMR networks, enact projects to affordably provide the entire State with interoperable radio coverage.

Security Branch — Develop pipeline to onboard workforce earlier in their career and expand expertise of in-house cybersecurity team.

Enterprise Architect Branch — Refine statewide IT enterprise architecture framework. Maintain statewide IT roadmaps and demonstrate effectiveness of IT review and approval process. Provide enterprise architecture assistance to Departmental initiatives. Provide oversight and management over the new contract for the Statewide Internet Portal provider.

Program Management Branch — Formalize enterprise support operations for enterprise payroll and time and attendance. Identify other opportunities for enterprise application support for the Departments; initiate program management support for such opportunities. Continue to implement statewide licensing agreements and require procurement and adoption of shared products and services.

IV.   Performance Measures

Customer Satisfaction measure (if applicable)

Production jobs executing as scheduled.

Number of new and/or improved application services implemented, adopted, and used.

Number of requests completed within timeframe.

Time to respond to help desk and assistance center inquiries.

Average incident response time for system and network outages.

Average time to review and approve IT spending request.

Program Standard measure

Timely reporting of network outages to the appropriate staff, ensuring the State data center is operational.

Ease of use and delivery of modern flexibility.

Number of connections completed, and number of sites supported by enterprise Wi-Fi.

Collection of IT roadmaps from all applicable departments and continuous refinement.

Cost Effectiveness measure

Return on value and total cost of ownership.

Alignment to IT roadmap and Operational Expenditure Plan.

Cost-efficiencies achieved through IT governance and roadmapping processes.