

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

January 2020

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.*

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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 Unix System (p), Enterprise Spectrum Protect Backup and Restore System, mainframe user access management and disaster recovery. To established accurate charge back system as

well as maintain compliance to audit standards set by IRS, SSA, State Auditor and primary vendor.

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

Client Services Branch — Provide systems 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. Executed a new three-year lease for the two high speed laser printers.

Systems Services Branch — Continued to provide high availability to the IBM Mainframe (Z System), enterprise UNIX, and enterprise backup and restore environments. Continued to upgrade operating system and middleware to come into compliance with the IRS Publication 1075. For disaster recovery, the mainframe “D” copy services are now operational, we can now commence non-disruptive testing of the production volumes. Provided technical assistance and services to DOE for their FMS system, (online and batch), during their DB2 upgrade. Implementation of a PC based interface into the chargeback system to allow non-technical personnel to be able to retrieve their own reports and create invoices. Installed Software AG’s ADABAS SQL gateway and Entire X to make the mainframe ADABAS regions available via SQL queries and provide a path for legacy system modernization. Installed Software AG’s Natural Development (NDV) environment to provide a path for the upgrading of Natural to the latest supported release. Upgraded the Power series operating system and firmware. Upgraded and streamlined and automated the KOMAND billing system. Upgraded IBM’s zVM and zWave. Renewed maintenance subscriptions and updated all Third-Party Software. Provided hosting services to DLIR Web Services Application for Secure PII transfer to Federal Hub. Maintained Managed File Transfer services to all state departments and external partner agencies. Improved the process of mainframe user access authentication. Attained software compliance audit standards as required by vendor. Established monitoring system to remain compliant. Resolved substantial number of audit findings during and after the compliance review by IRS, SSA and State Auditor.

Technology Support Services Branch — Implemented new ETS-managed local private Cloud service (Hawai’i Government Private Cloud) as well as added new features. Implemented new backup solution for O365. Deployed Microsoft Unified support to departments. Configured virtual desktop environment in the cloud. Configured all O365 users for multifactor authentication. Continued support for rollout and adoption of Microsoft Office 365 for the executive branch departments. Continued support for adoption of Adobe Sign (electronic signature) and Adobe Creative Cloud tools to a larger state audience. Provided support and onboarding of a web accessibility reporting tool and hosted additional trainings. Researched and implemented a language translation feature for websites. Procurement and delivery of an enterprise social media management

platform and social media and news listening platform for state public information officers. Provided support to the Hawaii Payroll project. Provided primary technical support for The Office of the Governor and Lt. Governor.

Client Services Branch — Developed applications which interface the new payroll system, HIPay, with mainframe systems, such as Central Warrant Writer, RECON, FAMIS, and DAGS/Datamart. These systems print payroll checks, maintain information used to reconcile checks, and store payroll expenditures for the departments use. The branch worked with the Campaign Spending Commission to reprogram their candidate and non-candidate filing systems. These systems ensure that campaign spending reports are filed timely, thoroughly and without error. They also ensure that the information is disclosed to the widest possible audience through the use of dashboards and visualization applications. The branch also assisted the Department of Labor and Industrial Relations (DLIR), Unemployment Insurance (UI) Division with their GAP analysis for a replacement of their mainframe systems.

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 and Payroll data sources. Actively implementing statewide Time and Leave applications.

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 with 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.

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. Work with the Public Works Division on the replacement of the two Uninterruptible Power Supply (UPS) units and design of electrical upgrades within the data center. This includes new electrical panels and wiring to the equipment.

Systems Services Branch — Continue to provide high availability for the IBM Mainframe (Z System), the enterprise UNIX and backup and restore environments. Upgrade the operating system and middleware to come into compliance with the IRS Publication 1075. Address the risk of upcoming hardware end-of-support and mitigate the deficient business disaster recovery process of the mainframe system. Optimize current hardware infrastructure platforms, i.e., Enterprise Mainframe System z and Enterprise Unix System p by hosting the physical hardware to the cloud using the Infrastructure as a Service (IaaS) as a model of service.

Technology Support Services Branch — Finish migration of Department of Taxation to Office 365 which completes migration for the entire Executive branch. Decommission legacy Lotus Notes & Active Directory environments. Replace backup solution and research hybrid cloud options for ETS-managed local private Cloud service (Hawai'i Government Private Cloud). Increase adoption amongst departments of O365 (particularly Teams and Unified Risk Assessments). Continue hardening the State's Active Directory infrastructure. Research centralized identity manager to integrate between Payroll system and the State's Active Directory infrastructure. Implement a new Open Data platform and provide user training through the migration. Move TSSB hosted websites behind Cloudflare security services and secure external access with cloud identity and

access management services. Implement full HTTPS for all hosted websites. Research and test the possibility of managed web infrastructure for hosted websites. Provide support in securing the elections' infrastructure for the 2020 Elections.

Client Services Branch — Continue to reprogram 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 and Payroll systems including interfaces, reporting, security, and transaction processing. Improve on current processes while working towards the new implementation of Time and Leave applications.

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 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. The Time and Leave initiative is projected to have four deployment cycles beginning March 2020

through August 2021. 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. Replace the two UPSs and do electrical upgrades within the data center.

**Systems Services Branch** — Establish a fully operational business disaster recovery process that will include documentation and periodic departmental testing. Create a roadmap to modernize Mainframe-based applications and improve internal processes of supporting the Enterprise Mainframe System z and Enterprise Unix System p. Research ETS Power Infrastructure Options to a Cloud base services.

**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 (Hawai'i 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 Payroll for all departments and agencies and initiate the Time & Attendance Phase of DAGS Accounting Division's HawaiiPay project.

**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 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 Enterprise Unix System p in the cloud and improve the services rendered to all departments. Work and collaborate with all the departments and continue with Mainframe Application Modernization either using the “rip and replace” or redirection technique. The goal is to use more open technologies and utilize technologies that are being taught in the community colleges and universities so staffing would not be an issue moving forward.

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 and Payroll applications for all departments and agencies. Implement successful systems in support of phase two deployment of DAGS Accounting Division’s HawaiiPay 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 such as the DHS technology modernization and AGS KEIKI modernization. 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.