

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

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Program ID/Title: AGS-131
Enterprise Technology Services – Operations and
Infrastructure Maintenance

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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-131 will continue to provide efficient, effective and available information technology (IT) enterprise services and support in the areas of data center, cyber security, 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.

See also AGS-130 “ETS – Governance and Innovation” Annual Report for Goals, Objectives and Policies.

II. Objectives and Policies

- A. Deliver accurate and available IT services to enable State agencies to meet their business objectives.
- B. Develop and scale IT service offerings to meet increased State agencies' demand for computing, storage, and network connectivity.
- C. Secure and protect the IT assets and resources in the State's data center and electronic data transmitted through the State's data networks.
- D. Reduce costs by identifying, implementing and sustaining programs to optimize the use of hardware, software and contractors through enterprise agreements, governance and rationalization.

III. Action Plan with Timetable

A. Deliver accurate and available it services that allow State agencies to meet their business objectives.

1. Past Year Accomplishments

- a. Upgraded the bandwidth of redundant circuits on the neighbor islands to meet the increased network usage.
- b. Established network connectivity to the Hawai'i Emergency Operations Center in Hilo to support high availability connectivity for emergency operations and State/county services.
- c. Generated 86,305 W-2 Wage and Tax Statement forms for calendar year 2015 for employees of the State branches of government consisting of Executive Branch departments, the Department of Education, Hawai'i State Public Library System, Office of Hawaiian Affairs, Hawai'i Health Systems Corporation, the Judiciary Branch, the Legislative Branch, and the University of Hawai'i.
- d. Implemented bargaining unit contract pay increases and retro-active payments for the Executive Branch, Judiciary, Hawai'i Health Systems Corporation, and the Department of Education employees.
- e. Completed the testing and implementation of the "Unknown" status for the Sex code and Marital Status code to comply with the Equal Employment Opportunity Commission (EEOC) ruling that an individual cannot be forced to enter either Male or Female for their gender and having to state their current Marital Status.
- f. Completed the testing and implementation of a new Employer Fringe Benefit Assessment to address the State's unfunded liability regarding Retiree Health Care coverage. This new employer assessment is known as the Other Post Employment Benefit (OPEB) and is in addition to the Employer Retiree Health Benefit Fringe Benefit Assessment to supplement the Retiree Health Care funding.
- g. Completed the testing and implementation of establishing the new Bargaining Unit (BU) codes 14 and 24, along with their excluded counterpart BU codes 74 and 94, and the excluded managerial code 37. These Law Enforcement employees are part of Hawai'i Government Employees Association (HGEA) union and were converted from BU 03 and 04, and their counterpart excluded BU

codes 63 and 84. The Collective Bargaining Agreement (CBA) for these new BUs included seven different differential pays and, depending on pension plan, the employee is a part of will determine if the differential pay would be ERS eligible for pension compensation or not. Thus a new type of pay code “X” was established to handle differential pays that are not eligible for pension compensation, which are employees hired from July 1, 2012, or later.

- h. Completed the testing and implementation of the Affordable Care Act (ACA), which mandated employers to print the 2015 federal 1095-C statements for employees and to electronically file the 2015 1094-C and 1095-C data with the IRS. The employee 1095-C print was done for the Executive Branch which had 16,438 employees, the Department of Education which had 26,506 employees, the Hawai‘i Health Systems Corporation (HHSC) which had 4,219 employees, and the Legislature which had 403 employees. The University of Hawai‘i and Judiciary handled their own printing. Every jurisdiction was responsible for their own electronic filing to the IRS, thus only the Executive Branch’s electronic filing was generated and transmitted to the IRS. This electronic filing also involved an error and correction process in order for the Executive Branch’s electronic file to finally be accepted by the IRS.
- i. Provided computer programming services to Hawai‘i Health Systems Corporation (HHSC) with Act 103, SLH 2015, on the privatization of the Maui Region to Kaiser Permanente. However, due to a court order, the privatization process was halted. The union United Public Workers (UPW) sued to stop this transition, thus this privatization process is now in litigation.
- j. Completed the testing and implementation of Act 86, SLH 2015, which mandates that workers compensation payments withhold ERS pension contributions for all employees who are in the contributory plans. One major difference is that these pension contributions withheld are post tax and not pretax like the other pension contributions which required special programming accommodations.
- k. Provided computer programming services to comply with the Internal Revenue Service (IRS) / Social Security Administration (SSA) / Centers for Medicare and Medicaid Services (CMS) Data Match federal mandate. Personnel data is needed by eight different jurisdictions of which ETS received the data from seven. ETS is also waiting for healthcare coverage data from EUTF. Personnel start and stop dates needs to be matched up against the healthcare coverage start

and end dates to answer and respond to this federal compliance. Once the file is generated then it needs to be transmitted to the CMS.

- l. Provided computer programming services for data validation and change management software for the Unemployment Insurance Division of the Department of Labor and Industrial Affairs (DLIR).
- m. Provided computer programming services for the Budget Planning Program Management Division (BPPMD) of the Department of Budget and Finance that implemented enhancements to the electronic Budget (eBUDDI) web-based application to fulfill ACT 160, SLH 2015, requirements for the biennium year and provided BPPMD the option to generate budget reports in PDF (portable document format) on the FTP (File Transfer Protocol) server in line with the State's direction toward reducing paper output.
- n. Provided computer programming services for the Professional and Vocational Licensing Division of the Department of Commerce and Consumer Affairs that implemented enhancements to accept and process additional renewal transactions through a web-based application developed by the State's internet portal vendor to reduce the number of hardcopy renewals reviewed by staff and speed up processing these transactions.
- o. Provided computer programming services to the Department of Human Resources Development's (DHRD) Human Resource Management System (HRMS) to assist in the maintenance of the PeopleSoft version 9.2; implemented the establishment of selected employees into a new bargaining unit 14 along with a pay increase; implemented the Broadband Initiative for the IT and Licensed Health Care Professional class of employees in the Executive Branch; implemented four bargaining unit pay increases for the Executive Branch; implemented the Bus Pass process into a bolt-on PeopleSoft solution; and implemented the 2015 Affordable Care Act (ACA) process into a customized PeopleSoft solution.
- p. Launched a project with DLIR and DHS to provide data sharing services using ADASQL (Structured Query Language).
- q. Implemented the DHRD Position Description (PD) Generator solution for statewide use. The PD Generator allows staff to create a PD using a standard template, electronically send the document for review, and store the PDs in a central library.

2. One Year

- a. Continue the N20 Change Management System to control migrations of computer programs into a production environment, verify and ensure proper changes and approval testing, assist in archiving and recovery of programs, and maintain complete audit trails and compliance.
- b. Continue participation in the Unemployment Insurance Benefits web modernization and launch of mobile applications for the claimant framework and task list, claimants' initial and reactivation claims and filing of weekly claim certificates.
- c. Participate in the testing and implementation of Software AG's ADASQL and EntireX program utilities, which will enable mobile and web applications to access mainframe ADABAS databases and Natural programs, respectively.
- d. With development of the new Enterprise Payroll started, participate in defining the project schedule, resource requirements, interfacing parameters for existing input and output sources of data with the new system, and other functions required for a solid base. Start developing the framework needed to generate paychecks from the new system.
- e. Provide computer programming services for the Budget Planning Program Management Division of the Department of Budget and Finance to implement enhancements to the electronic Budget (eBUDDI) web-based application to fulfill Supplemental Year requirements for ACT 160, SLH.
- f. Provide assistance to the Financial Administration Division of the Department of Budget and Finance to assist with catch-up with their Bond Allocation Tracking Systems.
- g. Work on the changes needed to implement the 2016 Affordable Care Act (ACA) federal mandate. This federal mandate requires that all employers must supply their employees with the ACA Form 1095-C statements and file an electronic file of this information with the IRS.
- h. Improve the Secure File Transfer Facility to improve reliability, security and efficiency through the upgrade of both hardware and software and taking advantage of improvements in networking technology. ETS is looking into replacing the existing implementation with one that is of lower cost and better auditability.

- i. Install broadband connectivity to the Kona State Office Building in Captain Cook on the Big Island.
- j. Establish network connectivity to the Hawai'i Emergency Operations Center in Lihue to support high availability connectivity for emergency operations and inter-governmental services.
- k. Establish network connectivity to the Kihei Police Station to support high availability connectivity for inter-governmental services.
- l. Continue to work with agencies to build business solutions/apps to support their internal processes.

3. Two Years

- a. Install and implement N20 in the test region for the Unemployment Tax and Quarterly Wage systems. The next phase will include the Unemployment Insurance Benefits and Disability Compensation systems. All systems will follow a test and acceptance plan to promote a move to production.
- b. Continue Unemployment Insurance Benefits web modernization and Mobile Applications project. Review and implement the modernization framework initial entry screen and task lists.
- c. Continue the implementation of the new Enterprise Payroll System. Unless there are unforeseen delays, there should be testing the framework to generate paychecks.
- d. Continue to expand broadband connectivity to the neighbor islands and remote locations.
- e. Improve network availability through redesign, facility hardening, and equipment upgrades.

4. Five Years

- a. Finalize N20 system and operational documentation and monitor N20 and review audit reports in the production and test environments.
- b. Tuning and finalizing the new Enterprise Payroll system.

- c. Improve network availability through redesign, facility hardening, and equipment upgrades.
- B. Expand its service offerings to meet increased state agencies demand on computing, storage, and network connectivity.

1. Past Year Accomplishments

- a. Completed the installation of broadband connectivity to the Molokai State Office Building in Kaunakakai.
- b. Completed the establishment of a redundant data center at the University of Hawai'i ITC on the UH Manoa campus. *(See also AGS-130 "Governance and Innovation" Annual Report for Goals, Objectives and Policies.)*
- d. Procured the replacement of leased mainframes. This procurement is completed and the new mainframes have been deployed.
- e. Continued spin up of Government Private Cloud (GPC) virtual machines (VMs) for both Windows and Linux based servers. A plethora of virtual machines from nearly all departments running all kinds of applications are currently housed on the IBM FLEX systems.
- f. Converted more than 2,000 users as part of the SNA to TCP/IP conversion project. This project is complete, and the cross domain connections have been eliminated
- g. Established new monitoring capabilities in Production Services Branch (PSB) Operations Area. With three data centers, remote monitoring will be critical in determining the status of hosts. The monitoring tool that will be implemented is Solarwinds.
- c. Migrated 12,453 users to Office 365. All Executive Branch departments, with the exception of the Department of Taxation as well as autonomous DOE and UH, have migrated to Office 365. *(See also AGS-130 "Governance and Innovation" Annual Report for Goals, Objectives and Policies.)*
- h. Trained State agencies on the use of SharePoint for better collaboration. Over 150 SharePoint sites have been created.

- i. Implemented a Help Desk and provided Office 365 training for State agencies. The Help Desk resolved 693 tickets and provided 123 Brown Bag Sessions to the agencies.
- j. Signed lease on Kukuiohono Radio site on Kaua‘i, a key site capable of transmitting to Ka‘ala thereby providing another physically diverse point for connectivity between islands. It is also a key site for communications above Waimea Valley and beyond to Kalalau Valley.

2. One Year

- a. Continue the rollout of the disaster recovery site. Currently all systems are replicating data up to the UH IT Center and mainframe testing is in progress.
- b. Continue the deployment of network backup circuits and implement network topology changes to support greater network reliability to support critical services.
- c. Continue implementation of WiFi access to the State network in State buildings.
- d. Start increasing bandwidth capacity on the State’s Institutional Network (INET) in incremental phases.
- e. Continue work on the replacement of leased mainframes.
- h. Develop the statewide intranet.
- i. Upgrade Z/OS (MVS) from version 1.13 to 2.2 for all logical partitions on the mainframe. The end of service date for 1.13 is September 2016. This project is currently in progress.
- j. Merge the DHS tape system into the ETS Mainframe virtual tape system for tape grid implementation at the UH site. This has been completed where over 10,000 tapes were converted at the Kalanimoku site to virtual tapes. The tape grid has been established and currently replicating.
- k. Implement Z/VM on the mainframe to better support the creation of Linux VM’s off of the Integrated Facility for Linux (IFL) engines. This project is currently in progress, Wave for Z/VM has been implemented and guests created. New OSA (open system adapters) have been procured and being configured.

- l. Continue to expand broadband connectivity to the neighbor islands and remote locations.
 - m. Implement high speed, low cost, interisland backbone connectivity between O‘ahu, Maui, and the Big Island.
 - n. Complete the construction of the Waiakea microwave radio site.
 - o. Complete the Harbor’s video system, which utilizes various microwave systems to transport traffic to Pier 2 in Honolulu.
 - p. Upgrade and maintain radio equipment, tower and antenna structures, and building facilities for the various microwave systems.
 - q. Expand microwave radio coverage by identifying potential new sites and pursue agreements to utilize those sites.
 - f. Complete the construction of the Pahole microwave radio site. Upgrade and maintain radio equipment, tower and antenna structures, and building facilities for the various microwave radio systems.
 - g. Upgrade SONET radio equipment to ethernet radios thereby facilitating the migration toward ethernet backhaul and improving integration with the State infrastructure offering redundancy for interisland connections.
 - h. Assume care of Kukui Radio facility housing DLNR and local law enforcement. This site will augment the State LMR system coverage and anchor legs below to Polehale beach and above to Kalalau Valley.
 - i. Sign memorandum of agreement with the City and County of Honolulu whereby the State and City work together to share sites and improve coverage without the cost of building radio sites side by side.
3. Two Years
- a. Continue the build of the GPC infrastructure to allow automated self-service server cloud provisioning.
 - b. Continue expanding the deployment of backup circuits and implementing network topology changes to support greater network reliability.

- c. Maintain and upgrade the telecom and data centers infrastructure as necessary to maintain product support.
- d. Continue implementation of WiFi access in State buildings.
- e. Continue increasing bandwidth capacity and alternate and backup routes on the State's Institutional Network (INET) in additional phases.
- f. Migrate the Department of Taxation and OHA to Office 365.
- g. Staff development to support SharePoint application development for current technologies. They will also deliver and deploy applications to support business operations.
- h. Have Z/VM up and operational. Start the planning and implementation process to convert Software AG's ADABAS/Natural to Oracle and Java on the IFL engines
- i. Continue to move up critical systems backup environment to UH site.
- j. Continue to expand broadband connectivity to the neighbor islands and remote locations.
- k. Upgrade the optical backbone on O'ahu to support 1Gbps and faster connectivity from locations outside of the downtown civic center.
- l. Transition the Statewide Shared Blended system (SSB) to Phase II of the Project 25 (P25) conversion, where P25 is a standard for the design and manufacture of interoperable digital two-way wireless communications products to fit the needs of public safety.
- m. Upgrade and maintain radio equipment, tower and antenna structures, and building facilities for the various microwave radio systems.
- n. Expand microwave radio coverage by identifying potential new sites and pursue agreements to utilize those sites.
- o. Sign MOU with Maui County delineating the details of our extremely good working relationship and how we have worked

together to share sites and improve coverage without the cost of building radio sites side by side.

4. Five Years

- a. The program will continue to refine objectives that were previously identified and follow-up on unfinished objectives and any new initiatives that may have been identified.
- b. Continue to expand broadband connectivity to the neighbor islands and remote locations.
- c. Upgrade the optical backbone on neighbor island to support 1Gbps and faster connectivity.
- d. Upgrade and maintain radio equipment, tower and antenna structures, and building facilities for the various microwave radio systems.
- e. Expand microwave radio coverage by identifying potential new sites and pursue agreements to utilize those sites.

C. Secure and protect the it assets and resources residing in the State's data center and the State's electronic data transmitted through the State's data networks

1. Past Year Accomplishments

- a. Upgraded the functionality and capabilities of the Internet web filter to receive and process more data to protect the increasing demands of Internet usage.
- b. Installed Network TAPS or Smart TAPS to allow aggregation of network channels that provide more inspection points in the network to improve network visibility.
- c. Upgraded security monitor devices to allow faster inspection speeds and to process higher amounts of data.
- d. New Disaster Recovery and Business Continuity site in operation. Starting the documentation process for Disaster Recovery and Business Continuity.
- e. Tivoli Backup and Restore ReArchitecture complete and currently in full production

- f. Installed security cameras at all State radio sites and the Network Video Recorder at Round Top through which all network traffic passes. Installation was part of the migration toward Ethernet backhaul so ETS also funded switches and routers to be installed with the cameras to facilitate the efficient routing of network traffic. By coupling these tasks, the routers are the first step toward offering redundant backhaul for the State network. Cameras are operational and recording.

2. One Year

- a. Continue to develop and expand Security Operations Center (SOC) services.
- b. Ensure that systems and equipment maintenance continue to the extent that funding allowed. Replaced or upgraded systems and equipment that reach end-of-life or are no longer supported by the manufacturer.
- c. Upgraded and expanded web security appliances that provide protection against malicious websites.
- d. Continue to install security devices at the UH IT Center data center.
- e. Continue to upgrade mainframe software (middleware) to current versions/levels for the use of application such as Enterprise Payroll and FAMIS. This is important because older versions are not supported.
- f. Expand the scope of the monitoring done by the operator to include website access, database instance monitoring, performance metrics and others.

3. Two Years

- a. Maintain and upgrade network infrastructure as necessary to maintain product support.
- b. Continue to develop and expand the SOC.
- c. Continue to ensure that systems and equipment maintenance continue to the extent that funding will allow. Replace or upgrade systems and equipment that reach end-of-life or are no longer supported by the manufacturer.

d. Finish up work on the ITSM rollout and put into full production.

5. Five Years

a. The program will continue to refine objectives that were previously identified and follow-up on unfinished objectives and any new initiatives that may have been identified.

D. Reduce costs by identifying, implementing and sustaining programs to optimize the use of hardware, software and contractors through enterprise agreements, governance and rationalization.

1. Past Year Accomplishments

a. Retired and consolidated systems to provide cost savings and efficiencies.

2. One Year

a. Continue to retire and consolidate systems to provide cost savings and efficiencies.

b. Complete all mainframe middleware consolidation including COBOL, CICS, DB2, and Software AG Natural.

3. Two Years

a. Based upon the system assessment/study, issue an RFP to off premise some of these systems.

b. Architect a target for the mainframe applications to be retired.

4. Five Years

a. Mainframe and Enterprise UNIX will no longer be part of the ETS system portfolio. ETS will continuously look for opportunities to implement more open source technologies to reduce costs as well as dependence on expensive and proprietary vendor lock-in systems.

b. Tivoli Storage Manager and associated tape systems will be eliminated and replaced by clustered storage appliances that

will do immediate snapshotting and replication, or be pushed to the cloud.

IV. Performance Measures

- A. Program Standard Measure — Monitor and evaluate ETS measures of effectiveness for delivery of service.
- B. Cost Effectiveness Measure — Annual costs will be monitored and any significant variance in expenditures will be evaluated and corrective measures implemented, as needed.