

# DEPARTMENT OF INFORMATION TECHNOLOGY

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Department of  
Information Technology

CITY & COUNTY OF HONOLULU

The Department of Information Technology is charged with maintaining the City's extensive computer and telecommunications networks and also with finding new ways to use technology in general to improve city services for our customers...Honolulu's residents and businesses.

## Mayor Hannemann's IT Directives (January 10, 2006)

The Mayor periodically issues specific directives for each department that defines their primary responsibilities and strategic direction.

### 1.1 PURPOSE OF DIRECTIVE

This directive establishes the general policy on Information Technology (IT) services for the City and County of Honolulu. It is effective immediately and supersedes Mayor's Directive 99-1 with the same purpose.

### 1.2 THE GENERAL STRATEGY

To enable the City and County of Honolulu to best manage all of its IT resources, the Department of Information Technology (DIT), under guidance from the IT Steering Committee (ITSC), shall develop and direct an integrated network of computer resources that shall provide data processing and telecommunications services to all city agencies and authorized users. Through centralized management of IT services, all users of the City's network will be able to more effectively share data, information, technology, resources, and technical expertise in a cost-effective and efficient manner.

In conjunction with Information Technology management, the Department of Information Technology will promote "user self sufficiency" by establishing a working environment whereby agencies will be encouraged to perform simple data processing tasks

at their own sites. DIT will make available the necessary data, provide the tools, training, and any necessary assistance to enable users to attain greater self-sufficiency.

The City also recognizes the continuing need to work in concert with the entire community — Federal, State and County agencies as well as the private sector and the public. The Department of Information Technology (DIT) will continuously promote an environment of automated information exchange using various technologies to improve the delivery of city services:

#### Customer Service

- Improve underlying information technology infrastructure;
- Bring legacy systems to current state-of-the-art levels;
- Expand E-government (more online/less inline);
- Improve agency workflow with a move to a less paper oriented methodology;
- Improve interoperability of a common radio system improving communications between and amongst agencies;
- Expand wireless technologies throughout Oahu through private partnerships and government partnerships;
- Improve opportunities for local tech startups.

## OVERVIEW

The Department of Information Technology is charged with maintaining the City's extensive computer and telecommunications networks and also with finding new ways to use technology in general to improve city services for our customers...Honolulu's residents and businesses.



Director of DIT, Gordon Bruce discusses the progress of ERP implementation with Division Chief Grace Cheng.



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### **1.3 ASSIGNMENT OF PRIMARY DATA PROCESSING RESPONSIBILITY**

This directive assigns to the Director of Information Technology the primary responsibility of managing all IT resources and services in the City and County of Honolulu. The Director is also given the title of Chief Information Officer (CIO) of the City and County of Honolulu with the responsibility for developing the City's long range IT related plans, goals and objectives as well as measures for its achievement. The CIO will insure that all IT plans are consistent with, and supportive of, the stated business needs of the various departments within the City and County of Honolulu.

City Ordinance No. 3479 approved by the Mayor on October 10, 1969, provided for the Department of Information Systems. The Department was renamed the Department of Data Systems in the Revised Charter of the City and County of Honolulu of 1973. On January 1, 1999, the Department was renamed the Department of Information Technology to reflect the reorganization of the City government and to be more consistent with the IT industry. Chapter 13, Section 6 of the Revised Charter delineates the powers, duties and functions of the Director of the Information Technology as follows:

1. Operate information systems excluding those systems maintained by the Board of Water Supply and any other semi-autonomous agencies created by ordinance;
2. Provide technical expertise in information systems/technology to the City government;
3. Assist the Managing Director in management information analysis and evaluation;
4. Advise the Mayor on information technology matters, as it relates to government operations and the development of a tech industry in Honolulu;
5. Provide objective third party guidance in the selection of technologies for all city and county departments;
6. Chair the Public Safety Oversight Committee and facilitate an integrated approach to technology deployment in the area of public safety;
7. Perform such other duties as may be required by law.

More specifically, the Director of Information Technology is given the following responsibilities to effectuate the IT strategy of the City:

1. Establish standards, procedures, guidelines, rules and regulations to effectively manage the City's computer information and telecommunications resources;
2. Develop a strategic information systems plan with input from the IT Steering Committee for the City and review the plan on a regular basis to ensure proper product prioritization, control and viability in the face of rapid technological changes in the industry;
3. Provide technical approval for the acquisition of all IT related hardware, firmware, software, personnel, and contractual services for all city agencies;
4. Provide sufficient security policies and procedures to maintain data integrity, protect data from loss, misuse, and unauthorized access, and ensure compliance with copyright and privacy laws;
5. Maintain information technology and telecommunications facilities for the City and County of Honolulu and all operational computerized systems;
6. Optimize the use of shared data through efficient data base management systems;
7. Serve as the "custodian" of data owned by city and county departments and stored on City and County of Honolulu information systems;
8. Provide other government agencies and organizations with information requested, subject to legal and security constraints;
9. Develop and implement an end-user support plan to enable agencies to attain "user self-sufficiency" in obtaining timely management information from stored databases;
10. Evaluate technological advancements, product lines, and alternate solutions to data processing requirements as applied to city operations;
11. Develop, implement, and maintain a viable telecommunications plan to continually improve reliability and response time for users of the integrated telecommunications network. The Department of Information Technology shall provide city agencies with all telecommunication hardware, software and carrier services;
12. Develop a program to assure that all desktop workstations utilized by the City work force are replaced or upgraded on a prudent basis (usually 4-5 years);
13. Assist the Mayor, the Managing Director, and city agencies in assessing IT requirements, and in developing viable plans of action;
14. Establish an ongoing comprehensive training program for DIT staff and users of the City's IT resources;
15. Act as technical advisor to state and county agencies using statewide systems operated by the City's central computing facility;

16. Develop charge back methodologies and cost-sharing agreements with non-city agencies;
17. Advise and assist departments in the preparation of long range and short range plans for using information technology within their department, as well as for the procurement and implementation of computer applications which support the business needs of the department;
18. Evaluate each city agency's IT plans and service requests for technical feasibility and impact on DIT's resources. Recommend a work priority and implementation schedule, and advise the City Managing Director;
19. Monitor and act on legislative proposals in all levels of government that may directly or indirectly affect the IT plans, policies and procedures of the City;
20. Develop and implement guidelines and procedures that ensure compliance with the policies and intent of this directive;
21. Monitor the use of grant funds earmarked for technology (e.g. computers, security, access control, cameras) to insure integration with city and county standards;
22. Manage the microwave and 800 MHz radio systems to ensure maintenance, upgrades fall within documented standards;
23. Monitor and approve allocation and spending grant for the acquisition of technology for the City and County of Honolulu;
24. Director of DIT will insure that all backup to disaster recovery procedures are tested quarterly and in place;
25. Manage the City's various telephone systems to ensure that the City voice communications are available in the most cost-effective manner;
26. Manage the City's telecommunication revenue opportunities, ensuring that optimal revenues and services are obtained.
27. Ensure that data, security, hardware, software, communications, client server, mainframe, risk management, and related technology strategies are updated and deployed on an annual basis.

#### **1.4 ASSIGNMENT OF DIT RESPONSIBILITIES TO DEPARTMENT HEADS**

While the Department of Information Technology has the primary responsibility to ensure that the City's data and telecommunications needs are adequately met and computer resources are effectively managed, the Director of each city agency will be responsible for the following areas:

1. Each department, with the assistance of DIT, shall develop long range and short range plans for utilizing information technology within their department. These plans shall be specific as to departmental priority. Planned projects should include anticipated benefits to be gained, such as increases in staff productivity and efficiency, lower operating costs, and/or anticipated increases in services to the public. Departmental plans shall be updated, as may be necessary, to reflect additions and changes;
2. Together with DIT, determine the priority and level of internal coordination necessary to adequately support all departmental IT activities, and delegate these responsibilities to appropriate departmental personnel;
3. Include in the Department's annual budget request, funding for those projects that have been given technical approval from the Department of Information Technology;
4. Present written requests to the Department of Information Technology for all IT services desired using the appropriate designated forms;
5. Request assistance from the Department of Information Technology on the need to train designated staff members in the use of standard IT hardware and software utilized within the City;
6. As the "owner agency" of electronic data files, provide the Director of Information Technology with written approval authorizing its release to other government agencies, private organizations, and the public;
7. As an agency requesting the use of electronic data, obtain the consent for the use of data from the appropriate "owner agency." The Department of Information Technology, as custodian of all electronic data files, will require approval for access from the "owner agency" prior to its release;
8. Develop and implement adequate departmental security procedures consistent with the security policies established by the Department of Information Technology;
9. As member of DIT Steering Committee, help to identify and prioritize all DIT project requests.
10. Develop a department Technology Risk Assessment with the help of the Department of Information Technology for backup/recovery and disaster preparedness.

#### **1.5 DIT RESPONSIBILITIES FOR ALL NON-CITY USERS**

The head of each non-city organization receiving data processing services from the City's computer resources shall be responsible for the following areas:

1. Ensure compliance with all standards, security policies and procedures provided by the Director of Information Technology including all copyright and privacy laws;
2. Obtain the consent for the use of data from the appropriate "owner agency." The Director of Information Technology, as custodian of all data residing in the central computing facility, will still require approval for access from the agency charged with maintaining the accuracy and timeliness of the data;
3. Inform the Director of Information Technology of any changes or deviations in the intent of the IT services provided;
4. Provide training to staff members who will directly interact with the computer. Obtain assistance for training from the Director of Information Technology to ensure that staff members are qualified to utilize and work with appropriate hardware, software, and firmware in a shared IT environment;
5. Assume all costs for the requested data processing services, including personnel cost, data communication cost, hardware, software, and related machine processing cost.

## **2.1 COMPUTER EQUIPMENT**

The City's computing facility consists of mainframe computers, peripheral devices, network file servers, and specialized communications equipment, linked together to form a centralized computer system. Equipment shall be upgraded periodically to do technological obsolescence and/or the costs to support such technologies are prohibitive.

## **2.2 COMPUTER APPLICATIONS**

The Director of Information Technology and the agency requesting the application shall determine application requirements jointly through the ITSC. Applications refer to all facets of information processing including data processing, word processing, image processing, voice processing, and any technological changes that bring information directly to those who need it to effectively accomplish their goals. The agency heads will maintain primary responsibility for ensuring that application requirements are accurately met.

## **2.3 SECURITY POLICY**

The Department of Information Technology is responsible for implementing a security system that ensures the accuracy and integrity of electronic data and prohibits unauthorized access to city-owned computer resources. The Director shall designate a central security administrator to develop security policies, guidelines and procedures. The user agencies will enforce the policies at the local site. The security system procedures will address the responsibilities of the owners of resources, the custodian of resources, the functions of departmental security administrators and the central security administrator, and individual accountability. The Director of DIT will act as head of Public Safety Oversight Committee.

## **2.4 PROCURING AND AUGMENTING THE CITY'S IT STAFF**

The Department of Information Technology shall periodically review staffing requirements and qualifications of applicants for open staff positions. The Department of Human Resources shall work jointly with the Department of Information Technology to ensure that qualified candidates are recruited and that the qualifications are unbiased and competitive with the industry. Contractors, student help and volunteers can supplement the permanent staff with permission from the Managing Director. Supplemental staff will be subject to the same security requirements as permanent staff members and will be held accountable for their activities.

## **2.5 PROCURING CONTRACT SERVICES**

The Director of Information Technology shall determine if contract services are necessary to accomplish priority tasks. When contract services are required, the Department of Information Technology will be responsible for integrating the resulting system into its existing workload, ensuring that adequate resources have been provided for subsequent system maintenance, and ensuring that the staff works closely with the contractor to be able to maintain the product or provide the same level of technical expertise upon termination of the contract.

All contracts for IT projects for the city and county require the approval of the Director of DIT

## **3.1 DEFINITION OF TERMS**

The following definitions are provided for terms used in this directive:

CITY - The City and County of Honolulu.

CITY AGENCY - Any department, commission, board, bureau, office or other establishment that is part of the government of the City and County of Honolulu, excluding semi-autonomous agencies such as the Board of Water Supply.

COMPUTER RESOURCES - All hardware, firmware, software, personnel and procedures that are part of data processing solutions.

DATA COMMUNICATION - The transportation or transmission of data from one location to another in a network

of terminals linked together to a computer.

**DEPARTMENT** - The agencies directly under the Mayor of the City and County of Honolulu that are part of the executive branch of government as provided in the Revised City Charter of 1973.

**FIRMWARE** - Computer devices such as ROM (Read-Only Memory) that have physical characteristics but perform specific functions usually through software. A programmer cannot alter the predetermined instructions, as they are part of the hardware circuitry.

**FUNCTIONAL CONTROL** - The authority to establish and enforce rules and regulations governing a specific function, i.e., the data processing function, such as acquiring equipment, determining information needs, staffing, etc.

**HARDWARE** - Computers and computer-related equipment and devices such as controllers, terminals, scanners, workstations, printers and file servers.

**OPERATIONAL CONTROL** - The authority to establish and enforce rules, regulations and procedures to ensure the smooth operations of the central computing facility and all equipment linked to the citywide network.

**SOFTWARE** - Computer programs and procedures that enable the computer to perform predetermined functions and can usually be altered by a "programmer."

**TELECOMMUNICATION** - A form of information handling in which a data processing system utilizes communication facilities.

**USER** - Any person, group of persons, or organization using city computer resources or benefiting from the data processing services provided. City users would be city agencies such as the Department of Planning and Permitting and the Department of Customer Services. Non-city government users would be county, state, and federal agencies such as the County of Kauai, the State Department of Budget and Finance, or the Federal Bureau of Investigation. Non-government users would be persons or organizations in the private sector such as students involved in special projects and the Hawaiian Humane Society.

## PROJECT PRIORITY REVIEW

The division chiefs together with key supervisors joined the director and senior advisor to establish a methodology for setting priorities among the hundreds of individual projects the department was responsible for. It was determined that

Priorities / Project Management

1. Required by law
2. Priority of the the Director of DIT
3. Mayor's directive
4. Required by city audit
5. Obsolescence
6. Homeland security
7. Maintenance
8. Funded
9. Other / ROI

## MAJOR PROJECTS CURRENTLY UNDERWAY AT DIT



The Department of Information Technology continues to implement major projects conceived at the outset of this administration. The goal remains bringing the Cty's primary enterprise software and hardware up to date, as well as



The IBM consulting group conducts a working meeting on network security issues.

address a wide-ranging set of initiatives established by Director Bruce and the Mayor.

### 1. ERP Implementation

The major ERP contractor, CGI AMS, and a dedicated project team worked throughout the year to implement the first phase of the ERP deployment for the budget and finance functions of city operations.

ERP comprises the software that integrates the financial and operational data of all departments and the hardware and networking required to make it functional. This is multi-million, multi year project that will bring our city in line with contemporary best practices for IT management of large municipal operations.

In conjunction with a major new hardware systems strategy the upgraded enterprise resource management strategy is on time and on budget.

### 2. IBM Z Series, P Series and SAN Deployment

IBM P Series computers were acquired to support the new ERP software solutions, and new Z Series mainframes were brought in to replace aging mainframes. Additionally the old tape back up system has been retired this year to make way for a contemporary SAN (data storage) system mated to the Z Series mainframes and P Series machines.

Kapolei Hale's data room will be reconfigured to become a full mirroring site for the main city operations at FMB. These major upgrades to our primary computer hardware, storage and disaster recovery strategy will bring us up to contemporary professional standards for the City's scale of operations.

### 3. Repair and maintain the cities radio antennae installations continues

DIT continues to implement a four-year, \$25 million program of repair and replacement that will bring the system to an acceptable, hurricane resistant condition. The metal towers and support buildings were badly in need of repair, maintenance or replacement when Mayor Hannemann took office in 2005.

### 4. Expanded public wireless broadband

One area that holds much promise for economic development throughout our city is the proliferation of wireless broadband.

DIT working with Tri Net Solutions has successfully launched the FREE Chinatown WIFI service to which Mayor Hannemann had committed during last year's Chinatown summit. After the withdrawal of original technology partner, Earthlink, Director Bruce shifted to a new technology and partner to fulfill the Mayor's directive.

Working together with the private sector the City has continued to encourage the establishment of working agreements amongst the service providers that would allow for the quick deployment of total wireless coverage in Honolulu. The innovations that businesses and individuals can create with this type of connectivity are virtually unlimited. The development of new products and services utilizing this wireless environment would encourage whole new businesses.

### 5. Security Issues & Interoperability

DIT was charged with identifying the best solutions for facilities security, including video surveillance and building access. Contracts were assigned this year to improve and standardize access systems and integrate security video surveillance capabilities.



Jeffrey Ishima poses with one of the new IBM Z Series Mainframes.



Construction at the Koko Head facility.

There is nothing more important to this administration than public safety, and few areas where the application of new technology can bring about such significant improvements.

We live in a new and more dangerous world than that of a few years ago, so the Department of Information Technology is poised to work with the Police, Fire, Civil Defense and other departments to improve communications among all first-responders. We will work closely with the private sector to develop new technologies to ensure the interoperability of radio communications and the new software tools to better manage crisis situations.

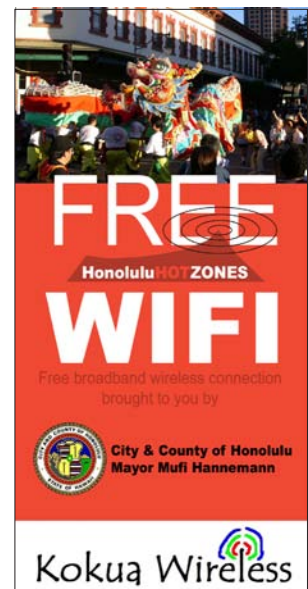


Honolulu Hot Zones (Free WiFi access areas) are springing up at city parks and other locations around Oahu.

### Other Specific Achievements of DIT during FY 2007

During the fiscal year 2005-2006, the city's DIT has completed many projects related to both past and current administrative directives.

1. Voice Over IP – Telephone Systems – Migration from 20 Legacy Key Systems and 8 Legacy PBX Systems
  - HFD HQ
  - 80% FMB
  - Halawa Base Yard
  - Finance Factors Bldg
  - Total 1200 Phones Converted to Date
2. Wireless
  - EWA Beach Park
  - EVDO/Bus Pilot
  - Skywave Broadband
  - EarthLink Contract
  - Continued Expansion of City System
3. Tactical Interoperability Communication (TIC) Plan & Exercise
4. Driver License System Rewrite
5. DHR Labor Registration System
6. 700+ PC Replacements
7. Application Assessment
8. HFD HOSES project with GIS integration
9. Migration to new Global Positioning System (GPS)/ Automated Vehicle Locator
10. EEO Complaints Tracking and History System
11. CICS 2.2 Mainframe Upgrade
12. AES Automated Fuel Interface
13. HPD Automated Fuel Interface
14. Automated DIT Project Tracking System
15. CLK-SVRS (election mainframe program) Enhancements
16. Hanauma Bay Repeat Visitor Program
17. Division of Purchasing Encumbrance



Chinatown Hot Zones are designated by this distinctive window decal.

18. HFD Web Portal Proof of Concep
19. CIFIS 1099 Forms
20. In-house Video Streaming
21. DFM Roads Pothole Service Request
22. Forms Exchange
23. AAMVA Network Control Software (NCS) II Upgrade
24. Electronic Forms – Paper Reduction
  - Request for Promotion
  - Request for Demotion
  - Request for extension of limited term
  - BID Reference
  - ESD Overtime Request
  - Multiple HPD Requests
  - Performance Evaluation System
  - P-Card Change Request
  - COR Request for Legal
25. E-911
26. DPP HONLINE Permit Processing
  - Solar
  - Electrical
  - Plumbing
  - Split A/C
27. Security/Networks
  - Installed Citywide new fiber network at East Honolulu HPD, Kahaluu Fire, Manoa Fire and Waikiki Fire
  - Upgraded Network Core and Edge Switches for Stability
  - Installed new internet load balancing appliance and failover firewalls for the Internet.
  - Upgraded internet speed from 10Mbit to 100Mbit
  - Installed Route Explorer for monitoring and troubleshooting the city network infrastructure.
  - Setup Proofpoint spam & antivirus filtering on Linux Server to check for spam, phishing and virus in email
  - Setup Wireless network for Police Mobile command vehicle to allow external agenices (FBI, Feds, Nation Guard, etc) to connect to command vehicle to share data
  - Implemented the application firewall
  - Camera security system for Honolulu Fire HQ
  - Camera/Voice security system for Mayor's/MD's office

### **DIT Projects Underway FY 2007-2008**

1. DL Motor Carrier Safety Improvement Act (MCSIA) Development Project
2. Telecommunication Tower Reconstruction/Repair
  - 3 Under Construction
  - 2 Out to Bid
  - 14 Buildings Reviewed... Analysis Underway
3. Payment Card Industry Certification Project
4. E-911
  - GIS Upgrades
  - Coverage Upgrades

- First Responder Upgrades
- 5. ERP
  - Complete Financials July 2007
  - Complete Payroll/HR July 2008
- 6. Wireless
  - Additional Communities/Parks
  - NBC
  - Chinatown
  - Continued City Expansion
  - Nextel Rebanding
- 7. Service Oriented Architecture Implementation
- 8. Mainframe(2) Replacements
- 9. Disaster Recovery Plan
- 10. Storage Area Network Plan and Implementation
- 11. Server Consolidation Plan and Implementation
- 12. Security Upgrades – Policy Revision/Systems Upgrades
- 13. Island Wide Network Upgrades
- 14. 311 RFP
- 15. Improved DIT Project/Resource Planning
- 16. Interoperability Communications Upgrades
- 17. 800 MHz Re-banding (Nextel)
- 18. H3 800MHz Turnover from State
- 19. DFM Pavement Management System
- 20. DPP Online Permitting Applications
- 21. Document Management Strategic Plan
- 22. HFD Posse System Upgrades
- 23. HFD HOSES System Upgrades
- 24. City Wide Website Redesign
- 25. Transit Smart Card RFP
- 26. Attorney Time Tracking System
- 27. Online Abandoned Vehicle System
- 28. HFD Fire Inspection
- 29. Produce RFP to Replace the Motor Vehicle Registration Computer System
- 30. E-Forms
- 31. Leave request implementation
- 32. Electronic Document Management Docushare Review
- 33. PC Replacement and Mobile Computing

34. Security Policy Rewrite
35. PSOC Strategic Plan Update
36. DIT Strategic Plan Update
37. Enterprise Asset Management System(s)
38. Automate Synergen to PTA interface
39. Access Control and Monitoring Systems (ACAMS)
  - FMB
  - ENV
  - DTS
  - HPD – Various
  - HFD – Various
  - To Be Reviewed
    - Golf Courses
    - HPD Warehouse
    - Surf Racks

## **CONCLUSION**

By continuing to employ high tech solutions, and expanding our relationships with private sector partners the City of Honolulu will continue to keep pace with the best practices of other great cities. We can use technology to offer our citizens convenience and improved security, and our business partners faster city services and better ways to access city business opportunities. We will help protect the Honolulu we all cherish and make more time for all of us to enjoy our city.

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*Please direct any specific inquires regarding the operations and policies of the City Department of Information Technology to: [DIT@honolulu.gov](mailto:DIT@honolulu.gov), City and County of Honolulu, 650 South King Street, 5th Floor, Honolulu HI 96813-3017.*