

HCC Information Technology Strategic Plan Draft - Jan 2009

Prepared by Bill Becker – Information Technology Center

The objective of the IT strategic plan is to develop a unified vision for the governance, management and development of IT resources at Honolulu Community College

*Superior IT capability is positively related to organizational effectiveness and is based on effective IT governance. Effective IT governance begins with leadership, commitment and support from the top.*

**Table of Contents**

**Overview ..... 2**

**Key Objectives..... 2**

**Top issues..... 2**

**Section 1 – Organization and IT Governance..... 3**

IT Governance ..... 3

IT Strategic Plan ..... 3

Planning Process..... 3

    Change management ..... 4

    Risk management ..... 4

    Compliance..... 4

IT Governance Metrics ..... 4

**Section 2 – Technological Direction – General goals and themes..... 4**

Software and Hardware Acquisition ..... 4

Network managed workstation environment..... 5

Authentication Authorization Admission Control..... 5

Network Services..... 5

Infrastructure ..... 6

Converging Technologies..... 7

Mobile computing ..... 7

Technological Direction Metrics ..... 7

**Section 3 Educational Technology ..... 7**

Technology in the classroom..... 7

Distance Education Support ..... 7

Academic support services ..... 7

Educational Technology Metrics..... 8

**Section 4 Technology Delivery and Support ..... 8**

Delivery and Support Metrics ..... 8

**Section 5 College Business Operations ..... 8**

Business Operations IT Metrics ..... 8

**Section 6 User Education and Training..... 9**

User Education Metrics ..... 9

## Overview

The 2009 Honolulu Community College IT Strategic plan recognizes that HCC is part of the UH system. The HCC SITP is in conformance with UH network policies and utilizes UH system services whenever possible.

UH provides major information services to Honolulu Community College such as student information system, registration UH portal, UH mail, Learning Management Systems (Laulima) and other system services. HCC will utilize these system wide services when ever it is mandated or when the system services provided are more efficient or effective than in-house services.

HCC also finds that there are opportunities that are possible in the unique environment of the Dillingham campus that are not practical at the UH Manoa level. HCC should seek out areas of IT that differentiate and add value to the services provided by UH system.

IT at HCC should support educational efforts as well as the business of education. The plan should define projects that should be undertaken at the college level

## Key Objectives

The key objectives of the HCC Information Technology Strategic Plan project are to:

- Develop a plan to provide guidance for the effective and efficient governance and management of the wide range of college IT resources, (people, applications, technology, facilities and data) that is aligned with the HCC strategic plan.
- Review the strengths and weaknesses of HCC's current academic and administrative computing environment.
- Explore additional opportunities to enhance today's academic and administrative computing environment.
- Understand HCC's future IT requirements from student, faculty, staff and administrative perspectives.
- Create a college wide vision that sets the direction for IT at HCC
- Develop major goals that support the vision.
- Identify current gaps in IT capabilities that are preventing HCC from achieving those goals.
- Identify initiatives that will close the gaps and build a strategy to successfully implement these initiatives over the next three to five years.
- Provide a document with clear and specific enough objectives that anyone in the HCC community can read and get an understanding of what the plans are for the IT infrastructure.

**Top issues** that need to be resolved for strategic success

Formal change management system for IT college services

Support plan for faculty educational initiatives

Support plan for college computer classrooms and labs

Total mobility

Data/Voice/Video convergence

## **Section 1 – Organization and IT Governance**

### ***IT Governance***

The College will strive to implement effective governance and control of IT resources through the implementation of industry standard practices such as those developed by the IT Governance Institute.<sup>1</sup> The college will actively promote an understanding of the strategic importance of IT and recognize the need for good governance of IT at all levels of operation. The campus will adopt a coordinated IT effort guided by an IT Strategic Plan (this document) that is in alignment with the overall campus strategic plan as well as the UH Community College System strategic plan.

Define a committee, supported by a formal charter and containing both IT and college leadership, with the objective of directing IT-enabled programs, IT services and IT assets.

The administration of HCC will designate a position of authority responsible for overseeing IT efforts at the college including planning, coordinating, and compliance. It will be the responsibility of this person to keep the HCC IT strategic plan (This Document) up to date.

The college will develop and implement an organizational structure that facilitates the effective governance of IT efforts and resources, by defining clear lines of responsibility, and designating IT process owners.

### ***IT Strategic Plan***

The IT Strategic Plan (this document) will be aligned with the overall strategic plan of HCC as well as the strategic plan of the UH Community College system. The ITSP will conform to all policies put forth for the University of Hawaii ITS and the Board of Regents.

The HCC ITSP will remain in alignment with the strategic and operational goals of UH-ITS. The college will fuse IT governance with IT strategy during all phases of the IT planning process.

The business objectives of Honolulu Community College consist of delivering education as well as the business activities associated with running an institution of higher learning. These two objectives may not always coincide yet IT planning must take into consideration both of these objectives.

### ***Planning Process***

The IT planning process should encompass resources and processes for administrative needs such as intranets, calendaring, survey data acquisition and document management as well as academic needs such as technology in the classroom, student labs and distance education. There are some areas such as network infrastructure that must meet requirements of both areas. Other areas such as personal workstations have many things in common for both areas.

---

<sup>1</sup> [www.isaca.org](http://www.isaca.org)

## **Change management**

A formal process of change management for IT processes, programs and services will be developed and will be adhered to during the planning process. The change management process will include input from all process owners and stakeholders impacted by the proposed change as well as IT decision makers. Change management will apply to systems, services, and resources that have a material impact on technology infrastructure and resources of the college. A clear process will be developed to handle requests for major technology systems from the faculty or other departments.

## **Risk management**

Risks associated with IT endeavors must be recognized and managed effectively. Risk Management must be an intricate part of the IT planning process. Risk management should encompass business continuity, compliance issues, and data integrity.

## **Compliance**

HCC will make every effort to comply with the Higher Education Opportunity Act H.R. 4137 Sec. 448 and Sec 493 regarding “combat the unauthorized distribution of copyrighted material.” HCC will comply with UH Executive Policy E2.214 regarding storage and access of Sensitive Information.

## **IT Governance Metrics**

IT Strategic planning is acceptable when IT planning is defined, managed and measurable. IT strategic planning follows a structured approach that is documented and is known to all staff. IT strategic planning is standard practice and is a defined management function with senior level responsibilities. Exception would be noticed by management. Both short-range and long-range IT planning occurs and is cascaded down into the organization. There is a well defined process for determining the usage of internal and external resources required in system development and operations.

## **Section 2 – Technological Direction – General goals and themes**

### ***Software and Hardware Acquisition***

In order to provide efficient, effective, and secure deployment and support of IT resources, HCC will strive to develop and utilize a base of standard hardware and software for servers, clients and networking equipment.

HCC recommended operating systems and application software will be drawn from a pool of open source as well as commercial products. Where there is sufficient compatibility between open source and a commercial product, both products will be recommended. Where open source products are deemed to be better or equivalent they will be recommended. Recommended commercial products will follow UH recommendations and licensing whenever possible.

**Network managed workstation environment**

Technology requirements are driven by the wide use of web enabled applications for business processes used by faculty, staff and administrators at Honolulu Community College. Major requirements are secure, stable and supportable workstation environment with a common set of applications, a reliable network drive for storing files and a high speed network connection. The concept of having the workstation move with the user at all times is also a requirement of many users.

The goal of stable and supportable workstations is most easily attained using a standard hardware and software configuration deployed over the network from a standard OS image. Reliable network drives accessed over a high speed network connection is most easily attained using a fixed in place workstation with a wired network connection. Adding mobility, with data access anywhere, to the equation significantly changes the requirements for both the workstation and the back end support.

HCC will continue to support the concept of the fixed desktop workstation as well as mobile computing solutions.

The core component of the network managed workstation, whether fixed or mobile, is an integrated client server environment that provides deployment of operating systems, applications, regular updates, and management control from a central source.

HCC ITSP planning item: Identify and deploy an integrated system that supports a network managed workstation environment.

Balance the advantages and costs of commercial solutions with those of open source systems.  
Modern day challenges

- Various classifications of users requiring different levels of access control
- Smaller form factor workstations and devices requiring higher degree of mobility
- High confidentiality and availability of network traffic required

Requirements also include an automated deployment and update mechanism in an environment that is scalable and supportable.

Automated deployment systems generally require standard hardware, standard operating systems and base software configuration to be practical. Standard configurations are also a requirement of an efficient and effective support system.

**Authentication Authorization Admission Control**

Single sign-on system linked to the UH username will be developed, implemented and supported. HCC based services such as wireless network access and workstation login will be linked to the UH username password.

**Network Services**

HCC will continue to maintain its Internet identity under the domain *hcc.hawaii.edu* and *honolulu.hawaii.edu* for network services such as DNS, web services and email. Email under the *hcc.hawaii.edu* domain will continue to be supported, for users that currently use or

require an email account associated directly with Honolulu Community College. Most users such as administration, staff and students will be advised to use the hawaii.edu domain for general professional and university email communication. New employees of HCC will be advised to use the hawaii.edu account. In time the hcc.hawaii.edu email system may be phased out.

### **Infrastructure**

Provide the campus with a robust highly available network infrastructure designed to be always on and immune from attack and abuse, capable of growing and being reconfigured to meet changing user needs, capable of delivering data in the needed time frame, equipped to deliver a variety of services, including data, video, and voice while minimizing risks to information and computing resources.

#### **Virtual server environment**

Robust flexible environment

#### **Telecommunications – VOIP SIP**

VOIP implementation using SIP

### **Networks**

HCC will continue on the path to building modern differentiated data network system. The campus data network system will consist of various networks tailored for specific uses. The goal will be high availability and user functionality along with lowered risk of attack and abuse. Network functionality and capabilities will be built in using architecture and design principles.

Non-globally routed networks using private address spaces with tailored gateways to the Internet will be provided for general user workstation connections. All device management communication will take place on a dedicated set of networks. Specialized applications such as voice and video will be provided with networks designed to optimize functionality and minimize impact on competing network services. Allowance for emerging protocols and services such as IPv6 will be designed into the overall network architecture.

VLAN architecture will continue to be the foundation of network design. Routed links to major buildings may be on the horizon. Routed networks within a private address space will be deployed for many applications.

One of the benefits of the network architecture as defined, is the capability to provision specialized networks for classrooms, technical learning environments and experimental situations.

The HCC campus cable plant will undergo continued upgrade at every opportunity. Any planning for construction, remodeling or repurposing of facilities should include an assessment of data cabling requirements. A specific plan for the cable plant will be developed.

Video service to the desktop over the campus network will be investigated.

### ***Converging Technologies***

Area of converging technologies such as voice, data, and video will be brought together into a single operational unit.

### ***Mobile computing***

The college will continue to upgrade the data network and communication infrastructure at every opportunity, including wireless access and mobile connectivity.

### ***Technological Direction Metrics***

It is considered acceptable when it is defined, managed and measured.

The need for and importance of technology planning are communicated. Management is aware of the importance of the technology infrastructure plan and ensures the development and maintenance of it. IT staff members have the expertise and skills necessary to develop the It infrastructure plan. The human resources strategy is aligned with the technology direction, to ensure that IT staff members can manage technology changes. Migration plans for introducing technologies are defined.

## **Section 3 Educational Technology**

### ***Technology in the classroom***

Standard Multi media classroom specifications  
Multi vlan network connectivity to the classroom  
Mobile wireless computer labs

### ***Distance Education Support***

Distance education efforts will be supported to maximize the value that can be realized from such endeavors. This includes technical assistance and training to instructors who wish to engage in teaching distance education courses over the Internet.

### ***Academic support services***

The college will continue to engage in exploration of emerging technologies that can be applied to the educational process to produce excellence in learning for all HCC students.

Support of teaching endeavors

    Educational application development and support

Leading role

Campus Teaching Environment

HCC will pay particular attention to the use of IT as it relates to the efforts of the faculty to fulfill the academic mission of the college.

Continued support and upgrade of multimedia classrooms throughout the campus  
HCC will support alternative learning delivery methods including lecture capture s

### **Educational Technology Metrics**

Educational technology efforts are considered acceptable when they are defined, measured and managed.

## **Section 4 Technology Delivery and Support**

User Help Desk - Technical Desktop Support

ITC Operations

Ensure systems security

Honolulu Community College follows basic IT security and compliance policy that has been set forth in documents issued by UH ITS, State of Hawaii and the Federal Government.

Campus Computer Labs

Usage and support policy

### **Network and System Operations medium term goals**

Provide the campus with an information technology environment capable of meeting the increasing demands for digital storage and network services over the next 8 to 10 years.

Workstation model for desktop computing

### **Delivery and Support Metrics**

Delivery and support is considered acceptable when it is defined, managed and measurable.

There are defined service level requirements and metrics that can be used to measure operational performance. Processes and tools are available to measure system usage, performance and capacity and results are compared to defined goals. Automated tools are used to monitor specific resources such as disk space, networks, servers, and network gateways. Users feel generally satisfied with the current service capability.

Security awareness exists and is promoted by management. IT security procedures are defined and aligned with IT security policy,

## **Section 5 College Business Operations**

Security and Compliance

.

Administrative Computing

Management Information Systems

Banner Support Team

College web site

Institutional Assessment

### **Business Operations IT Metrics**

Security and compliance awareness exists and is promoted by management.

## **Section 6 User Education and Training**

New employee guidelines

Student Open Lab

Web site

Informational sessions

### **User Education Metrics**

Technology user education is considered acceptable when it is defined, managed and measured. A training program is instituted and communicated, and employees and managers identify and document training needs. There is a comprehensive training and education program that yields measurable results. Management supports and attends training and educational sessions. All employees receive ethical conduct and system security awareness training. Employees receive the appropriate level of system security practices and compliance issues training.