

Desktop Network Services

Annual Report, 2006/07

Prepared by Martha Chantiny, Head

Desktop Network Services serves the staff of the University of Hawai'i at Manoa Library by maintaining the Library's staff application and print servers, wired and wireless network and all desktop computing and printing resources as well as support of library security cameras and their PC-based recording systems. The department provides hardware, software, network/datacomm; and digitizing support, consultation and research services and manages the Library's proxy and web servers, intranet, institutional repository (IR) and general library pages, and assists departments who maintain their web pages and generate digital content.

MAJOR FUNCTIONS PERFORMED BY THE DEPARTMENT IN 2006/07

Continued Recovery From Flood

Work related to recovering from the flood is ongoing, if now mostly behind the scenes. The infrastructure of servers, network connections, staff and public PC installations that existed before the flood were built over the span of many years and by many staff and student assistants. Recovery does not consist of "just" buying new hardware, plugging it in, loading up a backup tape or files and getting back to "normal".

- Completed development of library staff intranet on Plone, maintained, and improved the site.

- Upgraded wireless access points in Sinclair and Hamilton enhancing service to patrons.

- Extended wireless access to Phase I and II, 3rd floor study areas and Phase II, Room 113.

- Provided network connectivity to graduate carrels in Hamilton Phase II 3rd & 4th floor.

- Migrated more CD resources to CD Server; handled annual updates for 24 Japanese, 2 Korean, 17 Traditional Chinese, 26 Simplified Chinese, 4 BHSD and 1 Special Collection titles.

- Implemented host-based firewalls on UNIX-based public-facing servers to increase server security.

- Implemented secure shell login protection on UNIX-based servers to enhance resistance to attacks.

- Supported digitization initiatives and projects, including:

 - Implemented DSpace and Greenstone digital library software systems.

 - Bought and created server to host digitized map data. Server is currently operational and in development with maps department.

 - Deployed Streetprint application server to present digitized images with Dublin Core (DC) based metadata in a OAI compliant format

PERSONNEL

The department operated with a permanent staff of 4 positions and 1 temporary position; in addition, we have 1 FEMA-funded temporary employee to assist in flood disaster related recovery efforts and 1 special funded position to assist with the library Institutional Repository initiative.

- Martha Chantiny, Department Chair, Librarian IV

- Wayne Agunat, Microcomputer Support IT Specialist

- Tom Ishimitsu, Network Support IT Specialist

- Wing Leung, Server Support IT Specialist

- Beth Tillinghast, Web Support, Librarian III [temp appointment through June 2010]

- Wilbur Wong, IT Specialist [resigned his temporary appointment effective June 27, 2007]

- Sunny Pai, Academic Support Specialist [temporary appointment through June 30, 2008]

The department also employs student assistants who perform microcomputer and network support tasks, ranging in number from 2 to a peak of 6 individuals working approximately 12-15 hours each during the school year, i.e. approximately 1.5-3 FTE. In addition, 1-2 student assistants work approximately 20 hours a week to perform web and digitizing project support.

WORKLOAD

Requests for Desktop Network Services assistance were received primarily via the Web Helpdesk (WHD <http://micro14.lib3.hawaii.edu/micro>) with some electronic mail, and also by telephone and in person. Department staff responded to requests for assistance in Hamilton and Sinclair Library as well as the Jefferson Annex and Dole Cannery.

The Web Helpdesk (WHD) system was implemented in January 2005 to expedite disaster-related support of staff and public IT equipment and services. The fiscal year 06/07 is the second full year of operation of the WHD. It has been extremely useful in keeping all information about specific requests easily accessible in one record and the job status can be checked via the web by the requestor. The WHD system combines all related communication about a request into one "ticket" and thus a count of total jobs is not the same statistic as in previous years. An average ticket has between 2-5 follow-up messages associated with it. In addition, during the past year, Wilbur provided in-department in-person "just-in-time" support on a daily basis to Collection Services and Circulation that dramatically reduced the number of requests that staff need to send via electronic means.

Major categories of services provided include:

- Configuring, updating and supporting Windows, Linux and Unix servers
- Troubleshooting problems (or apparent problems) with network, microcomputer equipment, software, security cameras, barcode readers, scanners and printers/printing
- Performing equipment disposal, inventory accounting for FEMA purposes, installations, configuration, and upgrades, moves and maintenance operations
- Monitoring network and server activity logs, anticipating and responding to warning signs; detecting, deterring and/or resolving errors, working with campus ITS as needed
- Maintaining and expanding products available on the CD server and performing CD ROM product installs, upgrades and troubleshooting
- Upgrading Goprint software and maintaining operational client software on Goprint paystations, troubleshooting debit card reader problems
- Monitoring maintenance and bid contracts for servers, datacomm, printing and microcomputer equipment
- Upgrading Voyager client software during system upgrades and periodic patches
- Handling scheduled power outages
- Handling numerous short and long-term projects in the areas of digital resources and digitization

The WHD software was used to generate the following charts. They depict very broadly the main types of problems and locations that request assistance.

Categories of Requests, July 1, 2006- June 30, 2007

In spite of lost classroom and public space due to flood relocations, the total number of supported PCs was almost back to the pre-flood count at the end of FY05-06. The number has stayed steady and where possible we have replaced the oldest equipment with slightly less old equipment. Given the budget outlook, scrounging and scrimping will need to continue in the coming fiscal year.

PCs by Department	7/05 [public PC]	7/06 [public PC]	7/07 [public PC]	Comments (relate to most recent year statistics)
Admin	14 +3 Macs	14 +1 Mac	13 +1 Mac	
Acquisitions	13	18	20	2005 FLOOD replacements + Bob & John A's CPUs w/new monitors

Archives/ Jefferson	13 [2]	10 [2]	12 [2]	
Asia	26 + 2 Macs [7]	31 + 2 Macs [12]	32 [12]	includes Goprint paystation
BHSD	89 [74]	92 [76]	92 [76]	includes 2 Goprint paystations & 3 Ref desk PCs
Classrooms (113, 301, A153, A156)	38	36	37	includes Yap Conference room
Cat/CatSS	23	23	23	2005 FLOOD replacements

Charlot	1 + 1 Mac [1]	1 + 1 Mac [1]	1 + 1 Mac [1]	"newer" Mac from donation
DNS	15 +2 Macs	14 +2 Macs	15 + 1 Mac	includes PCs for testing, & server backups
Digitizing	5	5	5	
Computer Room(s) Telecomm Rms	14 +2 Mac	17 + 1 Mac	22+ 1 Mac	Servers: network printing, Tech Svcs "LAN", Goprint, Network monitor, Calendar & MM, SQL, Sci/tech PRAISE, Ariel, Maps, DSpace, Shuhai Wenyuan, 3 security camera PCs
Fiscal/Mailroom	9	9	9	
Gov Docs/Maps	10 [1]	19 [6]	19 [6]	All 2005 FLOOD replacements, includes 2 Dole Cannery
HL Circ	25	26	26	12 = counter or workroom, includes self-checkout station
ESP/ILL	7	7	9	
Preservation	16	16	17	Includes flood fund laptops for temp conservation staff

Sci/Tech	42 +5 Macs [35]	48 + 5 Macs [36]	44 + 4 Macs [37]	includes Goprint paystation
Serials	24	24	24	All 2005 FLOOD replacements
Sinclair	76 + 8 Macs [49]	88 + 9 Macs [41]	88 + 8 Macs [49]	Public includes 2 Goprint paystations, 8 servers, 11 Circ counter, self-checkout, security camera PCs
Special Coll	27 [15] + 1 Mac	28 [15] + 1 Mac	31 +1 Mac [15]	includes Goprint paystation, 2 PCs in SL for Music
Systems	11	14	14	Includes site FTP server, security camera server
TOTAL	535	550	549 + 15 Macs	

EXPENDITURES

This year is the first in the last five that the general funds expended exceeded all specially funded purchases. The average yearly expenditure is still nearly \$120,000 - which is double the usual official "DNS budget". There is still no funding allocated specifically to a PC and printer replacement schedule.

2006/07 Funds	General	Other/Special@
Supplies/Repairs	\$9,844	all types combined:
Software	\$3,517	
Datacomm/Maintenance	\$17,907	
Micros/Servers/Printers	\$42,350	
Scanners/BCRs/etc.		
Total (\$118, 883)	\$73,618	\$46,265

@ Includes various uh foundation discretionary funds, library supply fund, Goprint revolving fund, special initiative funding, etc.

PAST YEARS EXPENDITURES (earlier years data available on the DNS web page)

2004/05		
Funds	General	DISASTER
Supplies/Repairs	\$7750	\$30,790
Software	\$9712	
Equipment/Datacomm	\$18,644	
Micros/Servers/Printers	\$18,126	\$281,216
Scanners/BCRs		
Total (\$366,478)	\$54,472	\$312,006

2003/04		UL+	Yap	Other
Funds	General	Special	Special	Special*
Supplies/Repairs	\$7,157	--		
Software	\$7,263	\$15,056	all	all
Equipment/Datacomm	\$22,118	\$821	types	types
Micros/Servers/Printers	\$19,443	\$16,388	combined	combined:
Scanners/BCRs				
Total (\$145,261)	\$55,981	\$32,265	\$19,300	\$37,715

+ University Librarian Enrichment Fund (aka RTRF funds)

* Other Special funds include: system-wide Ariel funding, EWC, SEED/DEI and WCC grants, UH Learning Communities, UH Foundation & Science/Technology grants

PROJECTS AND HIGHLIGHTS FOR JULY 2006-JUNE 2007

Data Communication/Network Support (Tom)

DISASTER RECOVERY (equipment, data connection, cable reconfiguration, moves, replacements, power outages, FEMA paperwork, meetings, etc.)

Extended Hamilton gigabit network infrastructure.

Continued Hamilton network security through combined use of router access list and firewall policies.

Extended video surveillance security in Hamilton and Sinclair.

Upgraded wireless access points in Sinclair and Hamilton.

Extended wireless access in Hamilton and Sinclair.

Implemented end-to-end network throughput testing between Sinclair and Hamilton.

Microcomputer/Server Support (Wayne, Wing, Wilbur)

DISASTER RECOVERY (equipment, printer connections & reconfiguration, power outages, FEMA paperwork, meetings, etc.)

Purchased and upgraded ILLiad ILL server software, reconfigured report writing functions

Assisted with installation of expanded web camera security system in Hamilton

Transport and setup desktop work stations as departments moved/reorganized their workspaces.

Moved 3M SelfCheck System in HL (coordinated telecomm request, etc.)

Migrated more CD resources to CD Server ; consolidated various BHSD, Asia, SpecColl CD titles on server

Maintained Sinclair Windows update server to improve consistency, timeliness of Windows updates

Upgraded Deepfreeze on public PCs from v3 to v5.7 Enterprise; upgraded version provides application stability and remote administration

Setup a backup server for SL and created a backup procedure for them

Disposed old/obsolete computer equipment and HP laser printers

Completed virtual server version upgrade to 2005R2 and reinstalled on Windows server 2003 enterprise edition in order to take advantage of the server's full 6GB ram

Converted ILLiad and electronic resources login from direct UH username to UH web login service for the purpose of reducing the number of hands a UH username passes through and also to enable single sign-on between the two services.

Improved backup strategy with purchase of an LTO drive that increases backup capacity from 80GB to 280GB in order handle ever growing amounts of server and user data.

Web/Intranet/IR Support (Beth, Sunny, Martha)

DISASTER RECOVERY: Intranet on Plone. During a three-month period, Beth became acting head of Preservation to replace the head during her sabbatical. Since Preservation is still very much engaged in disaster recovery efforts, Beth supported that work through her leadership of the recovery units.

Presented 2 introductions to Institutional Repositories. Beth and Sunny presented to library staff, 2/07; Sunny presented to Hawaii State Government Web Users Group, 3/07 and a poster session at the Internet Librarian 2006 conference.

Sunny gave presentation on intranet at Hawaii Library Association 2006 conference, 11/06 and to EWC and ITS, 5/07.

Beth and Sunny attended two OCLC all-day workshops, Managing Digital Programs and Metadata for Digital Projects - March 2007.

Sunny facilitated and hosted four OCLC webinars on digital library topics.

Web/Intranet/IR Support (continued)

Beth worked with Dore M. exploring tools and methods of delivering access to archived websites. Dore and Beth presented proposal for using ArchiveIt, a service offered by the Internet Archives, to host sites to the Library Council. The funds were not approved for the project.

Sunny implemented voting function used by Library Faculty Senate on intranet.

Drafted list of potential campus contributors and policy guidelines for DSpace contributors

Completed the GWLA (Greater Western Library Association) Open Access Journal survey

Worked with Hawaiian collection on adding Ethnobotany Research & Applications Journal, Electronic Theses & Dissertations, Preservation Brittle Books, Hawaii Entomological Society, and Reading in a Foreign Language contributors to Library's DSpace IR (ScholarSpace)

Department Head (Martha)

DISASTER RECOVERY (planning moves, replacements, restoration of services, power outages, FEMA paperwork, meetings, etc.)

Served as member of Department Heads Group

Served on the review committee for the 2007 Institute of Museum and Library Services

(IMLS) Library Services Grants for the Pacific Territories, Freely Associated States and Virgin Islands

Served 2 hours per week on 24/7 Questionpoint Virtual Reference desk

Prepared with Joan Hori and submitted federal grant application to the National Digital Newspaper Project (not awarded)

Prepared and submitted application for National Leadership Grant, Institute for Museum & Library Services to digitize state survey maps (decision pending)

Served on GIS librarian screening committee

Presented "Introduction to New Library Web Site" session as part of Fall 2006 "Workshops that Matter" series at Sinclair

Attended ALA mid-winter conference in January 2007

Presentation on Streetprint & Greenstone to Engineering Librarians section of the American Society of Engineering Educators, June 2007

Technical support and consultant for potential and ongoing digitizing projects

Participated in the ongoing support of the Electronic Resources gateway

LIBRARY WEB PAGE USAGE - data about traffic to the main page of the new library web site are on the following pages.

PROGRESS ON 2006/07 GOALS

Data Communication/Network Support

DISASTER RECOVERY

Provided specifications and reviewed endless drafts of server room and ground floor floorplans

Continue with network equipment replacement plan.

Extended Hamilton gigabit network infrastructure.

Continue to improve network security.

Implemented and extended combined use of router access list and firewall policies.

Continue to explore enhanced network services such as IP video, audio/video streaming, and media on demand.

Extended video surveillance security in Hamilton and Sinclair

Continue to pursue direct connection between Hamilton and Sinclair.

Implemented end-to-end network throughput testing between Sinclair and Hamilton.

Microcomputer/Server Support

Integrate logins to eventually allow library staff to access all services with the same name/password

Ongoing process integrated into new services during deployment.

Finish the interrupted deployment of the SMS server

Server put into use and Hamilton Library PCs were attached to the SMS server.

Create structure for individual file storage; Investigate staff remote access of networked files

Infrastructure for personal file storage is in place. Currently in limited testing. Remote access of networked resources will require additional hardware in order to create a VPN access point.

Investigate and establish pilot "DSpace-like" system (perhaps with UH Faculty papers) by June 2006

DSpace is live, projects ongoing with Botany department

Finish deployment of web server with Coldfusion, Plone, and apache for the intranet and internet

Plone and apache integrated into one common IP address. Plone deployed for library intranet. Deferred for library website until next year pending review of performance in intranet. Coldfusion deployment delayed until next year to give priority to library website redesign.

Continue maintenance of Hamilton and Sinclair library's networked printers

CIRC LJ800N replaced W/ LJ8150, SPECOLL/504 wrkrm LJ5 replaced W/ LJ3800DN, Fiscal LJ5 replaced W/ LJ2420, SL RBR public Goprint LJ4 replaced W/ LJ4250N SL/129 wrkrm's LJ8000 replaced W/ LJ8150, regular maintenance performed on all library laser printers

Achieve a funded PC replacement schedule for HL and SL's PCs

Not Achieved

Upgrade ADA applications (JAWs and ZoomText) on PCs in the public area

No Funding

Setup SL with classrooms, similar to HL 113 and 256.

Partially Achieved Via Student Success Funding

Microcomputer/Server Support (continued)

Continue "environmental conscious" practice of recycling/disposing computer equipment

Participated in two major recycling pickups (October 2006 and June 2007)

If updated PCs available, upgrade public PCs with Win2K Pro to Win XP Pro.

No Funds

Purchase iSCSI based storage server to implement individual network drive space and support ongoing digitization efforts.

Done

Upgrade public printers and up to 15 staff printers - by June 2006

Insufficient funds. Partial achievement:

Install and support Self-Checkout kiosks in Hamilton and Sinclair

Hamilton kiosk installed, funding for Sinclair kiosk not provided

Assist with installation of expanded web camera security system in Hamilton

Completed

Web Support

DISASTER RECOVERY

Worked on replacing our former staff-only website with Intranet. Developed and launched April 17. By June 2006 90% of the staff had logged in almost half had taken classes on how to use its tools.

Create a standardized approach to archiving websites

Research continues. Presentation made to ULC on Archive-It! software

Continue Web Usability testing for redesigned public website.

Logo developed, content migration, researching and implementing technical standards (e.g., XHTML, CSS, W3C compliance, semantic markup), coding, and testing.

Possibly use Plone for a future version of the public website.

Digitization

Apply for a local or federal (by July 2006) grant funding for digitization or pilot development of one or more collections

Preliminary research & matching fund pledges, meetings with State Survey, preliminary writing of grant text for NDNP

Participate in implementation and use of the OCLC Digital Archive product - by June 2006

Batch upload function in place, database records created during June-August 2006

Investigate and establish pilot "DSpace-like" system (perhaps with UH Faculty papers) by June 2006

Initial installation completed, draft MOU exchanged with Botany Dept. for Entomological Society journal

Upgrade print/photographic digitization equipment - ASAP

AGAIN no funding
Acquire and implement pilot/experimental AV digitization in Sinclair AVC

Equipment and software installed, preliminary selection of items for pilot project underway

GOALS FOR 2007/2008:

Network/Datacomm

DISASTER RECOVERY

- Coordinate computer room construction, esp. connections to ITS
- Improve video surveillance security system at Hamilton and Sinclair.
- Continue with network equipment replacement plan.
- Continue to implement the Gigabit backbone.
- Expand wireless service areas in Hamilton and Sinclair.
- Maintain and improve network security.
- Research, test and implement methods to improve network efficiency.

Microcomputers/Printers/Servers/etc.

DISASTER RECOVERY

- Continue maintenance of Hamilton and Sinclair library's networked printers, replace heavily used Goprint printers
- Achieve a funded PC replacement schedule for HL and SL's PCs
- Upgrade ADA applications (JAWs and ZoomText) on PCs in the public area
- Complete setup of SL with classrooms, similar to HL 113 and 156.
- Continue practice of recycling/disposing computer equipment
- If updated PCs available, upgrade public PCs with Win2K Pro to Win XP Pro.
- Replace more staff CRT monitors with flat panel monitors (conserve energy)
- Continue to increase server utilization through virtualization technologies.
- Increase Goprint charges to fund equipment replacement.

Web/Intranet/IR

- Explore implementing Web2.0 functions (e.g. RSS news feeds from department blogs, or RSS feeds from library exhibits info)
- Continue Web Usability testing for redesigned web site
- Upgrade DSpace to version 1.5, implement XSLT-based user interface
- Upgrade Plone to version 3.0, re-skin and improve workflows on intranet
- Further explore the use of Archive-It for web archiving
- Continue user testing on and enhancement of the new Library website
- Expand use of D-Space for the university community
- Open DSpace to OAIS harvesting
- Explore possible use/case for extranet, implement Plone-based system if designated a priority need

Digitization

- Work with GIS librarian to develop a digital map search/retrieval system for aerial photographs and satellite images
- Resubmit National Digital Newspaper Project (NDNP) grant application with Hawaiian Collection
- Submit grant requests related to Hawaiian Music and/or HSPA collection digitization
- Support transition of theses & dissertations to digital format
- Support DSpace and Greenstone projects (convert TTP to Greenstone)
- Continue development of Streetprint projects (preservefilm, SOS)