DNS Department Annual Report for FY2012-2013

Department’s unique, distinctive value to the Library and the University

The mission of Desktop Network Services (DNS) unit of the Library Information Technology department is to plan, design, develop, coordinate, implement, operate, maintain and upgrade information technology services, systems and solutions to carry out the Library mission to support student academic success and faculty knowledge creation, research and classroom instruction.

DNS serves the staff of the University of Hawai'i at Manoa Library by maintaining the Library networks, networking/datacomm equipment, print and file servers and all desktop computing resources. Librarian and APT staff in DNS provide support and services, training, development and research for hardware, software, network and server systems. The unit coordinates digitizing support and consultation, manages the Library's e-resource proxy server, web servers, Institutional Repository systems, maintains the general library web site pages and assists departments who maintain their web pages.

DNS staff is responsible for IT services and support systems used:
- to provide access to electronic resources and digital collections
- in classrooms, teleconference/video conference and presentation events
- for content creation and updating of library web pages and the intranet
- to maintain network security and connectivity, building surveillance cameras
- to support public computing, debit and wireless printing
- for performing backups of online data, managing offsite storage of backups

Value of unit to Library/University

A large part of what the DNS unit does falls into the category of support and enhancement of "operational technology" and as such it is not easy to prove how department activities directly enhance the value of the organization. However without a cost-effective, standardized, secure, reliable, scalable and efficient computing and communications infrastructure keeping routers, servers, networks, and database management platforms running, it would not be possible for the organization to meet many of its goals and objectives. DNS activities support the Library Strategic Value "to create, expand upon, promote and provide access to services and knowledge resources".

The Educause ECAR National Study of Students and Information Technology in Higher Education, 2011 reports "Wi-Fi access is instrumental to student success." DNS supports this infrastructure in conjunction with campus ITS. The ECAR study shows use of word processors, presentation software, spreadsheets and e-books or e-textbooks is judged to be "central to student success". DNS supports the hardware and software that makes access to those systems and services possible. In response to the question "To what extent do you agree with each of the following statements regarding technology" students reported agreement or strong agreement that it:
- Gives me access to a wide range of resources
- Extends learning beyond the classroom
- Helps me do my work faster
- Allows me to produce higher quality work
- Makes it easier to get help when I need it
- Allows me to take control of my own learning
- Makes me feel more connected to what's going on at the college/university

The work done by DNS is essential to meeting the technology priorities reported by students.

DNS is committed to providing reliable, timely, secure, fast, flexible, easy to use high-quality information technology (IT) solutions and services by exercising careful and prudent stewardship of available financial, staff and technology resources; acquiring and deploying the most cost effective and sustainable technology in the most efficient manner and finding solutions that best fit defined needs which take advantage of readily available technology and/or open-source/free options.

ACCOMPLISHMENTS/PROJECTS

Administrative/Department wide:
- Contract extended through June 2014 for temporary Academic Support Educational Specialist for Content Management System/Institutional Repository (CMS/IR) position number 778216T
- Coordinated planning and purchasing of equipment, software and maintenance using $117,190 of regular library funds ($120,565 according to FMIS) and $105,663 of special funds
- Created APT annual expectations, performed annual reviews
- Handled administrative aspects of the NDNP grant using Kuali MyGrant system

Computing hardware and software support:
For detailed information see Web Help Desk statistics on the intranet. The department received fewer Web Help Desk requests this year (457) than last year (624) however many requests were sent via email (275) or made in person or by phone. At least 275 messages concerning quotes or site licenses were also handled. A major project began in FY2012-13 to upgrade Sinclair Library domain from Windows 2000 to Windows 2012 and migrate old servers onto new hardware and virtualize servers. An upgraded backup system was installed and configuration of servers will continue in the coming year. This work meets the Library Strategic Value to engage in "projects, technologies" that are "managed and made accessible in an economically sustainable fashion."

Computer/Server Inventory as of July 2013:
For detailed information see https://libstaff.manoa.hawaii.edu/groups/info-tech-div/dns/annual-reports/reports-for-fy-2012-13/DNSInventoryJuly2013.xls on the intranet.

DNS supports approximately 500 desktop computers (PCs and Macs), nearly 40 servers and over 300 other pieces of technology (barcode readers, scanners, printers, projectors). The number of desktop computers remained stable during FY12-13 but the number of servers (most are virtual) increased by nearly 60% (22 to 39) and the number of scanners (flatbed, etc.) increased by 65% (28 to 43). The former reflects the expanded types of digital resources being created and managed by the library; the latter represents the expanded desire and need of library staff to transform or transmit (e.g. Fiscal) print information in digital format.
**Servers:**
A major project this year was the expansion to Windows Server 2012's hyper-v as a way to control cost and delivery of new services. It permits new server systems to be virtualized rather than requiring additional hardware. This project addresses the Library Strategic Value to engage in "projects, technologies" that are "managed and made accessible in an economically sustainable fashion."

In support of electronic resource access a squid proxy server was set up (a very soft public release is underway). It offers an alternate means to provide remote access to journals without URL rewriting, meaning that RSS notifications work and a user will never have to deal with falling off the proxy. If a user sets their browser up with the proxy address it eliminates the need for specially prefixed URLs in links such as Laulima and E-Reserves. This makes resources more easily accessible without special effort on the part of the link creator (i.e. professor) in support of the Library Strategic Value "provide access to services and knowledge resources".

Installed the beta release of ArchiveSpace so that Archives staff could begin training on it prior to the official release of version 1.0. This addresses the Library Strategic Value to "provide [staff] with the tools necessary to embrace [the] future [and] allow us to better understand our collective past."

**Network:**
To improve access to electronic resources and streaming media, both within and without the Library, telecom switches are being upgraded, as funds allow, enabling gigabit connectivity to the desktop. This represents a 10-fold increase as compared to current network connection speed. An important project this year was moving the firewall connections to hardware-accelerated ports to dramatically improve outbound throughput. This upgrade resolved complaints of slow download speeds that were received from external users.

**Open Access/Scholarly Communication:**
The Open Access Policy signed by the Chancellor in March 2012 was implemented beginning Fall 2012. The ScholarSpace repository will continue to play a crucial role in helping faculty meet the requirements of the OA policy and supports the Library Strategic Value to "provide access to services and knowledge resources".

**Institutional Repository (ScholarSpace, eVols, UH System):**
Participation from UH departments and in-house digitization projects was steady and submission of material abundant. Detailed statistics are available on the intranet in the DNS annual report folder and Web Statistics folder.

**Institutional Repository Programming/Development:**
- Maintained DSpace sites by upgrading them from version 1.8 to 3.0, then 3.1 and ported UH Library custom code - making latest features available to users. Debugged and fixed OAI code in new version so that harvesting of records by OCLC Worldcat continued insuring widest exposure of repository materials to users.
• Met with ITS about possibility for using UH identity info in the test VIVO site which could hold semantic data about our researchers and publications originating from the university.
• DSpace programmer attended the third annual VIVO conference: http://vivoweb.org/conference2012

Library Web:
• Web page usage statistics are on the intranet here: https://libstaff.manoa.hawaii.edu/library-information/annual-reports/library-google-search-statistics/2012-2013-web-page-usage-statistics/
• NDNP July 1, 2012 - June 30, 2013 University of Hawaii newspaper pages 428,118 viewed out of total 13,982,761 newspaper pages viewed

Digital Collections/E-resources:
• Set up new Streetprint sites for Asia (Kanto Earthquake and Rikkokai lantern slides) and Hawaiian (slides).
• All batches of images and metadata for the NDNP 2010-12 cycle have been ingested into the Library of Congress Chronicling America database bringing the total contributed pages to over 210,000.
• Added rare and brittle books to eVols repository, including: 11 issues from early 1900 of Thrum's Hawaiian Annual; reformatted and OCR'd PDFs of a previously scanned journal XXth Century (published from 1937 to 1941 in Shanghai, edited by a former UH Russian History professor)
• Added 14 titles to the University of Hawai‘i at Mānoa Libraries collection within the University of Hawaii Histories community in ScholarSpace

These activities contribute to the research mission of the University and address the Library Strategic Value "to create, expand upon, promote and provide access to services and knowledge resources".

Actions to take in FY2013-14 to increase or enhance department value to the organization; plan to assess the value of that contribution

Everything DNS does is ultimately in support of the Library mission to provide "access to information resources vital to the learning, teaching, and research mission of the University". However it is difficult to establish how the mainly deep-behind-the-scenes actions have a direct relationship to student learning, instruction or increases in research productivity or quality. Most of what we do is in service to fundamental technology and infrastructure upon which other Library units may implement services that could influence student, faculty and researcher knowledge and perceptions.

We can show increased numbers of downloads from ScholarSpace (FY2011 666,484; FY2012 799,664; FY 2013 1,619,359) however the number of items in the repository also increased during the time frame. More resources were made available but it is difficult to say if they were better used
or deemed to be more valuable. DNS and the D-CARP will continue to increase and enhance additions to ScholarSpace, eVols and the digital image collections. We will track the ranking of ScholarSpace in the Webometrics list: http://repositories.webometrics.info/en/Americas/USA.

For 2012 the Library repository was ranked 23rd out of 244 U.S. repositories; for 2013 ScholarSpace was ranked 25th out of 270 U.S repositories which means our ranking stayed essential the same. Our repository was ranked 75th worldwide on the @mire top 200 DSpace instances extracted from the webometric repository rankings in 2012 and advanced one place to 74th in 2013. We will track use of newspaper pages served by Chronicling America; in fiscal year 2011-12 332,824 pages were served, there were 290,394 page views and there were 20,247 unique visits to Hawaii newspaper pages. In 2012-13 the University of Hawaii newspaper pages were viewed 428,118 out of total 13,982,761 newspaper pages viewed. We will continue to expand and enhance links to all of our digital collections via use of social media, Flickr, Wikipedia links, etc. Increased numbers in the web usage statistics give some indication of the value of these actions.

According to Joseph R. Matthews in Library Assessment in Higher Education, even if the library acquires large quantities of high-quality resources, if the information is not brought to researchers "easily" then it has little value. DNS does all that it can within the constraints of University technology and systems and Library policies and public service practices to foster ease of use.

OCLC has published a study that shows nearly 90 percent of college students start their research by using a search engine and only 2 percent use the library website. DNS maintains the Library web pages but does not devote a significant amount of staff time to redesigning or tweaking them. With the rise in smart phone and tablet users, developing a mobile-friendly library web site may become a higher priority and DNS could play a role.

Interlibrary loan services are heavily used and highly valued; DNS makes support of ILL server and client software a priority. Electronic resource gateway problem reports are handled as quickly as possible by 2 members of DNS along with the E-resource librarian in Serials - this reflects the knowledge that it is of crucial importance to the library mission. With the advent of PRIMO the locus of control and the role of "library web page" and "electronic resource gateway" may change. If DNS continues to be involved, we will apply our departmental values of providing reliable, timely, high quality information technology (IT) services and finding solutions that best fit defined needs.
GOALS for FY13-14

If Library articulates new or different priorities DNS will work to adjust IT and DCARP goals, activities and tasks to support them to the best of our ability and in keeping with our mission and values

• Continue to upgrade staff PCs, printers, central network equipment, wireless access points, etc. as budget allows.
• Continue to convert all PCs to Windows 7 before Microsoft ends support for Windows XP on April 8, 2014; convert all Intel Macs to at least OS 10.6 before ITS ends support for Mac OS 10.4.x and 10.5.x on December 31, 2013.
• Remove, replace, or convert to PC any still-used PowerPC Macintoshes before ITS ends support on December 31, 2013.
• Retire all PentiumD or older PCs (Windows XP) from staff locations
• Upgrade all necessary MS Office licenses 2003 or earlier with current version before Microsoft ends support April 2014
• Continue to maintain network security; research, test and implement methods to improve network efficiency.
• Continue to upgrade Hamilton backbone to 10Gb and roll out 1Gb to the desktop.
• Upgrade Sinclair outbound connection to 1Gb.
• Upgrade Hamilton staff Windows domain and shared server (aka Tech Services LAN) system and storage capacity.
• Put into place a regular program of digitizing "brittle books" and out-of-copyright printed material as part of a fully instituted Digital Library Program.
• Explore how to best support UHM researchers and faculty with required submission of their research articles to ScholarSpace mandated by the 2012 UHM Open Access Policy.
• Keep the DSpace repository software up to date. Increase the size of our collections. Improve user experience/interface.
• Collaborate with UH System IT to explore how best to support UHM research.