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 which enable the Library to support student academic success, faculty knowledge creation, research and classroom instruction.

DNS maintains the Library networking/datacomm equipment, print and file servers and all desktop computing resources. Librarians and APTs 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 electronic resource proxy server, web servers, digital image collections and Institutional Repository systems, maintains the general library web site pages and assists departments who maintain their web pages. The department collaborates and coordinates with ITS to support wireless service and other telecomm related systems.

DNS is responsible for library 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
- to support staff computing, network and stand alone printing and scanning
- for performing backups of online data, managing offsite storage of backups

DNS is committed to providing reliable, timely, secure, fast, flexible 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:
- Handled request to extend appointment of the temporary Digital Resources Librarian (Sara Lee), position number 84097T to fill in for Beth Tillinghast who accepted an interim appointment as Assistant University Librarian for Library Information Technology effective January 1, 2014. The temporary position has been renewed through December 2015.
- A new temporary Academic Support Educational Specialist for Content Management System/Institutional Repository (CMS/IR) position number 778216T (Jennifer Beamer) started August 1, 2014. Alas, Jennifer resigned effective April 6, 2015 to take a librarian position in BHSD.
- Handled request to fill and other personnel procedures to hire a replacement Academic Support Educational Specialist for Content Management System/Institutional Repository (CMS/IR). Convened a search committee and was scheduling interviews for the final week of June 2015 when on June 22nd I was told by Library Admin/Personnel that the recruitment had to be cancelled and the position redescribed. The position was subsequently redescribed (even though it had been updated and approved only 14 months earlier). It was submitted to campus OHR on July 23, 2015 however the status remains "Pending Chancellor approval of banding action" as of August 2015.
- Due to short-staffing digitizing projects will have to be put on hiatus and/or downsized until after the CMS/IR Educational Specialist position is refilled.
• After resignation of Claire Schultz, redescribed her position to be a temporary half-time APT position for Sinclair Library technical support, position number 79407T, and requested permission to advertise in June 2014 but further progress halted due to hiring freeze. There was no change in the non-availability of this position for the entire FY2014-15. It remains unadvertised and unfilled with the status "Pending AO/PO approval of banding action" in the online personnel system.
• Coordinated planning and purchasing of equipment, software and maintenance using $58,416 of regular library funds and $28,568 of special funds
• Created APT annual expectations, performed annual reviews
• Handled administrative aspects of the NDNP grant using Kuali MyGrant system. The grant final completion date was June 2015, with a final report due to NEH September 30, 2015.
• Ed Yagi served as IT Representative on the Disaster Recovery Team (DRT) and Participated in the Disaster Preparation Team exercises.

Computing hardware and software support:
For detailed information see Web Help Desk (WHD) statistics The department received fewer Web Help Desk requests this year. This may be mostly due to the fact that a large number of PCs were upgraded and student technicians in the departments spent much more time. Additional requests were sent via email or made in person or by phone without being recorded in the WHD. At least 101 messages concerning quotes or site licenses were also handled via the "micro@hawaii.edu" account.

Major projects:
• Purchase, installation and setup of the large screen, web conferencing and presentation equipment in the Asia Multi-purpose room 401.
• Conversion from Deepfreeze and configuration of new Smartshield public PC security software.
• Managing changes in authentication on public PCs, Goprint and PrinterOn Wireless Printing due to ITS upgrades of LDAP and CAS
• Worked with IBIS team from Hawaii Natural Energy Institute to install devices on electrical outlets to measure energy usage
• Update of all Voyager client software in Hamilton and Sinclair libraries

Computer/Server Inventory as of July 2014:

DNS continues to support over 500 desktop and laptop computers (PCs and Macs) of which 182 are located in public or classroom areas; the rest are used by staff and student employees. DNS supports approximately 45 servers and over 320 other pieces of technology (barcode readers, scanners, printers, projectors).

Servers:
• SL streaming video migration from Xserve and Apple QuickTime streaming to commodity hardware and free/open source software:
  - Streaming with UH username authentication to all platforms (desktop and mobile platforms)
  - Batch converted approximately 7000 existing videos.
• Adjusted proxy server functions for UH username login migration to CAS3 authentication for Manoa library web services.
• Windows server 2003 to 2012 migration:
  - Transparently migrated services like ILLiad, print, file sharing, WHD, web calendar, and VM hosting
  - Continued upgrading VM infrastructure through OS upgrades and new feature live replication for ILLiad and proxy for improved recovery response in case of VM host failure.
  - ILLiad upgrade to 8.5 and server OS upgrade to windows server 2012r2
Coordinated with public services for libguides v2 migration and implemented the hostname transfers.

- Rewrote e-resource feedback form in php after abrupt ITS disabling of original form written with perl.
- Improved server security
  - Implemented adaptive blocking software, fail2ban.
  - Upgraded SSL to sha256 based certificates
  - Tightened SSL ciphers following industry best practices
- Ongoing collaboration with Archives (Dainan) to upgrade, migrate and merge data from Archivist's Toolkit to ArchivesSpace.

**Network:**
To improve access to electronic resources and streaming media, both within and without the Library, telecom switches were upgraded, as funds allowed. Coordinated with ITS to carry out telecomm room changes to upgrade network wiring on old "blocks".

**Activities:**
- Updated documentation
- Implemented Active Monitoring system for Network
- Monitored and renewed maintenance contracts on Fortigate Firewall Devices

**Key Projects**
- Coordinated (Tom) and did follow-up (Wayne/Ed) on the ITS conversion of Hamilton Library phones to VOIP
- Replaced core Faulty Cisco Fibre Switch 3750G in Phase 3 with 3750X
- Replaced 7 End of Life Cisco switches in Hamilton
- Replaced 2 Security Cameras in Sinclair
- Liaison for ITS/BCS rewiring of Phase 2/Floor 1 wiring closet which involved repatching over 120+ cables across 5 VLANs, Camera LAN, and Telecom cabling

**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.

Coordinated Open Access Week - October 20-24
- Held six separate events, including lectures, panel presentations, and workshops, and provided information and handouts to passersby from our Open Access table. The Wikipedia Edit-a-thon was particularly successful, attended by quite a few English 100 students, who were offered extra credit for participating. Hosted SPARC Director of Programs, Nick Shockey, who met with student groups on campus about advocating for Open Access and presented a lecture on the latest developments in the open access movement.

**Institutional Repository (ScholarSpace, eVols, UH System):**
Participation from UH departments and in-house digitization projects was steady and submission of material abundant.

- Law School ScholarSpace Collection Highlighting Faculty Works - Spring 2015
  A variety of new communities and collections were added to ScholarSpace, but one group making good use of the repository is the Law School. The school is gathering and making accessible their faculty works from one centralized location in ScholarSpace to better highlight faculty expertise and contributions to the field.
- Sara Lee and Daniel Ishimitsu carried out 7 (71 participants) training/orientation sessions on Vireo, ScholarSpace and Open Access
- Sara Lee carried out an additional 7 (60 participants) training/orientation sessions on ScholarSpace and Open Access
Institutional Repository Programming/Development:

- Began preparations for DSpace upgrade from version 3.0 to 5.0
- VIREO
  - Continued to customize and test VIREO ETD submission system http://etd.manoa.hawaii.edu
  - Worked with Dept Head to have students input and test Vireo using CD/DVDs of dissertations and theses received by Hawaiian Collection from OVCGRE. Dissertations/theses entered into Vireo for graduation dates:
    - 2014 December, August and May
    - 2013 December and August
    - 2012 December and August
- Scholarspace batch edit of dc.contributor.authors. Of the 20,000+ records with authors, about 6,000 were touched. Periods were added to initials, spaces were normalized, misspellings and incorrect variants were fixed.
- Assessed, configured, updated various collections for the UH System repository
- Worked with Outreach College, ITS, Systems Office on Open Educational Resources

Library Web:

- To address the library strategic objection #4 for a "Newly designed, simplified, more intuitive library web page" Library Administration approved a complete revision of all library web pages hosted on http://library.manoa.hawaii.edu. The goal was to create a "responsive website" using HTML5 and PHP to provide complete usability on mobile Internet platforms such as tablets and smartphones. Martha Chantiny and Sara Lee undertook the work with assistance from Daniel Ishitmitsu and Wing Leung. Redesign, update of factual content, creation of new pages as needed took place between October 2014 and January 2015. Preview testing and feedback took place during January 2015; the responsive website was made public on February 26, 2015.

Digital Collections/E-resources:

- Set up new Streetprint sites for Hawaii Lanternslides and Gorey Collection
- Continued work with Sinclair on Hawaii Music Collection
- Completed a digitization project funded by the Oakland Museum of California of diaries and journals of John Rabe, 1850-1914
- Completed a digitization project funded by and for the University of Ryukyus
- Completed a digitization project for the Charlot Collection adding 110 PDFs of the Biblioteca del niño mexicano illustrated by José Guadalupe Posada
- Scanned and loaded a wide variety of research materials into eVols and Scholarspace including:
  - 16 books for the Southeast Asian Art and Archaeology eVols collection
  - 21 items for Hawaiian Collection communities
  - 9 items for Hawaiian Waters collection
  - All but 5 issues of Kapalapala UH Yearbook
- Carried out project to normalize metadata for, and upload 366 audio records of the Hawaiian language broadcast Ka Leo Hawai‘i Radio Program 1991-2000
- Created a UH-hosted blog to feature Digital Collection News http://blog.hawaii.edu/librarydigitalnews/
GOALS FOR 2015-2016
Given the staff shortages, changes, hiring freeze and budget restrictions that will continue this FY as in the last FY, the department does not have any major goals other than to continue to try and do our best to provide effective technology support to help the library achieve its mission and highest priority objectives. We will follow our practice of upgrading equipment and systems most in need (and/or upgrading the most heavily used and "handing down" the old equipment to replace the oldest systems). We will continue to look for ways to partner with other campus units and outside agencies to "barter" services for funding or equipment while expanding or enhancing our unique digital collections.

Of highest priority is being fully staffed especially for support of digital collection building and Institutional Repository support. A related goal is filling the half-time position for IT support for Sinclair Library (e.g. the "Claire position") in order to provide continuity of service and support to Sinclair library. However, it is unlikely that even if we were allowed to advertise for the position that it would be filled (or remain filled for long) because a half-time Pay Band A position is not financially attractive.

Carry-over goals from last year include:
- 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.
- Roll out 1Gb to the desktop wired connectivity in Hamilton Library
- Participate in Digital Library Program and Social Media committees; continue to refine use of social media channels to promote digital collections