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

The mission of Desktop Network Services 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.

Desktop Network Services (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.

Desktop Network Services (DNS) staff are 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

Desktop Network Services (DNS) staff duties are performed in the following functional areas:

Administration & Consultation:
- APT IT/Ed Spec annual expectations, annual performance reviews, etc.
- Budget planning, equipment lifecycle planning
- Grant writing, grant funded purchases
- Software & hardware functionality (researching, advising, planning purchase/upgrades/uses of software & hardware)
- Student assistant hiring, supervision
- Training/orientation

IT Services/Systems support:
- Authentication (ILL, E-resource, Public PCs, library intranet)
- Classroom PCs, teleconference/video conference and presentation setup & equipment
- Electronic resources proxy server, eresource gateway database and patron support
- ILLiad/Ariel/GWLA and other Interlibrary Loan system technical support
- Equipment purchase, distribution/disposal, inventory, repair, upgrade, maintenance
- Library web site server and server-side applications, web pages
- Library Intranet server, applications and user interface
- Network connectivity, infrastructure upgrades & security (including firewalls)
- Public computing (including CD server/CD Menu & debit and wireless printing)
- Security/web camera purchase, install, maintenance, troubleshooting
- Server administration, maintenance and security, backups & offsite storage (file, print, web, proxy, DSpace servers)
- Server-based applications, e.g. Domain controller, WUS/SMS (Windows update server, software management system), GIS (Geographic Information Systems)
- Shared network storage (aka "Tech Services LAN")
• Software upgrades (server OS, virus scanners, PC OS, applications)
• Staff computing (including printers/printing, scanners, etc.)
• Shared staff specialized apps: Surveyor, Web Calendar
• Specialized public apps, Asia, Hawaiian, Maps collections
• Sinclair Library WUS, print, wireless print servers/systems
• Voyager client software support, self-checkout equipment (Sinclair Library)
• Web Help Desk (staff trouble ticket system)

Digital Library Program aka D-CARP (Digital Collections & Repositories Program)
• Institutional Repositories: (metadata, programming & outreach, content creation)
  • Scholarspace, eVols, UH System Repository
• Digital Content Creation/Management Systems
• Digital project and grants consultation & management
• Digital image collections creation & maintenance
• Coordination of OAI harvesting (PRDLA, WorldCat, AgNIC, OLAC, Policy Archives)
• LIS digital collection/digitization internships
• Web archiving (Archive-It)
• Open Access Scholarship/Scholarly Communication
• eScience (Vivo)

Specific actions your department took this year to enhance its value to the organization.

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 that what the department does directly enhances 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.

The Educause ECAR National Study of Students and Information Technology in Higher Education, 2011 reports that "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, college/university’s library website, presentation software, spreadsheets and e-books or e-textbooks are extremely very frequent and 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
  − Better prepares me for entering the workforce
  − Makes me feel more connected to what’s going on at the college/university

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.
Administrative/Department wide:
- Coordinated with UHM Library Administration in reviewing IT aspects of the Air Handler Project
- Filled temporary Academic Support Educational Specialist for NDNP Project Manager position number 0078891T (NDNP federal grant funded)
- Contract extended through June 2013 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
- Researched, wrote and submitted 2 NEH grant applications, which required learning to use the new campus Kuali-based "MyGrant" system:
  - NEH Humanities Collections and Reference Resources for Social Movements Collection (not awarded)
  - NEH/Library of Congress National Digital Newspaper Project for Phase 3 of the Hawai‘i Digital Newspaper Project ($265,018 awarded)

Presentations/Continuing Education:
- Beth Tillinghast presented at the Archive It annual meeting on enhancing access to archived website collections
- Beth Tillinghast presented at the Best Practices Exchange annual meeting on enhancing access to institutional repository collections
- Martha Chantiny, Beth Tillinghast and Daniel Ishimitsu presented at an OCLC Webinar about using OAI harvesting in StreetPrint and DSpace with OCLC.
- Jerrold Shiroma presented at the annual Open Access week events in October 2011

Computing hardware and software support (see also Web Help Desk statistics below):
- Provided support for slightly more than 500 staff and public PCs and associated software and peripherals such as barcode readers, printers, scanners (see table below)
- Upgraded/Replaced over 40 Staff PC/Macs throughout Hamilton and Sinclair Libraries, as well as replacing all classroom 156 PCs with "small footprint" model
- Upgraded RAM as high as technically possible in as many staff PCs that could be upgraded which had not been replaced
- Purchased 2 new rack-type servers for Sinclair to replace aging desktop PCs used as servers, increasing storage capacity for audio and video digital files
- Replaced Maps GIS server which was 6 years old and components were failing
- Replaced security camera video server to handle increased number of installed cameras
- Replaced old Hamilton Library Goprint server with new virtual server running newest Windows OS and installed latest version of Goprint software
- Worked extensively with 3M maintenance technicians in attempt to "theft proof" Self-Check equipment in Hamilton
- Facilitated and carried out installation of ceiling mounted projectors in various classrooms and conference rooms
- At request of BHSD, converted one public PC to a standalone workstation (no internet access) to provide access to the list of CDs they want available to the public and removed CDServer Menu from the non-authenticated public PCs
- Installed updated Voyager client software on all staff PCs
- Per Public Services/Library Administration decision - changed GoPrint configuration to charge higher per page cost for black & white printing
- Assisted Fiscal Office with FEMA onsite audit
- Acquired and installed A1-size capacity overhead Quartz Digibook scanner
- Recycled Sinclair and Hamilton old equipment through Apple's Recycle Program
Computer/Server Inventory as of June 2012

<table>
<thead>
<tr>
<th>Category</th>
<th>Count</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>297 Staff PCs</td>
<td></td>
<td>Incl.20 Macs, security guard &amp; Student Success Center</td>
</tr>
<tr>
<td>96 Public PCs*</td>
<td></td>
<td>Includes Self-Check equipment, PCs on microfilm scanners, Goprint paystations and at Reference Desks</td>
</tr>
<tr>
<td>91 Instruction PCs</td>
<td></td>
<td>In classrooms, multi-purpose/conference rooms, MAGIS lab, presentation rooms in HL, including 41 laptops in Room 306</td>
</tr>
<tr>
<td>23 Laptops/Netbooks</td>
<td></td>
<td>Circ and dept shelf reading, Student Success Center, Preservation</td>
</tr>
<tr>
<td>40 Servers</td>
<td></td>
<td>Includes Goprint, PrinterOn, FTP, GIS, security cameras, Scholarspace/eVols, domain controllers, ILLiad, HL &amp; SL web servers &amp; intranet, backup systems</td>
</tr>
<tr>
<td>46 Security Cameras</td>
<td></td>
<td>30 cameras in HL, half on internet, half analog; 16 cameras in SL all internet</td>
</tr>
<tr>
<td>28 Dot matrix Printers</td>
<td></td>
<td>Tech services</td>
</tr>
<tr>
<td>18 Inkjet &amp; All-in-one Printers</td>
<td></td>
<td>Various staff printers</td>
</tr>
<tr>
<td>84 Laserjet printers</td>
<td></td>
<td>Public and staff printers</td>
</tr>
<tr>
<td>34 scanners</td>
<td></td>
<td>Flatbed, in various staff and public locations**</td>
</tr>
<tr>
<td>10 LCD projectors</td>
<td></td>
<td>Classrooms, learning arenas, meeting rooms</td>
</tr>
<tr>
<td>139 barcode readers</td>
<td></td>
<td>Tech services, Circulation, etc.</td>
</tr>
</tbody>
</table>

* Nearly all public PCs in Sinclair Library are now managed by ITS in the Wong Computer Lab and most of the public PCs on the main floor of Hamilton Library are also now managed by ITS in the CLIC Lab. Proctoring PCs will be handled by ITS from FY2012. **All-in-One printers are also scanners but not included in this count

Web Help Desk Requests by Department

<table>
<thead>
<tr>
<th>Department</th>
<th>Requests</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Svcs - HL Circ</td>
<td>23</td>
</tr>
<tr>
<td>Access Svcs - ILL/ESP</td>
<td>26</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>9</td>
</tr>
<tr>
<td>Administration</td>
<td>47</td>
</tr>
<tr>
<td>Archives 15 public, 46 staff</td>
<td>61</td>
</tr>
<tr>
<td>Asia Collection</td>
<td>46</td>
</tr>
<tr>
<td>BHSD 25 public, 24 staff</td>
<td>49</td>
</tr>
<tr>
<td>Cat SS</td>
<td>6</td>
</tr>
<tr>
<td>Cataloging</td>
<td>36</td>
</tr>
<tr>
<td>DNS</td>
<td>7</td>
</tr>
<tr>
<td>DNS-Digitizing-DSpace</td>
<td>10</td>
</tr>
<tr>
<td>DNS-Network_Servers</td>
<td>25</td>
</tr>
<tr>
<td>Fiscal</td>
<td>9</td>
</tr>
<tr>
<td>Gov Docs 8 public, 11 staff</td>
<td>19</td>
</tr>
<tr>
<td>Hawaiian/Pacific 5 public, 35 staff</td>
<td>40</td>
</tr>
<tr>
<td>Library-wide 7 public, 5 staff</td>
<td>12</td>
</tr>
<tr>
<td>Mailroom</td>
<td>12</td>
</tr>
<tr>
<td>Maps 4 public, 6 staff</td>
<td>10</td>
</tr>
<tr>
<td>Preservation</td>
<td>21</td>
</tr>
<tr>
<td>Scitech 33 public, 17 staff</td>
<td>50</td>
</tr>
<tr>
<td>Serials</td>
<td>30</td>
</tr>
<tr>
<td>Sinclair - Wong AV Center</td>
<td>14</td>
</tr>
<tr>
<td>Sinclair Library 14 public, 37 staff</td>
<td>51</td>
</tr>
<tr>
<td>Systems</td>
<td>11</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>624</strong></td>
</tr>
</tbody>
</table>
Web Help Desk Requests Problem Type Counts

Closed Tickets by Problem Type

- **Public**: Classroom/Presentation/Event Related - 10
- **Public**: DB/Elec Res/Web related - 9
- **Public**: Goprint - 10
- **Public**: Move/Swaps (Inventory) - 1
- **Public**: Network/Datacom/Logging Related - 5
- **Public**: Other - 2
- **Public**: Purchase/install/upgrade Hardware - 2
- **Public**: Server/Voyage/Systems - 1
- **Public**: Troubleshooting-Hardware - 25
- **Public**: Troubleshooting-Printing - 25
- **Public**: Troubleshooting-Software - 13
- **Staff**: Classroom/Presentation/Event Related - 22
- **Staff**: DB/Elec Res/Web Related - 11
- **Staff**: Move/Swaps (Inventory) - 33
- **Staff**: Network/Datacom/Logging Related - 0
- **Staff**: Other - 5
- **Staff**: Purchase/install/upgrade Hardware - 79
- **Staff**: Purchase/install/upgrade Software - 54
- **Staff**: Server/Remote Access/DNS - 2
- **Staff**: Server/Voyage/Systems - 0
- **Staff**: Troubleshooting-Hardware - 70
- **Staff**: Troubleshooting-Printing - 47
- **Staff**: Troubleshooting-Software - 111

Servers:
- Activated ILLiad lending web interface; ILLiad upgrade from version 7.4 to 8.0.
- Added modsecurity module to libweb/digicoll server to enhance web server security.
- ITS server registration and vulnerability/SSN scan of all public facing library servers.
- Helped MAGIS set up their map scanning/storage/verification procedures.
- Upgraded server back up infrastructure to LTO5 and new versions of arcserve for improved reliability.
- Hiring committee for GIS coordinator.
- Coordinated with Kenwrick at ITS and Nackil to provide Laulima the ability to connect directly to proxy without further login challenge.
- Upgraded/consolidated server infrastructure via virtualization for both HL and SL.
- Installed new print server for HL staff and classrooms to better support 64 bit operating systems.
- Upgraded proxy server operating system from centos4 to centos6 to improve system security.
- Migrated library site search to Google site search when locally hosted Google mini server died.
- Upgraded part of SL network with unmanaged gigabit switches to optimize network workflow between servers and computers on first and third floor.
- Improved server monitoring using zenoss to catch when individual services stop responding instead of checking for general server heartbeat to improve service uptime.
Network
To improve access to electronic resources and streaming media, both within and without the Library, telecom switches are being upgraded, as funds allow, to enable gigabit connectivity to the desktop. This represents a 10-fold increase as compared to current network connection speed.

Library security continues to be a concern. To address this, additional security cameras have been installed in both Sinclair and Hamilton Libraries and cameras have been upgraded when necessary. In addition, a guard monitoring station has been set up in Hamilton, similar to the one in Sinclair, which allows the guards to monitor all of the cameras from a central location. To make this possible, four separate security camera systems were consolidated under one server and the network that the security cameras were on was separated from the data network to provide greater bandwidth for data applications. Upgrading firewalls and installing a separate firewall for the Voyager servers have addressed data security.

- Upgraded Sinclair's network infrastructure from 100Mbps to 1Gbps.
- Upgraded Sinclair's network cabling infrastructure in selected staff areas to enable more reliable and faster network access.
- Configured and installed firewall for Voyager servers.
- Upgraded Hamilton's firewall to provide better IP traffic management.
- Separated the data network from the video security network in both Sinclair and Hamilton to provide more network bandwidth for data.
- Started installing gigabit switches to provide gigabit service to the desktop in Hamilton and Sinclair.

Video Security
- Set up security camera monitoring station in Hamilton Lobby for guards.
- Upgraded Sinclair's video security system by installing higher resolution cameras and upgrading their video security software.
- Improved Hamilton's video security system by upgrading the video management server and consolidating four separate security camera systems into one for easier monitoring and management.

Open Access/Scholarly Communication
- Made numerous Scholarly Communication Committee presentations across campus
- Organized a third Open Access Week campus-wide celebration
- Coordinated the approval process for a UHM Open Access Policy by the UH Chancellor
- Began investigating a practical and efficient system to implement the Open Access Policy
- Completed an eScience Institute 6-month course
- Began investigating archiving data sets
- Began investigating the use of VIVO as a system to enable the discovery of research and scholarship
- Beth Tillinghast became a member of a special Open Access Week Committee through the Coalition for Open Access Policy organization
- Created a web Scholarspace submission form and an Opt-Out form
  http://library.manoa.hawaii.edu/about/scholcom/opt-out/submissionauth.php
  http://library.manoa.hawaii.edu/about/scholcom/opt-out/contact.php
- Began creation of a new LibGuide incorporating information from the current Open Access Libguide (http://guides.library.manoa.hawaii.edu/content.php?pid=100358) and information from the library web pages (http://library.manoa.hawaii.edu/about/scholcom/)
- Beth Tillinghast represented UH Manoa as a founding member of the Coalition for Open Access Policy Institutions, organizing and attending meetings in Washington, D.C. and Kansas City
- Beth Tillinghast became a member of a special Metadata Committee for the Archive It Partners group
Institutional Repository (Scholarspace, eVols, UH System)

- Included in Scholarspace - a total of 47 main Communities, 352 Sub-communities, 1452 Collections, and over 18,500 items.
- Completed the collaboration with the University of Hawaii Press to develop Pacific Science community, one of our largest Scholarspace communities with over 2,631 items from the first 1947 issue until present.
- Expanded the East-West Center collection, which has 1,790 items and continues to grow.
- Collaborated with the University of Hawaii Press to digitize a portion of their backlist to make available in Scholarspace.
- Expanded the Dissertations & Theses Community to over 3350 items including metadata records extracted from Voyager.
- Developed and working in conjunction with the Hawaii Institute of Geophysics & Planetology community to make available important State and County documentation and technical reports.
- Began collaboration with the Center for Oral History to digitize and make available certain collections of their oral history transcripts.
- Implemented an email notification system sending usage statistics to Scholarspace collection administrators.
- Included in eVols a total of 25 main Communities, 60 Sub-communities, 312 Collections, and over 23,000 items.
- Expanded NDNP to 18,970 issues of newspapers.
- Digitized and uploaded 500 issues of the 100th Infantry Battalion's Puka Puka Parade newsletter.
- Laid groundwork for a second GWLA grant to continue digitizing special Hawaiian collection documents for the Hawaiian Waters collection in eVols.
- Continued coordinating the development of the UH Systems Repository; the new repository for the UH campuses has 7 communities, 18 collections, and 635 items.
- Began a collaboration with the Linguistics Department and the Center for Philippine Studies to submit MLS grants asking for funds to digitize and provide open access to endangered language documentation and special Mindanao collections.
- Consulted with and provided technical information to UHM Librarians, UHM Staff and Faculty and UH System librarians in developing collections in the repositories.

Institutional Repository Programming/Development

- Maintaining our DSpace sites by upgrading them from version 1.7 to 1.8.
- Created an automated statistics emailer for collections in Scholarspace to provide feedback to collection managers. At the end of each month, it emails the number of hits and downloads for each collection managed by an individual.
- Launched a test site with VIVO software to explore the creation of a site to hold semantic data about our researchers and publications originating from the university.

Library Web

- Jerrold Shiroma continued as member and became Chair of the Web Advisory Group (WAG) in January 2012.
- Jerrold drafted a proposal on behalf of WAG which was submitted to Library Administration in March 2012.
- Worked regularly with library faculty on creating & editing content for library website.
- Worked with faculty to improve functionality of library website.
- Web page usage statistics are on the intranet here: https://libstaff.manoa.hawaii.edu/library-information/library-google-search-statistics/2011-12-web-page-use-statistics/
Digital Collections/E-resources:

- Responded to in-depth query from UHM Library faculty, UH students and graduate students in the U.S. and Pacific regarding developing special digital collections and/or applying for digitization grants
- Set up new Streetprint sites for Japanese Commercial Graphic Design 1920s, Douglas Oliver Collection, Trust Territory Survey Maps, Pacific Rare Prints, Photographers in Hawai’i, 1845-1945: A Biographical Directory
- Eight 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 in phase 2 to slightly more than 77,000 and for all phases 186,573 pages have been ingested. Approximately 40,000 more pages are in process with the expected contribution for Phase 2 to reach approximately 120,000 pages.
- Attended webinar “Taking Our Pulse: The OCLC Research Survey of Special Collections and Archives”.
- Investigated requirements and options for hosting the Hawaii recordings from the StoryCorps Community Archive (an IMLS funded initiative); issues included confidentiality and handling of transcripts, authentication of users
- Added rare and brittle books to eVols repository, including:
  - Atlas archéologique de l'Indo-Chine. Monuments du Champs et du Cambodge
  - Dedication ceremony, May 1, 1966: Honolulu memorial
  - "University of the Pacific" album
  - East-West Center album
  - Pictorial history of pineapple mechanization

Actions to take in FY2012-13 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 DNS mostly deep-behind-the-scenes actions that provide a wide range of access has any direct relationship to how or whether students learn, faculty teach better or research productivity or quality increases. 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) however the number of items in the repository increased during the time frame - more resources were made available but it can’t be determined if they were better used or deemed to be more valuable. Library units that interact directly with faculty in their departments and divisions would be in a better position to try and gather that type of data. 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. Our repository was ranked 75th worldwide on the @mire top 200 DSpace instances extracted from the webometric repository rankings. We will track use of newspaper pages served by Chronicling America; this past fiscal year 332,824 pages were served, there were 290,394 pageviews and there were 20,247 unique visits to Hawaii newspaper pages. 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. The information pages that are crucial (e.g. hours, directory) are kept up to date and other pages are kept presentable. 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 dramatically. 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 FY12-13**

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

- Continue to upgrade classroom and staff PCs, printers, central network equipment, wireless access points, etc. as budget allows.
- Continue to maintain network security; research, test and implement methods to improve network efficiency.
- Adjust the backup server to maximize use of new LTO (tape backup system) capacity and handle increased backup needs from greater amounts of digitized materials.
- Upgrade Hamilton staff Windows domain and shared server (aka Tech Services LAN) system and storage capacity.
- Collaborate with the Graduate Division, the Hawaii Collection, and ProQuest to secure the online deposit of UH Manoa PhD dissertations and Masters theses along with the supporting data into the UHM Institutional Repository.
- 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.
- Collaborate with UH System IT to explore how best to support UHM research.
- Explore VIVO system possible role in supporting UHM researchers.