

Desktop Network Services

Annual Report 2002-2003

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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. The department provides hardware, software, network/datacomm; and digitizing support, consultation and research services and manages the Library's proxy server, web servers and general library pages, and assists departments who maintain their web pages.

Major Functions Performed by the Department in 2002-2003:

- Planned and implemented replacement and upgrade of desktop computing, printing and networks
- Planned and coordinated installation of 46 new public PCs and 41 new staff PCs
- Installed version 2001 upgrades and post-release updates of Endeavor Voyager client-side software
- Consulted with Library staff and Admin to determine computing hardware and software needs to expend specially appropriated RTRF funds
- Expanded and/or improved CD ROM systems, network printers and servers, debit printing systems
- Added or upgraded server-based software used library-wide (iCal - the web calendar/scheduling software and Surveyor)
- Expanded, improved and managed UH Manoa Library data communications network infrastructure in Hamilton and Sinclair libraries including implementing 58 laptop docking ports in addition to wireless access
- Revised UH Manoa Library web pages, continued creation and/or transfer of department pages to library server
- Provided orientation and instruction to UH Manoa Library staff in use of microcomputer hardware and software
- Provided orientation and instruction to UH Manoa Library staff in use of microcomputer hardware and software
- Supported digitization initiatives and projects.

Personnel:

The department operated with a permanent staff of 4 positions and 1 temporary position:

- Martha Chantiny, Department Chair, Librarian III (promoted to Librarian IV effective 8/03)
 - Wayne Agunat, Microcomputer Support IT Specialist
 - Tom Ishimitsu, Network Support IT Specialist
- A third IT Specialist position was approved in March 2002, advertised in August 2002 and filled 10/02.
- Wing Leung, Server Support IT Specialist

In addition, a temporary position has been filled as follows:

- Beth Tillinghast, Web Support, Librarian II [temporary appointment through July 31, 2004]

The department also employs student assistants who perform microcomputer and network support tasks, ranging in number from 4 to a peak of 8 individuals working approximately 12-15 hours each during the school year, i.e. approximately 1.5-3 FTE. In addition, 1 student assistant works approximately 15 hours each to perform web and digitizing project support. During the spring semester, 1 student continued work on the Annexation Documents digitizing project funded by a small campus SEED grant and an HCH grant. (See Digital Projects below.)

Workload:

Requests for Desktop Network Services assistance are received primarily via electronic mail, and also by telephone and in person. DNS handled approximately 2,450 email requests and reports in FY 2002-03 sent to the micro@hawaii.edu address. An average of 200 support-related emails were received per month, the highest monthly email total was just over 275 in the month of May. The number of requests handled this past year is almost the same as in 2001-02, even though equipment numbers

have increased. I attribute this to improvement in service expertise and experience of DNS students (alas, all now graduated) and to the fact that the oldest, most breakdown prone equipment has been disposed. Department staff responded to requests for assistance in Hamilton and Sinclair Library as well as the Jefferson Annex. Requests for assistance were also handled via email to the libweb@hawaii.edu address.

The number of PCs supported by DNS increased approximately 15% during FY 02-03. Large numbers of staff PCs were replaced with new units that are capable of running the 2001.3 version of Voyager software and Windows 2000/XP. Replacement of one computer means at least 2 complete computer moves and reconfiguration - as the old one is "bumped down" to be either a student/departmental or public workstation. In many cases a single replacement actually generated 3 or more moves and reconfigurations as older PCs were moved around in the wake of the new arrivals.

PCs by Department	6/01	7/02 [public PC ^[1]]	6/03 [public PC]	Comments
[new added 02-03]				
Admin [4]	5	8 + 4 Macs	12 + 3 Macs	
Acquisitions [3]	12	14	13	Pent3 6xx all replaced by Pent4 1.8GHz
Archives	2	3	4	
Asia [7]	27	30 [11]	31 + 2 Macs[12]	includes Goprint paystation
BHSD [18 pub, 2 staff]	59	82 [66]	93 [76]	includes 2 Goprint paystations. Laptop bought with Learning Comm funds
Classrooms [13]	13 (rm2, 401)	35 (rm 113, 156)	51 (rm 113, 156, 306)	
Cat/CatSS [9]	22	22	22	9 Pent3 7xx replaced by Pent4 1.8GHz
DNS	10	14 + 2 Macs	15 + 2 Macs	includes PCs for testing, & backups
Digitizing	4	4	4	
Computer Room	5	9	10	Servers: network printing, cataloging LAN, Goprint, calendar schedule, SQL, etc. Added server funded by Sci/tech PRAISE grant
Fiscal/Mailroom	8	9	9	
Gov Docs/Maps [1]	14 [7]	18 [10]	18 [11]	Staff includes 1 Circ counter
HL Circ [3]	24	25 +12 counter	25 +12 counter	3 Pent3 replaced by Pent4 1.8GHz
ESP/ILL	7	7	7	
Preservation [1]	9	9	10	
Sci/Tech [2 staff grant funded]	21	39 +3 Macs [28]	42 + 4 Macs [34]	includes Goprint paystation
Serials [11]	21	23	23	11 Pent3 7xx replaced by Pent4 1.8GHz
Sinclair [12 pub, 1 staff]	56 ^[2]	76 [32]	86 + 9 Macs [48]	includes 2 Goprint paystations, 3 servers, Public includes 14 Circ counter
Special Coll	25	30 [14] + 1 Mac	30 [17] + 1 Mac	includes Goprint paystation
Jefferson/Charlot	5	5	6 + 1 Mac	
Systems [1]	12	12	12	RAM increased to 512MB
		9		
TOTAL	362	479	557	

Major categories of services provided include:

- Supporting 9 Windows servers (across 3 domains) and 2 Unix servers
- Troubleshooting problems (or apparent problems) with network, microcomputer equipment, software and printing
- Performing equipment and software installations, configuration, and upgrades, moves and maintenance operations
- Performing CD ROM product installs, upgrades and troubleshooting
- Supporting 8 Goprint paystations with 9 associated printers and 2 servers in Hamilton and Sinclair
- Maintaining hardware and software inventories
- Monitoring maintenance and bid contracts for datacomm and microcomputer equipment
- Handling numerous short and long-term projects

Support tasks and services often involve more than one type of problem. A situation reported as related to one matter can turn out to be something entirely different; therefore categories of support services overlap. Based on a sample of 1748 email messages to the µ& address, the highest numbers of requests were related to some aspect of hardware troubleshooting.

Categories analyzed include the following: troubleshooting-hardware, software, printing (including Goprint), equipment moves and inventory-related activities, purchase, install, upgrade or reconfiguration requests for both hardware and software, web- and CD ROM-based, in-house and remote database access, classroom support, Voyager server or client-related issues, miscellaneous/general information or questions about library services and facilities, and network/datacomm related responsibilities.

Troubleshooting of all types (hardware, software, printing, classroom-related) accounted for almost 49% of the work performed by DNS support staff and students; software-related services (including installation, configuration, purchase and troubleshooting) accounts for 30% of the requests. 12% of the software services were related to upgrades or patches to the Voyager client. Hardware-related support (troubleshooting, replacement, purchasing, moving, and network-related) constitutes over 36% of the requests; troubleshooting and support for printing, including the Goprint systems account for 17% of the email reports. Requests for installation, reconfiguration or updating of CD products, or reports of problems with access to shared electronic resources on servers such as the Catalogers Desktop product, NUS database or remote access to databases account for a little more than 11% of the email messages to µ&.

Most printing problems were associated with email (particularly QVT/pine and UH webmail), email attachments (esp. CJK), conflicts in configuration between software (e.g. OCLC or RLN v. Voyager, FMIS applications, corrupted drivers), or network matters (not logged on, lost mapping to network printer, changing from network-to-local printer and back). Most CD ROM or CD-based problems involved updates (missed PCs, update incompatibilities or damaged applications received).

The highest numbers of requests by department come from, or are related to, BHSD. This is partly because the department has the largest number of public PCs. Support requests from Asia account for the next highest percentage, followed by Cataloging/CatSS and Sinclair. These departments all have numerous specialized public workstation setups and Asia staff computers have unique configurations due to CJK language requirements. See the graphs attached for more details about the support tasks performed by DNS.

Expenditures:

Almost 37% of this years G-fund expenditures were for library-wide purposes, including replacing or upgrading public PCs, installing wireless and laptop docking facilities, or updating and increasing software client licenses for Windows servers and public PC security programs. The breakdown for RTRF funds was 62% for Tech Services (mostly Serials), 23% for public upgrades or replacement equipment, and 12% for microcomputer purchases for Library Administration.

Department	% G funds	Department	% G funds	Department	% G funds
Library-wide network*	21.55	Public Svcs		Admin	4.89
Library-wide installs**	15.23	Asia	6.70		
	36.78	SL	6.28		
Tech svcs		BHSD	6.24		
Cataloging/CatSS	11.65	Access Svcs	5.63		
Acq	7.80	Sci/tech	5.02		
Serials	2.39	GovDocs	1.52		
Preservation	0.08	Archives	0.92	Info Tech	
	21.92	Spec Coll	0.08	Systems	2.32
		32.39	DNS	1.69	

* Includes cables and connectors all the way up to routers and wireless equipment

** Includes OS and server client licenses, Deepfreeze & Winselect software, anything bought for 4 or more departments and anything bought for public use

2002/03	RTRF		Other	2001/02	LMS		Other
Funds	General	Special	Special*		General	Special	Special*
Supplies/Repairs	\$4,843	--			\$19,060	--	
Software	\$11,452	\$1,049	all		\$11,440	\$27,206	all
Equipment/Datacomm	\$14,408	--	types		\$25,775	--	types
Micros/Printers	\$38,485	\$71,142	combined:		\$12,378	\$74,530	combined:
Scanners/BCRs							
Total	\$69,188**	\$72,191	\$5,247		\$68,653	\$101,736	\$21,817

	2000/01		1999/00	
Funds	General	Special	General	Special
Supplies/Software	\$13,465	\$34,446	\$24,080	\$18,385
Equip/Datacomm	\$18,147	\$27,852	\$14,976	\$68,746
Micros	Inc. above	\$253,602	Inc. above	\$255,727
Total	\$31,612	\$315,900	\$39,056	\$342,858

* Other Special funds include: LIS Learning Communities, UH Foundation & Agricultural Center Funds (*note RTRF Special funds not available after June 30, 2003*)

** Some funding for Equipment/Datacomm moved from maintenance category to purchase category

Datacomm/Network activities

Wireless installations were expanded to include the following areas: Hamilton 1st floor "Yap alley" area, Phase 3 Sci/Tech periodicals area, Sinclair AV Center, Asia and Special Collections reading room areas. This involved working with and developing close cooperation with ITS personnel. Fifty-eight laptop docking points (using new Phase3 "wet" carrels and retrofitting several older carrels) were implemented using the same authentication/authorization system as the wireless access. After extensive research, a proposal to purchase network firewall equipment was generated and forwarded to Library Administration for approval. In the meantime, research continues on methods and programs for intrusion prevention. A major review of the existing Cisco maintenance agreement identified the following: the library's 2924 Catalyst switches had reached the End of Product life and sales and support ended on these switches effective 10/31/01; replacement switches are Catalyst 2950. A proposal to terminate the maintenance agreement on the 2924's and use the funds to purchase new 2950s and begin a 3-year phased upgrading of the Library's switch infrastructure was produced and approved by Library Administration. Six 2950's were purchased to replace older Hamilton switches, and 4 2950's were bought to replace hubs in Sinclair. HSRP (Hot Standby Router Protocol) which allows automatic switchover to a backup router if the tracked interface fails was implemented during the spring of 2003. The Phase III, Route Switch Module (RSM) vlan interfaces were configured to track interface vlan64. If the Phase III UHNet link goes down, routing for all vlans should automatically be switched to the Phase II RSM; similar configurations were put in place for the other vlans on the Phase II RSM. This insures the library network has routing redundancy for all the vlans. Installation of a separate switch that has connections to both 5505s insures redundancy for the Hamilton Library-to-ITS network connection. We began research on videoconferencing standards and the ITV standard used at UH (mpeg2) in preparation for upcoming work on the Yap Multimedia Conference Room videoconferencing project in Hamilton.

Library web page activities

A number of changes were made to library and department web pages. A new feature page, the Library Hall of Fame, was created, a web site to post the agendas and meeting notes of the Electronic Collections Committee (ECC) was created and then expanded and a web calendar for library exhibit information. A web site and pages were designed for the Government Documents department, for the Western Association of Map Libraries (WAML) 2002 conference hosted in Hawaii (http://libweb.hawaii.edu/libdept/WAML/waml_index.html). Consultation concerning web page/site matters took place with Nancy Morris and Bron Solyom for the Charlot Collection and Shiro Saito regarding mounting a Japanese bibliography. Work continued with the Russian Bibliographer, Pat Polansky about scanning of various materials, including the Russian journal *XXth Century* (published 1941-45). Draft pages were created, and are viewable at <http://libweb.hawaii.edu/libdept/russian/XX/index.html>. The web support librarian also worked with the Head of Preservation, Lynn Davis and oriented an LIS intern to work on a digitizing project to scan selected material from the Takazawa Social Movements Collection and to create a preliminary finding aid online database.

In December 2001, the <libweb> email address and "Contact the Library" link on Hamilton Library's homepage was changed to an Online Suggestion box, and the email was directed to a new address "libsugbx@hawaii.edu" monitored by the Public Services Division Head. The "libweb@hawaii.edu" address remained in the footer of main library web pages in a link "Mail the Webmaster: libweb@hawaii.edu". On an average the libweb email account received 57 messages per month between July 2002 and June 2003; the majority of this number was Spam with only about five-ten serious queries a month.

Web Server Statistics

The Hamilton Library web server statistics combine data on use of the Hamilton Library main web pages as well as Hamilton's Digital Archive Collections (Hawaiian Language Newspaper Project, the Hawaii War Records Archive, and the Trust Territories of the Pacific Archives). A few interesting observations can be made from viewing the web server statistics for 2003:

- Consistent with the trend for the last two years, there is an increase in the average successful requests per day as each semester progresses, with the highest use this fiscal year recorded in February 2003.
- There was a 66% increase in the successful daily requests from last year, with a continued drop in the failed daily requests. This is a noteworthy trend because logically there should be an increase in the failed requests just because of the overall increase in use. This indicates that use of the Zenu link checker program and closer attention to QA on pages is having a positive effect.
- The average data transferred has steadily increased over the year, with a monthly average of almost 30 gigabytes. The average monthly transfer amount last year was only 9.5 gigabytes. The highest transfer rate, exceeding 50 gigabytes, was recorded in February.
- The highest-use day is Monday.
- Highest use time of day is at noon, though the general high use time extends from 10:00 AM until 3:00 PM.
- Most months, the highest number of domain hits came from commercial ISPs (especially RoadRunner accounts - hawaii.rr.com). October was the exception, with education domains (*.edu) leading commercial ones by 2%.
- From the digital archive collections, the Trust Territories of the Pacific Archives consistently receive the greater number of requests.

Page hit counters were "rolled over" on several of the library site's main pages on August 1, 2002. The hit counts as of July 31, 2003 were as follows:

- * Main web page (<http://libweb.hawaii.edu/uhmlib/index.htm>) = 942,920 (up from 543,960 last year)
- * Databases & Indexes page (<http://libweb.hawaii.edu/uhmlib/databases/dbinfo.html>) = 169,200 (up from 127,060 last year)
- * Digital Archive Collections main page (<http://libweb.hawaii.edu/>) = 17,878 (down from 20,935 last year - reflecting less project work and perhaps more direct links to specific collections)
- * Staff Only main page (http://libweb.hawaii.edu/uhmlib/staffonly/library_staff_materials.html) = 4821 (up from 2750 last year)

Main pages for the three digital collections developed or expanded with IMLS grant funding had hit counts as follows:

- * Hawaiian Language Newspapers (<http://libweb.hawaii.edu/hnp/newspapers.htm>) = 3,318 (down from 7450 last year - reflecting no further project work - Alu Like/Bishop Museum are now working on a newspaper digitization project.)
- * Hawaii War Record Photographs (http://libweb.hawaii.edu/hwr/HWRD_html/HWRD_welcome.htm) = 3,702 (down from 5,665 last year - reflecting no recent project work)
- * Trust Territory of the Pacific Archives (<http://libweb.hawaii.edu/ttp/tpi.html>) = 10,367 (up from 8,400 last year)

Projects and Highlights:

Data Communication/Network Support

- Initiated contact with ITS and agreed on plan to provide links to two routers, if one fails, the other will be able to take over and maintain connectivity between Hamilton and Keller Hall
- Worked with ITS to implement a redundant connection (alternate route) between Hamilton and Sinclair, ITS still working on putting equipment in place as of July 2003
- Replaced hubs with switches in telecomm closets of Sinclair
- Consolidated switches and wiring in Hamilton for most efficient use of equipment
- Implemented use of CyberGauge software which performs real-time monitoring of vlan interfaces, servers, and other IP devices
- TACACS+ (authentication protocol for Cisco network equipment) implementation on switches and routers
- Attended a 2-day ITS Security Workshop
- Installed SPAN (Switch Port Analyzer) to use for intrusion detection
- Researched, tested and implemented the use of dynamic vlans to restrict network access
- Provided network and server recovery assistance to Library & Information Studies program

Microcomputer Support

- Supported Tech Services server for shared use of Catalogers Desktop, Voyager and other tech services workfiles
- Completed upgrade of all WindowsNT servers to Windows2000
- Supported proxy server for "Express PCs" and remote access to electronic databases
- Acquired and installed approx. 87 new desktop computers
- Configured classroom 156 with WinXP workstations for CJK and Voyager training
- Redistributed PCs to various staff and departments
- Eliminated virtually any staff PC under Pentium450 level, donated Pentium133 and 2xx to public schools
- Installed or updated numerous software programs.
- Assisted with purchases of equipment and software from special funds

- Installed 18 public PCs in the BHSD area running the WindowsXP operating system
- Installed Voyager 2001.1 client software patch (10/02) and SysAdmin client patches (10/02 and 5/03) and Voyager 2001.2.1 (5/03) on all staff PCs; another client software patch is scheduled for mid-August
- Replaced old NT4 (tech services) server and transferred print services from "NT3" to new dual-processor server to improve speed and performance
- Applied group policy functions to all win2000/XP computers in the form of IPsec to filter out windows login and MS-SQL ports outside of the 128.171.0.0 (UH Manoa) IP range to protect against malicious hack and remote drive mapping attempts. (In August the same protection was implemented at the router level to prevent access from outside Hamilton Library.)

Web Support

- Developed and gave instruction in regards to surveys and creation of surveys to several staff members.
- Reviewed and demonstrated on-line tutorial for Meeting Maker software to Admin. staff
- Revised materials and conducted Voyager orientation for ITS.
- Set up Calendars for LIS program and revised instruction pages on Web.)
- Developed several surveys whose objective it was to compile information on use of two major on-line databases. Results used to evaluate the resources for renewal purposes.
- Added input to research project conducted by Susan Johnson. Helped to develop questionnaire for usage analysis.
- Created information pages for LibQual + Survey

Department Head

- Coordinated maintenance and expansion of pages with Web Support Librarian
- Served as member of Department Heads Group and Public Service Heads group (until May 2003), co-chair of the Library Departmental Council (LDC) from January-June 2003, on the Management Structure Adhoc Working Group, and RLG Cultural Materials committee
- Served on the search/selection committee for the Associate University Librarian for Information Technology
- Served as Principal Investigator for SEED-funded digitizing project (Anti-Annexation Documents)
- Served as technical director for HCH-funded digitizing project (Anti-Annexation Documents)
- Served as technical support and consultant for potential and ongoing digitizing projects (Jonathan Morse Emily Dickinson Index, 442nd Archives, United Korean Committee archives, Jean Thoulag, Assistant Director, College of Micronesia-FSM model digitization project, PREL Ethnomathematics digitization grant, etc.)
- Responded to surveys, including: PRDLA Digital Projects Inventory: Online Survey 2003, ARL Survey On Patron Privacy (with Catherine Hamer), ARL SPEC Survey Re Laptops in the Library, ARL SPEC Survey on Library Public Access Workstation Authentication
- Prepared 6 Capital Campaign proposals (see <http://libweb.hawaii.edu/libdept/dns/msdoc/capital.html>)
- Prepared and analyzed results of "Organizational Structure" survey delivered online to library staff
- Participated in the redesign and implementation of the new Electronic Resources gateway
- Attended Internet Librarian 2002 Conference and ARL Management Skills 3-day workshop

Progress Towards 02/03:

Data Communication/Network Support

- *Implement wireless network access in Hamilton Library*
 - * Wireless network access for Hamilton and Sinclair Libraries expanded to include four access points in Hamilton and two access points in Sinclair. Laptop docking points have been provided in various locations within Hamilton, with authentication provided through the wireless infrastructure.
- *Implement intrusion detection system*
 - * Intrusion detection system was deferred until FY04. In the interim, additional security measures have been applied.
- *Continue to monitor and improve network security*
 - * CyberGauge purchased and installed to monitor network bandwidth, traffic, and device status; also configured to send email alerts when key switches, routers, and servers become unavailable. Dynamic vlans implemented on all public computers in Hamilton. Switchports are controlled via hardware addressing so network access cannot be compromised by connecting another computer to the dynamic vlan switch port. Access control lists and TACACS authentication for routers and switches set up to allow direct access only from certain IP ranges and users.
- *Continue to maintain and improve network documentation*
 - * Network diagrams, router and switch scripts, and network procedures completed.
- *Re-allocate IP numbers assigned to computers, servers, switches and routers to improve network efficiency and network traffic management*
 - * Due to potential network congestion problem of mixing data traffic with network control traffic on VLAN1, PCs, servers, and printers on VLAN1 were moved to VLAN107. In addition, a second fiber connection to the UH Campus Network was installed. This connection provides load balancing on the incoming data stream and also serves as a backup outgoing connection

in the event of failure of the primary link.

- *Change desktop PCs to full duplex operation for more efficient network connectivity*
 - * All switchports that were connected to 100mbps capable devices and infrastructure were configured for auto negotiation. This resulted in improved network access as PCs moved from 10mbps/half duplex to 100mbps/full duplex.

Web Support

- *Extend employment period of the temporary Web Support Librarian, seek conversion to permanent status*

Temporary position extended through July 2004
- *Continue transitioning of departmental pages from UHUNIX to Library web server*
 - * Worked with Charlot collection to transfer and redesign web site based on an LIS intern information architecture/usability evaluation.
- *Participate in development of web-based instructional materials*
 - * Assisted with implementation of instruction statistics program (Surveyor) for use in Public Services division
- *Investigate and implement additional usage analysis tools*
 - * No time this past year
- *Investigate and implement a web page archiving program for Special Collections*
 - * Archived numerous Hawaiian Web sites, set up Web page to access these sites on a stand-alone system as pilot for project. After a great deal of research, we were unable to find a product that would perform as we wished. The project is pending while we continue to investigate a suitable program.
- *Research use of XHTML for web page development*
 - * Read articles and listserv regarding this topic

Microcomputer Support

- *Implement "Dual Processing servers" into existing network to consolidate the servers DNS maintains*
 - * Done. Implementation consolidated and decreased the number of servers to stay within 5-server limit for the arcserve backup license, and moved functions onto newer and faster equipment. One server replaced the primary domain controller, the other took over print serving function, and file and resource sharing for tech services. This freed up the former "NT3" to only host BHSD's departmental intranet.
- *Improve and maintain public PC configurations*
 - * Changes in web browser configuration, settings of security programs (Winselect and DeepFreeze) and virus scan software were made to make PCs more stable. Most problems are "fixed" by the automatic reboot feature of DeepFreeze, which restores all the original computer settings. The challenge is balancing the ability to allow patrons to access a huge variety of resources using idiosyncratic interfaces while protecting the equipment and the network from accidental or malicious damage. Newer model equipment replaced oldest PCs wherever possible.
- *Improve server administration*
 - * Done (and ongoing). Consolidating servers and use of group policy improves server administration.
- *Continue to monitor and improve server and desktop security*
 - * Done (and ongoing). Removing old versions of Netscape and installing PWB (kiosk-type shell over Internet Explorer 5.x) improved desktop security on public PCs
- *Continue to maintain and improve microcomputer support documentation*
 - * An internal DNS BBS was created to consolidate instructions, documentation and troubleshooting hints.
- *Maintain student assistant support staff*
 - * Budget remained stable.
- *Continue digital resources development; support existing digital resources and initiatives*
 - * Work continued on Anti-Annexation Documents scanning, participation in RLG Cultural Material exchanges.

Goals for 2003/2004:

- Work with new AUL for IT to usher in projects or services that meet the updated Library and IT vision and strategic plan

*** Data Communication/Network Support**

- Implement network firewall and network redundancy
- Reconfigure network to provide for trusted, untrusted, and DMZ zones
- Explore enhanced network services such as IP video, audio/video streaming, and media on demand.
- Maintain network accessibility and security through end-of-life component replacements and IOS upgrades
- Investigate/implement automatic capture of network usage information
- Investigate options for improving and/or upgrading of SL wiring infrastructure

* Microcomputer Support

- Improve the searching behavior of electronic resources gateway
- Index (full-text) DNS procedures currently stored as word documents into a web searchable format, possibly using the Microsoft indexing service and visual studio.net
- Test backup/disaster recover on servers
- Investigate/implement automatic software inventory system
- Investigate/implement online, centralized request/resolution tracking system
- Investigate/implement new methods to increase public workstation security without degrading user experience
- Stay current with all server software patches

Web Support

- Extend employment period of the temporary Web Support Librarian, seek conversion of position to permanent status
- Continue transitioning of departmental pages from UHUNIX to Library web server
- Work with Server support IT Specialist to implement more database-driven web services for staff
- Investigate and implement additional usage analysis tools
- Research and apply additional World Wide Web Consortium WAI guidelines to main library pages
- Continue research on XHTML, explore taking coursework

Requests by Department

Requests by Type

[1] Includes Ref Desks but not Goprint paystations or Circulation workstations

[2] Sinclair has a Macintosh-based web server