The mission of Desktop Network Services (DNS) parallels that of the Library Information Technology Division, which is to take a leadership role in planning and implementing information technology that facilitates the realization of UH Manoa Library goals. The work of DNS primarily supports UH Manoa Library faculty and staff, but it serves campus students and faculty through the public computing resources and Web services that it maintains.

The DNS department saw an increase in workload this year over last. Its “micro” email support operation completed 1,275 assistance activities compared to 1,270 last year. Although the numbers are essentially the same, the department had fewer staff resources compared with last year as most of the department head’s time was spent in activities as interim head of the Library Information Technology Division.

The daily assistance activities performed by the department that are quantified include troubleshooting, installing, moving and maintaining hardware, networks and software. Based on a sample, assistance activities by department served were:

<table>
<thead>
<tr>
<th>Department</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>BHSD/CIS</td>
<td>27%</td>
</tr>
<tr>
<td>Systems</td>
<td>10%</td>
</tr>
<tr>
<td>Access Services</td>
<td>9%</td>
</tr>
<tr>
<td>Administration</td>
<td>8%</td>
</tr>
<tr>
<td>Asia Collection</td>
<td>8%</td>
</tr>
<tr>
<td>Science &amp; Technology</td>
<td>8%</td>
</tr>
<tr>
<td>Cataloging</td>
<td>5%</td>
</tr>
<tr>
<td>Government Documents</td>
<td>4%</td>
</tr>
<tr>
<td>Sinclair Library</td>
<td>4%</td>
</tr>
<tr>
<td>Special Collections</td>
<td>4%</td>
</tr>
<tr>
<td>Serials</td>
<td>3%</td>
</tr>
<tr>
<td>Fiscal</td>
<td>3%</td>
</tr>
<tr>
<td>Classrooms</td>
<td>2%</td>
</tr>
<tr>
<td>Acquisitions</td>
<td>2%</td>
</tr>
<tr>
<td>Map Collection</td>
<td>1%</td>
</tr>
<tr>
<td>Personnel</td>
<td>1%</td>
</tr>
<tr>
<td>Preservation</td>
<td>1%</td>
</tr>
</tbody>
</table>

**Major Functions**

The major functions performed by the department were to:

- Coordinate information technology projects within departmental scope
- Consult with UH Manoa Library staff to determine computing needs
- Manage UH Manoa Library desktop computers, servers and software
Design and manage UH Manoa Library data communications networks and UHCARL site connections to the Tandem computer
- Manage UH Manoa Library's main Web pages
- Train UH Manoa Library staff to use hardware and software

Resources

The department functioned with the equivalent of about 4.75 FTE staff:

- 0.25 FTE Librarian IV (Wil Frost, Head; 0.75 FTE devoted to Division duties),
- ETII (Steven Ledward, Library Network Manager),
- ETI (Randall Takemoto, Technical Support Manager),
- 2.5 FTE general and special fund student help (estimated)

The department’s operating budget was $56,332 compared with $43,388 last year:

- supplies and software, $39,678;
- equipment, $16,654.

Accomplishments

The Technical Support Manager, Randall Takemoto and student help responded to 810 staff requests to troubleshoot network, equipment and software problems; performed 297 network, equipment and software installations and equipment moves; performed 119 maintenance operations (weekly or monthly routines) and handled 45 special projects.

<table>
<thead>
<tr>
<th></th>
<th>1997/98</th>
<th>1996/97</th>
</tr>
</thead>
<tbody>
<tr>
<td>Troubleshooting Requests</td>
<td>810</td>
<td>769</td>
</tr>
<tr>
<td>Installation and moves</td>
<td>297</td>
<td>368</td>
</tr>
<tr>
<td>Maintenance operations</td>
<td>119</td>
<td>115</td>
</tr>
<tr>
<td>Special projects</td>
<td>45</td>
<td>not available</td>
</tr>
</tbody>
</table>

The Library Network Manager, Steven Ledward worked with ITS to try to resolve UHCARL site Tandem connectivity problems; researched alternatives and coordinated meetings with vendors for a network upgrade in Hamilton and Sinclair Libraries; consulted with Public Services and Collection Services departments on software and networking related to CARL, OCLC, RLIN, interlibrary loan and other operations; participated on the System Technology and Operation Subcommittee of the Review of Library Systems (ROLS) project; consulted on Hamilton Library Phase III data communications and electrical planning and worked on similar projects.

The Department Head, Wil Frost maintained the Library's main Web pages, consulted with library staff on such topics as software and equipment needs, training, digitizing, Dialog@CARL, Western Governor’s University RFP for library services, Hamilton Library Phase III planning, Government Documents Collection Web pages and CD-ROM facilities; assisted in setting up demonstrations or workshops by Community of Science, Dialog@CARL and Society of American Archivist's Archives Workshop and successfully applied for a small grant from the Women's Campus Club to acquire a desktop computer for public Internet access in Hamilton Library.

As interim division head, the department head co-organized the annual UHCARL Library Network conference, represented UH at the annual CARL Users Group Meeting (Denver), conducted an evaluation of CARLWEB version 2.0 under an agreement with CARL Corporation, compiled reports on technology needs for UH administration and the WASC accreditation self-study and coordinated the Review of Library Systems (ROLS) project vendor demonstrations.

Highlights
The staff and students of DNS accomplished a great deal in 1997/98. The following are some of the major activities.

- Acquired and installed 29 new desktop computers for:
  - Access Services - Circulation, ESP, ILL (4),
  - BHSD - Staff offices (3) and intranet server (1),
  - Cataloging - Head (1),
  - CIS Information Desk (3),
  - Collection Services Head (1),
  - Fiscal (1),
  - Personnel (1),
  - Public ADA access (1),
  - Science and Technology (2),
  - Sinclair - Medianet, Business Desk (5),
  - Special Collections - Archives (1),
  - Systems staff (5),
- Began upgrade of desktop computers to current operating systems (Windows 95 and Mac OS 8)
- Upgraded all Pentium and 486 PCs to 32MB RAM memory
- Replaced all 386 PCs in Collection Services with 486 PCs
- Upgraded Government Documents Collection public CD-ROM PCs to Windows 95; upgraded CD-ROM changers; reconfigured menus and assignment of CDs to changers; enabled Internet access
- Completed major move of desktop computers in rearrangement of BHSD offices
- Completed major move of desktop computers and related equipment in rearrangement of Cataloging department offices
- Redistributed older desktop computers to staff in Asia (2), Cataloging (1), Government Documents (1), Preservation (1), Sinclair Library - Reference (1)
- Redistributed Wyse terminals within Sinclair Library and added Wyse terminals in AVC (2)
- Set up desktop computer for public CD-ROM access in BHSD/CIS (College Source)
- Rearranged CIS Information Desk PCs and printer
- Installed new printers in Access Services (1), BHSD/CIS (1 - College Source CD), Cataloging (2), DNS (1), ILL (1), Science and Technology (1 - public), Sinclair (1 - third floor), Special Collections - Archives (1)
- Installed more than 50 software programs for staff or public use (see Appendix B)
- Coordinated set up and testing of FAX machine demonstrations for Administration
- Researched and set up Windows NT intranet server and Web software for BHSD
- Installed scanners in Access Services (1), Science Technology (2), HL 401 shared (1)
- Installed new barcode reading equipment in Access Services - ESP (2), Acquisitions (1), Cataloging - CSS (1), Government Documents Collection (1), Serials (1), Sinclair Library (5), Special Collections (1), Systems (1)
- Set up equipment in Archives office in Jefferson Hall
- Coordinated the Review of Library Systems (ROLS) project
- Coordinated the CARLWEB 2.0 evaluation under contract with CARL Corporation
- Consulted on Hamilton Library Phase III data communications and electrical planning

Observations

As in previous years, DNS attempted to respond thoughtfully to requests for consultation and quickly to calls for help. The staff of DNS spent considerable time researching computing problems that arose during the year in an attempt to find reliable solutions that addressed computing needs. An area where we might improve, based on staff feedback, is in providing staff orientation before we implement certain types of solutions, such as operating system and application software upgrades. To improve significantly in this area will require more staff, but we will study our options.

There continues to be a great need to upgrade public and staff computing resources. While the number of computers available for public Internet access increased by four machines last year, the library needs more. Such equipment is expected as an outcome of the project to acquire a new library management system (LMS). However, it would be helpful to students to add at least three public Internet computers on the first floor of Hamilton Library, one on the third floor, one on the fifth floor, Chinese and Japanese language-specific computers on the fourth floor and one computer in Sinclair Library. In addition, we need to improve public CD-ROM database access in Government...
Some librarians still do not have computers on their desks and many are using old equipment that is not only slow but incapable of running current application and Internet software. Most staff in Collection Services are still using dumb terminals. As we enter 1998/99, the need for investment in staff computing resources in Public Services is greatest in Special Collections, Asia Collection and Government Documents/Maps. Sinclair Library has expressed interest in creating a departmental intranet, similar to that in BHSD. Given the reorganization of Sinclair, an intranet would make it easier for Sinclair staff to access files as they move from work area to work area during the course of the day. In Collection Services, the need is greatest in the Cataloging Support Services unit, although Acquisitions and Serials could use additional computers to improve work flow. Desktop computers and servers for staff are expected as an outcome of the project to acquire a new LMS.

The acquisition of an LMS in the next one to two years will have a significant impact on the DNS department. Such a system will at least double the number of desktop computers in Hamilton and Sinclair Libraries, which will require more staff to maintain them. A debit card public printing system to be used with the LMS gateway to information will add complexity to the library network as well. It is also desirable to install a library web server to provide access to library Web pages and digitized images of unique resources in our special collections. An upgrade of the library network infrastructure will be required to support these changes. Such an upgrade, which will be designed for interconnection with the UH Manoa campus network and Internet2, should be started in 1998/99. These are all projects associated with the department’s goals for this next year.

Goals for 1998/99

- Provide excellent staff support
- Acquire and maintain up-to-date software for use by the public and staff
- Design and maintain a reliable data communications network within the UH Manoa Library and connections from the UHCARL sites to the Tandem computer
  - Upgrade UH Manoa Library network infrastructure to support library web and image servers and replacement of dumb terminals with intelligent workstations and servers;
  - Resolve dropping of connections to the Tandem from UHCARL sites
- Acquire and maintain up-to-date desktop, server and related computer hardware
  - Replace dumb terminals with intelligent workstations and servers
  - Acquire a cost recovery public printing system for public workstations
  - Expand network services (printing, application serving, faxing, intranets)
- Provide quality training in a timely manner
- Provide quality Web services
- Insure appropriate departmental staffing to accomplish goals
  - Regain a full-time head of Desktop Network Services
  - Hire additional staff to support anticipated increases in number of workstations
  - Assign duties to provide backup for departmental staff functions

Appendix A - Statistics

Operations

Troubleshooting requests: 810
Hardware and software installations: 297
Maintenance operations: 119
Data jack requests: 4
Software titles installed (approx.): * 50
*Excludes public CD-ROM titles

Major New Hardware Added
Desktop computers: 29
Barcode readers: 13
Printers: 9
Scanners: 4

Selected Equipment as of June 30, 1998

Public dumb terminals: 81
Public desktop computers: 82
Staff dumb terminals: 200
Staff desktop computers: 206
Active library network connections: 230

Appendix B - Major Software Titles Installed

Adobe Acrobat Reader
Adobe Illustrator
Adobe Pagemaker
Adobe Photoshop
Apple PhotoFlash
Apple QuickTake
Author/Editor
BigByte
Calipr
Carlterm
Carlview
Chinese Gateway (demo)
Claris Home Page
ClarisWorks
CLIO
Endnote
Korean Windows 95
Filemaker Pro
Hawaiian fonts
Host Explorer
HyperCard Player
IIS (WinNT)
Index Server for IIS (WinNT)
ISIS (UH student information system)
Mac OS 8
McAfee Viruscan
Meeting Maker
Microsoft Access
Microsoft Excel
Microsoft FoxPro
Microsoft FrontPage
Microsoft Office 97 for Windows
Microsoft Office 98 for Mac
Microsoft Powerpoint
Microsoft Windows 95
Microsoft Word
Netscape Communicator
Netscape Navigator
Network Monitor (Windows NT)
NJ Star
OCLC Passport for Windows
Outside View Lite
Parawin Cyrillic font software
ProCite
Quick View
QuickBooks
Term32
Unionway Upgrade (trial)
Visio Pro