



**Library Computing Services
Annual Report
July 1 - December 31, 1998**

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<http://www.lias.psu.edu/lcsdesc/report98.htm> or <http://www.lias.psu.edu/lcsdesc/report98.pdf>

Computer & Information Systems
Library Computing Services
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This report describes the activities and ongoing projects in Library Computing Services (LCS) for the six-month period from July 1, to December 31, 1998. Of major significance during this period was the conversion of the command-line, character-based LIAS to a fully webbed version. Although LIAS can still be accessed via telnet, LIAS on the Web provides the user with a more intuitive interface, and makes previously little-known features of LIAS highly visible.

Other significant projects during the reporting period include the implementation of networked printing from Libraries workstations and continued support of connectivity for all staff during relocation from Pattee to Paterno Library (and back again) during construction.

LIAS on the Web

LIAS on the Web was officially released on September 17th, 1998 by Penn State University President Graham Spanier and the Nittany Lion. Gary Augustson, Vice Provost for Information Technology and Nancy Eaton, Dean of University Libraries also participated in the festivities which showcased the new multimedia capabilities of LIAS.



Figure 1. September 17, 1998. The Nittany Lion Conducts the First Search in the New LIAS on the Web. (Courtesy of University Libraries Public Information Office)

The migration of the command-line, character-based LIAS to a fully webbed version consisted of two major parts. The first was the creation of a web-based search engine that searches and displays the locally loaded LIAS databases, including The CAT (online catalog), Periodical Abstracts, etc. The web search engine allows LIAS to take advantage of the power of the web through links to full text, images, sound, etc. As a result, a database like The CAT is no longer a static pointing tool, but has the ability to take the user from a description of the item to the item itself via full text, another Web site, a sound recording, etc.

The second part of the Web LIAS development effort was the creation of a web interface whose purpose was to repackage and deliver a wide range of databases, services, instructional components and self-service components in an easy-to-find format. LCS and University Libraries staff worked jointly in developing the interface, gathering user feedback from preview pages and focus groups, and making suggested enhancements.

Continued Enhancements. After the initial release of LIAS on the Web in September, LCS and the University Libraries appointed a SWAT team to deal with post-release issues, suggest improvements, and in general, do a shake-down of the product. As a result of their efforts, LIAS on the Web underwent a major face-lift in December, 1998. The new, improved interface, depicted in Figure 2, eliminates frames, provides more explanatory text, and utilizes colored tabs and sub-tabs to assist in navigation. More changes will follow in Spring 1999 with the addition of the ability to limit search results by date of publication, language, format, and date added to the database, a detailed search screen with drop-down menus for selecting Boolean search operators, a redesigned basic Search page, etc.

LCS and the Libraries SWAT Team (recently renamed the LIAS Enhancement Team) will continue to introduce new features and services based on direct feedback from users, usage statistics, technological advancements, etc. LCS also hopes to gain valuable input from the LIAS Faculty Advisory Committee which was recently convened by the Vice Provost for Information Technology and consists of 10 faculty members from various curriculums. New LIAS on the Web features that are under consideration include:

- The ability to restrict searches to specified criteria *before* a search is issued.
- A customizable interface, with user-defined displays and sort order.
- Individual user profiles for setting defaults, creating scripted searches, etc.
- The ability to save search results and re-establish them during a later session.
- Marking titles for selective printing, downloading, emailing and bibliography creation.
- Simultaneous searching across multiple databases.

Telnet vs. Web. Telnet LIAS remains available as a text-only version to comply with ADA regulations and to accommodate those users who prefer the old, familiar version. It also meets the needs of those users who need to use the features that have not yet been implemented in web LIAS, for example, the ability to limit searches.

As users become more familiar with web LIAS, the dependence on the old, telnet LIAS is decreasing. The majority of telnet usage continues to come from Libraries staff whose work functions, for example, cataloging, acquisitions, etc. must still be done in the character-based LIAS. However, it appears that the public has readily accepted LIAS on the Web. Anecdotal evidence shows 1.5 telnet processes for every 1 web process in September, 1998 with the ratio changing to 1 telnet process for every 1.5 web processes by December, 1998.

Fast Track to All Resources. LCS and the Libraries to expand the number of database and other resources available through LIAS, and at year's end, 130 resources were accessible on the Fast Track. This is more than twice the number available at the end of 1997, and more than four times the number available in 1996!

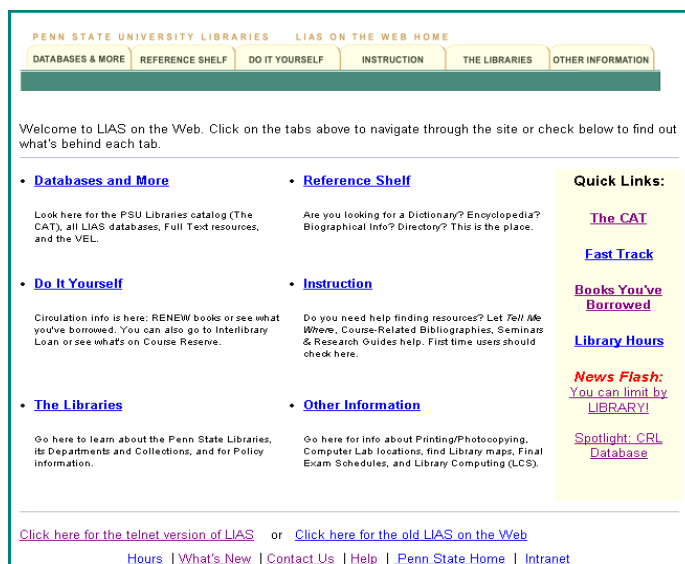


Figure 2. The New LIAS on the Web Interface.

In addition to providing more resources, the LIAS Fast Track to All Resources, which is the alphabetical list containing every database accessible through LIAS, will continue to be enhanced for easier and more efficient navigation. After all, it is a misnomer to call a list of 130 items a *fast* track. Among enhancements that will be implemented in early 1999 is the ability to show remote users a tailored Fast Track that displays only the databases that are accessible to them based on their Internet Service Provider. For example, remote users connecting via the CAC server, which has a PSU IP address, will see a different list than users connecting via AOL.

New additions to the LIAS Fast Track during this period include:

- *America: History and Life*
- *Applied Science and Technology Abstracts*
- *Art Abstracts*
- *Arts & Humanities* (Libraries workstations at University Park campus only)
- *ArticleFirst*.
- *Bibliography of Asian Studies*
- *Biological and Agricultural Index*
- *Book Review Digest*
- *CASSI* (Libraries workstations at University Park campus only)
- *Center for Research Libraries database*
- *Centre Daily Times Index*
- *ContentsFirst* (journal tables of contents)
- *Daily Collegian Index*
- *Education Abstracts*
- *FactSearch* (current statistics)
- *FirstSearch*
- *General Science Abstracts*
- *GEOBASE*
- *GPO Monthly Catalog*
- *Historical Abstracts*
- *Humanities Abstracts*
- *Index to Legal Periodicals & Books*
- *International Index to Music Periodicals*
- *MLA Bibliography*
- *PALCI* (PA Academic Library Connection Initiative)
- *Peterson's Undergrad Search*
- *Peterson's GradSearch*
- *PapersFirst* (conference papers)
- *Pollution Abstracts*
- *ProceedingsFirst* (conference papers)
- *RILM Abstracts* (musical literature)
- *Social Science Citation Index* (Libraries workstations at University Park campus only)
- *Science Citation Index* (Libraries workstations at University Park campus only)
- *Social Science Abstracts*
- *Sociological Abstracts*
- *Water Resources Abstracts*
- *World Almanac*
- *World Cat*

Project Summary

Information Access

CD ROM Access. In early August 1998, the CD-ROM databases were moved to a Meridian server and added to LIAS on the Web, providing network access of CDs at any Libraries workstation at University Park campus. Previously, the databases were available only on dedicated workstations and from selected staff workstations. The ultimate goal of the project is to enable CD-ROM databases to be accessed from network workstations throughout the entire Penn State network, including all college/campus locations. Due to licensing restrictions from some vendors, not all CD databases could be added to the network. Those that are accessible via LIAS on the Web are CASSI, Social Science Citation Index, Science Citation Index, and Arts & Humanities Index.

PALCI (Pennsylvania Academic Library Connection Initiative). The Penn State University Libraries is a member of the Pennsylvania Academic Libraries Connection Initiative (PALCI), an organization of private and public academic libraries that was formed in 1996 to foster cooperation among academic libraries in Pennsylvania. The first major PALCI initiative was to create a virtual online union catalog using a Web-based interface to provide Z39.50 searches across multiple vendor systems. PALCI has contracted with CPS for its Universal Resource Sharing Application (URSA) software to implement the virtual catalog. Searching in the virtual catalog is done via Z39.50; everything else (patron validation, personal reserves, building and deleting temporary bibliographic records in the institution's database, check in and check out of materials, etc.) is done via terminal emulation.

LCS assisted the University Libraries in this project by providing support to CPS in coding URSA to access The CAT and circulation databases, create temporary bibliography and item records, and verify patron status. The virtual catalog and requesting/borrowing functions of PALCI are currently undergoing testing by Lafayette

College, Lehigh University, Penn State and the University of Pittsburgh. The PALCI database was added to the Fast Track in early September, but is still considered to be in test.

Electronic Theses and Dissertations. A committee made up of Library Computing Services (LCS), University Libraries, the Graduate School, the Graduate Student Association, the University Press and the Center for Academic Computing (CAC) has developed a plan for the submission of electronic theses and dissertations at Penn State. The goal of the project is to make doctoral dissertations and master's theses accessible via the World Wide Web. Electronic theses and dissertations will enable students to enhance these documents with multimedia features such as video and computer images, and will increase the visibility of student research efforts at the University. LCS plans to acquire the equipment and software necessary for the new program during Spring, 1999.

DCE Authentication in LIAS. During Summer, 1998, LCS implemented the DCE inter-cell model to authenticate Penn State students, faculty and staff via their PSU Access Account IDs and passwords. Many of the web databases found on the LIAS Fast Track are licensed to Penn State for use only by current students, faculty, and staff. Implementation of DCE authentication enables remote users, i.e., users accessing the LIAS web databases from their apartments or homes away from Penn State, to authenticate as valid Penn Staters and access the licensed databases remotely. However, some authentication in LIAS, for example, access to patron circulation information and the locally loaded LIAS databases, continues to be done via the Penn State nine-digit ID number and last name. LCS will enhance its implementation of DCE authentication during Spring, 1999 so that all authentication required for LIAS on the Web services is via the Access ID and password. Once DCE authentication is implemented in full, users will also be able to update their street and email addresses online via the Web, eliminating the need for circulation staff to update this data for the patron.

Digital Library Initiatives. LCS and the University Libraries are working cooperatively with Berkeley, Cornell, New York Public, and Stanford on a NEH grant to provide a digital library in the subject of Early American Transportation as part of Making of America II project. In addition, LCS assisted the Libraries' Music librarian in providing access to digitized music collections using Real Audio. The Digital Music pilot project aims to provide access to electronic reserves of required course listening for music classes. LCS is also participating in a project to replace the sixty dial-access telephone lines at twelve locations around campus by providing access to audio recordings of classes through the Web using RealAudio.

Circulation Control

Personal Reserve Enhancements. Patrons have long been able to recall materials charged to other patrons. However, with the implementation of automated circulation at all college/campus libraries in 1997, patrons were able to place reserves only for items at their "home" campus, and had to ask staff to request items from other PSU campuses. During Fall 1998, LCS began to upgrade the personal reserve process to enable patrons to reserve materials from any PSU campus library without staff intervention. In addition, the process was enhanced to recall/locate a single item rather than all items associated with a call number as was the current practice. Testing of the upgrade was completed during December, 1998. LCS plans to release the enhancement during February, 1999. [*Update: The revised personal reserve process was released on February 22, 1999.*]

Self-Charge Workstations. The University Libraries have purchased 3M Check-Out workstations which will offer patrons a self-charge option that automatically desensitizes materials for passing through security as it charges out materials and produces due-date slip. This will eliminate long waits at the circulation desks. During Summer 1998 LCS installed and began testing a workstation to ensure that it will work in the LIAS circulation environment.

Direct Posting of Fees. A year ago, LCS worked with the Office of Administrative Systems to directly post library fees to the general deposit accounts of students at the end of each semester. However, Libraries' staff continued to make manual adjustments for any fees that were rejected by the Bursar. During the past year, LIAS end of semester processing was modified to automate the making of these adjustments. The resulting reports show the amount of fees posted at the bursar's office for each campus, the patron and dollar amount of the bursar adjustment, the dollar amount for rejected patrons, and dollar amount of overcharges after the bursar adjustments are completed.

Library Operations

PromptCat. PromptCat is a service offered by OCLC that delivers copy cataloging via FTP on a weekly basis for non-serial titles received on a library's approval plan. The University Libraries plans to implement this service in order to eliminate the manual step of adding catalog records of the items received via the Libraries main approval plan program. LCS has completed the analysis and development, and expects to have the vendor files, supplied through OCLC's PromptCat service, loaded in early 1999. This "instant cataloging" will alleviate the need for staff to prepare and input the data and will reduce the number of duplicate items requested for order since staff will more quickly find approval plan records in The CAT.

Non-Bibliographic Format. LCS has developed a new format called "Non-Bib" to support speedy input and control by the Acquisitions Department of non-bibliographic records for Memberships, Standing Orders, and Business Records into The CAT database. Using this format, staff can input/edit/delete LIAS records, and use special Form Codes and Input Prompts to add them to The CAT. The LIBRARY command in the telnet CAT was also enhanced to permit selection of "nonbib" since these behind-the-scenes records are not ordinarily visible in The CAT.

Help Desk. In early 1998, LCS and the University Libraries implemented a consolidated, web-based help desk. The web Help Desk eliminated the need for staff to determine if a help request should be routed to LCS or the Libraries, and allowed more efficient and timely communication of problem resolution. 1741 trouble calls were reported via the Help Desk between July and December 1998. Of these, 932 were resolved by LCS staff, with the rest were handled by University Libraries I-Tech staff.

Hardware and Network Projects

Network Printing. Networked printing of laser-quality pages from Libraries workstations was implemented in early November, 1998. After a successful pilot in the Gateway and Life Sciences libraries in Pattee Library, network printers were installed in the Architecture, Arts & Humanities, Earth & Mineral Sciences, Education, Engineering, Math, Pollock Laptop, and Social Sciences Libraries, and in the Reserves/Microforms and Periodicals rooms at University Park. Letter-size laser copies are now eight cents a single-sided sheet and twelve cents a double-sided sheet. Usage of the networked printing during Fall 1998 was fairly low which may be due, at least in part, to a reluctance for users to pay for services that were previously available at no charge.

Library Construction. LCS operations staff was heavily involved in providing ongoing connectivity for Libraries' faculty and staff as they relocated to temporary work areas while Paterno Library is being constructed and Pattee Library is renovated. In addition, LCS systems engineering staff continued to spend significant time working with the Libraries to ensure adequate data connections and support for future networking, telecommunications, automation, etc. needs in both Paterno and Pattee Libraries.

Pollock Laptop Library. The University Libraries Undergraduate Library on Pollock Road has been reconfigured into a "laptop" library open 24 hours, 7 days a week. Students can check out a laptop

computer, bring their own, or use the space to study alone or in groups. The laptop computers enable students to connect to the Libraries' electronic resources via LIAS on the Web, and also provide PowerPoint, word processing, spreadsheet, E-mail, and other software. LCS designed and installed the network to support the use of the laptops, and also set up all authentication on the laptops which can be checked out by anyone with a valid PSU student ID.

PC Upgrades. LCS staff continued to work with the Libraries I-Tech staff to install new Dell computers running on the Windows 95 platform in staff areas during the reporting period. By the end of August, 1998, 350 staff workstations had been installed. In addition, LCS installed additional public LIAS workstations at University Park library locations, and will do the same at the other campus libraries during Spring 1999.

LIAS Evaluation

The University Libraries has appointed a LIAS Evaluation Steering Committee and several Working groups which will compare LIAS to vendor supplied integrated library systems in order to identify the system that can best support the Libraries needs. The overall objective of the evaluation is "to be certain that University Libraries' staff have full functionality for internal efficiencies compared to other research libraries, and to utilize LCS and Libraries' staff to develop cutting-edge information technology not yet available in the marketplace in order that the University Libraries and LCS can be seen as leaders in the field and on campus." Specifically, the Libraries will look at the portion of LIAS that runs the University Libraries' systems, e.g., cataloging, acquisitions, online catalog, serials control, interlibrary loan, accounting, etc., and not the LIAS on the Web front-end that makes the Libraries resources available to the public.

Eric Ferrin, Director of LCS, is a member of the Steering Committee which is overseeing the entire process, while several other LCS staff are participating in the various working groups preparing the specifications. A RFP will be issued in early March. LCS will not be treated as a vendor and will not respond to the RFP, but will prepare responses regarding LIAS for evaluative purposes. There are four potential outcomes to the evaluation: replace LIAS with a system from an outside vendor, replace LIAS with a system that is part vendor and part locally developed, remain with a locally developed system with some changes to the current LIAS system, and none of the above, implying a revisit of the project in two or three years to reassess the situation.

Year 2000

LCS is in the process of evaluating hardware and software to insure Y2K compatibility. While most of the LIAS software will not have any problems with the four digit year, some modules were modified to handle the display and input of four digits rather than two for the year. The majority of these changes were completed during Fall 1998 to ensure correct processing of dated information in the circulation and acquisitions components of LIAS during 1999. LCS will evaluate all the hardware and operating, systems, networking and PC software to ensure Y2K compatibility, and upgrade where necessary.

Staff Development

Eric Ferrin CIC CIO Tech Forum, Champaign, IL (9/15 - 9/16)
Compaq, Houston, TX (9/23 - 9/24)
DECUS, Los Angeles, CA (10/05 - 10/08)
EDUCOM, Orlando, FL (10/13 - 10/16)
CIC Library Automation Directors, Chicago, IL (11/12 - 11/13)
Comdex, Las Vegas, NV (11/16 - 11/17)
IPIG, Lacey, WA (12/03 - 12/04)
CNI, Seattle, WA (12/07)
CAUSE, Seattle, WA (12/08 - 12/11)

Sylvia Carson Metadata Conference, Champaign, IL (11/14 - 11/17)

Lynn Garrison Women as Leaders in a Changing World at PSU (11/03, 11/10, 11/17)

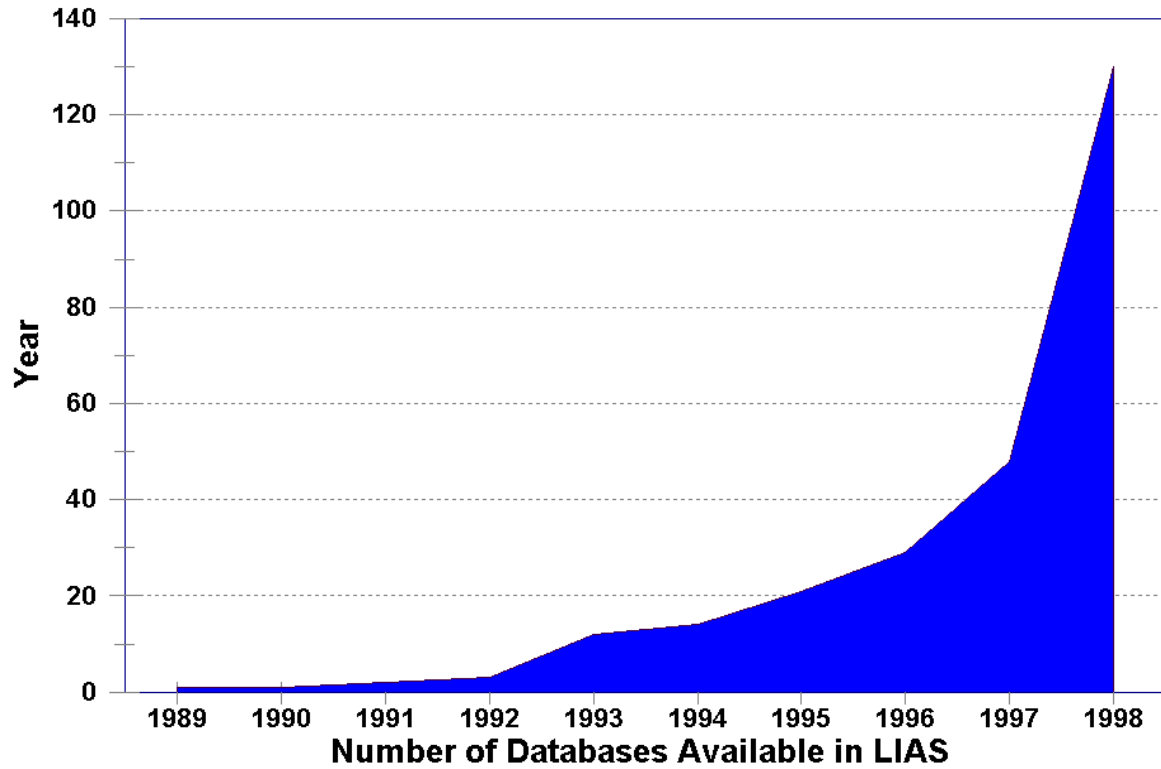
Lance Wilkinson Novell TTP, Salt Lake City (7/13 - 7/17)
DECUS, Los Angeles, CA (10/05 - 10/08)

Eric Ferrin, Tun Chin, Kurt Baker, Sandy Ball, Mike Bender, Sylvia Carson, Todd Douty, Dace Freivalds, Lynn Garrison, Patty Goodwin, Janis Mathewson, and Jack Orlandi

Faculty Forum, Robert Heterick, the former president and CEO of EDUCOM, on Institutional Transformation through Information Technology, Nittany Lion Inn (11/10)

Appendix A. Database Timeline

LIAS Database Timeline 1989 - 1998

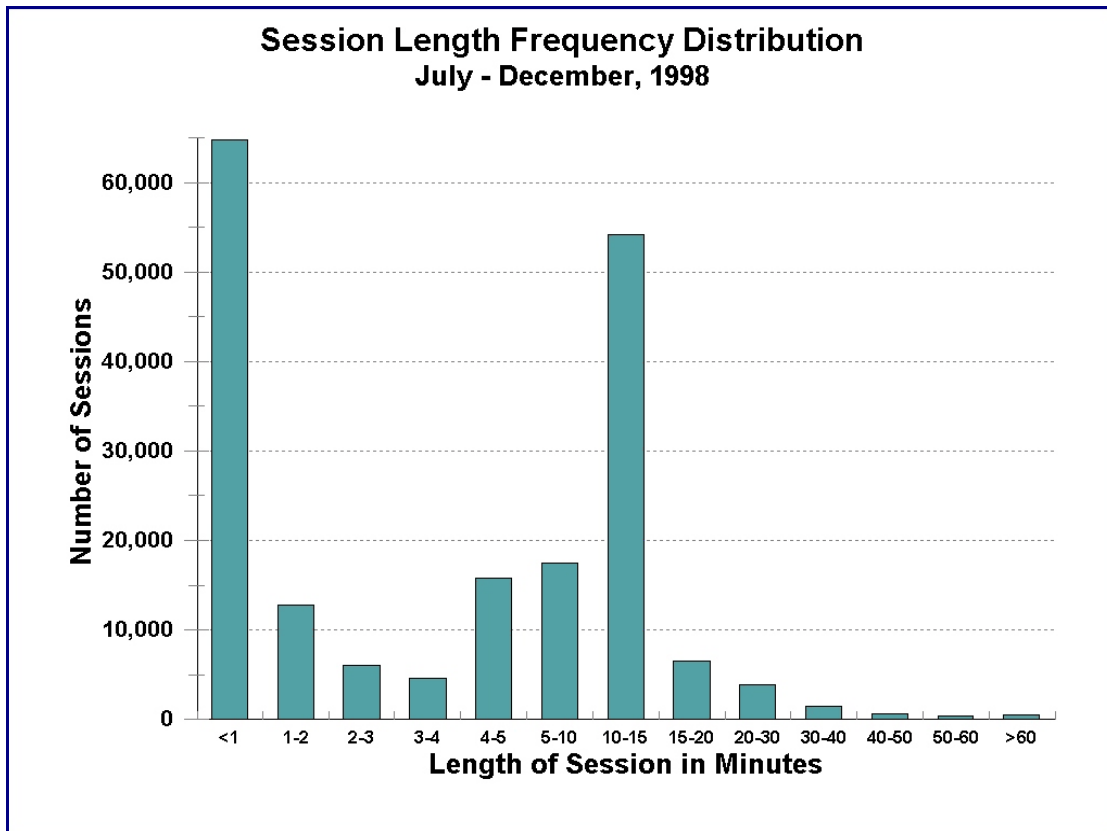


Appendix B. LIAS Z39.50 Server Statistics

LIAS Z39.50 Server Statistics Summary July - December, 1998	
Number of Sessions	196,452
Number of Clients	7,487
Maximum Session Length	253 minutes
Minimum Session Length	<1 minute
Average Session Length	6 minutes

Who Is Using the LIAS Z39.50 Server? Top 20 Clients Based on Frequency of Use, July - December, 1998		
No. of Sessions	Client Name	Comments
20177	DIOGENES.LCSPUB.PSU.EDU	LIAS Z39.50 client - CIC VEL
9947	LIBDBS.DOIT.WISC.EDU	University of Wisconsin - CIC VEL
9423	USTLIB.UST.HK	Hong King
8190	LIBRARY.HKU.HK	Hong Kong
7762	TIGGER.CC.UIC.EDU	University of Illinois at Chicago - CIC VEL
4595	MIMI.CC.LEHIGH.EDU	PALCI
4446	CARAVAN.LIB.UIOWA.EDU	University of Iowa - CIC VEL
3927	38.218.212.159	
3925	HAMLET.LIB.UMN.EDU	University of Minnesota - CIC VEL
3567	STELLA.UGL.LIB.UMICH.EDU	University of Michigan - CIC VEL
3536	HKBULIB.HKBU.EDU.HK	Hong Kong (again!)
3351	R37.LOC.GOV	Library of Congress
2595	PCLIB17.BCC.BILKENT.EDU.TR	Turkey
2535	UGLY-UNDER-2.DIAL.IDIOM.COM	
2359	PCLIB150.BCC.BILKENT.EDU.TR	Turkey
2144	LINCOLN.LIBRARY.UIUC.EDU	University of Illinois at Urbana-Champaign - CIC VEL
1997	UGLY-UNDER-1.DIAL.IDIOM.COM	
1968	147.52.249.42	
1926	WWW.BIBLINAT.GOUV.QC.CA	Bibliotheque nationale du Quebec, Canada
1897	TURING.LIBRARY.NWU.EDU	Northwestern University - CIC VEL

Length of LIAS Z39.50 Server Sessions, July - December, 1998



Note: The LIAS Z39.50 server times out after 10 minutes of inactivity.

Appendix C. LIAS Availability

System Availability Based on University Libraries Hours, January - December, 1998¹													
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	Totals
DOWNTIME (In Hours)													
Air Conditioning	0	0	0	0	0	0	0	0	0	0	0	0	0
Electrical													
Scheduled Outages	0	0	0	0	0	0	0	0	0	0	0	0	0
Unscheduled Outages	0	0	0	0	0	0	0	0	0	0	0	0	0
LIAS Recovery	0	0	0	0	0	0	0	0	0	0	0	0	0
Hardware													
CPU Failure	0	0	0	0	0	0	0	0	0	0	0	0	0
MCU Failure	0	0	0	0	0	0	0	0	0	0	0	0	0
Disk Failure	0	0	0	0	0	0	0	0	0	0	0	0	0
HSC Failure	0	0	0	0	0	0	0	0	0	0	0	0	0
Cluster Interconnect	0	0	0	0	0	0	0	0	0	0	0	0	0
Maintenance	0	0	0	0	0	0	0	0	0	0	0	0	0
Software													
LIAS System	0	0	0	0	0	0	0	0	0	0	0	0	0
Operating System	0	1	1	6	0	0	0	0	0	0	0	0	8
LIAS Recovery	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Downtime	0	1	1	6	0	0	0	0	0	0	0	0	8
TOTAL AVAILABLE HOURS													
Maximum Available	375	420	423	462	375	324	400	341	457	472	440	343	4832
Total Downtime	0	-1	-1	-6	0	0	0	0	0	0	0	0	-8
Uptime	375	419	422	456	375	324	400	341	457	472	440	343	4824
AVAILABILITY IN %	100	99.7	99.7	98.7	100	100	100	100	100	100	100	100	99.8
¹ Availability percentages are based on the maximum available hours at University Park Libraries and may not be a true reflection of LIAS availability at the CES campus libraries. LIAS availability at the campuses can be impacted by network downtime and other regional factors. LIAS is available for searching twenty-four hours a day, seven days a week.													