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Networking Applications for Research Libraries*

ABSTRACT

This panel consisted of four speakers who are involved with a number of different network applications: Steve Cisler of Apple Computer, Clifford A. Lynch of the University of California at Oakland, Ward Shaw of the Colorado Alliance of Research Libraries (CARL), and Bernard G. Sloan of the Illinois Library Computer Systems Office (ILCSO). The panel was chaired by M. E. L. Jacobs and encompasses some eighty-two years of combined networking experience.

INTRODUCTION

Jacobs began the discussion by highlighting several themes that had been raised in preceding papers. Among these were how and why people communicate, public rights versus property rights, and where system boundaries are drawn.

How and Why People Communicate

Today we suffer information paralysis brought on by access to diverse sources of overlapping, redundant information, with little assistance to the user in identifying unique pieces of data or in sifting through

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the masses of data to locate either the best or, at least, the most appropriate piece for that particular purpose. We need to better understand why and how scholars and other information users communicate and how they seek and use information. Most scholars tend to ask one another, not use library and information centers, because it is easier. In addition, their colleagues will also provide a brief critique or analysis of the strengths and weaknesses of the research or of the researcher's methods.

Students, on the other hand, use libraries more, often want one or two relevant references, and are less concerned with the best references or the more exhaustive search. In other words, they want usable information immediately. Librarians and information professionals must suit their approach and the results sought to the needs of the requester; they must also be willing to take more responsibility in assessing information, in giving qualitative judgments, and in providing digested information instead of a list of articles or copies of all articles.

Public Rights versus Property Rights

Public rights and property rights must be balanced. Just because technology makes it easy to obtain copies and to manipulate data does not abrogate property rights of the individual or of the corporation. Public policy must find ways to continue to promote the unfettered exchange of information while at the same time encouraging innovation by providing economic incentives to creators and distributors of information. Networks must be able to offer both free services and commercial services and must provide adequate protection and recompense to each.

System Boundaries

The third aspect of networking applications, where system boundaries are drawn, can complicate solutions and end with suboptimal systems if the boundaries are drawn too narrowly. Information providers and information systems designers must look at the entire information cycle from creation through publication, distribution, storage, and retrieval to use and then to create further information. Looking only at publication and distribution may be ignoring other important consequences.

For example, why doesn't the Library of Congress Office of Copyright Deposit accept books in both print and machine-readable form? Almost all manuscripts today are produced via electronic typesetting. When a new edition is contemplated, the depository could provide the publisher and author with an electronic version of the manuscript. Too often today, a revision starts from scratch with the

text rekeyed. Electronic manuscripts would also be an asset to scholars studying various writers and writing styles as well as book design.

THE SPEAKERS

Steve Cisler

Senior Scientist, Apple Computer Library

Cisler described the recent reorganization of Apple Computer and the place of the Apple Computer Library as part of the Advanced Technology Group. He also mentioned a number of projects outside Apple using Apple equipment. The University of Alaska, Fairbanks, has an oral history project to place data in digital form on CD-ROM. Project Jukebox will eventually provide access to these data via their network. North Carolina State University and the National Agricultural Library (NAL) are experimenting with sending images via the Internet as part of NAL's text digitizing project. Also described and demonstrated was some innovative software, WAIS (Wide Area Information Server) Station, for organizing and storing mixed media information developed by the staff of Thinking Machines Incorporated in Cambridge, Massachusetts, and made available free to researchers for experimentation.

Clifford A. Lynch

*Director of Library Automation,
University of California at Oakland*

Lynch described the University of California's use of that same software—WAIS Station—in an application that was up and operating in ten days. He also raised issues about some things libraries could be doing and were not.

For example, although most libraries now have online catalogs, few are available on or linked to the campus local area networks (LANs). Lynch emphasized that they should be. In a related example, electronic mail is an easy application to mount and use, yet few libraries have taken advantage of it to communicate with users. Search results could be mailed electronically instead of by campus mail or by forcing users to come to the library to pick them up. Printing has become a nightmare for many libraries, and soon, full text will increase printing demands. Lynch suggested working with departmental units or other campus resources to make hard-copy results available to users in their departments or dormitories. Ultimately, libraries should be able to

deliver printed output over the campus LAN to the individual's workstation.

Another problem is authorization and resource control. Ensuring that only valid users have access to resources is not easy. Presently, users must obtain different cards and authorizations for different functions such as libraries, student unions, bookstores, and computers. In the case of limited resources such as high-quality color printers, how is access controlled and limited? With more network users, particularly remote users, questions of authorization and resource control will become critical.

Present network directories indicate what resources exist, but they do not provide much assistance in accessing them. This is an area where libraries and librarians could help. They should also consider providing systems that would supply full text along with citations if articles were located anywhere on the network.

Ward Shaw

*President and CEO, Colorado Alliance of
Research Libraries (CARL)*

Shaw suggested that name authority files are the place to carry authorizations. He then described the difference between CARL, a not-for-profit organization, and CARL Systems, a for-profit related corporation that markets and sells services developed by or for CARL. CARL has over 11 million bibliographic records, 4,500 terminals, and 175 databases as part of its online system available on the Internet. UNCOVER provides access to serials' tables of contents and is the third most popular CARL service. UNCOVER II, a full-text delivery service, will be introduced in summer 1991. Fax transmission will be used, and the bit-mapped images will be stored for later reuse. CARL Systems will pay royalty fees for articles delivered.

Shaw then raised two problems that occur when offering services: (a) whom to ask for permission and (b) whom to blame when things go wrong. Locating serials' publishers and obtaining permission to use serials' tables of contents have not been easy. Shaw indicated that, sometimes, it is easier to do something first and ask later. The second problem, troubleshooting, is also a major challenge in networked systems. Identifying the particular piece of equipment or line of software code responsible for a problem is not easy. Once the fault has been identified, the problem then becomes identifying who is responsible for fixing it. End-users need a lot of guidance in matching their needs to systems and equipment.

Local system vendors do not know a lot about connectivity. Although users talk about it, few really demand it or are willing to pay for it. Not all libraries want to be connected to networks. Some fear that users will demand too much, swamping existing systems, collections, and personnel. Others fear that inadequacies in these will become more apparent to users under networking.

Bernard G. Sloan

Director, Illinois Library Computer Systems Office (ILCSO)

Sloan described ILLINET (Illinois Library Network) Online, which provides an online catalog and circulation system for thirty-eight libraries: nineteen private colleges, thirteen state universities, four community colleges, one high school library, and the Illinois State Library. Some 1,400 terminals access the 20 million holdings on the system. Three hundred and seventy-two libraries use the system: 58 percent public, 22 percent academic, 13 percent school, and 7 percent special libraries. Seventy-five percent of the \$4.3 million funding comes from the Illinois Board of Higher Education, 10 percent from the state library, and 15 percent from ILCSO. Connections to the Internet are planned, and introduction of the BRS workstation software is underway. Databases being considered are Wilson, Information Access Corporation, and University Microfilms Incorporated.

CONCLUSION

A lively discussion with the audience ensued with a number of questions on the software demonstrated by Steve Cisler. One participant suggested that libraries should allow users to annotate bibliographic records with notes. Another remarked that this feature was provided in the late 1960s and early 1970s by MIT's Project INTREX and that Carnegie-Mellon was using electronic mail to communicate with its online catalog users.