



Library Systems

An innovative overview of library automation

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What is M?

M is a programming language used by Cybertools for Libraries, a vendor of systems for special libraries and primarily hospital libraries. It is the current name for MUMPS (Massachusetts Utility Multi-Programming System). The programming language is oriented toward database applications developed at Massachusetts General Hospital three decades ago for the handling of medical records.

The Georgetown University integrated library system, which was developed by the university for its medical library using MUMPS, and was subsequently purchased by many medical libraries, is now owned by CyberTools, a developer of several M-based products for hospitals.

The major changes in the language since it was called MUMPS are a move toward a graphical-based system and away from a character-based, closed environment and the use of the language as an operating system, as well as a programming language.

Among the advantages of M are high productivity, low hardware requirements, excellent portability from among hardware platforms, and good scalability. Its major detriment is its low popularity, which has resulted in a lack of development tools and relatively poor integration with other environments.

Librarians who remember DataPhase's ALISII product probably remember that it used MUMPS. At the time DataPhase made the choice, MUMPS handled MARC records better than any other option. Today, C++ and Java are the tools preferred by almost all vendors of automated library systems. They handle records well and support many development tools known to experienced analysts and programmers.

Functionality, price, and the reputation of the vendor are more important choices of programming language as long as the language is one that conforms to a standard. M does. ■



EASI Offers Accessibility Webcasts

Equal Access to Software and Information (EASI) webcasts regular interviews with leaders in the fields of adaptive technology, education, and the Internet. By offering these live, interactive webcasts, EASI intends to keep the information community current on developments in adaptive computer technology.

Recent webcasts include a talk with Barbara Mates, author of "Accessibility Guidelines for Electronic Resources," the July/August issue of *Library Technology Reports*. EASI webcast schedules and archives can be accessed at www.rit.edu/~easi/webcast/weekarch.htm.

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Information Technology Trends

Information technology trends are like the weather—they are always changing and people like to talk about them. There was a great deal of talk about information technology trends at the most recent American Library Association and American Association of Law Libraries meetings. While there were many differences of opinion, speakers, vendors, and librarians generally agree that trends fall into three areas: industry, technology, and functionality. This issue presents a summary and consensus from both meetings.
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OCLC PURSUES WEB DOCUMENT DIGITAL ARCHIVE PROJECT

OCLC is pursuing the development of a digital archive to track and preserve Web-based documents that exist solely in electronic format. The service is designed to fill libraries' needs for identification, selection, capture, description, preservation, and access to documents that would not be otherwise accessible in the future.

Participating in the project is the U.S. Government Printing Office. U.S. government agencies are major creators of electronic information that has no printed equivalent.

A pilot will be tested in several phases during the next 18 months using the Open Archival Information System (OAIS) model to develop a working digital archive. OAIS, soon to be an international standard, defines the framework of functions and features of a basic digital archive.

Two other participants, the Connecticut State Library and the JERRI (Joint Electronic Records Repository) group of Ohio, are particularly concerned about the practice of state agencies to publish primarily on the Web. To date, neither

participant has found an off-the-shelf solution to capture and preserve this information. A report on the pilot project should be available by early 2003.

OCLC is also continuing to develop a single Web-based user interface to its cataloging and metadata services. The first release of the new interface will be available mid-2002. It will offer basic cataloging functionality for all formats. Internet Explorer or Netscape Navigator will be used to perform cataloging tasks such as search, edit, set holdings, and export. An optional Windows-based set of tools will support other tasks that are not fully or efficiently accomplished by a browser. By mid-2003 many additional features will become available, including power cataloging features such as macros and local files. Passport, the current cataloging product, will no longer be operational after Dec. 31, 2003.

Contact: OCLC
www.oclc.org

Internet as library

More than 45% of Internet users surveyed by the Markle Foundation characterized the Internet as a library. Coming in a distant second at 15% was the idea that it is a highway. Another 15% saw it as a shopping mall and 3% viewed it as a banking/investment office. Libraries that assist Internet users to become competent searchers are not wasting time. The full-text of the Internet survey report and the raw data are available for downloading at www.markle.org.

SIRSI submits tender offer for DRA, launches law library system

Sirsi Corp., having completed arrangements for financing, commenced its formal tender offer for DRA through Sirsi Holdings Corp., a privately held, wholly owned acquisition subsidiary, in late July. If the subsidiary acquires at least 75% of the outstanding shares, the subsidiary will be merged with and into DRA.

Sirsi also launched a law library system in late July. The new system, JurisLink, is configured to include the iLink Electronic Library with eSearcher's simultaneous database searching and MyLink selective dissemination of information. Through the former, searchers can access MARC-cataloged Web sites, tables of contents, e-books, and online journals.

Contact: Sirsi Corp.
 tel. 256-704-7000
 fax 256-704-7007
www.sirsi.com



Librarians define information trends at major association meetings

It's no secret that librarians love to speculate about future developments in technology and information services, and the librarians attending this year's American Library Association Annual Conference and the annual meeting of the American Association of Law Libraries were no different. Library professionals at both events contributed to many spirited discussions and debates over what's next in library systems and services.

Library Systems Newsletter contributing editor Richard Boss attended both conferences, and compiled this report on which

trends seem to be taking hold in the industry, in library technology, and in enhanced functionality for automated systems.

In contrast to recent Library Information and Technology Association (LITA) panel presentations on trends, nearly all the developments discussed at these meetings relate to concrete developments in libraries. LITA's popular "Top Tech Trends," which tend toward more conceptual predictions, can be viewed online at www.lita.org/committe/toptech (*sic*). ■

the industry

Most of those who expressed an opinion about information technology developments mentioned **consolidation** as a significant industry trend. TLC's purchase of CARL, Sagebrush's purchase of Winnebago, Best Seller's purchase of ALS (with the combined company renamed Biblio Mondo), and Sirsi's pending purchase of DRA were cited as examples of companies seeking to grow by acquisition.

Of greater interest to the vendors was Elsevier's purchase of Endeavor. Not only was the purchaser outside the library automation industry, but its motive was different from that of other purchasers: a producer of content, Elsevier was seeking a content delivery mechanism. Some people speculated that other producers of content might be interested in automated library system vendors with content management capabilities.

Meeting attendees expressed considerable skepticism about the potential success of Auto-Graphics' purchase of Maxcess, a small vendor with a system that Auto-Graphics identified as suitable for an ASP (application service provider) facility. The idea is that many small libraries would prefer to purchase support from a service bureau, rather than invest in a system and the staff to operate it. Other vendors have been offering ASP as an alternative, but Auto-Graphics has built its strategy around it. (A PC-based version is available, but it is primarily intended to provide a migration path for existing customers from supermicros).

Regardless of the motives for acquisition, the consensus is that the number of vendors will continue to decline and the market share of the five or six largest vendors will continue to increase.

Globalization was also frequently mentioned as a development to watch. By becoming global, a vendor not only expands its potential market but also places itself in a better position to weather a downturn in one part of the world. All the market leaders—those with revenues in excess of \$5 million per year—sell their products in several countries. EOS International, epixtech, Geac, Open Text, and VTLS were among the first North American vendors to establish offices in Europe and Oceania (the entire insular region between Asia and America); Best Seller, DRA, Innovative, and Sirsi followed several years later, with Innovative building its beachhead in the United Kingdom by purchasing a major domestic vendor, SLS Information Systems, Ltd. Endeavor moved more slowly but now has customers on four continents. TLC acquired foreign customers as the result of its purchase of CARL. Only Gaylord has continued to concentrate its efforts solely on the domestic market.

For the past three years Geac and VTLS have realized more than half their new-name sales from outside North America. In fact, Geac had nearly three times as many installations in Europe than in North America at the end of 2000.

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Industry from page 3

Ex Libris is the only vendor based outside North America that has become a major factor in the North American market. The company is the most global of any vendor in the industry, with installations on every continent.

Although many meeting attendees identified **ASP** offerings as a trend, a vocal minority of vendors and librarians dismissed it as nothing more than another name for outsourcing. This minority pointed out that most vendors have tried ASP, but almost no one appears to have been able to turn it

into a major profit source. Only Keystone, a small vendor that specializes in library systems for the blind and physically handicapped, may have realized a significant percentage of its profits from its ASP service.

Auto-Graphics' decision to focus primarily on ASP was generally dismissed as foolish. The librarians who expressed an opinion felt that not-for-profit consortia would be a more attractive alternative for most libraries that wish to avoid investing in hardware and systems staff. ■

functionality

Most vendors at the conferences said functionality is what sells automated library systems. The nine largest vendors in the industry employ nearly 700 analysts and programmers combined to enhance the functionality of their products and develop new products.

Vendors frequently mentioned **Unicode**, and although it's not of great interest to most librarians, it is the key to supporting the many character sets that a global market requires. ASCII works for the English language but offers too few characters to support European languages with diacritics and is impossible for the support of Arabic, Chinese, Hebrew, Japanese, Korean, Russian, and Ukrainian.

One vendor did comment that an increasing number of RFPs issued by North American libraries require Unicode, primarily because an increasing number of both academic and public libraries are acquiring materials from around the world.

Content enrichment was the most hyped functionality at the conferences. Tables of contents, jacket images, and reviews to augment bibliographic records are now available from most vendors. For the most part, the enhancements are offered by third-party vendors, with the automated library system vendors limiting their roles to the provision of the necessary access points, plug-ins, and marketing.

Gaylord touted its MSNBC option—the channel's broadcasts are accessible on a PC used as a patron access catalog device—as unique in the industry. A great deal of skepticism was expressed about tying up the patron access catalog with current news features. The consensus is that content enrichment will continue, but the nature of that enrichment will adapt to patron preferences.

Digital libraries were promoted by several vendors, especially Endeavor. Such libraries can consist of images or the full text of reference books and journals, photographs, manuscripts, and so on.

Although academic research libraries such as those of Cornell, Pennsylvania, and Washington were pioneers in the area, state and public libraries have become interested. The Library of Virginia has developed a major program using its VTLS system. It has not only loaded its own materials but also those of many public libraries in the state.

Meeting attendees expressed considerable interest in going beyond still images to digital video and audio. Vendors are extremely enthusiastic about the prospect because accessing such resources through the patron access catalog increases the number of user licenses sold. A majority of vendors are also interested in providing the digital library servers.

Metadata, although not fully understood by many, was frequently mentioned. Almost everyone knows metadata is data about data, but there is less certainty about its significance. Most vendors explain that metadata goes beyond the support of MARC to include EAD and Dublin Core. The intent is to allow someone to search for information in many formats.

One library director in an organization that also has a large archive and two museums expressed the hope that the support of EAD, a standard for archives records, and Dublin Core, a standard being used by some museums and supported by automated museum systems, would make possible the searching of his library, the archives, and the museums through the library's patron access catalog.

Portals were discussed at many sessions at both conferences. A portal is a common user interface to many sources of information. Almost all the major vendors offer some kind of content portal. The most successful has been Sirsi's iBistro, with more than 100 units sold.

Less attention was given to **content management**. Does use of the portal result in aggregating a great deal of content from many electronic sources? Or do filters allow the elimination of what's not relevant? Although most vendors' products merely aggregate, a growing minority have incorporated filters or selection tools.

Automated library system vendors are not the only ones to offer portals and content management. LEXIS/NEXIS and Westlaw made presentations of their portals at the AALL meeting. They emphasized the importance of filtering to make searching manageable. LEXIS/NEXIS' own content

now exceeds 4 billion pages. It had to act to manage its content so that subscribers would not be frustrated by information excess. The filter functionality of the portal works equally well with many other services with which LEXIS/NEXIS has agreements—but somewhat less well with the Web as a whole.

Many librarians said the legal services offered better functionality than the vendors of automated library systems, but they would prefer to purchase the functionality as an application, rather than pay ongoing subscription fees to LEXIS/NEXIS or Westlaw.

At this point the gap between the functionality of the legal services and automated library systems substantially narrows; the automated system vendors will probably be the preferred suppliers of portals and content management. ■

technology

One of the hottest topics at both meetings was **e-books**. The future role of e-books is still uncertain, despite all the talk and the impact of major investments in the technology by Microsoft, Adobe, and Gemstar. A vocal minority of those who have a technological perspective claim that standards are essential to the success of the technology; an equally vocal minority of others express distaste for the feel of e-books, and assert that the machines must be lighter in weight and more closely resemble the printed page to appeal to readers. This debate leads to the obvious question of content. Most e-books to date have been novels; the novels have not been protected by copyright or licensed directly by the author in the absence of a contractual restriction on sale for electronic publication. The majority of meeting attendees expressed the view that reference books are better candidates for e-books than fiction because they involve quick lookup and benefit from such features as the ability to bookmark pages or make annotations. The trend is too new to predict the eventual role of e-books.

Monitors were a popular topic. The general consensus is that flat panel monitors are the wave of the future, emboldened by recent price reductions. Prices of 15-inch flat panel monitors dropped below \$500 in mid-2001 and the prices of 17-inch monitors dropped below \$1,000. Flat-screen monitors not only save space, but also have almost no screen

flicker. They offer a clearer display than CRTs and generally cost less to maintain.

Ultra high-resolution monitor development is also closely watched in the library community. Although IBM's \$22,000 ultra high-resolution model was regarded as a joke, Toshiba's QUXGA, a \$3,000 unit capable of displaying 7.7 million pixels, is considered a serious option for graphics-rich display requirements.

Wireless networking emerged as the hottest technology trend. Despite conflicting standards, most librarians are willing to consider installing wireless LANs in at least part of their facilities, expressing a preference for the IEEE 802.11b standard. The ability of patrons to bring laptops into the library is the most common factor given for considering a wireless LAN, but many librarians with buildings that are difficult to wire also express interest.

Vendors have much less interest in wireless LANs but are enthusiastic about pursuing the searching of patron access catalogs using hand-held devices. Innovative Interfaces garnered attention by demonstrating a personal digital assistant (PAD) for accessing its patron access catalog and downloading bibliographic information. Patron checking for call numbers and availability information while in the stacks was among the demonstrated applications. ■

LINUX NOT MENTIONED IN ITANIUM ARTICLE

To a reader's consternation, Linux was not mentioned in the *Library Systems Newsletter* article (July 2001, p. 3) on Intel's launch of Itanium, its new 64-bit processor. Although Linux is gaining in popularity, and Linux will be available on Itanium, the story focused on the implications of Windows 2000 on Itanium for Unix, still the preferred operating system in library automation.

The prices of Unix servers would probably come down and price/performance would improve to compete with Windows 2000 servers that use the Linux operating system.

Library automation vendors should pay more attention to Linux, but until they do the industry focus is on Windows 2000 and Unix as the operating systems for servers.

The main advantage to libraries were Linux servers to be offered by vendors would be lower system software costs; the major disadvantage to vendors would be having to support an additional operating system at greater cost. It is doubtful that vendors will offer the operating system until potential customers demand Linux. Vendors offering Unix resisted Windows NT for several years until there was substantial demand from customers. ■

Britannica.com adopts fee-based model

Encyclopaedia Britannica Inc. will begin to charge \$5 a month or \$50 per year for access to its online content. When Britannica.com was launched in October 1999, access to the online encyclopedia was free. Like other content sites, however, it did not make enough money from Internet advertising, so the company decided to return to a fee-based model. The subscription service will now be free of banner and pop-up advertising. The company will probably price institutional access on a per-seat basis.

Contact: [Encyclopaedia Britannica](http://Encyclopaedia.Britannica.com)
www.britannica.com

TLC announces ITS Unicode conformity, Syndetics agreement

TLC, a vendor that concentrated primarily on the North American market until its purchase of CARL, has been working on Unicode, the standard for large character sets that support languages with diacritics and languages with non-Roman character sets. TLC plans to make all its products Unicode-conforming over the next two years. The first completed product is ITS International, a cataloging product.

ITS International uses the Windows 2000 Input Method Editor to provide vernacular cataloging capability for virtually any language. All editing is done in Unicode, but records are read and written in either MARC-8 or Unicode—both of which are supported under MARC 21.

CARL.Solution, the new name for the integrated library

system developed by CARL, will probably be next to be made fully Unicode-compliant. It already supports CJK (Chinese, Japanese, Korean) using some elements of Unicode and some proprietary components.

TLC also signed an agreement with Syndetics, a content enrichment provider, for the enrichment of bibliographic records in TLC.Solution and CARL.Solution systems. The contract includes seven products: summaries, annotations, choice reviews, excerpts from more than 10,000 titles, author notes, cover images, and tables of contents.

Contact: [TLC](http://TLC.com)
tel. 800-325-7759
www.tlcdelivers.com

eBrary signs major publishers

eBrary, a provider of software for delivery of copyrighted content, has signed agreements with 12 university presses and several major commercial publishers to mount the full text of many of their titles. Among the signers are MIT Press, University of California Press, Columbia University Press, Yale University Press, McGraw-Hill, and Springer-Verlag.

Though libraries pay no subscription fees and there is no charge to view texts online, eBrary charges a fee to print or download text. The site also links to sites that sell the books.

eBrary has joined OCLC and will catalog its titles in the WorldCat database to facilitate access through that resource.

eBrary has contracted with Learning Network, an online reference service, to include eBrary's content in its offerings. The service is in beta test mode and can be found at www.learningnetwork.ebrary.com. The search engine permits users to interact with content down to the word level.

Contact: eBrary
tel. 650-230-0752
www.ebrary.com

Top ISPs

Network World, a major trade publication, has again rated national and regional internet service providers (ISPs). AT&T Worldwide rated tops among national retail ISPs, BellSouth was the top regional, and AENEID was the top business-to-business provider. Among the categories used to evaluate ISPs are call failure rate, initial modem speed, average login time, average lookup time, effective Web throughput, and downtime.

AT&T and BellSouth were each top-rated in four of the categories and rated above average in all categories. AT&T was top-rated in two additional categories and rated above average in all categories.

The call failure rate is typically below 2.7% for above-average ISPs, with the failure rate higher during the evening than during weekday business hours. The modem speed realized generally is better than 47 Kbps. Time to login is a disappointing 30 seconds. Domain name server lookup typically takes only 500 milliseconds. Web throughput is about 5.00 KB per second.

The testing was done by eTesting Labs. The test results, and those of earlier tests undertaken by eTesting Labs, are archived at www.nwfusion.com/research/topisp.html.

Although many libraries use small ISPs that are not rated by Network World, most ISPs will provide their performance data if pressed. Consider leaving an ISP if its performance is significantly poorer than that of larger ISPs. ■

Congressional study confirms ineffectiveness of filters


The Special Investigations Division of the House Committee on Government Reform has released a report documenting the ineffectiveness of filtering software. Not only do the filters not block much objectionable material, they are becoming increasingly irrelevant. X-rated files are readily available using Aimster, Gnutella, and BearShare—free, downloadable software that facilitates access to information on peer-to-peer (P2P) networks. Such networks were popularized by Napster, the P2P music service, but can be used for the retrieval or exchange of any type of information. Filtering software works only on centralized servers, and cannot patrol the diffusely networked computers of other users of P2P networks.

Data for this study was originally available from the House of Representatives' web site at www.house.gov/reform, but it is no longer on the site. Only those reports that have a corresponding bill introduced or a press release remain in the archives. ■

MICROSOFT reverses course

Microsoft's July announcement that PC manufacturers could remove Microsoft icons from the opening screens of their PCs was reversed after Compaq and AOL announced they had reached agreement to add an AOL icon to each Compaq PC opening screen. Microsoft warned AOL that the Internet Explorer icon cannot be removed if an icon for a competing vendor is added. ■

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