ASIDIC newsletter

No. 44, Fall 1982

ASSOCIATION OF INFORMATION AND DISSEMINATION CENTERS

WELL ATTENDED FALL MEETING EXAMINES FUTURE OF DATABASE SERVICES

The Fall ASIDIC meeting was held September 20-21, 1982, at the Sheraton Commander Hotel in Cambridge, Mass. Its subject was the future of database information services. There was a good turnout; attendance was about 110, and there was keen interest in the topic. The meeting departed from previous ASIDIC meeting formats in that there were no small discussion groups. Since this meeting was the first on the subject, the Program Committee decided to present an overview of as many facets of it as possible. Accordingly, the meeting consisted of a keynote talk, followed by 11 shorter presentations considering the viewpoints of the publishing industry, indexing and access services, database producers, database processors, and intermediaries and end users. Further meetings will consider specific aspects of the database industry's future in more detail, and will probably return to the familiar speaker/discussion group format. The meeting closed with an enthusiastic vote of thanks to Dan Wilde and his assistant, Joe Lanteri, for their hard work as hosts in making the local arrangements, and to Marvin Wilson for the fine slate of speakers he presented. A full report of the talks presented appears in this Newsletter.

A short business meeting was held before the keynote speech. The Monday evening activity was a trip to the New England Aquarium, where attendees could marvel at the wonders of the deep. Dan Wilde, host for the meeting, appealed for volunteers to help the divers feed the sharks in the ocean tank, but none were forthcoming. So attendees had no recourse but to proceed to the dining area, where a New England clambake featuring *Homerius americanus* (a clawed crustacean inhabiting cold northern waters) was featured. This clambake was a repeat of one held at the previous Boston meeting and was equally successful.

Spring, 1983 Meeting

The next ASIDIC meeting will be held March 20-22, 1983, at the Sheraton Hotel, Charleston, SC. David Grooms of NTIS is the meeting host. He has promised us beautiful warm weather with the gardens in full bloom, which should be a treat for cold, frozen Northerners. Y'all come!

Alexandria Meeting Papers Published

Papers from the Fall, 1981 ASIDIC meeting, held in Alexandria, VA, have been published in the May, 1982 issue of *Information Services & Use*. North American members of ASIDIC will find a copy enclosed with this Newsletter; a few additional copies are available from the Secretariat.

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Elections

The Nominating Committee proposed the following slate of candidates for 1982-1983:

President: Rita Lerner, American Institute of Physics
Executive Committee: Miriam Bonham, Indiana University
M. Lynne Neufeld, NFAIS

At the Fall Meeting, these candidates were unanimously elected.

Committee Reports

The following committees reported at the Fall meeting: Executive, finance, standards, membership, publications, program, and planning. The Finance Committee, chaired by David Grooms, reported that ASIDIC is financially healthy. Cathy Ferrere, chairing the Membership Committee, reported that ten new members have joined ASIDIC this year. A list is attached to this Newsletter. Word of mouth seems to be the most effective means of attracting new members. The Program Committee, chaired by Marvin Wilson, will be planning the Spring Meeting based on the topics presented at the Fall Meeting.

A list of ASIDIC members was distributed to attendees. Copies are available from the Secretariat.

Phone Number Change

Please note that the telephone number for the ASIDIC Secretariat has changed to (404)-542-7020.

Fall Meeting Summary

Keynote Speech

Edward F. (Ted) West, Cambridge Research Institute

Ted began his keynote speech by noting that the online industry is complex, with many market segments and applications, many new technologies, and many vendors, database producers, and intermediaries. It has tripled its growth in the last few years, and the growth rate is increasing. The 1970's were years of exploration, discovery, and sometimes frustration. We are now in a period of mature growth.

One model of the online database industry is based on a pipeline consisting of database producers, vendors (distributors), communication networks, and retailers or intermediaries. Information flows through the pipeline, and value is added at each step along the way. Early bottlenecks in the information pipeline were caused by limited distribution and difficulties of using databases; these were solved by the vendors such as Dialog or Mead. Then came more databases and more distribution capacity, which helped distributors break the bottleneck and control the industry. Data are fitted to vendor specifications, not customer needs; 80% of today's databases are exclusive with one vendor. Pricing tends to favor the distributor, not the database producer's investment.

Today's bottleneck in the information pipeline is the end user, needs more user-friendly systems, improved searching techniques, broader access, and cheaper and faster terminals. It is difficult to get end users to use the systems, for two reasons:

1. The proliferation of databases can be beneficial to many users, but it can also inhibit use because infrequent users will become confused. Brochures, etc. are not enough; sales representatives can no longer know all the applications and best uses of the data.

2. Many databases available today are only a starting point for the user, and only begin to meet the user's needs. The user must screen, analyze, interpret, synthesize the information, and prepare a report before coming to a decision. Value must be added to the databases to help streamline this process.

The solution is the "information retailer," who would pre-screen the data and translate it from the pipe into information. In the future, Ted believes that we will see smarter customers, more producers, better user services, more direct customer sales and marketing by database producers, and a redesign of vendor services to close the marketing loop.

In the question period, Martha Williams (University of Illinois) highlighted a source of database producer dissatisfaction with vendors: the limited feedback to producers on the use of their products. The availability of such feedback could encourage some producers to concentrate on marketing their products, leaving the distribution of the product to the vendors. Martha suggested that ASIDIC take a position in this area.

The Publishing Industry

Ron Henderson, consultant (formerly with Cordatum, Inc.)

Ron characterized publishers today as:

- Pioneers--those who use new technology, almost for technology's sake.
- The Pack--ink print, hard copy firms. They may have online products as a by-product of their printed publications. The print publications subsidize the online product.
- Stragglers--ink print publishers who have no online files. They may have machine-readable files as part of the production process, but such files have only temporary use, and are of little value as information.

The following are the technologies affecting the publishing industry:

1. Laser printing will have a big effect. It produces a high speed, well formatted, *tailored* information product. (Ed. Note--This newsletter is printed using a laser printer.)
2. Education, training, and merchandising are important. One must educate the market and train the participants. Technology is not worth anything if you cannot use it.
3. Communications technology will standardize forms of data and conversions, protocols, etc.
4. Videodisk will allow people to own their data.
5. Networking and billing will allow the information to flow to the end user. Information must be found and then paid for.

The publishing industry's current activities can be categorized by an "old market, new market, old product, new product" matrix. Publishers are concentrating their activities in the "new market, old product" or "old market, new product" areas; they are not yet ready for the "new market, new product" approach.

Publishers should continue to protect their data but not to the extent that it cannot be sold!" Publishers may offer processing services because they understand databases. Online services, in the middle, are in an excellent position. They have an opportunity to train, educate, and index databases and therefore can solve the biggest end user problems. "Information managers" will form an essential part of the database use chain; publishers cannot afford to ignore them.

Meyer Kutz, John Wiley & Sons

Meyer described Wiley's recent efforts to enter the database business and their progress. He observed that "certain things can only be learned by sliding down the razor blade of life."

Wiley currently publishes 700 to 800 books per year and 60 journals; all are primary publications. The Electronic Publishing Division was started in 1981 with three people. They have the following projects underway:

1. The full text of the *Harvard Business Review* is online with BRS.

2. The *Kirk-Othmer Encyclopaedia of Chemical Technology* is being produced. The entire combined index to this 1200 article work will go online first, to be followed by the text of the tables and illustrations, and finally by the text of the articles themselves.

3. A database of polymer journals online is being developed.

4. Wiley is participating in the production of the UK Medical Research Directory.

5. They are considering making their catalog into an online database that would be free to libraries.

6. They have participated in two recent experiments: the ADONIS project, and Superindex.

The following are the lessons that Wiley has learned:

1. Get end users used to the product. Put it up, then do market research.

2. Marketing databases is not like marketing books. Book sales people need not know the contents of the books in detail; database representatives must. New marketing approaches are needed.

3. Everything is more expensive than you think it will be.

Indexing and Access Services

Toni Carbo Bearman, National Commission on Libraries and Information Science

The measure of a library's quality is not how many books or journals it has, but what information it has access to. In the last ten years vast changes have taken place in the information industry:

- Tremendous growth in the amount of information that can be accessed (such as an increase in the number of databases from two to over 1,000).

- An improvement in database quality. Examples are: Chemical Abstracts Service's spelling error checker, software improvements, better timeliness, and expanded coverage.

- More intermediaries.

- SDI systems, such as CA Selects or NTIS's SRIM.

For the future, Toni sees the following three events:

- A blurring of the functions of the information transfer chain will lead to secondary services becoming retailers, vendors, or primary services. Examples are ISI's new system, and CAS Online. Producers will be bought by publishers because the publishers want part of the user education process. There will also be more cooperation between primary and secondary publishers.

- There will be a shift into "Era 4" of the information business. A recent report by Vincent Giuliano of A. D. Little Co., entitled *Into the Information Age* (published by ALA, 1980), defined three eras of information:

  - Era 1: Discipline-based services.

  - Era 2: Mission-oriented services (interdisciplinary).

  - Era 3: (The present) Problem-based or problem-solving services (e.g. energy, pollution).

  Toni adds Era 4, the individualized, custom service, such as decision-making systems, total packages, subsets of databases, evaluated data, and numeric information.

- Transborder information flow will become commonplace. It was caused by the problems of the 1970's, such as pollution, the energy crisis, etc. Satellite transmission of information is here today, and we are seeing the beginnings of European systems marketing vigorously in the U.S. Competition will increase, as will reciprocity.

These three events will have severe implications for the future of database services, which will have to reexamine their roles.

Database Producers

Joe Coyne, U. S. Department of Energy

Joe presented the view of a government database producer and used the Energy Database (EDB) as his example. About half of the EDB is now coming from foreign sources; the private sector also contributes heavily. The DoE has a large, easily defined clientele and can therefore use new technology as suited to its users. Now, they use microfiche and online data entry. Not all new technology is usable, such as OCR and holography. Optical disk has the potential for cheaper data storage. Resource sharing and networking to provide improved access are needed. Information products have value, but there needs to be more value for the cost. Refer to a King Research report, Value of the Energy Database, DOE/OR/11212-1 or DE82014250, price code A05, available through NTIS.

Dennis Auld, Data Courier, Inc.

The two major barriers to the use of information are cost and ease of use. Technology has helped to reduce the ease barrier and is starting to reduce the cost. Terminals, microcomputers, communications, and software are all becoming more reliable, more versatile, modular, and cheaper. Videotex and electronic mail offer opportunities and challenges. Videotex systems will allow database producers to add graphics, while videodisks will provide low cost storage and retrieval. Electronic mail will allow producers to circulate parts of their database. It is easy to capture existing machine-readable information in an electronic form, but to input, edit, and abstract it is still very labor-intensive and expensive. Producers must therefore consider the impact of technology on their revenue. A successful product is vertically integrated and serves one segment of the market with a range of services. Challenges to publishers are the rapid proliferation of technology and the demand for user training and online instruction. Downloading will have as big an impact on online information systems as the Xerox copier had on printed publications.

The future holds this in store:

- Pricing approaches will have to be changed to account for new technology as well as legal and sociological factors (copyright, deregulation of AT&T, penetration of technology into daily life, awareness of microcomputers, etc.)
- Downloading is inevitable. A way to assure a fair return to the data producer without burdening the user will have to be found.
- Technology changes will accelerate.
- Computer literacy will spread, and more users will use computer technology.
- Print publications are here to stay. They will, however, become more specialized; there will be more books and periodicals.

Database Processors

Peter Urbach, Pergamon International Information Co.

Peter spoke on exclusivity vs. non-exclusivity of databases. Should a database be available exclusively on one vendor? Exclusively may let a fledgling vendor compete; 80% of today's online database are exclusive, but the remaining 20% are the biggest and probably the most important. Many exclusive databases may not be worth mounting on more than one service. There is a recent trend toward exclusivity; the TITUS database was recently withdrawn from SDC and *RAPRA Abstracts* from Dialog.

In the area of online retrieval services, Dialog dominates the market with its "brilliantly effective supermarket strategy." Dialog is therefore in a strong position to contend that all databases should be non-exclusive--an assertion that will enhance its domination of the market. However, exclusivity and unique capabilities enable others to compete. Examples are Derwent on SDC, DARC on Questel, and Video Patsearch on Pergamon's Info-Line. Both Chemical Abstracts Service and ISI offer exclusive services.

From the viewpoint of the database producer, the maximum revenue is gained from the widest possible distribution of information, which may mean becoming non-exclusive or mounting the database on Dialog. However, when your database is only one among many, you do not control the priorities for such things as reload schedules, and you may not be able to correct errors in the database easily. Your file may not be important to the vendor, so the vendor may not be responsive to the producer. Peter stated that these were some of the reasons why *RAPRA Abstracts* was withdrawn from Dialog and made available exclusively on Info-Line. Pergamon Press publishes the printed version of the database, so a broader range of services can be offered from one source, and Pergamon has the potential to become a full-service vendor.

Users do not like to learn several systems and are therefore drawn to the system that has the most databases. But should there be only one service? The users' interests are best served by a competitive environment, which must include exclusive as well as non-exclusive databases.

In the question period, an online searcher from a large technical library enumerated about 12 systems which they access. He commented that proliferation of systems decreases searchers' competence. Urbach replied that users may have to deal with many online searching systems for a while, but microcomputer-based front-end software being developed will allow the user to define protocols and standardize the systems' software.

Ed Green, Data Resources, Inc.

Decision makers need a full range of products, so producers must take advantage of multiple delivery technologies to market a variety of products. Databases must be timely and organized for use by end users. Different software will be needed. Possible technologies include multi-user workstations with a local processor, personal computers with ability to download data, and local area networks. Some users use all these technologies, not just one; producers must be ready. The database producer's staff must be experts and may have to function as consultants to users.

Two Data Resources systems are available to help users. DRICALL allows downloading to a microcomputer, and DRILINK provides friendly access to a large computer for data manipulation.

Liz Marlowe, Bibliographic Retrieval Services

Liz began with the bold statement that the online retrieval business of the past 10-15 years is dead. It has been a business catering primarily to libraries and information centers. Although such users remain important, the end user market will assume predominance, and today's mature online services will have to change to take account of these new markets. New technology is primarily responsible, with high speed modems, cheaper terminals, microcomputers, cheaper storage, and videodisks. End user markets, driven by these technologies, include business people, scientific and technical users, and home users. Online vendors must therefore look for new data sources, including full text databases.

As a result of changed market conditions, BRS is considering a new pricing structure and new software packages. A test system, the Medical Information Retrieval System (MIRS) is now in place.

The changes in the next three to five years include:

- User interfaces will become more friendly and will be able to mimic other systems. Critical user groups will therefore not be left out of the customer base.

- Local intelligence will increase with the spread of microcomputers. Liz predicts that in the next three years, all serious online services will be widely available through microcomputers.

- Online vendors will offer their own software for purchase or lease. BRS already does this and allows networking to other systems. Examples are Data/Star, JIP/BRS in Japan, and the Dow-Jones News Retrieval Service.

- An alternate delivery method will be available through videotex.

- The number of databases will rise exponentially, but the number of producers will shrink. There will need to be "superfiles," merging groups of content-related files into one.

- Pricing algorithms will have to change. Half of all BRS users now access the system at 1200 baud, making the connect hour an inappropriate charging unit. There is less incentive for the vendor to make the system more efficient if users will be using higher and higher speeds. (In fact, a vendor could combat this trend by "pacing" the system and slowing response.) Possible charging schemes under consideration include a charge for the number of characters delivered, or a startup charge of about $4 to $5 to get into search mode.

- Transmission speeds will continue to increase. 300 baud is dying; speeds up to 4800 baud can be transmitted over voice-grade telephone lines.

- Foreign competition will increase. The major problem is restrictions on data transmission by foreign governments.

- Downloading cannot be prevented. Producers must assume data will be pirated and price accordingly.

Dan Wilde, NERAC

Dan spoke on the need for innovation in information services. Information can be used to solve problems if there is a total service approach. Information providers must understand the user's needs; it is most important to know *why* the information is needed. There are four stages of innovation: initial awareness, engineering evaluation, prototype testing, and incorporation of the technology. It is important to find out at which stage the user is. The user evaluates the information by the results it brings; the provider must take the attitude of helping the user, not just selling a service. NERAC is an example of a service that helps users solve problems. Dan showed examples of problems in many technical areas that NERAC had helped solve. The information was obtained from multi-database searches conducted on NERAC's dedicated in-house computer.

Intermediaries and End Users

Catheryne Stout, ISI

Technology is moving into libraries. There are now several microcomputer journals and publications devoted to libraries. A new edition of *Micro Software Report* (published by Nolan Management Information Service, 21203-A Hawthorne Blvd., Suite 5323, Torrance, CA 90509) lists over 400 programs for use in libraries. The end user market is growing; it is likely that the main use of home computers will be to access databases. Vendors will need to market to both libraries and end users. For example, the main market for ISI's printed products is end users, but the main market for their online databases is intermediaries.

The end user and intermediary markets demand different strategies. The previous strategy of "pulling" a product through the library market is being supplanted by a strategy of "pushing" the product through advertisements in end user journals and end user training. An online database demands a conscious choice by the user; there is no advance revenue as there is with print products, and there is no guarantee that a file will be searched. The end user should therefore be educated, as well as the intermediary, so that the end user will request a search on a specific database. Intermediaries will still be active because many end users will continue to rely on them for online service. Microcomputers can enhance service to the intermediaries by

providing automatic logon and logoff, producing tailored output, storing and editing search strategy before logon, and translating differing system protocols.

ISI's PRIMATE system is an example of a system that services both end user and intermediary markets. It features automatic dialup, vendor (ISI or Dialog) and database selection, and the ability to search using the system's language or menus. Results can be downloaded to a temporary file for further editing. Copyright issues are now the main problem facing PRIMATE.

Betty Eddison, Warner-Eddison Associates

What will the intermediaries do with users who want to do searches themselves? People must be allowed to obtain access directly when they wish; the intermediary will do the exotic and complicated things. Lack of quality in today's databases keeps the usage by end users low. Examples are garbled citations, misspellings, etc. Quality control needs to be added to the database production process.

Producers need to look at different ways of marketing their products, particularly as downloading increases. Few people need an entire database; perhaps a price structure for a portion of a database would be useful.

Acknowledgements

Randolph E. Hock, Dialog Information Services, Boston, MA, and Judy McQueen, Senior Consultant, Information Systems Consultants, Inc., Bethesda, MD, made substantial contributions to the meeting report with their very complete notes.

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