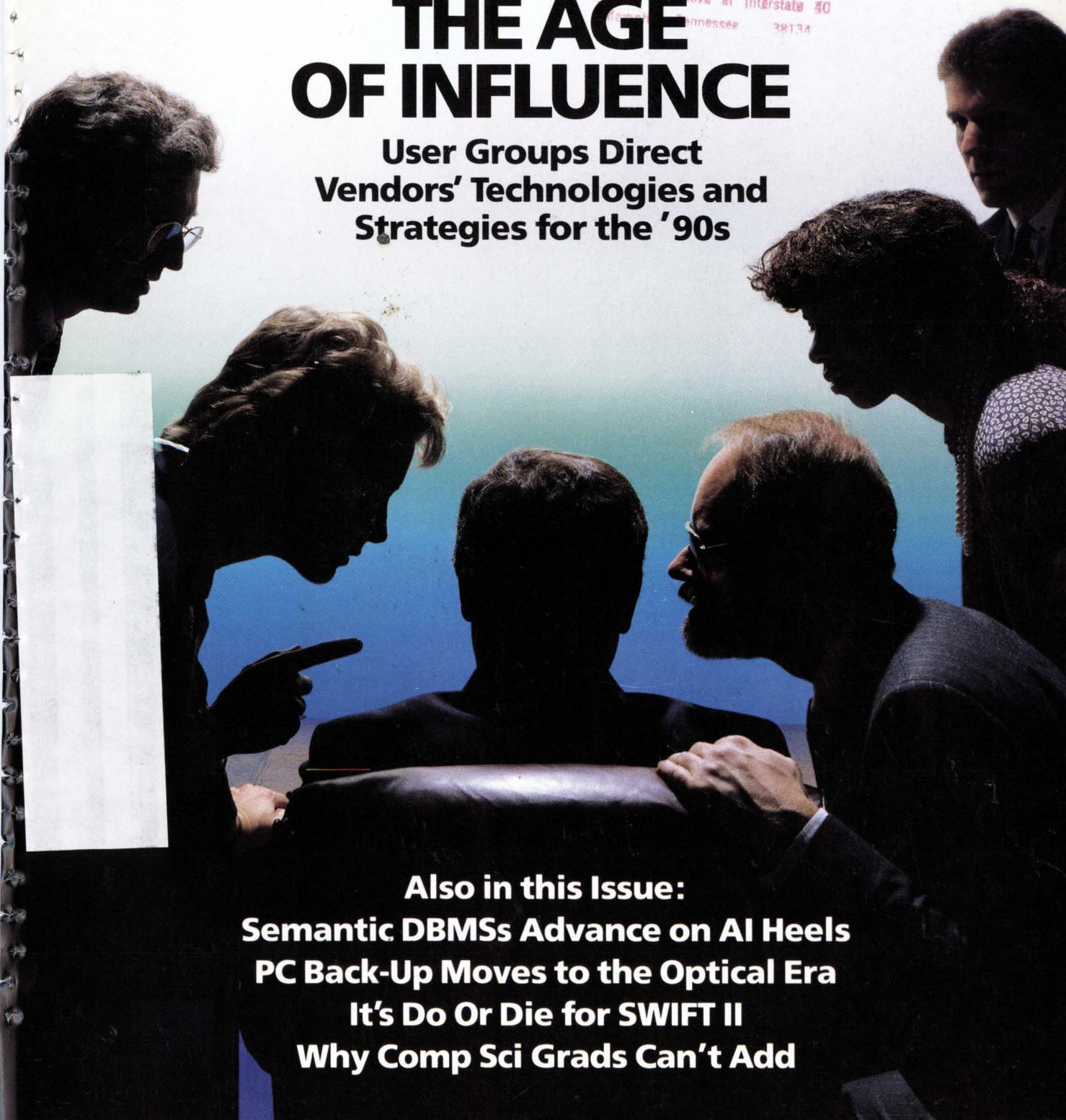


SPECIAL REPORT: Annual International User Group Directory

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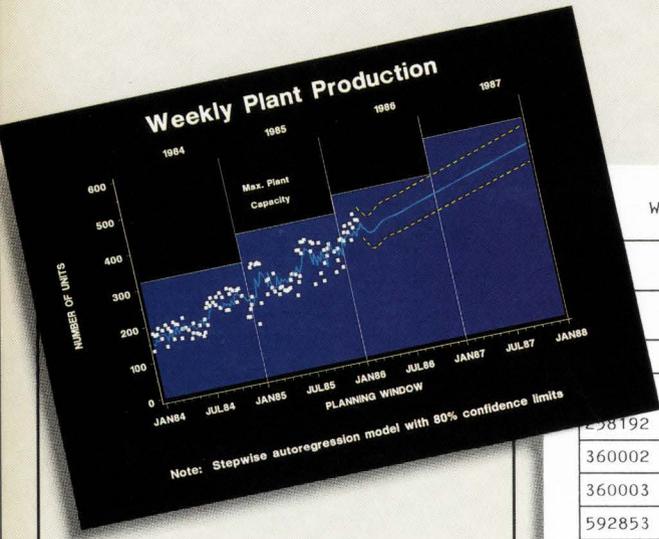
## THE AGE OF INFLUENCE

User Groups Direct  
Vendors' Technologies and  
Strategies for the '90s

**Also in this Issue:**  
**Semantic DBMSs Advance on AI Heels**  
**PC Back-Up Moves to the Optical Era**  
**It's Do Or Die for SWIFT II**  
**Why Comp Sci Grads Can't Add**

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**COVER STORY**



## The Age of Influence 18

**BY KURT ROTHSCHILD** Once hardware-oriented and concerned mainly with information exchange, user groups now take aggressive roles in the formulation of vendor policy and product development. A customer phenomenon that does not exist in any other known industry, these user groups are a force to be reckoned with. Many of the older, hardware-based groups have adopted a distinct software consciousness, and hundreds of software-oriented organizations have emerged.

### How Vendors View the Relationship 21 PC User Groups Are Too Numerous To Count 24

Cover Photography by Roberto Brosan

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**SPECIAL REPORT**

USER GROUPS

### The DATAMATION International User Group Directory 25

The 1988/89 User Group Directory, organized by vendor company and listed alphabetically, contains 112 entries, nearly three times the number of user groups listed in the inaugural directory last year.

**SOFTWARE**

DBMS

### A Matter of Semantics 51

**BY DANIEL R. O'CONNELL** As advances are made in computer technology and AI-based software, more attention is being given to semantic DBMSs. Although they're not yet commercially available, get ready, they're coming.

**SYSTEMS**

STORAGE

### PC Back-Up Moves to Optical Era 57

**BY BOB FRANCIS** New erasable optical storage devices, along with existing WORM drives, offer sound alternatives to magnetic tape drives for backup.

**COMMUNICATIONS**

NETWORKS

### It's Do or Die for SWIFT II Project 72

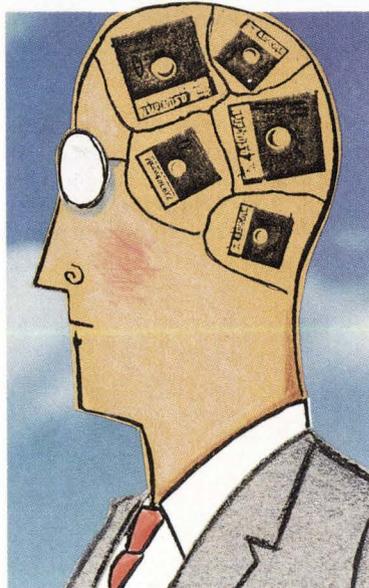
**BY RAYMOND BOULT** Next month, banks and finance firms worldwide will hear if SWIFT II, their delay-ridden \$40 million project to develop a better global messaging network, will be scrapped.

**MANAGEMENT**

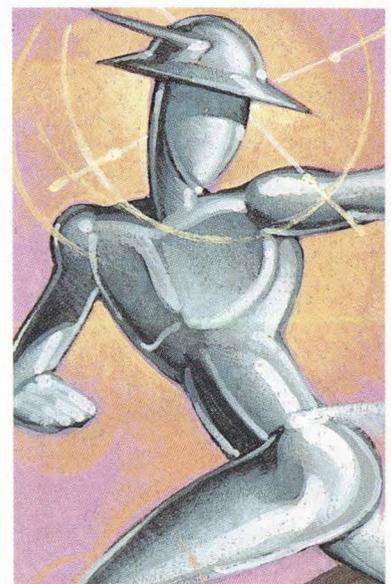
PERSONNEL

### Curriculum Shortfall 77

**BY MICHAEL RIDGWAY** Computer science curricula fall short of the business world reality, producing graduates who are unprepared to do maintenance, and who lack essential communications skills.



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▲72

## Eager Users and Enabling Technology

What began as a modest experiment a year ago has turned into a full-fledged annual project for DATAMATION's editors. It has tripled in size since last year and threatens to devour even more resources in the years ahead. What could we be talking about? Open systems? Communications standards? IS budgets?

No, it's something far less exotic than technology—yet perhaps just as important. The project is our international user group directory, which has swelled to 112 members in a mere 12 months. Groups report from every neck of the world's woods, with names as wild as MUG and THUGS. (No kidding, folks. The former stands for Ricoh's Mytool Users Group; the other represents the Tymnet Users Group.)

Communications in several different respects account for the explosive growth in this year's directory. The increasing need for users to communicate their problems and product development ideas to their strategic IS suppliers has made associations all the more important, all the more visible. Our own ability to communicate with these important groups also contributed to the directory's growth. And a communications device played a significant role in gathering names of groups from around the globe: the facsimile machine. Nearly half of this year's responses were submitted in fax form.

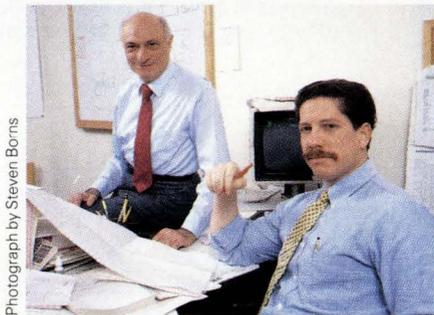
The technology enabled Executive Editor David Brousell, who first came up with the idea of producing a user group directory, to add significant groups up to the last deadline minute without having to sacrifice accuracy—the usual victim in such circumstances. Brousell had help from a seasoned hand in information technology reporting, Kurt Rothschild, a consultant who made a name for himself in computer journalism long before faxes became pervasive.

When Rothschild—who works a phone the way a programmer develops code, relentlessly and seemingly effortlessly—completed his dawn raids on recalcitrant European systems companies and user groups and his nocturnal calls to their counterparts across the Pacific, the fax machine began to whir with incoming messages from Weierstadt to Turramurra (West Germany and Australia, respectively).

After assembling the directory, Rothschild interviewed the user groups, searching for their true identities and determining just how independent they were from the companies around whose products they had formed. You'll find his conclusions in "The Age of Influence" on p. 18. It's required reading, given the role your own user group ought to be playing in keeping your major IS suppliers on track.

### Worthy of Optical Inspection

One topic on the technology horizon certain to grow even faster than our meteoric user group directory is erasable optical storage, the subject of Dallas Bureau Manager Bob Francis's story, "PC Backup Moves to Optical Era," p. 57. Francis goes beyond the headlines generated by Steve Jobs' use of optical drives in his NeXT system to discover that such products are no longer just promises. He reports on four manufacturers that now offer erasable optical drives.



**FAX FANS** David Brousell (l.) and Kurt Rothschild in DATAMATION's New York offices.

—Tim Mead, Editor-in-Chief

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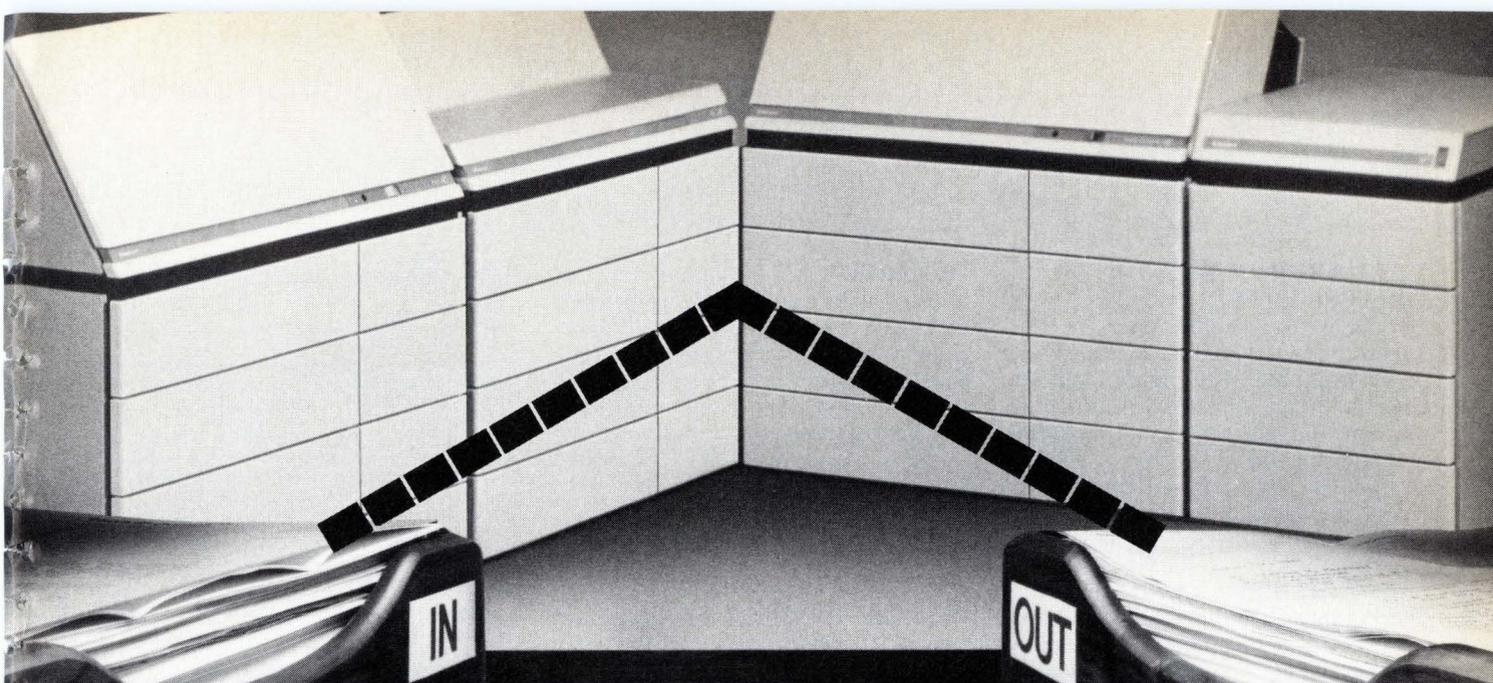
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**VALUABLE... BUT DISAPPOINTED**

I would like to compliment you on Howard Fosdick's and Linda Garcia-Rose's recent article "DB2 Users Stand Up To Be Counted" (Oct. 15, p. 45). I enjoyed the piece and thought it contained much valuable information of interest to me and other independent software vendors.

I was disappointed, however, in the very limited number of vendors that were selected for the list of vendors that accompanied the article (titled "Some Vendors of DB2 Products"). Sterling Software, Dylakor Div., was among the first companies to develop and market a DB2 interface product. I am referring to DYL-INTERFACE DB2, which links DB2 with any of Dylakor's information management systems (DYL-270, DYL-280, DYL-280 II). DYL-INTERFACE DB2 was introduced over two years ago.

In addition, I would like to point out that our sister division, Answer Systems, also markets several DB2 products, one of which, MARK V, was even mentioned in the article. Answer Systems was, nevertheless, omitted from the listing of companies with DB2 products.

**Carole Morton**  
President  
Sterling Software  
Dylakor Div.  
Chatsworth, Calif.

The article "DB2 Users Stand Up To Be Counted" was another example of DATAMATION's excellent examination of the industry's most current topics. I am sure that most of your readers found it interesting and will probably use it as DB2 reference material. Congratulations.

It was gratifying to see the name of one of our products mentioned in the body of your article, but I was extremely disappointed not to see the name of Sterling Software, Answer Systems Div., in the list of DB2 software vendors. We have been among the first companies to support the relational offering from IBM. Our DB2 products cover the full spectrum of user needs from queries to batch and OLTP development, and to connectivity between multiple platforms. We are proud of our products and firmly believe they are a sound offering to the DB2 community.

It is the prestige of your magazine, and the realization that the article will be used as a quick vendor index, that has motivated the writing of this letter.

**Donald E. Annala**  
President  
Sterling Software  
Answer Systems Div.  
Canoga Park, Calif.

**PUZZLED**

Looking at the names of current members of the Hall of Fame (Sept. 15, p. 67), I conclude that they are deserving of selection and our respect.

I am puzzled, however, by the omission of Dr. John Atanasoff. After all, he was declared—by decision of the U.S. District Court—to have been the inventor of the digital computer.

**Thomas M. Stout, P.E.**  
Northridge, Calif.

*We will add to the Hall of Fame every year and have meant no disrespect to Atanasoff's great achievement by our choices so far.—Ed.*

**THE FACTS, PLEASE**

Having been a regular reader of your magazine almost since its inception, I am, at last, unable to resist making a comment about your salary survey (Oct. 1, p. 53).

You should include field service information!!!

I have worked for four different manufacturers' field service organizations since 1962, and each year I leaf eagerly to the "salary chart" page, expecting to find somewhere, probably near the bottom, a line or two for the "field service engineer." When it is not there, I always say, "Next year, I will write them a letter."

Well, this year, I'll not wait. Why not ramp up now and give us the facts in your next year's survey?

Thanks. I have enjoyed, though not always agreed with, your magazine.

**John Lockridge**  
Stuarts Draft, Va.

**ACCESS**

There are several ways to use DATAMATION beyond just reading it. You can call on our experts—the editors who specialize in certain fields are eager to hear of your experiences in and thoughts on how to manage information technology resources. You can contribute articles to the magazine by supplying us with manuscripts for our review. You can learn how competitors and colleagues are using software and systems from our research department, which can provide details of both published and unpublished studies on various aspects of technology usage. And you can always voice your opinion by submitting a letter to the editor—electronically or by post.

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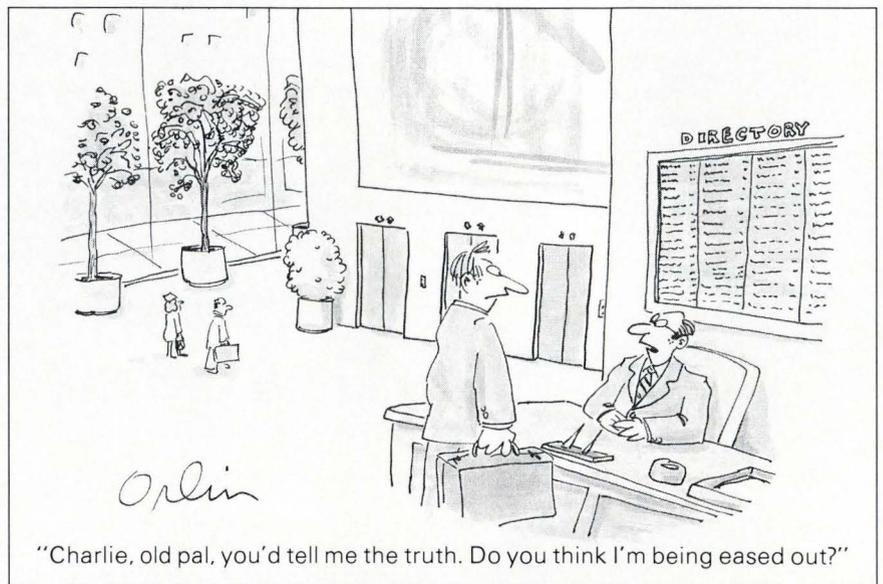
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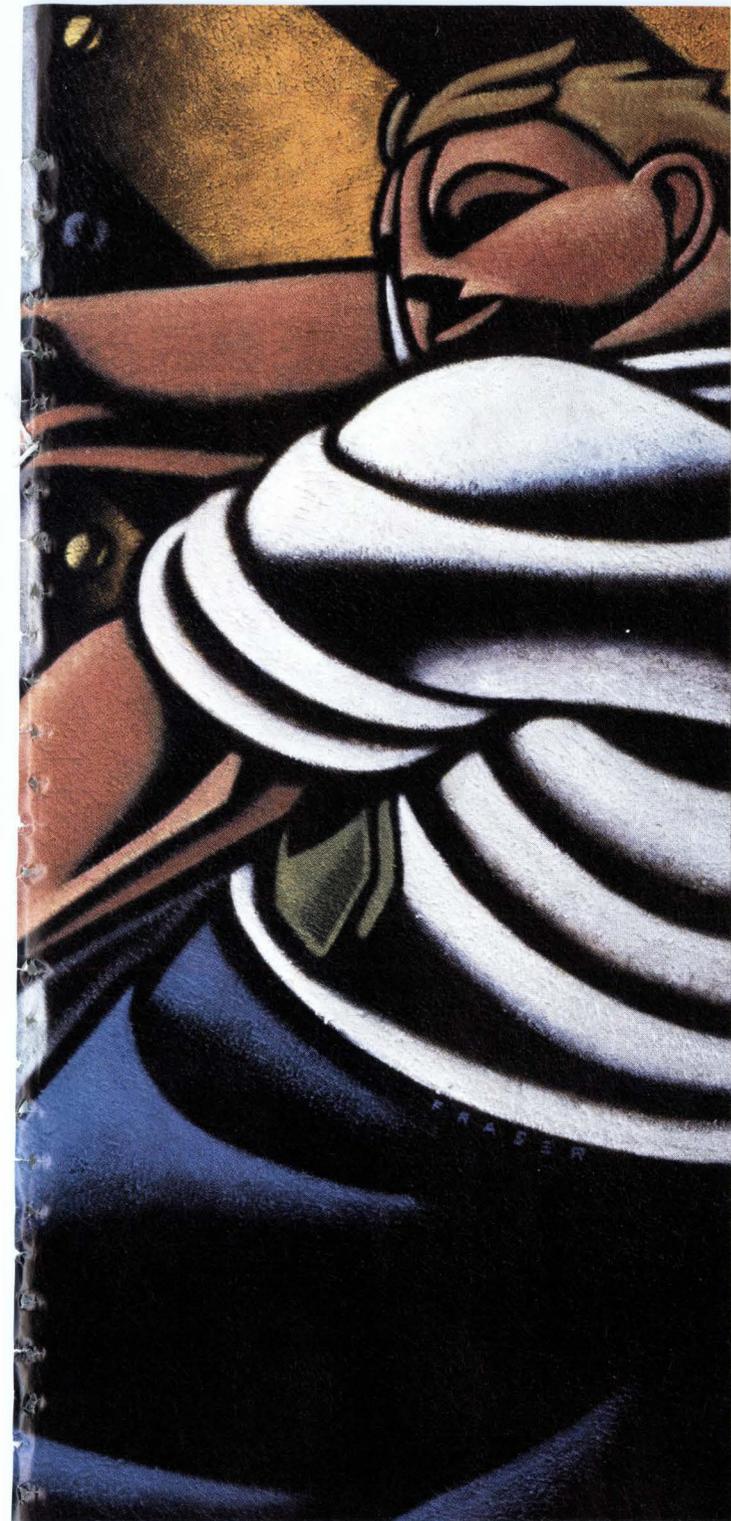
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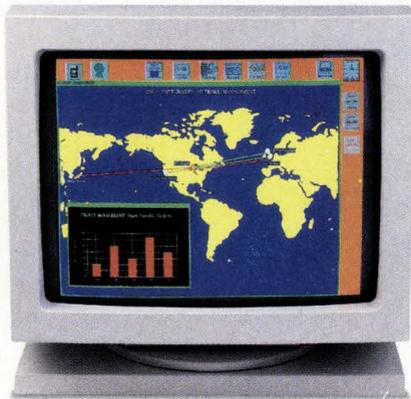
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## A Trend Continues

LOS ANGELES—The consolidation trend continues, with the latest participant being **First Interstate Bancorp.** The banking giant has decided to consolidate network support to three centers: here, Phoenix, and Portland, Ore. It currently has seven data centers, according to an MIS exec. "We're looking at ways to reduce expenses," he says. Thus, while some employees may be offered a chance to relocate, an unknown number of others will not.

## Stratus, Olivetti Unix Effort

IVREA, ITALY—Italy's IS champion **Ing. C. Olivetti & Co. SpA** has agreed with **Stratus Computer Inc.**, Marlboro, Mass., to develop a new version of Unix that runs on the U.S. company's fault-tolerant machines. The new system should be available by the end of 1989. One of the purposes for the development is to allow the Stratus XA 2000 machine to be integrated into Olivetti's Open System Architecture.

## A New Minisuper

BOSTON—Score a reasonably big one for a new entrant in the chaotic minisupercomputer market. **Myrias Computer Corp.**, an American-Canadian hybrid that unveiled its SPS-2 (Scalable Parallel Supercomputer) at last month's Supercomputing '88, has signed its first contract. It should come as no surprise that the \$1.5 million deal went down with the **U.S. Department of Defense**, which contributed \$3.5 million to Myrias's creation and waited patiently while what would have been the SPS-1 never made it past the beta test stage. Neither the specific piece of the DOD that will use the SPS-2 nor the machine's actual job were revealed. Delivery will take place in the first quarter.

## High-Tech Edge

GRENOBLE, FRANCE—Most of Europe's schoolchildren have access to computers, but few have the chance to play with a real supercomputer. That's now happening at the **Lycée du Grésivaudan** near Grenoble, which has become one of the world's first high schools to install a minisupercomputer-class machine. The school is using an **Alliant FX/1** system to give its pupils an edge in preparation for the high-tech Europe of the 1990s.

## Micro Channel PCs

GRANVILLE, FRANCE—Look for **Normerel Electronics** to supply **Memorex Telex Corp.**, Tulsa, Okla., with its Micro Channel Architecture IBM-compatible PCs sometime next year. Normerel has been supplying Memorex-Telex with PC compatibles for some time, and the new offerings fit in with Memorex-Telex's strategy of offering products to take advantage of its share of the 3270 marketplace. Normerel will also sell the MCA-compatible computers in Europe, where it claims to have a ready market for the machines. Normerel will be using San Jose-based **Chips and Technologies Inc.**'s MCA chip set for its versions of the PS/2 models 50 and 60 and Irvine, Calif.-based **Western Digital Corp.**'s chip set for its Model 70 clone.

## Rewritten DBMS

BELLEVUE, WASH.—Many microcomputer software companies have been releasing OS/2 versions that basically have been ports of MS-DOS versions. But **Revelation Technologies Inc.** wants to be one of the first to offer a completely rewritten version of its product under OS/2. Company officials say they soon will market an OS/2 version of its database management software that will take advantage of many of OS/2's features.

## Single-Minded Europeans

PARIS—The computer societies of 12 European countries plan a major meeting here in May to thrash out ways they can work together in preparation for the coming of the single European market after 1992. The **British Computer Society** and its counterparts in France, West Germany, Italy, the Netherlands, Belgium, Spain, Portugal, Denmark, Luxembourg, Ireland, and Greece hope to agree on ways in which they can establish mutual professional standards and better prepare Europe's IS community for the unification. Issues under discussion will include legal aspects of software copyright, hacking, and privacy.

## Videotex System

SINGAPORE—The **Singapore telecom authority** has begun field trials of what is claimed to be the most sophisticated videotex system in the world. Called **Teleview**, the interactive system has cost \$25 million to develop and allows users to make reservations, send electronic mail messages, and download software. By the end of 1989, the Teleview system is expected to be serving 450 terminals at business sites and double that figure in homes.

## A U.S. Launch

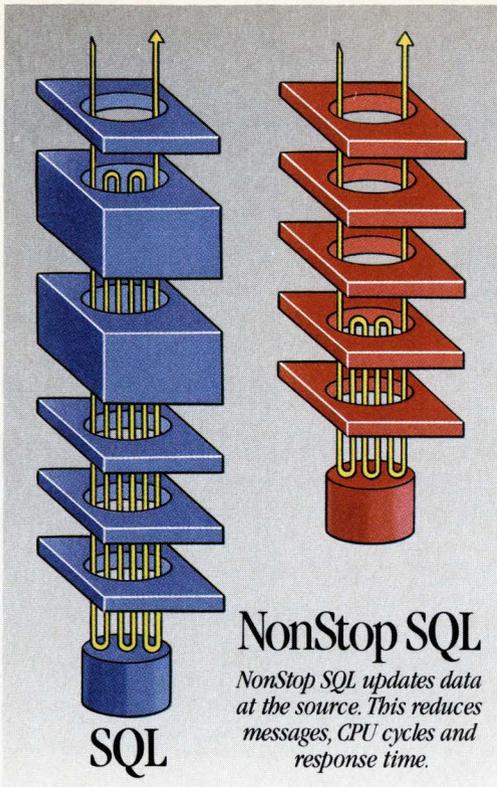
RESTON, VA.—Paris-based services company **Groupe Générale de Service Informatique (GSI)** and networking firm **Danet GmbH** of Darmstadt, West Germany, have joined forces to establish a new U.S. company in Reston, Va., called **GSI-Danet Inc.** The new company plans to launch OSI-based network testing products in the U.S. market in the next few months.

## Raw Random Data

Waterbury, Conn., and **Platinum Technology Inc.**, Lombard, Ill., have signed a marketing agreement, which, says an Orion spokesman, will let users make general ledger entries at field locations and send them directly to the boardroom. Platinum's **GL** program at remotely located PCs lets users do local journal entries and, without rekeying, send the data directly into Orion's **FDS/Pyramid** data collection, consolidation, and report writing program. Communications software is built into **FDS/Pyramid**, which also performs the validation, cross-checking, and currency conversion necessary to create boardroom-quality reports.

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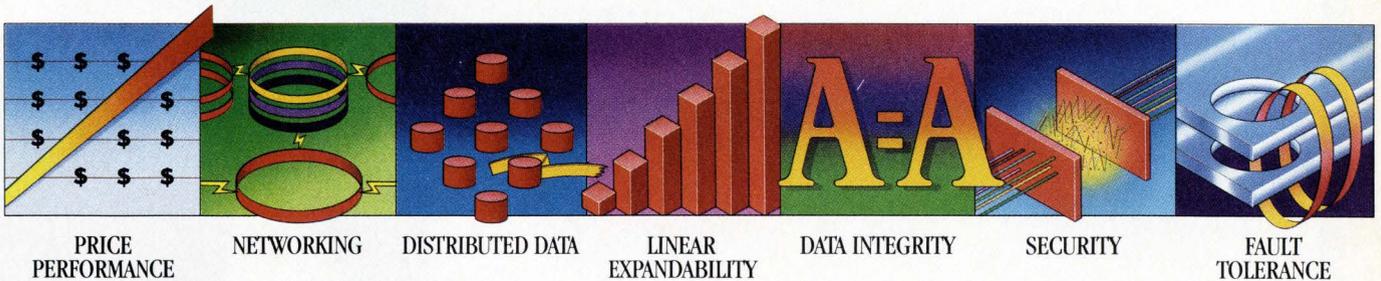
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it  
now.

Even the Greeks could not have envisioned them. Yet they are a natural extension of the democratic ideas that slowly made their way from Athens to Philadelphia a little more than 200 years ago. Computer industry user groups embody the high-tech business equivalent of democratic government, quasi-legislative bodies for information systems. A phenomenon that does not exist in any other known industry, these user groups may not directly decide a vendor's policies and products, but they are a force to be reckoned with, and one that is rapidly gaining strength and influence.

Once largely organized around major hardware platforms for the exchange of information and for professional association, user groups have stepped into a new role. Unsatisfied with being mere recipi-

# The Age of Influence

Once concerned mainly with information exchange, computer industry user groups now take an aggressive role in shaping vendor policy and product development.

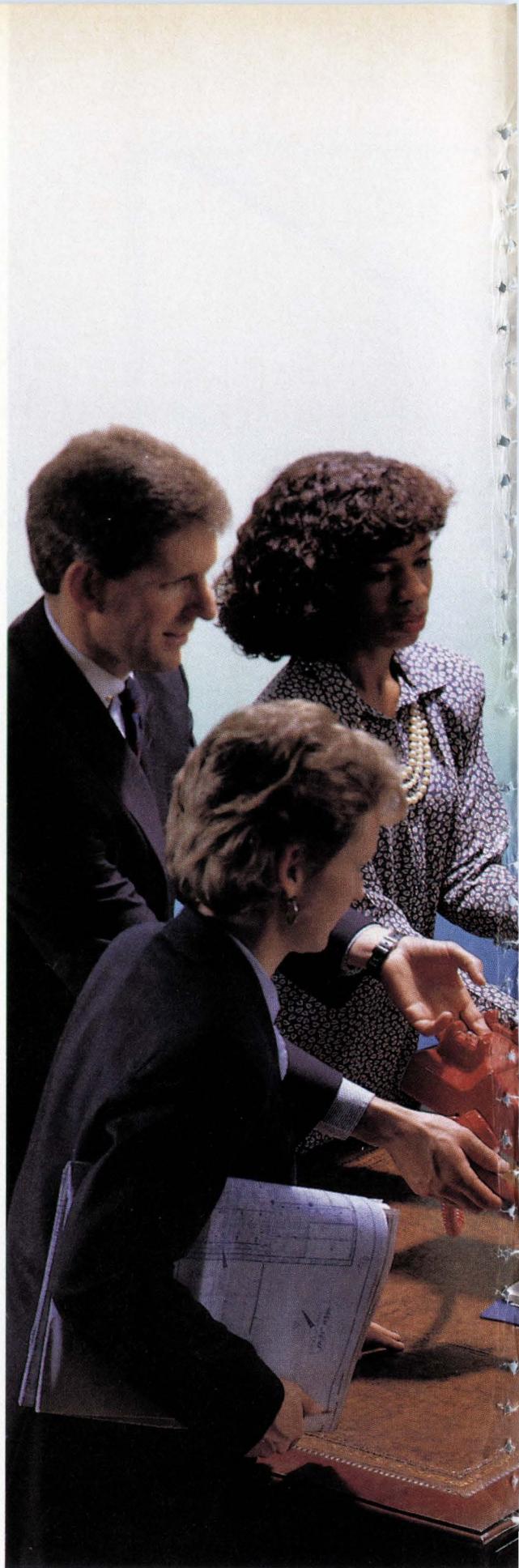
BY KURT ROTHSCHILD

ents of information, they are now dispensing it—right to the vendors that supply them with products and services. The objective: to influence product enhancements and development.

Moreover, the mind-set of user groups is changing dramatically. Many of the older, hardware-originated groups have adopted a distinct software consciousness, and, at the same time, hundreds of software-oriented organizations that represent specific operating systems and applications programs have emerged.

At the root of this change is the idea of independence—even if many user groups still receive vendor financial support. This idea has caught the imagination of computer professionals to the point that they have become aggressive in influencing product development and service and support policies.

Indeed, many groups consider their product suggestions to vendors the most important contribution they can make as a group. Most of them believe that their vendors really listen to these suggestions. And the vendors themselves look upon their user groups as the most obvious places to get product feedback—as, in effect, ready-made market research sources. Some vendors go so far as to formally send out prod-



**Where else** can a vendor get such in-depth, meaningful ideas about how to improve products?

uct questionnaires to the members of their groups.

Though users can and do make product suggestions to vendors on an individual basis, this type of input has greater impact on the vendor when it comes from a group. Some of the more professional and mature groups have formal ways of discussing product enhancement and development aspects: most considerations are first brought up and discussed in special interest subgroups; they are then brought before the entire membership, and if after discussion they are deemed of enough importance to the majority of the group, they are presented to the vendor.

This kind of thorough evaluation gives product-related considerations considerable weight, and makes the vendor pay serious attention to them. After all, where else can a vendor get such in-depth, meaningful ideas about how to improve products and develop new ones?

"They do really use us for market research purposes," says James Davies, president of the Federation of NCR Users. "They really listen to us. We are much more effective now than we used to be because of our current size."

The Federation of NCR Users, an umbrella organization with 32 user groups under it, represents some 4,000 corporate members. Five years ago, there were 27 user groups under it, and three or four may be added this year. "More groups yet will enhance our value, for we will be speaking for more users and will be listened to even more," says Davies.

Not that they haven't been heeded before. Davies says that three years ago the group caused NCR to delay and revamp a proposed maintenance price change. Similarly, some users were experiencing difficulties with the NCR billing system, which was also revamped when the matter was brought forcefully to NCR's attention.

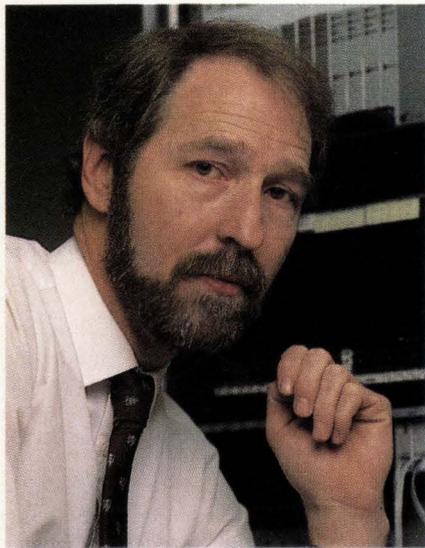
Tangent, a group of Tandy equipment business users, is trying to become a central organizing force for all of Tandy's local personal computer user groups, according to John Esak, president of Tangent. "We take new ideas proposed by our members very seriously, and although we have no power with Tandy, its response has been excellent," he says. Esak points to the availability of 70MB hard disk drives and the XENIX operating systems as direct results of the group's input. "When you can achieve that kind of result, you know you are being listened to," he says.

### **With Size Comes Independence**

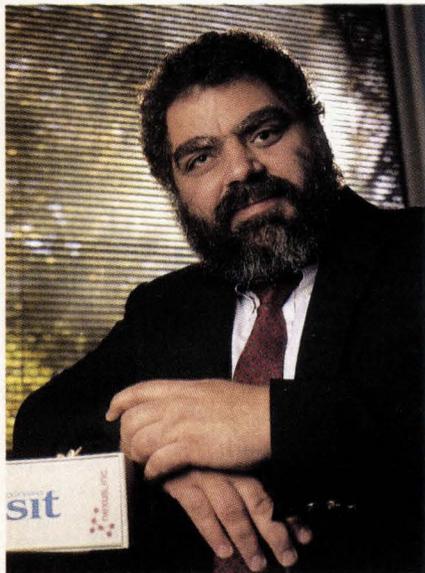
As groups become larger and gain greater status, they tend to become more independent. They can attract a larger number of other vendors to their meetings and charge for exhibition space. Until they attain that certain, undefined size, however, many have to depend on their chief vendor for some support. This can cover anything from a vendor paying for the meeting rooms, to the vendor offering its own facilities for the group's meetings, to as much as 100% di-

*Kurt Rothschild is a computer electronics and computer industry market researcher and consultant based in Yonkers, N.Y. He was formerly a managing editor of Electronic News.*

Photograph by Roberto Brosen



**BANYAN USER GOOD:** "Our people influence Banyan's product development."



**TANDY USER ESAK:** "Tandy's response has been excellent."

rect financial support.

While many groups consider themselves independent, the actual degree of independence is difficult to pin down, partly because of the lack of a definition but also because most user groups take pride in proclaiming that they are independent, whether or not this assertion is justified.

What helps user groups keep their organizations solvent and achieve independence is revenue from their meetings—particularly from renting out space to exhibitors. Some groups can generate income in this way because of the importance they've attained due to their size and the heavy attendance at their meetings, particularly if they are national or international in scope. Exhibitors are only too willing to show their wares then, for it gives them an opportunity to interact with a large number of current and potential customers.

But numbers are not the only attraction. Many of the vendors believe that a user group meeting is a more fruitful place to exhibit than at larger trade shows because the audience is better defined at group meetings and more directly focused on the vendor's products.

Another result of growth for user groups is that they can afford to employ outside professional management services to run the day-to-day aspects of their business. Many of these services have sprung up in recent years, and several of the management services have

contracted with more than one user group.

The professional management service acts as the headquarters of the user group, sending out the mailings, newsletters, and whatever else is published; collecting dues from members; and making arrangements for meetings and the renting of exhibition space. The user group thereby derives the benefit of a permanent address—instead of, as before, having its address change with every election of new officers. (The majority of smaller groups customarily designate the address of their president as the user group's address.)

Apart from these internal dynamics, the external landscape has shifted, particularly as software takes center stage. The change in the IS environment from

proprietary, single-vendor solutions toward standards means that software vendors must be more alert to what is deemed necessary by their users. And there is no better place than user group meetings to get so much of this valuable information at one place and time.

Like other observers of the user group scene, Guy Nesin, executive manager for user groups at Intergraph Corp., Huntsville, Ala., notes that the emphasis has shifted from hardware to software at these meetings. "The environment of the IS area is changing, and the topics at the meetings reflect this," he says. "This is all to the good, for it shows there is flexibility to the group. Without it, groups would not be able to survive, for their interests would soon become too parochial to keep attracting large numbers of members."

**T**he emphasis in the information systems area is changing from hardware to software, and the topics at the meetings reflect this.

**GUY NESIN**  
**INTERGRAPH CORP.**

Proof of a group's vitality is the growth of its membership. In the case of Banyan Systems Inc.'s user group, meeting attendance went up to more than 425 members this October, from 112 members two years ago. "Attendance goes up because there are more installations of Banyan systems, there are more users who want more support from other users, more vendors participate, and more newly developed products are shown at each meeting," remarks John Good, president of the Association of Banyan Users International (ABUI). "Our technical people are influencing Banyan in the direction of their product development, and they like the sense of having an input into what is being developed," he adds.

The topics discussed at the most recent Banyan user group meeting ranged from enhancements of Banyan's product offerings to DEC integration, IBM-related facilities, Wang OS/2 support, Apple integration, asynchronous facilities, distributed VINES networks, mail enhancements and security, as well as connectivity options and network management.

"The criteria we use in inviting vendors to our meetings is that their products must work in the Banyan environment. This is central to our considerations. The meetings are not an open house for any vendor," says Good.

#### **Software Groups Are Application-Oriented**

Because most of the software user groups are structured around specific software packages, these groups are usually oriented to particular applications or industries, in contrast to the more broadly based hardware groups. Hardware user groups, however, try to take advantage of the software expertise by including presentations by software vendors in many of

## How Vendors View the Relationship

their meetings. This situation is a reflection of the way user groups adapt to changing conditions, and a survey of a number of the more than 100 user groups listed in the following directory (see p. 25) bears this observation out.

"When I first got involved with user groups in the early '70s—not the group I'm with now—a vendor would come to a meeting and show his products, and his products were all everybody talked about," says Steven Niver, president of the Cray user group. "The vendor in those days wanted you to be provincial, and nobody in those days talked about any other vendor. Today, on the other hand, we have speakers from many other vendors, some recommended by Cray itself.

"There is much more emphasis on software than on hardware at user meetings today," Niver adds, "and we generally invite a number of software representatives to come and talk to us."

The reality is that a single vendor can no longer supply all of a customer's needs, especially in the software area. Users have to reach out to different suppliers to maximize the benefits of their existing systems. Such behavior is not considered a threat to a system's user group, or to the vendor. Instead, it's seen as an acknowledgment of the fact that the greater the financial commitment to a particular system, the greater the need to organize a user group around it and keep it viable by making it reflect the reality of the marketplace.

The benefits of this greater interaction with other vendors as well as with a user group's major vendor have helped make user group meetings more productive and more attractive. In the case of the Cray user group, for example, which has invited a number of software representatives to come and talk at its meetings, attendance at these meetings rose last spring to 400, up from 40 in 1980. At next year's meeting, 500 members are expected, Niver indicates.

Another major trend that user groups must contend with is mergers and acquisitions. Pansophic Systems, Lisle, Ill., recently acquired a number of smaller companies that did not have strong, formal user groups. It blended these local, informal groups into its Pansophic Graphics Products Co. user group.

"The users of the acquired companies told us they liked this, for this way they heard from their supplier more often," says Sharon Adcock, product manager at Pansophic Graphics Products. "It also alleviated their fears about what was going to happen to them after their vendor had been acquired. And we found it advantageous because it made it possible for us to communicate with a larger number of users at one time. User groups are definitely beneficial, and we in-

In many ways, it's a double-edged sword. For vendors, user groups are both the world's greatest market research lab and a constituency with considerable power over them.

Guy Nesin, executive manager for user groups at Intergraph Corp., Huntsville, Ala., outlines the essential responsibilities of user groups. "There are three parts to their functions. One, to keep the company accountable to existing users who have to deal with new environments in the IS area. Two, to provide strong steering inputs to the vendor for product enhancements of existing products. And three, to help write specs for new product development."

Adds Richard Meise, president of Banyan Systems Inc., a networking supplier in Westboro, Mass., "the user group's input plays an important role in our corporate planning."

The importance of user groups to product development was also stressed by Adam Zais, director of marketing at Computer Solutions, Burlington, Mass. The company's software runs on the Hewlett-Packard 3000 Series minicomputer.

"Once you get beyond a certain number of users, it gets difficult to manage a user relationship on a one-to-one basis. A user group then becomes a viable way of staying in touch with your users," he says. "We get excellent feedback from the user group on how to enhance and develop products for the network environment. At the same time, it gives us the opportunity to provide information to the members of the group on what we are doing in this area. It is a constant give-and-take, which is the best way for product development."

This relationship can only happen when the vendor and the user group have a matching level of commitment to the meetings, Zais notes. "It is not a frivolous way of spending a few days away from the office."

At one meeting, 40 users requested a specific product enhancement that was incorporated in the company's most recently introduced product, Zais says. "These are the tangible results of taking the time and spending the money to attend user meetings. If the seriousness and commitment are there on both sides, something productive is bound to result."

Management Science America Inc., Atlanta, looks upon its user group as a valuable contributor to its own efforts. INTERACT, a user group sponsored by MSA, serves as an umbrella organization for 10 regional and industry-specific groups. "The industry-specific groups are especially playing a major role in providing input to us for the enhancement of our products," says Kerry Coxworth, INTERACT manager of meetings.

Special-interest groups were singled out by other vendors as being "most vociferous" in coming up with product ideas. "Sometimes, they want us to do things that clearly are beyond what is our responsibility. But this only shows the degree of enthusiasm that these groups generate," says Nesin of Intergraph.

Even companies that do not have user groups themselves are very interested in taking advantage of them. For instance, printer manufacturer Okidata, Mount Laurel, N.J., last August organized what it calls a speakers bureau in its effort to reach out to user groups. Appearing before user groups is considered to be a good way to educate end users about a company's current products and future direction. Edward Goldberger, Okidata's vice president of marketing, says that "by being at these meetings, we can answer questions directly and we will learn more about their printer needs on a firsthand basis."

To implement its program, Okidata notified 200 user groups.

tend to strengthen and build ours."

Another recent example of a user group having to deal with the ramifications of its supplier being acquired is Computer Associates International Inc.'s purchase of Applied Data Research Inc., Princeton, N.J. The acquisition occurred just a few weeks prior to the scheduled annual meeting of the ADR user group, Cadre, in Atlanta. Cadre members had many questions for CA management, including a number about R&D, product enhancement and service.

One of the first things that CA had to deal with was the future of its own relational DBMS, CA-Universe, and ADR's own Datacom/DB. CA says it will eventually come out with a single, merged DBMS.

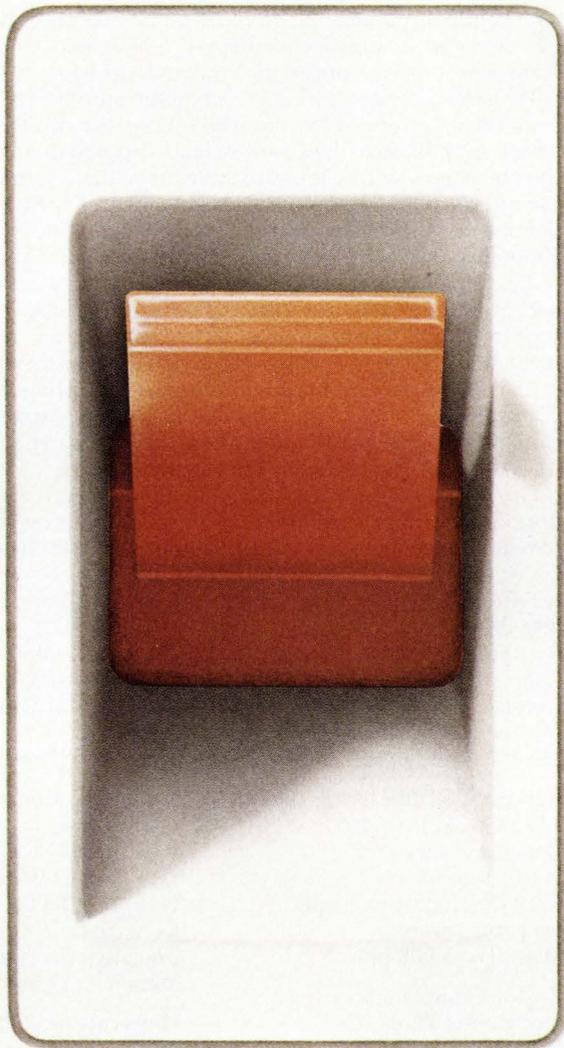
Although the pace of industry consolidation is ex-

## How to tap 32,000 of our best ideas.

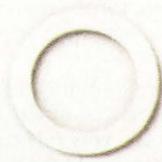
In the files of Patent Offices around the world are over 32,000 active IBM patents. Although all of them can't be used by turning on one computer switch, most were developed to do one thing: put advanced technology at our customers' fingertips.

For example, IBM scientists and engineers pioneered every major innovation in disk storage and developed today's most advanced systems. These systems let users store the entire customer files of a medium-sized business in the space of a four-drawer file cabinet.

An IBM researcher invented dynamic random access memory (DRAM), the most widely used computer memory technology. DRAM



ON



OFF

is incorporated in IBM's one-million-bit memory chips, the first of that density used in a computer. The world's fastest, most reliable chips, they retrieve information for customers in billionths of a second.

And IBM engineers invented the world's most sophisticated device for connecting and cooling computer circuitry. This helps increase speed and ensures reliability even when customers' computers perform many millions of computations per second.

Because IBM is committed to leadership in state-of-the-art technology, our customers can depend on us to offer more state-of-the-art solutions. That's IBM technology at work.

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pected to increase, most of these moves have resulted in few problems for the users of the affected companies or products. However, there can be an occasional problem, such as when a vendor changes policy.

A case in point is the decision by Martin Marietta Data Systems, Bethesda, Md., to discontinue its commercial software business. "This leaves us to fend completely for ourselves," says Larry Cram, president of the MAS (Modular Application Software) user group. One of the results of Martin Marietta's action is that a "goodly" number of users are dropping the package and going to some other software, he indicates. These users will, of course, then cease being members of the group, thereby weakening it. "The group may exist for another year or two, but then it

In those days, nobody talked about any other vendor. Today, we have speakers from many other vendors, some recommended by Cray itself.

STEVEN NIVER  
CRAY USER GROUP

will probably disappear," Cram predicts. This will make it even harder on those users who will continue to work with the software system, for the mutual support will deteriorate just at a time when it is most needed.

"We have been looking at the possibility of getting a third-party software maintenance company to give the necessary support, but this is a very difficult program; it has more than 1 million lines of COBOL code," says Cram. "The user group has been trying to band together to keep a fault list, but without having access to the people who wrote the code—and most of them are already gone—it is extremely difficult to keep the system going."

Despite efforts to get Martin Marietta to change its mind, the company is adamant, according to Cram. "We were told that top management decided to cut it off because it was not profitable," he says. "We chose the program originally because of the company's position, but this shows that you can't count on anything."

Dan Canzano, general manager and director of manufacturing systems at Martin Marietta, says he can understand that some users may not be happy with his company's decision, but indicates that the company will continue to support its customers under existing contracts. "We think we made the right ethical decision," he says. He concedes, however, that in a situation such as this, when a company changes directions, "you can't satisfy everybody."

One thing that users everywhere will be able to count on, however, is the continued proliferation and growth in stature of user groups. As they grow in effectiveness, the IS industry itself will be more in tune with what the people who use its goods and services really want and need. And isn't that the true realization of democracy?

## PC User Groups Are Too Numerous To Count

The rapid proliferation of microcomputers has spawned a new class of users who range from computer enthusiasts to desktop publishers, many of whom have formed their own user groups.

With the penetration of microcomputers into new applications, with the work often performed by untrained users, mass confusion is often the first result. As millions of these earnest but frustrated users try to make sense of their machines and the software that runs on them, reams of documentation can often serve as barriers instead of solutions. For experienced microcomputer users, the challenge can be even greater as they try to learn the latest about new software, hardware, and other developments.

To overcome this hurdle, many microcomputer users increasingly turn to user groups that have been formed for the chief purpose of dispensing helpful information. The groups serve microcomputer users in the same way that medium and large system user groups have served their members.

Like the micro itself, micro user groups have proliferated in the last five years: there are now more than 1,000 such groups, according to Cambridge Communications, an Arlington, Mass.-based research firm that tries to keep track of them. The 10 leading ones are listed here.

Groups vary considerably and offer different levels of knowledge and support. Some feature small meetings or special-interest groups, while others have mass meetings whose participants can include novices and executives.

A.P.P.L.E. Co-op  
290 SW 43rd St.  
Renton, WA 98055  
(206) 251-5222

Contact: Charles Stillman,  
member services manager  
Members: 28,000 internationally

Berkeley Macintosh Users Group  
1442A Walnut St., #62  
Berkeley, CA 94709  
(415) 549-2684  
Contact: Herry Critchfield,  
executive director  
Members: 5,000-plus

Boston Computer Society  
One Center Plaza  
Boston, MA 02108  
(617) 367-8080  
Contact: Cathy Perry,  
member relations manager  
Members: 28,000

Capital PC User Group  
51 Monroe St.  
Plaza East Two  
Rockville, MD 20850  
(301) 762-6775  
Contact: Tom Enrico,  
president  
Members: 6,000

Chicago Association for  
Microcomputer Professionals  
P.O. Box 380  
Deerfield, IL 60015  
(312) 831-0286  
Contact: Julian Horwich,  
executive director  
Members: 560 microcomputer  
managers and MIS developers  
from 196 enterprises

Chicago Computer Society  
P.O. Box 8681  
Chicago, IL 60680  
(312) 794-0706  
Contact: Mary Dolce,  
president  
Members: 2,000

FOG International Computer  
Users Group  
P.O. Box 3474  
Daly City, CA 94015  
(415) 755-2000  
Contact: Gale Rhoades,  
executive director  
Members: 17,000

Houston Area League  
of PC Users  
(HAL-PC)  
P.O. Box 61266  
Houston, TX 77208  
(713) 64-HALPC  
Contact: Jim Nech,  
president  
Members: 8,000-plus

Microcomputer Managers  
Association  
385 Sylvan Ave.  
Englewood Cliffs, NJ 07632  
(201) 569-8542  
Contact: Virginia Talamo,  
public relations spokesperson  
Members: 500 managers

New York Personal  
Computer Inc.  
40 Wall St., Suite 2124  
New York, NY 10005  
(212) 533-NYPC  
Contact: Ron Asher  
Members: 2,800

# The DATAMATION International User Group Directory

The 1988/89 User Group Directory, organized by vendor company and listed alphabetically, contains 112 entries, nearly three times the number of user groups listed in the inaugural directory last year.

**Vendor:** AICorp.  
**Group Name:** AICorp User Group  
**Address:** 100 Fifth Ave.  
 Waltham, MA 02254  
**Phone:** (617) 890-8400  
**Annual fee:** None  
**Individual members:** 1,600  
**Corporate members:** 600  
**Systems/products:** AI products and services that run on IBM mainframe series 370, 43XX, 30XX or compatibles, under the MVS/XA, VM, and MVS operating systems  
**Next meeting:** October 1989, place to be announced  
**Top officer:** NA  
**Relation to Vendor:** Wholly owned  
**Purpose:** To exchange experiences and information with AICorp executives and other users from around the world  
**Services provided:** Periodic regional meetings and newsletters

**Vendor:** Altai Software Inc.  
**Group Name:** Altai Software User Group  
**Address:** 624 Six Flags Dr.  
 Arlington, TX 76011  
**Phone:** (817) 640-8911  
**Annual fee:** None  
**Individual members:** 400  
**Corporate members:** NA  
**Systems/products:** Zeke, "The Scheduler That Works," and Zack, "The Operator's Operator"  
**Next meeting:** May 3-5, 1989, San Diego  
**Top officer:** Gladys Lee, University of California at San Diego  
**Relation to Vendor:** Fully subsidized  
**Purpose:** To exchange information and bring new product and product enhancement ideas to the vendor's attention  
**Services provided:** Education and training in new products



**A**s groups become larger and gain greater status, their actions become more independent of the vendors.

**Vendor:** Amdahl Corp.  
**Group Name:** Amdahl Users Group  
**Acronym:** AUG  
**Address:** 1250 E. Arques Ave.  
 Sunnyvale, CA 94088  
**Phone:** (408) 746-8959  
**Annual fee:** None  
**Individual members:** 400  
**Corporate members:** 300  
**Systems/products:** All Amdahl products  
**Next meeting:** April 23-26, 1989, Boston  
**Top officer:** George Frickle, USWest  
**Relation to Vendor:** Partially subsidized  
**Purpose:** To exchange information  
**Services provided:** One national meeting per year

**Vendor:** Apple Computer Inc.  
**Group Name:** The Apple User Group Connection (an umbrella organization comprised of approximately 1,100 separate user groups throughout the U.S.)  
**Address:** 20525 Mariani Ave.  
 M/S 36AA  
 Cupertino, CA 95014  
**Phone:** (800) 538-9696 (x500)  
**Annual fee:** None. Fees for individual member groups vary.  
**Individual members:** 500,000 in all user groups  
**Corporate members:** 125  
**Systems/products:** Macintosh and Apple II  
**Next meeting:** NA  
**Top officer:** Ellen Leanse, Apple  
**Relation to Vendor:** Part of Apple marketing program  
**Purpose:** To enable dissemination of information to user groups  
**Services provided:** Monthly newsletter

**Vendor:** Arthur Andersen & Co.  
**Group Name:** ASSIST (A Shared Solution in Software Technology)  
**Address:** 111 E. Wacker Dr.  
 Chicago, IL 60601  
**Phone:** (312) 644-6610  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** 950  
**Systems/products:** Arthur Andersen & Co.'s software  
**Next meeting:** May 17-19, 1989, Chicago  
**Top officer:** Chip Lombardo, The Trane Co.  
**Relation to Vendor:** Partially subsidized  
**Purpose:** To influence the direction and focus of product development activities  
**Services provided:** Two conferences annually

**SPECIAL REPORT**  
**DIRECTORY**

**Vendor:** Ashton-Tate  
**Group Name:** No single national group. However, there are more than 700 user groups and special interest groups in the PC environment with which Ashton-Tate interacts. There are also over 1,000 user groups in the Macintosh environment with which the vendor communicates, as well as separate corporate, government, and educational user groups.

**Address:** 20101 Hamilton Ave.  
Torrance, CA 90502-1319  
**Phone:** (213) 538-7455

**Annual fee:** Varies by group, generally ranging from \$20 to \$40

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** All Ashton-Tate software packages

**Next meeting:** NA

**Top officer:** Marcie Glickman, Ashton-Tate

**Relation to Vendor:** Independent

**Purpose:** To exchange information and share ideas; to feed information back to vendor for product enhancements and new product development

**Services provided:** Quarterly newsletter sent to PC and Macintosh user groups

**Vendor:** AT&T

**Group Name:** Network Users Group—AT&T

**Acronym:** NUGATT

**Address:** University of Wisconsin  
Stevens Point, WI 54481

**Phone:** (715) 346-2957

**Annual fee:** \$50

**Individual members:** NA

**Corporate members:** NA; group newly formed in spring 1988

**Systems/products:** AT&T local network data communications

**Next meeting:** October 24-25, 1989, Washington, D.C.

**Top officer:** Stephen Patrick

**Relation to Vendor:** Independent

**Purpose:** To provide recommendations to AT&T for development of network products and management systems with the objective of encouraging unified architecture and integration of products

**Services provided:** One national meeting a year

**Vendor:** AT&T

**Group Name:** University Unix System V Users Group

**Acronym:** u3g

**Address:** AT&T  
1776 On The Green  
Morristown, NJ 07960

**Phone:** (800) 247-1212 (x585)

**Annual fee:** None

**Individual members:** 400

**Corporate members:** 250 universities

**Systems/products:** Unix System V Operating System

**Next meeting:** March 19-21, 1989, New Orleans

**Top officer:** David Binko, Johns Hopkins University



**T**he professional management service sends mailings and newsletters and arranges for group meetings.

**Relation to Vendor:** Fully subsidized

**Purpose:** To share Unix System V public domain software; to provide technical resource to members; to support discussion on common topics of research and instruction

**Services provided:** One annual meeting; quarterly newsletter

**Vendor:** AT&T Unix Europe Ltd.

**Group Name:** European Unix Systems User Group

**Acronym:** EUUG

**Address:** Owles Hall  
Buntingford, Herts, SG 9PL  
England

**Phone:** (44) 763-73039

**Annual fee:** NA

**Individual members:** 3,500, including companies and academic institutions

**Corporate members:** NA

**Systems/products:** All Unix products

**Next meeting:** April 3-7, 1989, Brussels, Belgium

**Top officer:** Teus Hagen, OCE Netherlands

**Relation to Vendor:** Independent

**Purpose:** To promote the use of Unix and related services through the exchange of information and the cooperative efforts of its members

**Services provided:** Two national meetings per year; periodic workshops and tutorials; quarterly newsletters

**Note:** Fourteen other European countries have EUUG national groups.

**B**

**Vendor:** Banyan Systems Inc.

**Group Name:** Association of Banyan Users International

**Acronym:** ABUI

**Address:** 75 Union Ave.  
Sudbury, MA 01776

**Phone:** (508) 443-3330

**Annual fee:** \$395

**Individual members:** 325

**Corporate members:** NA

**Systems/products:** VINES

**Next meeting:** April 30-May 3, 1989, Danvers, Mass.

**Top officer:** John Good, Turner Construction Corp.

**Relation to Vendor:** Independent

**Purpose:** To exchange experiences and promote product development

**Services provided:** Two annual meetings; quarterly newsletter

**Vendor:** BMC Software Inc.

**Group Name:** BMC User Group

**Acronym:** BUG

**Address:** P.O. Box 2002  
Sugar Land, TX 77487

**Phone:** (713) 240-8800

**Annual fee:** NA

**Individual members:** 136

**Corporate members:** NA

**Systems/products:** IBM mainframes

**Next meeting:** NA

**Top officer:** Chuck Gerton, Pacific Bell

**Relation to Vendor:** NA

**Purpose:** To exchange ideas; to influence future products

**Services provided:** Three regional meetings scheduled for 1989

**Vendor:** Boole & Babbage Inc.

**Group Name:** IMF User Group

**Address:** 510 Oakmead Pkwy.  
Sunnyvale, CA 94086

**Phone:** (408) 735-9550  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** NA  
**Systems/products:** IMS AutoOperator, IMS Resource Analyzer, IMS Resource Monitor, IMS Workload Analyzer, IMS Workload Monitor, IMS Performance Reporter, IMS Transaction Accountant  
**Next meeting:** October 1989, place to be announced  
**Top officer:** Bert Cooley, New York State Electric & Gas Corp.  
**Relation to Vendor:** Fully subsidized  
**Purpose:** To exchange information on products and to request product enhancements  
**Services provided:** Annual meeting

**Vendor:** Bull SA and Honeywell Bull  
**Group Name:** European Federation of Bull & Honeywell Users Associations (with 15 member associations)  
**Acronym:** EFOBHUA  
**Address:** 43, rue de la Chaussée d'Antin  
 75009 Paris  
 France

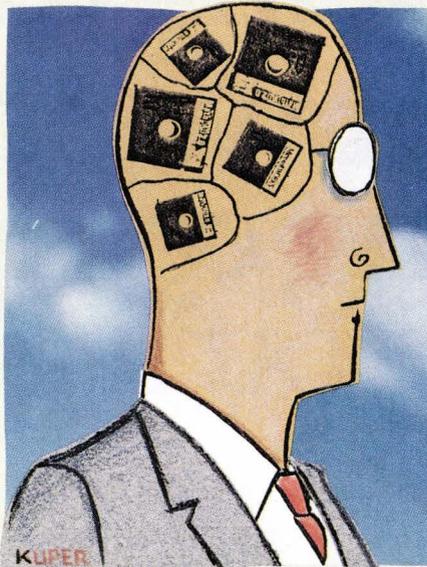
**Phone:** (33) 1-48-74-94-17  
**Annual fee:** £10  
**Individual members:** None  
**Corporate members:** 500  
**Systems/products:** DPS 7, DPS 7000, and associated products  
**Next meeting:** May 1989, Genoa, Italy

**Top officer:** Roland de Conihout, Methodes et Informatique  
**Relation to Vendor:** Independent  
**Purpose:** To establish contact with the developers and manufacturers of vendor's equipment; to coordinate the activity of technical groups set up to handle specific problems; to work in close cooperation at the international level toward a joint definition of systems application and new hardware specifications  
**Services provided:** One international meeting per year; bimonthly newsletter

**C**

**Vendor:** CADAM Inc. (subsidiary of Lockheed Corp.)  
**Group Name:** CUE North America  
**Acronym:** CUE  
**Address:** 312 Captain's Walk  
 Box 13  
 New London, CT 06320  
**Phone:** (203) 443-2883

**Annual fee:** \$400  
**Individual members:** None  
**Corporate members:** 427  
**Systems/products:** All CADAM software  
**Next meeting:** March 13-16, 1989, Los Angeles  
**Top officer:** Rosemary Russo, McDonald's Corp.  
**Relation to Vendor:** Independent  
**Purpose:** To further communication between users and vendor; to promote the use of products and related



**M**any of the older, hardware-originated groups have adopted a distinct and new software consciousness.

vendor systems  
**Services provided:** Two national meetings per year

**Vendor:** Cincom Systems Inc.  
**Group Name:** Network Management Users Group  
**Address:** 10467 White Granite Dr.  
 Suite 300  
 Oakton, VA 22124

**Phone:** (703) 352-4482  
**Annual fee:** None  
**Individual members:** 40  
**Corporate members:** NA  
**Systems/products:** Net/Master software package  
**Next meeting:** Spring 1989, place to be announced  
**Top officer:** Nina Sumrall  
**Relation to Vendor:** Independent

**Purpose:** To exchange information  
**Services provided:** Two meetings per year; quarterly newsletter

**Vendor:** Cincom Systems Inc.  
**Group Name:** Project Oriented (Manufacturers) Special Interest Group  
**Acronym:** PROSIG  
**Address:** 5353 Highland Dr.  
 Jackson, MS 39206

**Phone:** (601) 987-5229  
**Annual fee:** \$100  
**Individual members:** NA  
**Corporate members:** 20  
**Systems/products:** Control: Manufacturing and Control: Financial  
**Next meeting:** Spring 1989, place to be announced  
**Top officer:** Judy Johnson, Vickers AMD

**Relation to Vendor:** Independent  
**Purpose:** To increase awareness and use of software packages  
**Services provided:** Three meetings per year

**Vendor:** Cognos Inc.  
**Group Name:** No single national group. Groups organized on local or regional basis in Canada and the U.S.  
**Address:** 3755 Riverside Dr.  
 P.O. Box 9707  
 Ottawa, Ont. K1G3Z4  
 Canada

**Phone:** (613) 738-1440  
**Annual fee:** Varies by group  
**Individual members:** NA  
**Corporate members:** NA  
**Systems/products:** PowerHouse software  
**Next meeting:** Varies by group  
**Top officer:** NA  
**Relation to Vendor:** NA  
**Purpose:** To exchange information on product and its use  
**Services provided:** Meetings

**Vendor:** Comdisco Disaster Recovery Services Inc.  
**Group Name:** CDRS  
**Address:** 6111 N. River Rd.  
 Rosemont, IL 60018

**Phone:** (312) 698-3000  
**Annual fee:** None  
**Individual members:** None  
**Corporate members:** 971  
**Systems/products:** All  
**Next meeting:** April 20-22, 1989, Orlando, Fla.  
**Top officer:** Raymond Hipp  
**Relation to Vendor:** Fully subsidized



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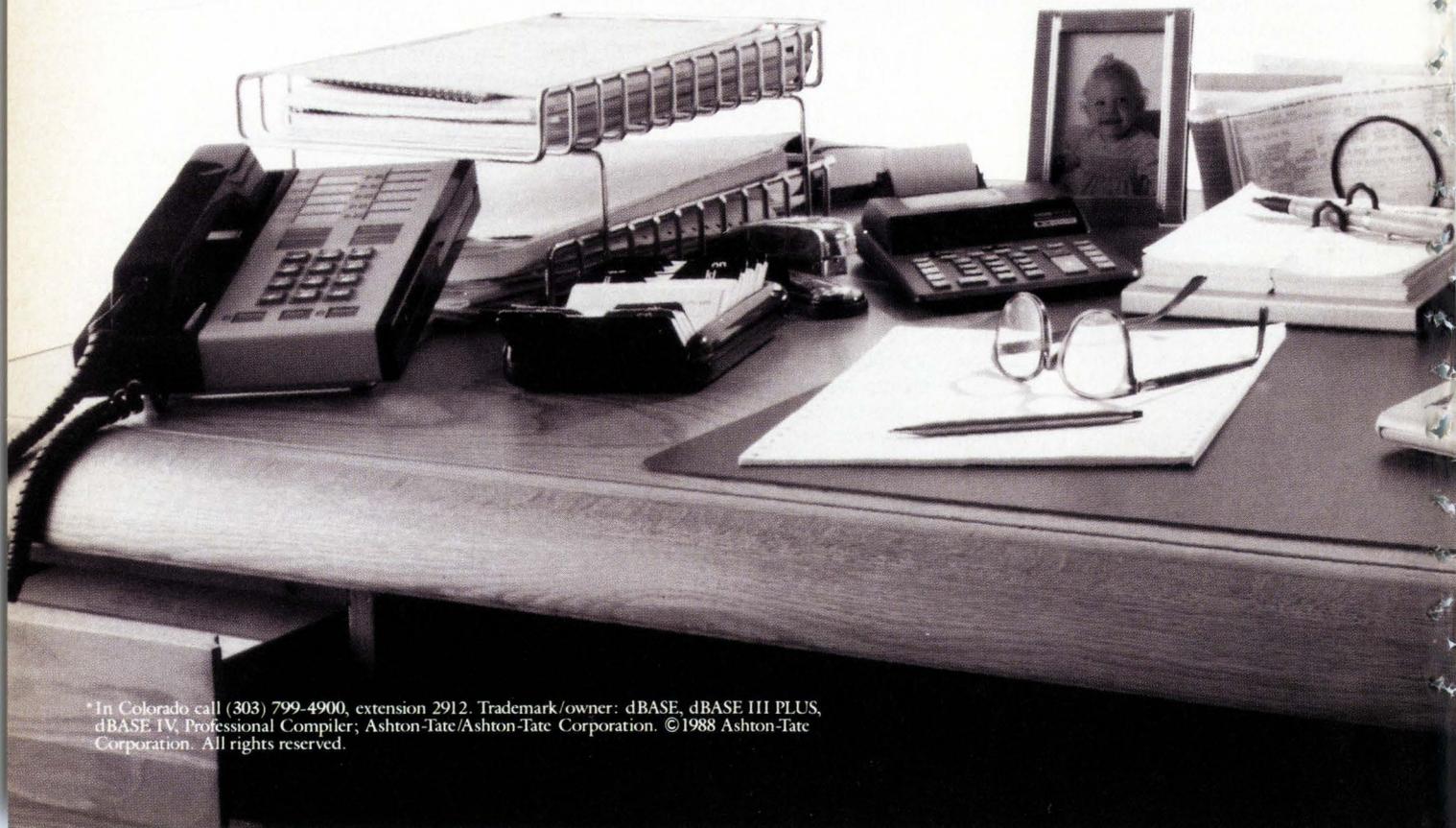
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 **ASHTON-TATE®**

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## SPECIAL REPORT DIRECTORY

**Purpose:** To provide a forum for disaster recovery information exchange and education

**Services provided:** One national meeting per year; quarterly newsletters

**Vendor:** Commodore Business Machines

**Group Name:** No single national group. Commodore does coordinate information on the approximately 600 independent user groups throughout the country based on geographic areas.

**Address:** 1200 Wilson Dr.  
West Chester, PA 19380

**Phone:** (215) 431-9100  
(215) 436-4200

**Annual fee:** Varies by group

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** All products

**Next meeting:** NA

**Top officer:** Pete Baczor, Commodore

**Relation to Vendor:** Independent

**Purpose:** To exchange information

**Services provided:** Regional meetings

**Vendor:** Compaq Computer Corp.

**Group Name:** Compaq is not aware of a national user group devoted solely to its personal computers. However, company representatives frequently speak at meetings of large user groups whose members use its products.

**Vendor:** Computer Associates International Inc.

**Group Name:** Security and Audit Executive Committee

**Address:** 711 Stewart Ave.  
Garden City, NY 11530

**Phone:** (516) 227-3300

**Annual fee:** None

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** Security and Audit

**Next meeting:** July 9-13, 1989, place to be announced

**Top officers:** Abe Barkin, Blue Cross/Blue Shield of Illinois; George Latimer, EDS

**Relation to Vendor:** Independent

**Purpose:** To further the education of Computer Associates Security and Audit users; to further the awareness of security issues in general

**Services provided:** One national meeting is held per year; periodic newsletters on various security issues; local

user groups; user database; enhancement tape

**Vendor:** Computer Associates International Inc.

**Group Name:** Systems Software Conference Executive Committee

**Acronym:** SSC

**Address:** 711 Stewart Ave.  
Garden City, NY 11530

**Phone:** (516) 227-3300

**Annual fee:** None

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** All products

**Next meeting:** Aug. 20-25, 1989, place to be announced

**Top officer:** To be named

**Relation to Vendor:** Independent

**Purpose:** To exchange information and increase awareness of systems software

**Services provided:** One meeting per year

**Vendor:** Comshare Inc.

**Group Name:** Comshare Users Group

**Address:** 3001 S. State St.  
Ann Arbor, MI 48108

**Phone:** (313) 994-4800

**Annual fee:** None

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** Comshare products

**Next meeting:** October 1989, place to be announced

**Top officer:** Patrick Dennis, Hayes Microcomputer Products Corp.

**Relation to Vendor:** Independent

**Purpose:** To facilitate the exchange of information about Comshare products

**Services provided:** Two meetings per year

**Vendor:** Concurrent Computer Corp.

**Group Name:** Interchange Inc.

**Address:** 106 Apple St.  
Tinton Falls, NJ 07724

**Phone:** (201) 758-7575

**Annual fee:** \$125

**Individual members:** 1,500

**Corporate members:** None

**Systems/products:** All Concurrent, Perkin-Elmer, and Interdata products

**Next meeting:** October 1989, Orlando, Fla.

**Top officer:** Pete Massiello, Perkin-Elmer Corp.

**Relation to Vendor:** Independent

**Purpose:** To establish and maintain a vehicle to facilitate information exchange among the membership

**Services provided:** One national meeting per year; quarterly newsletter; two software catalogue libraries; electronic bulletin board

**Vendor:** Control Data Corp.

**Group Name:** VIM Inc.

**Address:** 8100 34th Ave. S.  
Minneapolis, MN 55440

**Phone:** (612) 853-6311

**Annual fee:** \$100

**Individual members:** NA

**Corporate members:** 315

**Systems/products:** All CDC products

**Next meeting:** May 14-18, 1989, Orlando, Fla.

**Top officer:** Abe Levine, Rockwell International

**Relation to Vendor:** Partially subsidized

**Purpose:** To provide CDC with the opportunity to present its plans and ideas to VIM members; to provide a unified approach to CDC on modifications and enhancements on hardware and associated CDC-supplied software

**Services provided:** Two national meetings and two interim meetings per year; bimonthly newsletter

**Vendor:** Control Data Corp.

**Group Name:** European Control Data Users

**Acronym:** ECODU

**Address:** 8100 34th Ave. S.  
Minneapolis, MN 55440

**Phone:** (612) 853-6311

**Annual fee:** SFr300

**Individual members:** NA

**Corporate members:** 160

**Systems/products:** All CDC products

**Next meeting:** April 17-21, 1989, Wolfsburg, West Germany

**Top officer:** Dietz Schubring, LRZ

**Relation to Vendor:** Partially subsidized

**Purpose:** To communicate with CDC by presenting the opinions, recommendations, and requests of ECODU members regarding CDC hardware, software, and related CDC services

**Services provided:** Two national meetings per year; bimonthly newsletter

**Vendor:** Control Data Corp.

**Group Name:** VIM-Australasia

**Address:** 8100 34th Ave. S.

**Commodore Business Machines—  
Digital Equipment Corp.**

Minneapolis, MN 55440

**Phone:** (612) 853-6311

**Annual fee:** None

**Individual members:** NA

**Corporate members:** 20

**Systems/products:** All CDC products

**Next meeting:** May 1989, place to be announced

**Top officer:** Alan Bell, University of Melbourne

**Relation to Vendor:** Partially subsidized

**Purpose:** To present CDC with the opinions, recommendations, and requests of the group's members

**Services provided:** One annual meeting; bimonthly newsletter

**Vendor:** Convergent Technologies Inc.

**Group Name:** Convergent Technologies User Forum

**Acronym:** CTUF

**Address:** 2700 N. First St.

P.O. Box 6685

San Jose, CA 95150-6685

**Phone:** (408) 435-3690

**Annual fee:** \$95

**Individual members:** NA

**Corporate members:** 75

**Systems/products:** All Convergent Technologies' systems

**Next meeting:** May 1989, Washington, D.C.

**Top officer:** Alan Himmelstein, Mini Computer Associates

**Relation to Vendor:** Independent

**Purpose:** To provide a forum for resellers, software developers, distributors, oems, and users with similar interests and concerns

**Services provided:** Two meetings per year; newsletter

**Vendor:** Cray Research Inc.

**Group Name:** Cray User Group Inc.

**Acronym:** CUG

**Address:** 608 Second Ave. S.

Minneapolis, MN 55402

**Phone:** (612) 334-6422

**Annual fee:** \$200

**Individual members:** None

**Corporate members:** 120

**Systems/products:** All Cray products

**Next meeting:** April 25-29, 1989, Los Angeles

**Top officer:** Steve Niver, Boeing Computer Services

**Relation to Vendor:** Independent

**Purpose:** To promote the free interchange of information and ideas of value to users of Cray computers

**Services provided:** Two meetings per year; quarterly newsletter

**Vendor:** Cullinet Software Inc.

**Group Name:** Integrated Database Management System

**Acronym:** IDMS

**Address:** 111 E. Wacker Dr.

Chicago, IL 60601

**Phone:** (312) 644-6610

**Annual fee:** None

**Individual members:** NA

**Corporate members:** 1,800

**Systems/products:** All Cullinet software packages

**Next meeting:** Feb. 26-March 2, 1989, New York

**Top officer:** Joseph Spink, McNeil Pharmaceutical

**Relation to Vendor:** Independent

**Purpose:** To promote cooperation between users and to enhance product knowledge and development

**Services provided:** One annual meeting; quarterly newsletter

**D**

**Vendor:** Data General Corp.

**Group Name:** North American Data General Users Group

**Acronym:** NADGUG

**Address:** 3400 Computer Dr.

Westboro, MA 01580

**Phone:** (508) 898-4367

**Annual fee:** \$40

**Individual members:** 3,032

**Corporate members:** None

**Systems/products:** All DG products

**Next meeting:** Sept. 18, 1989, place to be announced

**Top officer:** Donald Clark, Security Forces Inc.

**Relation to Vendor:** Partially subsidized

**Purpose:** To promote the interchange of ideas between Data General and its users

**Services provided:** One national conference per year; monthly magazine

**Vendor:** Datapoint Corp.

**Group Name:** National Datapoint Users Group

**Acronym:** NDUG

**Address:** P.O. Box 9197

Arlington, VA 22209

**Phone:** (703) 841-8515

**Annual fee:** To be decided at first meeting

**Individual members:** NA; newly formed group

**Corporate members:** NA; newly formed group

**Systems/products:** All Datapoint products and non-Datapoint products that connect to Datapoint's ARCnet

**Next meeting:** June 1989, San Antonio

**Top officer:** Robert Happ

**Relation to Vendor:** Independent

**Purpose:** To assist in the formation of local user groups and to provide information on where users can see products in live environment

**Services provided:** One annual meeting

**Vendor:** Diebold Inc.

**Group Name:** The Advisory Group

**Acronym:** TAG

**Address:** P.O. BOX 2804

N. Canton, OH 44720

**Phone:** (216) 497-5018

**Annual fee:** \$230

**Individual members:** 275

**Corporate members:** None

**Systems/products:** Diebold ATMs

**Next meeting:** Sept. 17-20, 1989, New Orleans

**Top officer:** Robert Cullinan, Shawmut Bank NA

**Relation to Vendor:** Independent

**Purpose:** To provide users with an opportunity to communicate to Diebold issues related to products and services and to share information with other members; to provide input to the vendor on product enhancements and developments

**Services provided:** One national meeting per year; one regional meeting in each of 60 regions; quarterly newsletters

**Vendor:** Digital Equipment Corp.

**Group Name:** Digital Equipment Computer Users Society

**Acronym:** DECUS

**Address:** 219 Boston Post Rd., BPO2

Marlboro, MA 01752

**Phone:** (508) 480-3290

**Annual fee:** None

**Individual members:** U.S.: 65,000+, Worldwide: 115,000

**Corporate members:** None

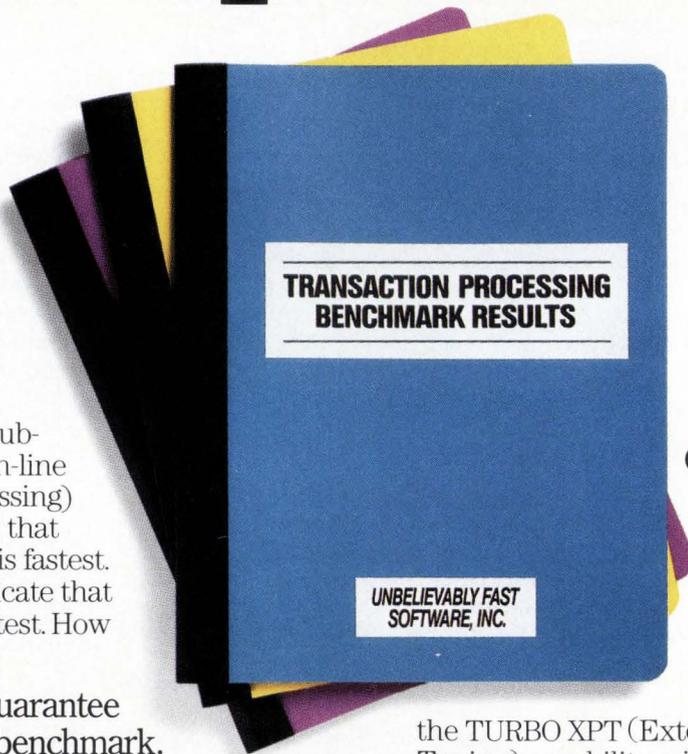
**Systems/products:** All Digital products

**Next meeting:** May 7-12, 1989, Atlanta

**Top officer:** Bill Brindley, HDQ, Naval Security Group Command (President, DECUS U.S. Chapter)

**Relation to Vendor:** Partially

# Others talk about database speed.



Every time a DBMS company publishes an OLTP (on-line transaction processing) benchmark study, that company's DBMS is fastest. Which would indicate that every DBMS is fastest. How can that be?

## **A straight guarantee beats a slanted benchmark.**

The fact is, a DBMS that's fast on a benchmark may not be up to speed on your application. Unless the DBMS provides tuning capabilities that allow you to fine tune your application for maximum speed.

That's where INFORMIX-TURBO shines. And that's why we can guarantee it will run on your new OLTP application faster than any other UNIX® Relational DBMS. Or we'll give you your money back.

## **Fine tuning makes OLTP applications fly.**

Even before tuning, INFORMIX-TURBO is fast. Its optimizer automatically provides speedy access to data.

But, frankly, it's the TURBO XPT (Extended Performance Tuning) capability within INFORMIX-TURBO that enables us to offer you this guarantee. Very simply, it provides more tuning features than any other UNIX RDBMS.

Including, for instance, more locking options than any other RDBMS. You can specify granularity, severity and duration of locks, giving you total control over how each lock affects each user, as well as overall application speed. Moreover, you can tune in even more speed by adjusting the size of your

# Only Informix guarantees it.

## INFORMIX-TURBO PERFORMANCE GUARANTEE

*"Informix guarantees that our INFORMIX-TURBO database engine will run your new OLTP application faster than any other RDBMS, or we'll give you your money back."\**

shared memory. Thereby avoiding time-consuming physical disk access.

### Performance tuning is easy with the right tools.

TURBO XPT includes a full-screen, menu-driven tool that lets you monitor application performance, locate bottlenecks, make precise adjustments and then observe the effects of your adjustments as your application runs.

What's more, we offer a special Turbo training course to help get you started. Plus all the on-going technical support you'll ever need.

### Free booklet, "How to Benchmark and Tune an OLTP Application."

For a free copy of our new guide, "How to Benchmark and Tune an OLTP Application," and our INFORMIX-TURBO Guarantee InfoPak containing the details and conditions of our INFORMIX-TURBO money-back guarantee, call or write Informix Software, Inc., 4100 Bohannon Drive, Menlo Park, CA 94025, 1-800-331-1763, ext. 3800.

And stay tuned for a fast response.



# INFORMIX

#1 for good reason.

subsidized

**Purpose:** To promote the exchange of information processing-related ideas among users of Digital Equipment Corp. products

**Services provided:** Two national symposia per year; 20 special interest groups; 160 local users groups; monthly technical newsletter; quarterly magazine

**E**

**Vendor:** Epson America Inc.

**Group Name:** National Epson Users Group (with approximately 30 local user groups throughout the country)

**Acronym:** NEUG

**Address:** P.O. Box 1076  
Lemont, PA 16851

**Phone:** (814) 237-5511

**Annual fee:** \$25

**Individual members:** 2,400

**Corporate members:** None

**Systems/products:** QX-10, QX-16, PX-8, HX-20, and Equity line of computers; MX, FX, RX, and LQ line of printers

**Next meeting:** March 1989, State College, Pa.

**Top officer:** Richard Shoemaker

**Relation to Vendor:** Independent

**Purpose:** To exchange information about Epson line of equipment and its use

**Services provided:** One meeting a year; monthly newsletter

**Vendor:** Erisco Inc. (subsidiary of Dun & Bradstreet Corp.)

**Group Name:** UserFacts Inc.

**Address:** 1700 Broadway  
New York, NY 10019

**Phone:** (212) 765-8500

**Annual fee:** \$200

**Individual members:** None

**Corporate members:** 78

**Systems/products:** ClaimFacts, an on-line system for the administration of health care claims; and CertiFacts, an on-line utilization review system for preadmission certification, concurrent stay review, discharge planning, and retrospective utilization review

**Next meeting:** May 17-20, 1989, Fort Lauderdale, Fla.

**Top officer:** Renee Baderman, Ryder System Inc.

**Relation to Vendor:** Independent

**Purpose:** To promote the effectiveness of member companies

**Services provided:** One annual conference

**F**

**Vendor:** Finsiel SpA

**Group Name:** Banking Automation Research Program

**Acronym:** PRAB 2

**Address:** Data Management  
V. le Eginardo 29  
20149 Milan  
Italy

**Phone:** (39) 2-49931

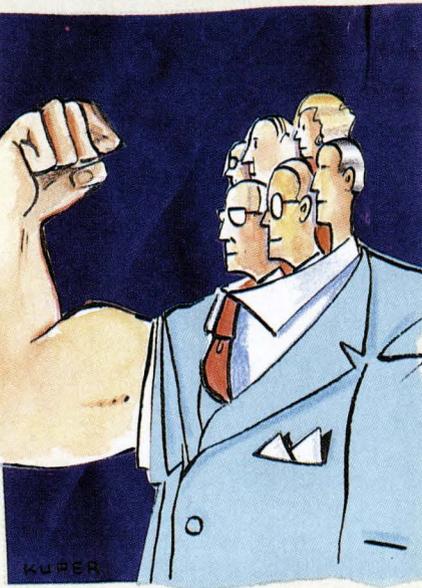
**Annual fee:** \$1,600

**Individual members:** None

**Corporate members:** 15

**Systems/products:** Finsiel software related to banking automation

**Next meeting:** Spring 1989



**A** good measure of a user group's continuing vitality is the growth in the size of its user membership.

**Top officer:** A. Petruzellis

**Relation to Vendor:** Independent

**Purpose:** To analyze banking problems and create interest in systems and solutions provided by data management

**Services provided:** One or two conferences per year

**Vendor:** Finsiel SpA

**Group Name:** Personnel Management User Group

**Acronym:** GEPE

**Address:** Data Management  
V. le Eginardo 29  
20149 Milan  
Italy

**Phone:** (39) 2-49931

**Annual fee:** \$1,600

**Individual members:** None

**Corporate members:** 70

**Systems/products:** Finsiel personnel management software packages

**Next meeting:** NA

**Top officer:** A. Pellegrini

**Relation to Vendor:** Independent

**Purpose:** To facilitate the exchange of information on the GEPE package, and to educate users in its use

**Services provided:** Two conferences and two technical meetings per year; bimonthly newsletters regarding issues of interest to Finsiel users

**Vendor:** Fujitsu Ltd.

**Group Name:** FACOM Family Kai

**Address:** 6-1 Marunouchi 1-chome  
Tokyo 100  
Japan

**Phone:** (81) 3-216-3211

**Annual fee:** 24,000

**Individual members:** None

**Corporate members:** 3,950

**Systems/products:** All Fujitsu computers

**Next meeting:** May 1989, Tokyo

**Top officer:** Hideo Watanabe, Mitsubishi Kasei Corp.

**Relation to Vendor:** Partially subsidized

**Purpose:** To research and discuss the effective use and improvement of FACOM computers

**Services provided:** One national meeting per year; periodic newsletters and other publications regarding Fujitsu products and issues of interest to their users

**Vendor:** Fujitsu Ltd.

**Group Name:** Fujitsu Large Systems Users Group

**Acronym:** LS-ken

**Address:** 17-25 Shin-Kamata 1-chome  
Ota-ku, Tokyo 144  
Japan

**Phone:** (81) 3-735-1111

**Annual fee:** 30,000

**Individual members:** None

**Corporate members:** 246

**Systems/products:** Fujitsu systems larger than M-360 or M-760/8

**Next meeting:** June 16, Tokyo

**Top officer:** Padoo Ito, Toray Systems Center Inc.

**Relation to Vendor:** Partially subsidized

**Purpose:** To provide the opportunity

for group members to exchange information and solve system-related problems; to research uses of advanced technology and future system trends; to propose to Fujitsu recommendations concerning Fujitsu hardware and software

**Services provided:** One national meeting per year; quarterly newsletter

**Vendor:** Fujitsu Ltd.

**Group Name:** Scientific Systems Users Association

**Acronym:** SS-ken

**Address:** 17-25 Shin-Kamata 1-Chome  
Ota-ku, Tokyo 144  
Japan

**Phone:** (81) 3-735-1111

**Annual fee:** 20,000

**Individual members:** 2

**Corporate members:** 57

**Systems/products:** Large-scale FA-COM computers

**Next meeting:** April 1989, Tokyo

**Top officer:** Makoto Nagao, Kyoto University

**Relation to Vendor:** Partially subsidized

**Purpose:** To facilitate the exchange technical information needed by FA-COM mainframe users in scientific and technical fields; and to conduct discussions to respond to users' information processing needs and to solve problems

**Services provided:** Meetings held on specific subjects; periodic newsletters

## **G**

**Vendor:** Global Software Inc.

**Group Name:** Global Software User Group Inc.

**Address:** P.O. Box 51420  
Raleigh, NC 27615

**Phone:** (800) 334-7192

**Annual fee:** None

**Individual members:** NA

**Corporate members:** 2,000

**Systems/products:** All software sold by Global

**Next meeting:** Oct. 15-18, 1989, Nashville

**Top officer:** Vicki Walkup, Mead Corp.

**Relation to Vendor:** Independent  
**Purpose:** To facilitate product development and training efforts; and to provide a medium for product enhancement and suggestions from Global users

**Services provided:** Quarterly newsletter

**Vendor:** Gould Inc.

**Group Name:** Gould CSD User Group

**Address:** 6901 W. Sunrise Blvd.  
Plantation, FL 33310

**Phone:** (305) 797-5717

**Annual fee:** None

**Individual members:** 2,500

**Corporate members:** None

**Systems/products:** All Gould products

**Next meeting:** Spring 1989, Fort Lauderdale, Fla.

**Top officer:** Ron Kirkpatrick, GE Government Services

**Relation to Vendor:** Fully subsidized

**Purpose:** To facilitate and promote free exchange of information and ideas pertaining to the use of Gould computers and software; to inform Gould CSD users of new products and current developments in existing products

**Services provided:** Two national meetings are held per year; periodic newsletters on issues of concern to Gould users; software donations

**Vendor:** Groupe Bull

**Group Name:** HLSUA-Europe

**Address:** 5, Square Henri Delormel  
75014 Paris  
France

**Phone:** (33) 1-45-40-90-14

**Annual fee:** FF4,050

**Individual members:** 400

**Corporate members:** 250

**Systems/products:** GCOS 8 products  
**Next meeting:** May 16-18, 1989, San Vicenzo, Italy

**Top officer:** J.J. Renault, RATP

**Relation to Vendor:** Independent

**Purpose:** To provide service and support to users

**Services provided:** Two annual meetings; bimonthly newsletter

## **H**

**Vendor:** Hewlett-Packard Co.

**Group Name:** Interex Inc. (formerly known as International Association of HP Computer Users)

**Address:** 680 Almanor Ave.  
Sunnyvale, CA 94086

**Phone:** (408) 738-4848

**Annual fee:** Individual: \$80, Corporate: \$400

**Individual members:** 9,000

**Corporate members:** 5,600

**Systems/products:** All HP computer products

**Next meeting:** March 8-10, 1989, Nashville

**Top officer:** Robert Grenoble

**Relation to Vendor:** Independent

**Purpose:** To promote common business interests, and to advocate the needs of the users of Hewlett-Packard computer products and related software, hardware, and peripheral devices

**Services provided:** Four national and one international meeting per year; two monthly magazines and one monthly newsletter on issues of concern to HP users

**Vendor:** Hitachi Ltd.

**Group Name:** HITAC Users Association

**Address:** Hitachi Omori Annex 12  
27-18, Minami-Oi 6-chome  
Shinagawa-ku, Tokyo 140  
Japan

**Phone:** (81) 3-763-2411 (x3201, 3205)

**Annual fee:** 24,000

**Individual members:** NA

**Corporate members:** 1,700

**Systems/products:** All Hitachi computer systems

**Next meeting:** June 1989, Osaka

**Top officer:** Kenzo Sakai, Shoko Chukin Bank

**Relation to Vendor:** Independent

**Purpose:** To conduct studies and facilitate the exchange ideas for the effective use of Hitachi computer systems

**Services provided:** One national meeting annually; magazine and research papers

**Vendor:** Hogan Systems Inc.

**Group Name:** HUG (Hogan User Group) International Inc.

**Acronym:** HUG

**Address:** 5008 Pine Creek Dr.  
Westerville, OH 43081

**Phone:** (614) 895-1362

**Annual fee:** \$400

**Individual members:** None

**Corporate members:** 110

**Systems/products:** Hogan systems software and IBM financial application software

**Next meeting:** April 18-21, 1989, Nashville

**Top officer:** Sanford E. Leake Jr., Great Western Bank

**Relation to Vendor:** Independent

**Purpose:** To exchange ideas among members and to advise Hogan Systems and IBM on product enhancements

## SPECIAL REPORT DIRECTORY

**Services provided:** One annual meeting; quarterly journal

**Vendor:** Honeywell Bull Inc.

**Group Name:** HLSUA-U.S.

**Acronym:** HLSUA

**Address:** 4000 Town Center, 8th Fl.  
Southfield, MI 48075

**Phone:** (313) 351-4677

**Annual fee:** \$325

**Individual members:** None

**Corporate members:** 450

**Systems/products:** All Honeywell Bull products (predominantly medium and large systems)

**Next meeting:** April 9-12, 1989, San Diego

**Top officer:** William C. McCusker, Citrus Community College, Glendora, Calif.

**Relation to Vendor:** Independent

**Purpose:** To provide a forum for users to exchange and disseminate information on products and techniques; to promote the use of products and related vendor systems

**Services provided:** Two national meetings per year; semiannual newsletter

**Vendor:** Honeywell Bull Inc.

**Group Name:** North American Honeywell Users Association

**Acronym:** NAHU

**Address:** P.O. Box 2037

Willingboro, NJ 08046

**Phone:** (609) 871-1531

**Annual fee:** \$125

**Individual members:** None

**Corporate members:** 538

**Systems/products:** DPS 4, 6, 7/7000, Level 6, Level 62/64; DPS 8; and microproducts

**Next meeting:** March 5-9, 1989, Rye Brook, N.Y.

**Top officer:** Shirley Eick, Metropolitan Life Inc.

**Relation to Vendor:** Independent

**Purpose:** To promote the exchange of information between member units and vendors, and to stimulate the timely interchange of information and ideas among the member units

**Services provided:** Two national meetings per year; regional group meetings; educational seminars at reduced cost

**Vendor:** IBM Corp.

**Group Name:** Australasian SHARE/GUIDE Ltd.

**Address:** P.O. Box 62

Turrumurra,

New South Wales 2074

Australia

**Phone:** (61) 2-449-6848

**Annual fee:** \$A820 first year, \$A620 thereafter

**Individual members:** NA

**Corporate members:** 240

**Systems/products:** IBM System/370 machine architecture and MVS, VM, VSE operating systems and associated information processing products and services

**Next meeting:** Feb. 26-March 1, 1989, Melbourne

**Top officer:** Peter Lloyd, State Government Insurance Commission

**Relation to Vendor:** Independent

**Purpose:** To promote mutual support and influence the development of information processing products and services

**Services provided:** Two regional meetings are held per year (within Australia and New Zealand); periodic research publications; support of associated user groups within the Western Pacific

**Vendor:** IBM Corp.

**Group Name:** COMMON—A Users Group

**Address:** 111 E. Wacker Dr.

Chicago, IL 60601

**Phone:** (312) 644-6610

**Annual fee:** \$250

**Individual members:** Over 4,800 member installations and individuals

**Corporate members:** NA

**Systems/products:** System/34, 36, 38, and 88, 5520, AS/400, Series/1, 43XX, 9370, and other 370 Architecture Systems, and the IBM PC

**Next meeting:** April 23-27, 1989, New Orleans

**Top officer:** Robert A. Sutherland, Robert Sutherland Associates Inc.

**Relation to Vendor:** Independent

**Purpose:** To promote interchange of information about these systems and their use

**Services provided:** Semiannual conferences; quarterly newsletter and other publications

**Vendor:** IBM Corp.

**Group Name:** Guidance for Users of Integrated Data Equipment Inc.

**Acronym:** GUIDE

**Address:** 111 E. Wacker Dr.

Chicago, IL 60601

**Phone:** (312) 644-6610

**Annual fee:** \$400

**Individual members:** None

**Corporate members:** 2,850

**Systems/products:** 4300 or 308X minimum

**Next meeting:** March 12-17, 1989, Anaheim, Calif.

**Top officer:** Gary S. Gesme, Deere & Co.

**Relation to Vendor:** Independent

**Purpose:** To provide user information on the proliferation of hardware and software in today's market and to develop projections for future developments and trends; to work closely with IBM to make data processing systems as reliable and dependable as users require

**Services provided:** Three national meetings per year; biannual executive symposia; newsletters and other project publications

**Vendor:** IBM Corp.

**Group Name:** SHARE Inc.

**Address:** 111 E. Wacker Dr.

Chicago,

IL 60601

**Phone:** (312) 822-0932

**Annual fee:** \$250 initial fee

**Individual members:** None

**Corporate members:** 2,640

**Systems/products:** Complex IBM systems

**Next meeting:** Feb. 26-March 3, 1989, Los Angeles

**Top officer:** Cecilia Cowles, Cornell University

**Relation to Vendor:** NA

**Purpose:** To improve the effectiveness of members' information systems by promoting mutual support and by influencing IBM's products and services

**Services provided:** Four national meetings are held per year; publication of technical reports, computer management and evaluation compendium, and newsletter issues of interest to users

**Vendor:** IBM Corp.

**Group Name:** SHARE European Association

**Acronym:** SEAS

**Address:** 17, rue Pierres du Niton

1207 Geneva

Switzerland

**Phone:** (41) 22-35-40-66

**Annual fee:** NA

**Individual members:** 450

**Corporate members:** NA  
**Systems/products:** Large-scale and midrange IBM machines  
**Next meeting:** April 3-7, 1989, Vienna  
**Top officer:** Sverre Jarp, CERN  
**Relation to Vendor:** Independent  
**Purpose:** To provide an opportunity for exchange of information among computer users and computer centers in Europe, the Middle East, and Africa  
**Services provided:** Two meetings a year; newsletter

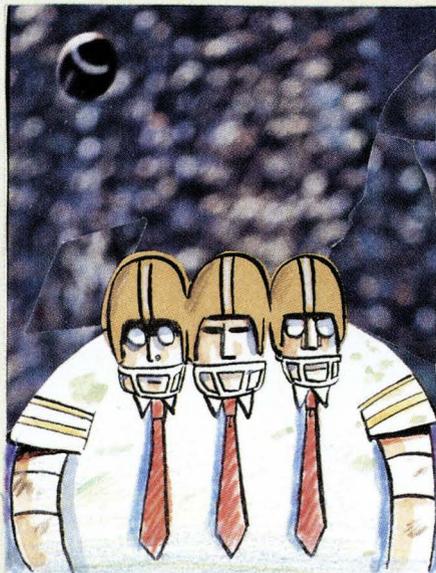
**Vendor:** ICL  
**Group Name:** ICL Computer Users Association (an umbrella organization for 40 separate user groups)  
**Acronym:** ICLCUA  
**Address:** P.O. Box 42  
Bracknell, Berkshire,  
RG12 2LQ  
England

**Phone:** (44) 3-44-482933  
**Annual fee:** NA  
**Individual members:** 4,000  
**Corporate members:** same  
**Systems/products:** All ICL products from Series 39 to DRS Distributed Systems  
**Next meeting:** May 22-24, 1989, Birmingham, England  
**Top officer:** Ken Wingfield, Doncaster MBC  
**Relation to Vendor:** Independent  
**Purpose:** To coordinate activities of member user groups; to achieve the most effective use of ICL products and to assist ICL to meet the present and future needs of users

**Services provided:** One major association conference per year; meetings four times per year of each member user group; periodic management and technical seminars, conferences, and exhibitions; collective representation to ICL and government standards organizations; quarterly magazine

**Vendor:** Index Technology Corp.  
**Group Name:** XL/Group Inc. (including 20 local user groups)  
**Address:** One Main St.  
Cambridge, MA 02142  
**Phone:** (617) 494-8200  
**Annual fee:** \$95  
**Individual members:** NA  
**Corporate members:** 483  
**Systems/products:** Excelerator, Excelerator/RTS, XL/DI, PC Prism  
**Next meeting:** September 26, 1989,

Coronado, California  
**Top officer:** Dennis Barham, CIGNA Corp.  
**Relation to Vendor:** Independent  
**Purpose:** To share ideas and technology among members and between members and vendor  
**Services provided:** Quarterly newsletter; discounts on classes and on yearly conference



**U**ser groups may not directly decide a vendor's policies, but they are a force to be reckoned with.

**Vendor:** Intergraph Corp.  
**Group Name:** International Intergraph Graphics Users Group (an umbrella organization for national user groups)  
**Acronym:** IIGUG  
**Address:** One Madison Industrial Pk.  
Huntsville, AL 35807  
**Phone:** (205) 772-2292  
**Annual fee:** None  
**Individual members:** None  
**Corporate members:** None  
**Systems/products:** All Intergraph and third-party equipment  
**Next meeting:** May 7-11, 1989, Huntsville, Ala.  
**Top officer:** Ray Bober, Ebasco  
**Relation to Vendor:** Independent  
**Purpose:** To influence direction of Intergraph development efforts  
**Services provided:** One international and one U.S. group meeting per year; periodic newsletters

**L**  
**Vendor:** Lotus Development Corp.  
**Group Name:** No single major user group. Nationally, there are 30 independent user groups with a membership of 500 or more each. In addition, there are several hundred smaller regional user groups as well as user groups within specific corporations.  
**Address:** User Group Program  
55 Cambridge Pkwy.  
Cambridge, MA 02142  
**Phone:** (617) 577-8500  
**Annual fee:** NA  
**Individual members:** NA  
**Corporate members:** NA  
**Systems/products:** All Lotus software products  
**Next meeting:** NA  
**Top officer:** NA  
**Relation to Vendor:** Independent  
**Purpose:** To exchange information among users and vendor  
**Services provided:** Publish quarterly newsletter for those user groups registered with Lotus

**M**  
**Vendor:** MAI Basic Four Inc.  
**Group Name:** Key Accounts Program  
**Acronym:** KAP  
**Address:** 14101 Myford Rd.  
Tustin, CA 92680  
**Phone:** (714) 730-2698  
**Annual fee:** None  
**Individual members:** 800  
**Corporate members:** 420  
**Systems/products:** All MAI Basic Four products  
**Next meeting:** May 1989, Palm Springs, Calif.  
**Top officer:** Bernard Jubb, MAI Basic Four Inc.  
**Relation to Vendor:** Fully subsidized  
**Purpose:** To serve the special needs of MAI Basic Four's largest customers through a single point of contact at the company  
**Services provided:** One national meeting per year; quarterly newsletters

**Vendor:** Management Science America Inc.  
**Group Name:** Interact (an umbrella organization for 10 regional and industry-specific groups in the U.S. as well as additional groups in other countries)  
**Address:** 3445 Peachtree Rd. N.E.  
Atlanta, GA 30326  
**Phone:** (404) 239-2506  
**Annual fee:** None



Honeywell Bull

DPS 9000

IOP

PS

## A Feast For The

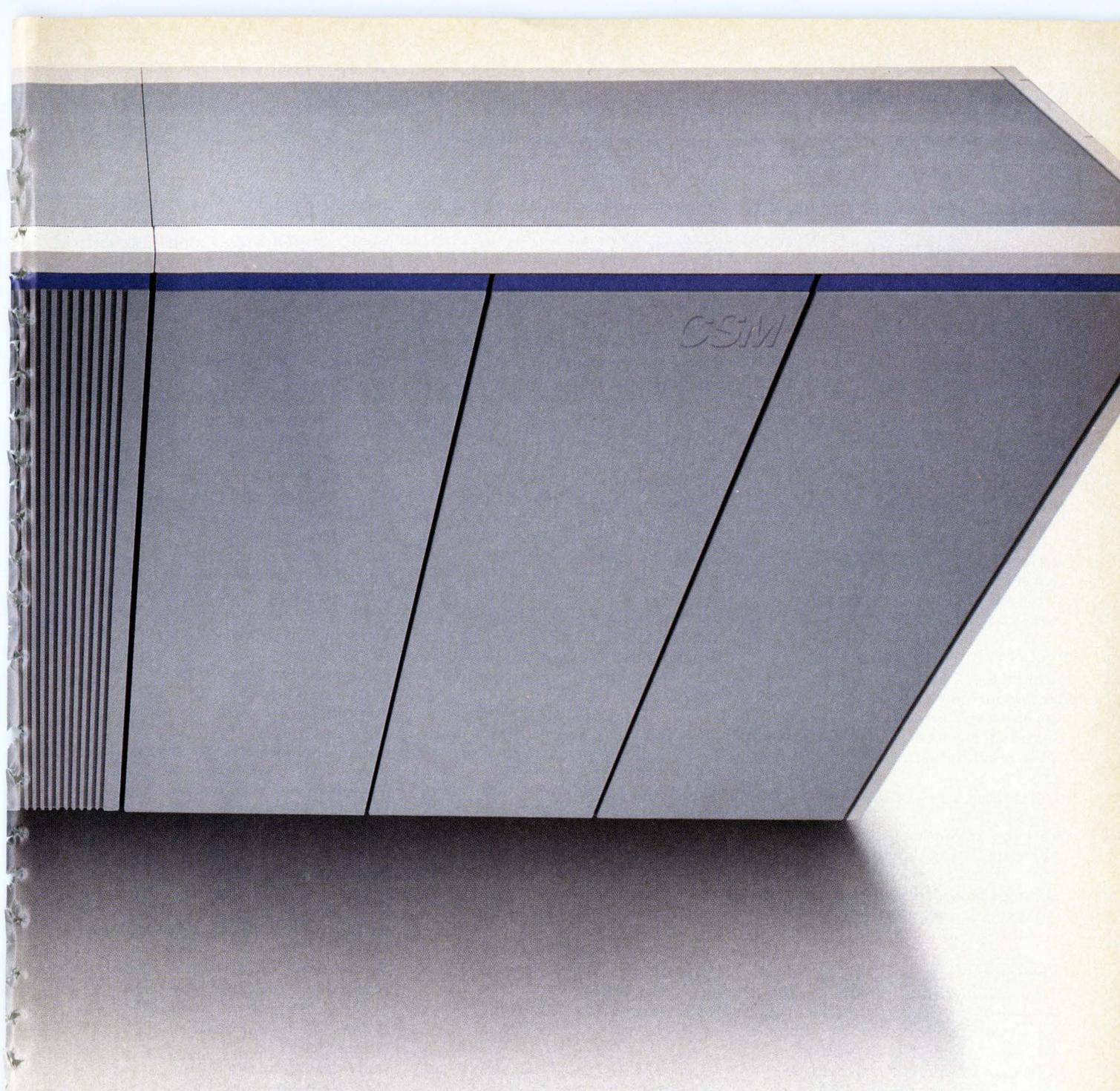
### **Introducing the DPS 9000. The world's most powerful mainframe.**

Just 20 months after forming their partnership, Honeywell of the U.S., Groupe Bull of France, and NEC of Japan have cooked up the DPS 9000, a mainframe that will help satisfy even the most voracious appetite for power in real-time environments.

The DPS 9000 isn't just the most powerful commercial mainframe on earth. It's over twice as powerful in transaction processing as its nearest

competitor: IBM's 3090 series. And unlike the 3090 series, the DPS 9000 incorporates OSI networking standards. So you can feed its power to hundreds of ravenous knowledge workers simultaneously—even in multi-vendor environments.

Utilizing high-density chip technology and integrated vector processing, the DPS 9000 has an I/O transfer capability of up to 1536 MB per second. That translates into an ability to devour over 60,000 transactions per minute. And each processor can handle



## Power Hungry.

17.5 million double-precision floating point operations per second, based on a LINPAC benchmark.

With a diagnostic processor, full duplication of major system modules in three models, and other error detection and correction features, the DPS 9000 sets new standards in reliability.

All this, and the DPS 9000's cost of ownership is 30% less than comparable models in the IBM 3090 series.

Other computer makers claim that they can

satisfy power-hungry companies. But compared to the DPS 9000, everything else is just a snack.

For more information about the DPS 9000, including a list of software applications and peripherals that support it, call Honeywell Bull at 1-800-543-6699, Dept. 29.

**Honeywell Bull**

Customers are more important than computers.

**SPECIAL REPORT**  
**DIRECTORY**

**Individual members:** All clients are members

**Corporate members:** NA

**Systems/products:** All MSA software

**Next meeting:** May 14-18, 1989, Atlanta

**Top officer:** Dick Baker, Associated Insurance Companies Inc.

**Relation to Vendor:** Fully subsidized

**Purpose:** To exchange information and to promote product improvement

**Services provided:** Several international meetings, one national meeting, and 10 regional or industry-specific meetings a year in the U.S.; quarterly publications

**Vendor:** Martin Marietta Data Systems

**Group Name:** MAS User Group

**Address:** 515 Shaw Rd.  
Sterling, VA 22170

**Phone:** (703) 689-4400

**Annual fee:** \$50

**Individual members:** None

**Corporate members:** 22

**Systems/products:** All MAS Software

**Next meeting:** April 11, 1989, Sterling, Va.

**Top officer:** Larry Cram, Star Technologies Inc.

**Relation to Vendor:** Independent

**Purpose:** To exchange ideas among users of MAS software

**Services provided:** Two national meetings per year; periodic newsletters

**Vendor:** McCormack & Dodge Corp.

**Group Name:** McCormack & Dodge User Group USA (an umbrella organization with member groups organized by product, industry, or region)

**Address:** 1225 Worcester Rd.  
Natick, MA 01760

**Phone:** (508) 650-2311

**Annual fee:** None

**Individual members:** All customers

**Corporate members:** All customers

**Systems/products:** Financial, human resource, tools, and manufacturing software packages

**Next meeting:** June 18-21, 1989, Nashville

**Top officer:** NA

**Relation to Vendor:** Independent

**Purpose:** To foster communication with users and vendor

**Services provided:** Meetings

**Vendor:** McCormack & Dodge Systems Canada

**Group Name:** Association of Canadian Users

**Acronym:** ASCUS

**Address:** 7100 Woodbine Ave.  
Markham, Ont. L3R 5J2

**Phone:** (416) 477-9680

**Annual fee:** None

**Individual members:** All customers

**Corporate members:** All customers

**Systems/products:** Financial, human resource, manufacturing, and tools software

**Next meeting:** June 18-21, 1989, Nashville

**Top officer:** NA

**Relation to Vendor:** Independent

**Purpose:** To foster communication with users and vendor

**Services provided:** Meetings

**Vendor:** McCormack & Dodge U.K. Ltd.

**Group Name:** McCormack & Dodge User Group U.K.

**Address:** P.O. Box 273  
Kings House, Bond St.  
Bristol BS99 7AL  
England

**Phone:** (44) 272-276-866

**Annual fee:** None

**Individual members:** All U.K. users

**Corporate members:** All U.K. users

**Systems/products:** Financial, manufacturing, and tools software

**Next meeting:** September 1989, place to be announced

**Top officer:** NA

**Relation to Vendor:** Independent

**Purpose:** To foster communication with users and vendor

**Services provided:** Meetings

**Vendor:** McDonnell Douglas Network Systems Co.

**Group Name:** Tymnet Users Group

**Acronym:** THUGS

**Address:** 2560 N. First St.  
San Jose, CA 95161

**Phone:** (408) 922-6667

**Annual fee:** None

**Individual members:** Public and private network customer base

**Corporate members:** NA

**Systems/products:** All of McDonnell Douglas communication product lines

**Next meeting:** June 1989, place to be announced

**Top officers:** Robert Nowell, TRW Inc. (representing private network sector); Doug Shelton, Puritan Bennett (representing public network sector)

**Relation to Vendor:** Independent

**Purpose:** To maintain a close working relationship with McDonnell Douglas

**Services provided:** One national meeting annually; quarterly newsletter; one magazine

**Vendor:** McDonnell Douglas Network Systems Co.

**Group Name:** Internally Switched Interface System (ISIS) for International Tymnet Users

**Acronym:** ISIS

**Address:** 2560 N. First St.  
San Jose, CA 95161

**Phone:** (408) 922-7534

**Annual fee:** None

**Individual members:** NA

**Corporate members:** 40-50 members (only users with equipment installed in Europe can become members)

**Systems/products:** Private network systems

**Next meeting:** May 1989, location to be announced

**Top officer:** Bob Barbour, McDonnell Douglas

**Relation to Vendor:** Independent

**Purpose:** To exchange information about Tymnet technology and to influence future Tymnet product development efforts

**Services provided:** Two meetings per year

**Vendor:** McDonnell Douglas Computer Systems Co.

**Group Name:** MICRU International

**Address:** 1732 Montane Drive E.  
Golden, CO 80401

**Phone:** (303) 526-9862

**Annual fee:** \$50

**Individual members:** 650

**Corporate members:** 150

**Systems/products:** McDonnell Douglas Series 6000, 9200, 18; Series 7000

**Next meeting:** June 10-13, 1989, Dallas

**Top officer:** Herb Jackson

**Relation to Vendor:** Independent

**Purpose:** To provide an independent forum for information exchange for members of the McDonnell Douglas community

**Services provided:** One national educational conference per year; periodic newsletters

**Vendor:** McDonnell Douglas Health Systems Co.

**Martin Marietta Data Systems—  
The Newtrend Group Inc.**

**Group Name:** IHS (Integrated Hospital System) Users Group

**Acronym:** IHSUG

**Address:** 600 McDonnell Blvd.  
Hazelwood, MO 63042

**Phone:** (314) 234-1549

**Annual fee:** \$100

**Individual members:** None

**Corporate members:** 36

**Systems/products:** Integrated financial and clinical systems

**Next meeting:** Feb. 19-22, 1989, Sacramento, Calif.

**Top officer:** Dar Watkins, Tarpon Springs General Hospital, Tarpon Springs, Fla.

**Relation to Vendor:** Independent

**Purpose:** To provide a forum for information exchange; to influence McDonnell Douglas in its product development and enhancement efforts

**Services provided:** Two national meetings per year; bimonthly newsletter

**Vendor:** Metier Management Systems Inc. (subsidiary of Lockheed)

**Group Name:** Artemis Users Association

**Acronym:** AUA

**Address:** 2900 N. Loop W.  
Houston, TX 77092

**Phone:** (713) 956-7511

**Annual fee:** None

**Individual members:** 1,200

**Corporate members:** 300

**Systems/products:** All Artemis products

**Next meeting:** November 1989, place to be announced

**Top officer:** Ian Koenig, System One

**Relation to Vendor:** Independent

**Purpose:** To share the benefits of users' experience with Artemis, and to interface collectively to Metier

**Services provided:** One national meeting per year; quarterly newsletters

**Vendor:** Microsoft Corp.

**Group Name:** No single user group, but company is aware of several hundred local, regional, and special interest groups.

**Address:** 16011 N.E. 36th Way  
Box 97017  
Redmond, WA 98073

**Phone:** (206) 882-8080

**Annual fee:** NA

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** All Microsoft Corp. software packages

**Next meeting:** NA

**Top officer:** Mimi Getchell, Microsoft

**Relation to Vendor:** Independent

**Purpose:** To exchange information and to learn more about applications of Microsoft Corp. software

**Services provided:** NA

**Vendor:** Motorola Computer Systems Inc.

**Group Name:** Motorola Computer Systems Users Group

**Address:** 1309 E. Algonquin Rd.  
Schaumburg, IL 60196

**Phone:** (312) 576-8866

**Annual fee:** None

**Individual members:** 150-200

**Corporate members:** 20

**Systems/products:** All products

**Next meeting:** May or June 1989, Schaumburg, Ill.

**Top officer:** Dan Kinder, Purdue University

**Relation to Vendor:** Partially subsidized

**Purpose:** To exchange information

**Services provided:** One annual meeting

**N**

**Vendor:** Nantucket Corp.

**Group Name:** No national user group, but over 50 local and regional users groups throughout the world

**Address:** 12555 W. Jefferson Blvd.  
Los Angeles, CA 90066

**Phone:** (213) 390-7923

**Annual fee:** Various groups set their own fees

**Individual members:** NA

**Corporate members:** NA

**Systems/products:** Clipper database development system for MS-DOS and PC-DOS for the IBM PC family and compatibles

**Next meeting:** NA

**Top officer:** NA

**Relation to Vendor:** Independent

**Purpose:** To exchange information and learn about products

**Services provided:** Groups publish their own newsletters

**Vendor:** NCR Corp.

**Group Name:** Federation of NCR User Groups (with 32 member user groups)

**Acronym:** FNUG

**Address:** Mail Station USG-2  
Dayton, OH 45479

**Phone:** (513) 445-3131

**Annual fee:** \$100 for each of FNUG's

32 subsidiary groups. Subsidiary user groups charge their company members annual fees that vary by group.

**Individual members:** NA

**Corporate members:** 4,000

**Systems/products:** All NCR products

**Next meeting:** April 23-26, 1989, Orlando, Fla.

**Top officer:** James G. Davies, Cobb EMC

**Relation to Vendor:** Independent

**Purpose:** To offer users a unified voice in communicating with NCR; to provide educational forums; and to combine the resources of all 32 member groups

**Services provided:** One user conference and one technical seminar annually; quarterly newsletter

**Vendor:** NCR Corp.

**Group Name:** North American NCR Financial Users Group

**Acronym:** NANCRFUG

**Address:** 5008 Pine Creek Dr.

Westerville, OH 43081

**Phone:** (614) 895-1280

**Annual fee:** \$150

**Individual members:** None

**Corporate members:** 275

**Systems/products:** NCR equipment and NCR financial software

**Next meeting:** Sept. 24-27, 1989, Lexington, Ky.

**Top officer:** Charles Ashley, Sovran Bank/Kentucky

**Relation to Vendor:** Independent

**Purpose:** To facilitate the exchange ideas and experiences among financial users of NCR computers, and to provide two-way communication between these users and the manufacturer

**Services provided:** Two annual meetings; quarterly journal

**Vendor:** The Newtrend Group Inc.

**Group Name:** MISER Users Group Inc.

**Acronym:** MUG

**Address:** 5008 Pine Creek Dr.

Westerville, OH 43081

**Phone:** (614) 899-6301

**Annual fee:** \$400

**Individual members:** None

**Corporate members:** 146

**Systems/products:** MISER financial software package

**Next meeting:** May 17-19, 1989, San Diego

**Top officer:** David Randall, Vancouver Federal

**Relation to Vendor:** Independent

## SPECIAL REPORT DIRECTORY

**Purpose:** To exchange information and to make maximum use of software

**Services provided:** One annual meeting; quarterly newsletter

**Vendor:** Nixdorf Computer AG

**Group Name:** EDV-Anwenderkreis e.V.

**Acronym:** EAK

**Address:** P.O. Box 31  
6992 Weikersheim  
West Germany

**Phone:** (49) 7934-8911

**Annual fee:** DM180

**Individual members:** 327

**Corporate members:** 323 (in West Germany, Switzerland, and Denmark)

**Systems/products:** Nixdorf systems 8810, 8840, 8860, and 8870 Quatro, 8890; standard software Nixdorf COMET TOP; Nixdorf vertical market software

**Next meeting:** NA

**Top officer:** Ruediger Brand

**Relation to Vendor:** NA

**Purpose:** To provide information and to facilitate purchasing

**Services provided:** Consulting

**Vendor:** Norsk Data AS

**Group Name:** Norsk Computer Users Society

**Acronym:** NOCUS

**Address:** P.O. Box 44 Bogerud  
0621 Oslo 6  
Norway

**Phone:** (47) 262-8000

**Annual fee:** Nkr1000

**Individual members:** None

**Corporate members:** 650

**Systems/products:** All Norsk Data and Norsk Data-related products

**Next meeting:** Feb. 7-8, 1989, Bergen, Norway

**Top officer:** Janett South, Statoil, Stavanger

**Relation to Vendor:** Partially subsidized

**Purpose:** To provide information to users for making the best possible use of their equipment

**Services provided:** Four conferences a year; quarterly newsletter

## O

**Vendor:** On-Line Software International Inc.

**Group Name:** Federation of RAMIS Users and Managers International Inc.

**Acronym:** FORUM International Inc.

**Address:** 800 N. Lindbergh Blvd.  
St. Louis, MO 63167

**Phone:** (314) 694-7769

**Annual fee:** None

**Individual members:** 100,000

**Corporate members:** 1,000

**Systems/products:** RAMIS Information System and RAMIS/PC Workstation

**Next meeting:** October 1989, Phoenix

**Top officer:** Robert C. Forhetz, Monsanto



**U**ser groups must contend with the growing boom in mergers and acquisitions of information technology firms.

**Relation to Vendor:** Independent

**Purpose:** To exchange information about use of products

**Services provided:** One meeting per year; annual product enhancement survey **Note:** In addition to the international group, there are 12 independent regional RAMIS user groups in the U.S.

**Vendor:** On-Line Software International Inc.

**Group Name:** UFO-COBOL/XE International User group

**Address:** 2400 Washington Ave.  
Newport News, VA 23607

**Phone:** (804) 247-8681

**Annual fee:** None

**Individual members:** 24,000

**Corporate members:** 2,000

**Systems/products:** UFO Productivity System and COBOL/XE

**Next meeting:** October 1989, place to be announced

**Top officer:** Stephanie Suttle, City of Newport News

**Relation to Vendor:** Partially subsidized

**Purpose:** To exchange information and ideas about use of products

**Services provided:** One annual meeting; annual survey for product enhancements

## P

**Vendor:** Pansophic Systems Inc.

**Group Name:** No single group. User groups are organized by software products (e.g., TELON, CMF, and Applications Products) that cover Pansophic Manufacturing/38 and Pansophic Manufacturing for the AS/400; the PULSE group for a variety of productivity products; and the Graphics Products group.

**Address:** 2400 Cabot Dr.  
Lisle, IL 60532

**Phone:** (312) 505-6000

**Annual fee:** Varies by group

**Individual members:** Varies by group

**Corporate members:** NA

**Systems/products:** Varies by group

**Next meeting:** NA

**Top officer:** Varies by group

**Relation to Vendor:** Independent

**Purpose:** To exchange information, learn about products, and influence product enhancement

**Services provided:** Regional and national meetings

**Vendor:** Primavera Systems Inc.

**Group Name:** Primavera Users Group

**Address:** 2 Bala Plaza  
Bala Cynwyd,  
PA 19004

**Phone:** (215) 667-8600

**Annual fee:** None

**Individual members:** 7,500

**Corporate members:** 5,000

**Systems/products:** Primavera software packages that run on IBM XT, AT, and PS/2, and on DEC VAX

**Next meeting:** Aug. 27-30, 1989, Philadelphia

**Top officer:** Joel Koppelman

**Relation to Vendor:** Fully subsidized

**Purpose:** To exchange information and learn about new management programs

**Services provided:** One annual meeting; quarterly newsletter

**Vendor:** Prime Computer Inc.  
**Group Name:** National Prime Users Group  
**Acronym:** NPUG  
**Address:** P.O. Box 697  
Laurel, MD 20707  
**Phone:** (301) 490-2056  
**Annual fee:** \$25  
**Individual members:** 2,000  
**Corporate members:** None  
**Systems/products:** All Prime systems  
**Next meeting:** June 11-16, 1989, Anaheim, Calif.  
**Top officer:** Patty Appel, Washington Dental Services of Seattle  
**Relation to Vendor:** Independent  
**Purpose:** To provide an organized means of communication among Prime computer users and between the users and Prime Computer; to provide an established forum for sharing ideas with Prime  
**Services provided:** One national meeting per year; bimonthly newsletter

**Vendor:** Pyramid Technology Corp.  
**Group Name:** Pyramid User Group  
**Acronym:** PUG  
**Address:** c/o Robert Wood Johnson Foundation  
P.O. Box 2316  
Princeton, NJ 08540  
**Phone:** (609) 452-8701  
**Annual fee:** \$100 per organization; \$25 per individual  
**Individual members:** NA  
**Corporate members:** NA  
**Systems/products:** All products  
**Next meeting:** March 1, 1989  
**Top officer:** Dennis Grittner, City of Saint Paul Public Works Computer Services  
**Relation to Vendor:** Fully subsidized  
**Purpose:** To influence Pyramid's direction  
**Services provided:** Annual meeting

## **R**

**Vendor:** Recognition Equipment Inc.  
**Group Name:** Cooperative Users of Recognition Equipment  
**Acronym:** CURE  
**Address:** 2701 E. Grauwyler  
Irving, TX 75061  
**Phone:** (214) 579-6000  
**Annual fee:** None  
**Individual members:** None  
**Corporate members:** 5,620  
**Systems/products:** All REI data capture systems  
**Next meeting:** April 19-21, 1989, Dallas

**Top officer:** Stewart Kirchner, Data Entry Services Corp.  
**Relation to Vendor:** Partially subsidized  
**Purpose:** To learn about new technologies, productivity improvements, innovative applications, and coming enhancements; to exchange information and ideas with other users of REI systems  
**Services provided:** One national meeting per year; quarterly newsletters

**Vendor:** Ricoh Company Ltd.  
**Group Name:** MT User group  
**Acronym:** MUG  
**Address:** Chuo Building No. 22  
2-11-8 Ginza, Chuo-ku  
Tokyo 104  
Japan  
**Phone:** (03) 546-2705  
**Annual fee:** Individual: 5,000; corporate: 20,000  
**Individual members:** 3,000  
**Corporate members:** 100  
**Systems/products:** Ricoh personal computers  
**Next meeting:** NA  
**Top officer:** Haruo Ushio, Ushio Electronic Co. Ltd.  
**Relation to Vendor:** Independent  
**Purpose:** To exchange information among users and vendors of Ricoh's personal computers  
**Services provided:** Quarterly newsletter

## **S**

**Vendor:** SAS Institute Inc.  
**Group Name:** SAS User Group Inc. (an umbrella group for approximately 60 regional, local, and corporate user groups)  
**Acronym:** SUGI  
**Address:** SAS Circle, Box 8000  
Cary, NC 27512  
**Phone:** (919) 467-8000  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** NA  
**Systems/products:** SAS System, System 2000, Data Management System, and C products  
**Next meeting:** April 9-12, 1989, San Francisco  
**Top officer:** Richard LaValley, MCI Telecommunications Corp.  
**Relation to Vendor:** Independent  
**Purpose:** To discuss software applications, learn new techniques from other SAS users, and hear about research and development at SAS Institute

**Services provided:** One national meeting per year

**Vendor:** Shared Medical Systems Corp.  
**Group Name:** SMS National User Group  
**Acronym:** SNUG  
**Address:** 51 Valley Stream Pkwy.  
Malvern, PA 19355  
**Phone:** (215) 296-6300  
**Annual fee:** \$200 for voting members; \$35 for associate members  
**Individual members:** None  
**Corporate members:** 250  
**Systems/products:** Independence software  
**Next meeting:** March 29-31, 1989, New Orleans  
**Top officer:** Dennis Dasanko, University of Wisconsin Hospital & Clinics  
**Relation to Vendor:** Independent  
**Purpose:** To provide mutual assistance and liaison between SNUG and SMS; to exchange ideas, information, innovations, and solutions among members; to promote resource sharing  
**Services provided:** Two national meetings per year; periodic newsletters

**Vendor:** Siemens AG  
**Group Name:** Siemens-Informationstechnik Anwenderverein e.V. (West German Siemens user group)  
**Acronym:** SAVE  
**Address:** Datenzentrale Schleswig-Holstein  
P.O. Box 17 80  
D-2300 Kiel  
West Germany

**Phone:** NA  
**Annual fee:** DM700  
**Individual members:** 1,300  
**Corporate members:** 420  
**Systems/products:** Siemens products and others; no exclusive products  
**Next meeting:** April 18-21, 1989, place to be announced  
**Top officer:** Hartmut Niesing, Kiel  
**Relation to Vendor:** Independent  
**Purpose:** To exchange experiences among users of Siemens information and communications systems, and to submit proposals to Siemens for future product development  
**Services provided:** Three meetings per year; three publications per year  
**Note:** There are also Siemens groups in Italy, Spain, Sweden, France, Switzerland, the Netherlands, Belgium, South Africa, and China.



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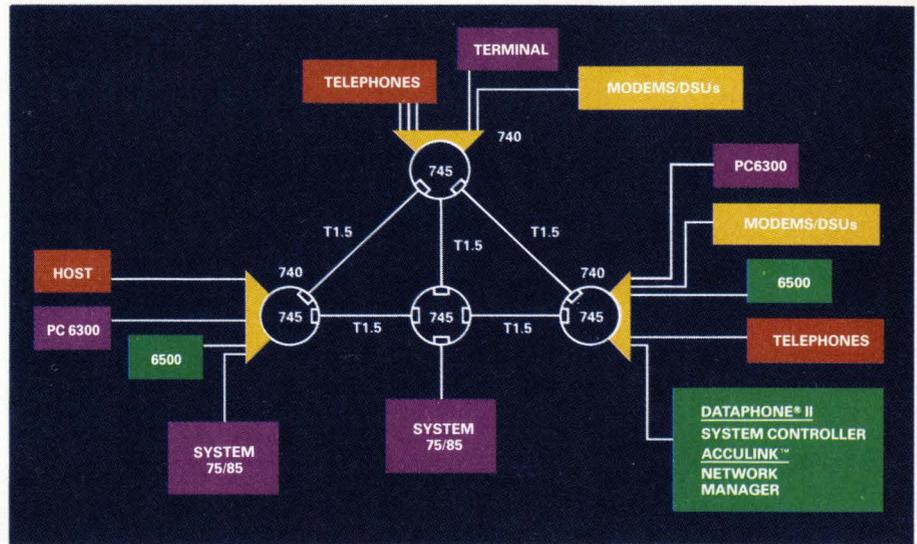
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**SPECIAL REPORT**  
DIRECTORY

**Vendor:** Software AG  
**Group Name:** International Software AG Users Group  
**Acronym:** SAGGROUP  
**Address:** 11190 Sunrise Valley Dr.  
Reston, VA 22091  
**Phone:** (703) 860-5050  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** 3,000  
**Systems/products:** All Software AG products  
**Next meeting:** Oct. 22-26, 1989, Anaheim, Calif.  
**Top officer:** Bill Wagner, University of Texas  
**Relation to Vendor:** Partially funded  
**Purpose:** To provide forums for exchange of technical information between users and vendor and among users  
**Services provided:** One or two international meetings annually; quarterly newsletter

**Vendor:** Software Sciences Ltd.  
**Group Name:** COLT User Group  
**Address:** New City Court  
20 Saint Thomas St.  
London SE1 9RF  
England  
**Phone:** (44) 1-407-2717  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** 7  
**Systems/products:** COLT  
**Next meeting:** January 1989  
**Top officer:** Bernard Harvey, Software Sciences Finance Systems  
**Relation to Vendor:** Independent  
**Purpose:** To discuss changes to and development of the COLT Market Making System  
**Services provided:** Meetings

**Vendor:** Sterling Software Inc.  
**Group Name:** DMS/OS User Group  
**Address:** 11050 White Rock Rd.  
Rancho Cordova,  
CA 95670  
**Phone:** (916) 636-1304  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** 300  
**Systems/products:** Storage management products  
**Next meeting:** April 16-19, 1989, San Antonio  
**Top officer:** Frank Oleskewicz, Hartford Insurance Co.  
**Relation to Vendor:** Independent  
**Purpose:** To exchange information

with other users of DMS/OS, and to provide recommendations to the developer for product enhancements  
**Services provided:** One meeting annually

**Vendor:** Sterling Software Dylakor Div.  
**Group Name:** Dylakor Users group  
**Address:** 9340 Owensmouth Ave.  
P.O. Box 2210  
Chatsworth, CA 91313  
**Phone:** (818) 718-8877  
**Annual fee:** None  
**Individual members:** 200-300  
**Corporate members:** NA  
**Systems/products:** All Dylakor products  
**Next meeting:** April 16-19, 1989, San Antonio  
**Top officer:** None  
**Relation to Vendor:** Partially subsidized  
**Purpose:** To exchange technical information  
**Services provided:** One meeting per year

**Vendor:** Storage Technology Corp.  
**Group Name:** StorageTek Forum  
**Address:** 2270 S. 88th St., MS4355  
Louisville, CO 80027  
**Phone:** (303) 673-4732  
**Annual fee:** None  
**Individual members:** 188  
**Corporate members:** 126  
**Systems/products:** Large systems storage products  
**Next meeting:** September 25-27, 1989, Denver  
**Top officer:** Dean Boissoneau, Southern New England Telephone Co.  
**Relation to Vendor:** Partially funded  
**Purpose:** To enrich the partnership between StorageTek and its customers  
**Services provided:** One annual meeting

**Vendor:** Sun Microsystems Inc.  
**Group Name:** Sun Microsystems User Group Inc.  
**Acronym:** SUNUG  
**Address:** 2550 Garcia Ave.  
Mountain View, CA 94043  
**Phone:** (415) 336-4343  
**Annual fee:** \$30  
**Individual members:** 5,586  
**Corporate members:** NA  
**Systems/products:** All Sun products  
**Next meeting:** NA  
**Top officer:** Dave Howard

**Relation to Vendor:** Partially subsidized  
**Purpose:** To encourage the exchange of information between Sun users and Sun Microsystems Inc.  
**Services provided:** One meeting per year; quarterly newsletter

**Vendor:** Systems Center Inc.  
**Group Name:** Systems Center Users group  
**Address:** 2477 Gateway Dr.  
Irving, TX 75063  
**Phone:** (214) 550-0318  
**Annual fee:** None  
**Individual members:** NA  
**Corporate members:** NA  
**Systems/products:** Network Data-Mover  
**Next meeting:** June 4-7, 1989, Arlington, Va.  
**Top officer:** NA  
**Relation to Vendor:** Fully subsidized  
**Purpose:** To enhance the product  
**Services provided:** One annual meeting

**T**

**Vendor:** Tandem Computers Inc.  
**Group Name:** International Tandem Users Group  
**Acronym:** ITUG  
**Address:** 111 E. Wacker Dr.  
Chicago, IL 60601  
**Phone:** (312) 644-6610  
**Annual fee:** \$300  
**Individual members:** 2,300  
**Corporate members:** NA  
**Systems/products:** All Tandem products  
**Next meeting:** June 11-14, 1989, Stockholm, Sweden  
**Top officer:** Steven Moriarty, Panoramic Inc.  
**Relation to Vendor:** Independent  
**Purpose:** To advance the effective utilization of Tandem computers by promoting the free exchange of information concerning the use of such machines  
**Services provided:** Two international meetings per year; bimonthly journal

**Vendor:** Tandy Corp.  
**Group Name:** Tangent  
**Address:** P.O. Box 17580  
Fort Worth, TX 76102  
**Phone:** (817) 390-3700  
**Annual fee:** \$100  
**Individual members:** None  
**Corporate members:** 240

**Systems/products:** All Tandy computer products

**Next meeting:** April 1989, Fort Worth

**Top officer:** John Esak, Nexus Inc.

**Relation to Vendor:** Independent

**Purpose:** To provide members with a forum for the exchange of ideas and to act as a liaison with Tandy Corp

**Services provided:** One national meeting per year; four newsletters

**Note:** Tangent consists of Tandy equipment business users. Tandy estimates that there are more than 200 other user groups, made up primarily of home computer users, computer enthusiasts, and small businesses that use Tandy computers. These groups are organized on the local level. Tandy sends a newsletter to as many of these groups as it is aware of.

**Vendor:** Texas Instruments Inc.

**Group Name:** Texas Instruments Mini/Microcomputer Information Exchange

**Acronym:** TIMIX

**Address:** P.O. Box 201897  
Austin, TX 78720

**Phone:** (512) 250-7151

**Annual fee:** \$40

**Individual members:** None

**Corporate members:** 6,000

**Systems/products:** All Texas Instruments computer products

**Next meeting:** April 1989, Dallas

**Top officer:** Rosemary Colgrove, Timex

**Relation to Vendor:** Independent

**Purpose:** To promote the exchange of information among users of Texas Instruments computer equipment

**Services provided:** One national meeting per year; monthly newsletters

**Vendor:** Thorn EMI plc

**Group:** CHAMPS User Group

**Address:** Meudon Ave.  
Farnborough,  
Hampshire, GU14 7NB  
England

**Phone:** (44) 2-52-544-321

**Annual fee:** None

**Individual members:** NA

**Corporate members:** 200

**Systems/products:** CHAMPS Hotel System

**Next meeting:** Jan. 19, 1989

**Top officer:** David De Metz, Norfolk Capital Hotels

**Relation to Vendor:** Independent

**Purpose:** To facilitate the exchange of ideas and help move the product

forward

**Services provided:** Meetings

**Vendor:** Trax Softworks Inc.

**Group Name:** Trax User Group

**Acronym:** TUG

**Address:** 10801 National Blvd.  
Los Angeles, CA 90064

**Phone:** (213) 475-8729

**Annual fee:** None

**Individual members:** 2,000

**Corporate members:** 500

**Systems/products:** Trax software products and others that interface to Trax products

**Next meeting:** Feb. 27-March 1, 1989, Marina del Rey, Calif.

**Top officer:** Leo Hoyt, Caltrans

**Relation to Vendor:** Fully subsidized

**Purpose:** To learn about Trax products and their use; to help organize other user groups where they don't exist yet

**Services provided:** One annual meeting; quarterly newsletter

## U

**Vendor:** Unisys Corp.

**Group Name:** CUBE Inc.

**Address:** P.O. Box 33053  
Detroit, MI 48232

**Phone:** (313) 972-8698

**Annual fee:** None

**Individual members:** 3,000

**Corporate members:** 1,500

**Systems/products:** All Unisys products

**Next meeting:** April 17-20, 1989, San Francisco

**Top officer:** Eric Thomas, John C. Lincoln Hospital, Phoenix

**Relation to Vendor:** Independent

**Purpose:** To exchange ideas, techniques, and information; to propose modifications, changes, and additions to Unisys equipment and systems

**Services provided:** Two national meetings per year; newsletter

**Vendor:** Unisys Corp.

**Group Name:** Unisys Users Association/ABCU (with nine national groups, plus affiliations with groups in France and South Africa, and six common interest groups)

**Acronym:** UUA/ABCU

**Address:** Woodside, Over Lane  
Baslow, Bakewell  
Derbyshire DE4 1RT  
England

**Phone:** (44) 24-688-3241

**Annual fee:** Varies by equipment

**Individual members:** None

**Corporate members:** 1,100

**Systems/products:** All Unisys products

**Next meeting:** April 3-7, 1989, The Hague, the Netherlands

**Top officer:** Frank Oschwald, RZAH, Switzerland

**Relation to Vendor:** Independent

**Purpose:** To exchange information between supplier and users and among users on matters of common interest; to stimulate cooperation between Unisys and users for the general good of users

**Services provided:** Two meetings per year in Europe; journal eight times per year

**Note:** In 1989, the ABCU group and the SUAE group (listed below) will be combined into one group to be known simply as Unisys Users Association.

**Vendor:** Unisys Corp.

**Group Name:** USE Inc.

**Address:** Box 461  
Bladensburg, MD 20710

**Phone:** (301) 699-9336

**Annual fee:** \$200

**Individual members:** None

**Corporate members:** 640

**Systems/products:** Unisys 1100/2200, 5000/6000/7000

**Next meeting:** April 1-4, 1989, Reno

**Top officer:** James T. Ault III, Creighton University, Omaha

**Relation to Vendor:** Independent

**Purpose:** To promote development and interchange of ideas and information concerning computers and computer science

**Services provided:** Two annual meetings; monthly newsletter

**Vendor:** Unisys Corp. International

**Group Name:** Unisys Users Association/SUAE

**Acronym:** UUA/SUAE

**Address:** Bakers Court  
Bakers Rd.  
Uxbridge, UB8 1RJ  
England

**Phone:** (44) 895-37137

**Annual fee:** £75-£150

**Individual members:** None

**Corporate members:** 630

**Systems/products:** Complete Unisys product range

**Next meeting:** April 3-7, 1989, The Hague, the Netherlands

**Top officer:** B. R. Bachmann, Union Bank of Switzerland

**Relation to Vendor:** Independent  
**Purpose:** To provide a forum whereby users may exchange ideas and information concerning all aspects of Unisys products and services, and present requirements for policy change and product development to Unisys  
**Services provided:** Two conferences per year; periodic newsletters; periodic special reports

**Vendor:** Unix and Unix-like OS Vendors  
**Group Name:** Usenix Association  
**Acronym:** Usenix  
**Address:** P.O. Box 2299  
Berkeley, CA 94710  
**Phone:** (415) 528-8649  
**Annual fee:** Individual members: \$40; educational institutions: \$125; corporate entities: \$275  
**Individual members:** 2,800  
**Corporate members:** Educational institutions, 350; corporations, 275  
**Systems/products:** Unix and similar operating systems and the C programming language.  
**Next meeting:** Jan. 30-Feb. 3, 1989, San Diego  
**Top officer:** Alan G. Nemeth, Prime Computer Inc.  
**Relation to Vendor:** Independent  
**Purpose:** To exchange information and ideas about the various Unix systems and C  
**Services provided:** Two meetings per year; bimonthly newsletter and quarterly journal

**Vendor:** Unix and Unix-like OS Vendors  
**Group Name:** /usr/group (with 17 affiliated groups, five in the U.S. and 12 overseas. In its recently published UNIX Resources Guide, the group listed 50 independent Unix-specific user groups, and there may well be more)  
**Address:** 4665 Old Ironsides Dr.  
Santa Clara, CA 95054  
**Phone:** (408) 986-8840  
**Annual fee:** \$100  
**Individual members:** 4,500  
**Corporate members:** None  
**Systems/products:** All Unix systems  
**Next meeting:** Feb. 28-March 2, 1989, San Francisco  
**Top officer:** Donald O'Shea, Open Software Foundation  
**Relation to Vendor:** Independent  
**Purpose:** Forum for exchange of information concerning Unix and Unix-like operating systems

**Services provided:** One annual meeting; biweekly newsletter and magazine; Unix products directory; technical committees

**W**

**Vendor:** Wang Laboratories Inc.  
**Group Name:** International Society of Wang Users  
**Acronym:** ISWU  
**Address:** One Industrial Ave.  
Lowell, MA 01851  
**Phone:** (508) 967-4322  
**Annual fee:** \$80  
**Individual members:** 7,000  
**Corporate members:** None  
**Systems/products:** All Wang products  
**Next meeting:** To be announced  
**Top officer:** Bill Sturgen, Solar Turbine Inc.  
**Relation to Vendor:** Subsidiary  
**Purpose:** To facilitate communication between users and vendor  
**Services provided:** Two meetings per year; monthly technical publication

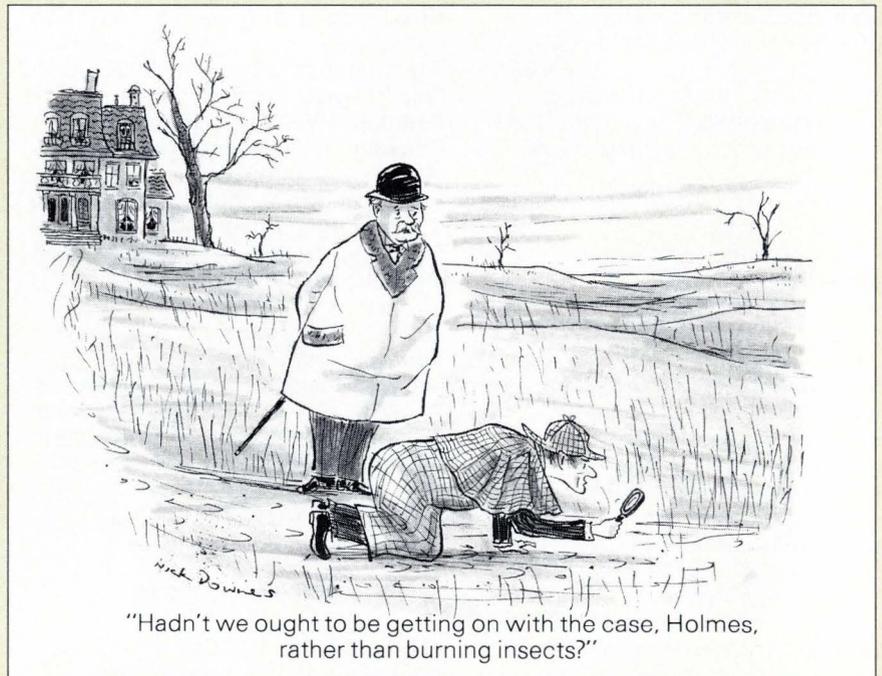
**X**

**Vendor:** Xerox Corp.  
**Group Name:** EDGE International  
**Address:** 6632 S. 191 Pl.  
Kent, WA 98032  
**Phone:** (206) 251-6010  
**Annual fee:** \$300  
**Individual members:** 275

**Corporate members:** 225  
**Systems/products:** All Xerox systems  
**Next meeting:** April 30-May 4, 1989, San Diego  
**Top officer:** Karen Alligier, Boeing Military Airplane Div.  
**Relation to Vendor:** Independent  
**Purpose:** To increase the usefulness of Ethernet and its devices  
**Services provided:** Two national meetings per year; periodic newsletters and other publications

**Z**

**Vendor:** Zenith Electronics Corp.  
**Group Name:** Heath/Zenith Users Group (an umbrella organization with more than 100 local user groups under it)  
**Acronym:** HUG  
**Address:** P.O. Box 217  
Benton Harbor, MI 49022  
**Phone:** (616) 982-3463  
**Annual fee:** \$22.95 first year, \$19.95 thereafter  
**Individual members:** 17,000  
**Corporate members:** None  
**Systems/products:** Heath and Zenith computers  
**Next meeting:** HUG has no meetings, but local user groups do.  
**Top officer:** Margaret Bacon, Heath  
**Relation to Vendor:** Fully owned  
**Purpose:** To foster the exchange of information  
**Services provided:** Monthly magazine



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# A Matter of Semantics

As advances are made in computer technology and AI-based software, more attention is being given to semantic DBMSs. Although they're not yet commercially available, work is proceeding apace.

BY DANIEL R. O'CONNELL

**S**emantic data modeling and semantic database management systems, which have their roots in the methodologies developed for artificial intelligence, are emerging as powerful and exciting areas of research in computer science.

Several vendors, including Unisys Corp. and Computer Corporation of America, are now developing semantic technology. There are currently several beta site installations of semantic systems, including the one at the State University of New York, College at Fredonia (see *Look Ahead*, Nov. 1, p. 14).

Semantic systems attempt to capture the knowledge relating to the application of the data and not just the storage of it. Until the advent of semantic data modeling, knowledge about the use of data existed only within the applications programs. For instance, even the powerful relational technology can only provide the user with help in regard to the manipulation of data, and no help regarding its actual application. The semantic systems attempt to address this shortcoming and provide great flexibility to the end user.

The theories behind the semantic systems are not new. Many researchers, such as M.R. Quillian, G.G. Hendrix, and J.B. Mylopoulos, have been working on the foundations of this technology since the late 1960s. However, it is not until recent years that these systems have begun to arouse widespread interest.

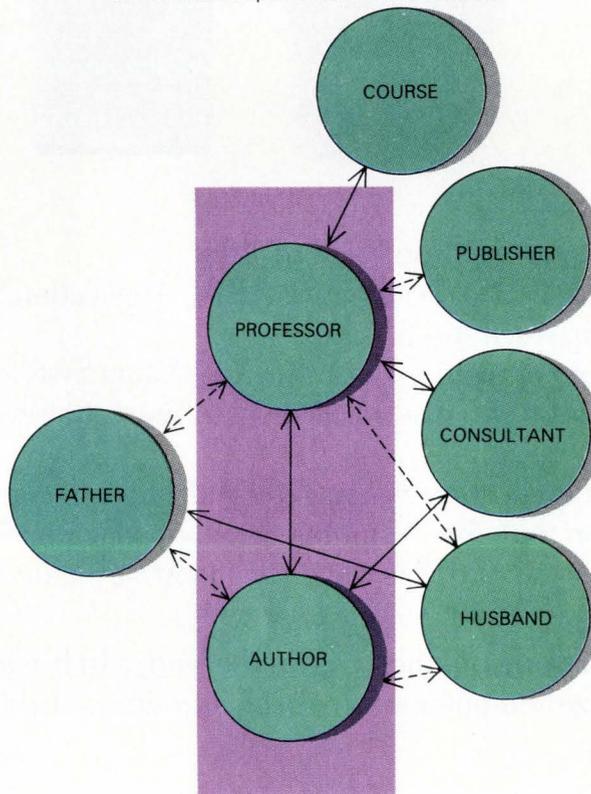
A semantic DBMS model may be depicted graphically as a series of nodes connected by arcs, or lines (see the diagram). The nodes represent classes or concepts, and the arcs represent relationships. The longer the arcs, the weaker the relationships. (Long arcs are depicted in the diagram by broken lines.) For example, *professor* has a close relationship to *course*, and

a weak relationship to *textbook publisher*.

A node may also represent a given data value, such as *Professor Jones*, and the arc can be used to represent an assertion about the relationship, such as *teaches course 7.5CS 350*. When a node represents a given value, it is referred to as a concept. When it represents a category of data, it is referred to as a class. *Professor* is a class of data, whereas *Jones* is a concept. In any given semantic system, there are many nodes and arcs representing many concepts and classes.

## A Semantic DBMS Model

The nodes represent classes of data and the lines represent the relationships between the classes.



Source: Daniel R. O'Connell

### Analyzing Contexts

A given concept or class may be involved in any number of relationships. For example, a professor is an employee of a university and may also be a husband, father, author, or consultant. With so many relationships involved, it is necessary for semantic systems to analyze the various contexts in which the data is to be applied, and to make an appropriate decision. If, for example, someone at a university were utilizing semantic database systems to analyze proposed changes to the faculty job descriptions, the relationship of professor to employee would be appropriate; the relationship of employee to husband would not.

Semantic systems resolve multiple relationship problems through a means called partitioning. Through partitioning (see shaded area in diagram), only those relationships that apply to the current application would be viewed

Chart by Catherine Francis

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## SOFTWARE

### DBMS

by the database system, and the correct choice would be made by the software.

The choice of which relation to partition is based primarily upon the strength of the relationships, i.e., the length of the arcs. Semantic systems are unique in this regard: all other database systems require the selection process to be controlled by an application program.

In some respects, the semantic systems appear to be similar to both the network and the hierarchical database structures. In fact, a semantic system may be built on top of a traditional hierarchical or network structure. However, most research concentrates on the development of semantic systems built upon the relational technology, due to relational DBMS' strong mathematical base. It must be understood that the semantic systems, like the relational database systems, are non-procedural in design. That is, the users specify what data they want, not how to get the data. The navigation through the system is handled by the DBMS software, not an application programmer, as in the case of a network or hierarchical system.

Within a semantic database system,

classes of data are organized into a hierarchical structure, with each level of the hierarchy having a series of rules that apply to each class. These rules, called constraints, are applied to all data within the class. Aside from having their own rules, lower levels inherit rules from the higher level classes to allow the system to make well-defined and accurate decisions regarding the manipulation of the data.

For example, *professor* is a class, and certain rules apply to each individual professor, such as tenure considerations, salary increases, teaching load, etc. *Professor* inherits rules from a class called *faculty*, and *faculty* inherits rules from a general class called *employee*. With the semantic model, these rules are then stored along with the data and are embedded in the database structure.

In a conventional database system, these rules exist only within an application program and must be encoded again and again. Because the semantic systems capture, manipulate, and store knowledge about the application of data, the benefits to the end user are dramatic. For example, a user could issue a query such as, "Re-

trieve all course information on smart students." The database system would understand the words *course information* and *smart students* and would comply. A primary difference between the semantic systems and relational systems lies in the query mechanism. Not only will the semantic system offer greater flexibility, but it will also provide greater integrity. For example, in a relational system, a user may execute a query that would result in a meaningless join operation. However, because the semantic system has embedded knowledge about the applications, it would not allow this outcome.

Semantic systems offer great potential. However, because they have not been commercially proved, it would be unwise for anyone contemplating a DBMS migration to consider purchasing a semantic system at this time. It is important, though, to become aware of the developments that may lie ahead in this field.

*Daniel R. O'Connell is a database consultant and assistant professor of computer sciences at the State University of New York, College at Fredonia.*

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**E**rasable, or rewritable, optical storage devices are moving center stage in the new product theater, with a starring role as the primary storage device for NeXT, Steven Jobs' new computer. Longer-lasting and capable of providing better access times than magnetic tape, erasable optical storage devices are poised to eclipse magnetic media as primary PC storage devices.

Since the dawn of the PC era, lack of backup has been a nagging problem that has only become more acute with the rise of powerful workstation and PC networks. In those systems, backup is of crucial importance since they handle strategic corporate data that was once the exclusive domain of minicomputers and mainframes, for which tape backup was always *de rigueur*.

"For purposes of tape backup, erasable optical disks offer some big advantages, particularly if you need to go back and [get access to] information quickly," says Alan Goldridge, president of Advanced Graphic Applications Inc., New York. "Tapes are read sequentially, while disks are read randomly, and that makes a big difference in how long it takes to retrieve data." AGA, a systems integrator that uses several optical systems, has a 40-station network with three optical storage systems, a compact disk-read-only memory (CD-ROM) interfacing to a publishing device, a write-once read-many (WORM) system for archiving, and an erasable optical disk for works in progress.

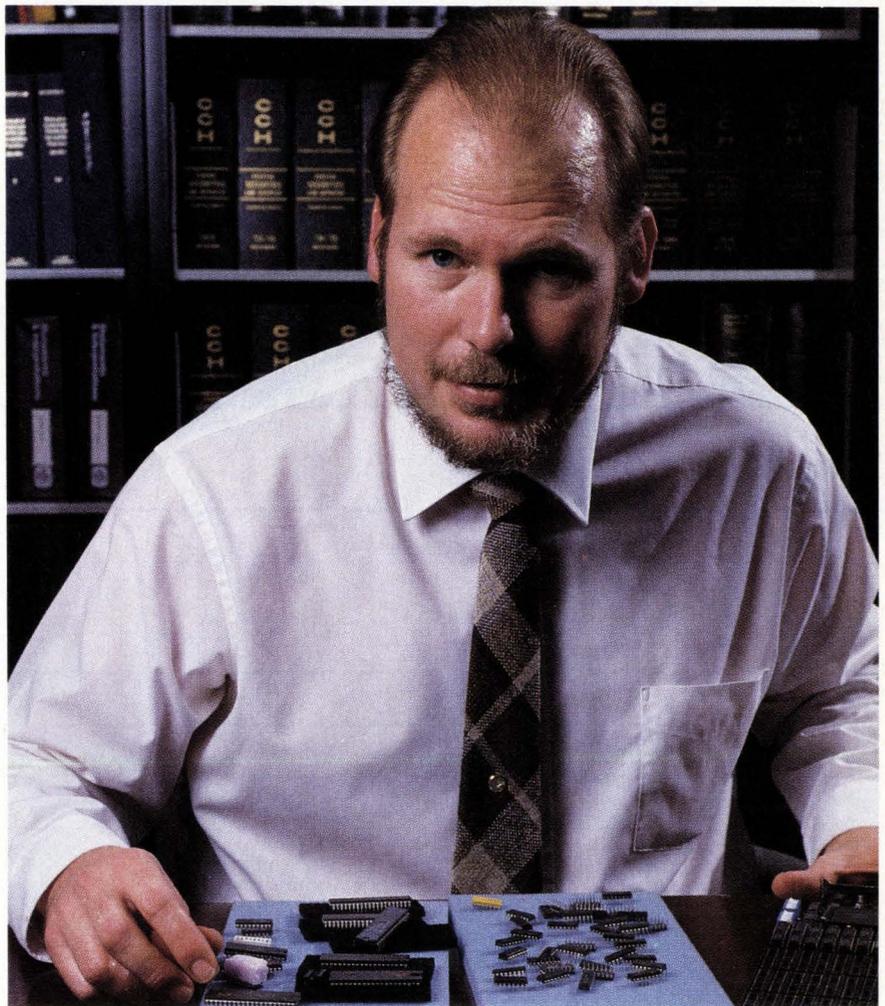
Erasable optical media's rewritability gives them an advantage over WORMs. "Many users are not comfortable storing information that cannot be erased," says Robert Freese, president of Alphasatronics Inc., Research Triangle Park, N.C., an integrator of erasable optical storage systems for the workstation market. "They're much more comfortable using something which is erasable, and in turn, the managers are more comfortable that it has a long lifetime as well. Users are just reluctant to use the WORMs... they ask themselves, 'Do I really want it stored where it can't be erased?'"

Scott McCready, associate director for optical disk systems market research at CAP International Inc., Norwell, Mass., disputes the notion that erasable drives are better all-around for backup, but concedes that "over the next two years, 5¼-inch erasable optical disks will be used primarily as backup systems, especially given the storage requirements of the 486 machines. Then the market will branch out and the 5¼-inch systems will be used on LANs as well as minis and superminis.

# PC Back-up's Optical Understudy

New erasable optical storage devices, along with existing WORM drives, appear to offer sound alternatives to magnetic tape drives for backup.

BY BOB FRANCIS



ALEXANDER'S KING: Erasable optical disks are an interesting choice for backup storage.

Photograph by Marty Katz

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January 1	Dec. 1, '88	IBM				
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March 1	Feb. 1	DEC		IBM-DEC Connectivity	T-1 Multiplexors	
March 15	Feb. 15		PC-DBMSs	386-Based PCs		Corporate Profile
April 1	Mar. 1	Budget Survey		Weapon Systems	EDI	
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"An erasable optical drive is a good solution as backup for discrete tasks in a mini environment," McCready continues, "but on a LAN when you're sharing data, it's better to have WORM to ensure integrity of the data. I would cremate anybody in my company I found using an erasable optical drive as backup on a LAN." McCready adds that users would get better throughput on WORM drives than on erasable because they allow continual writing, rather than erasing and writing.

**Not Just Promises**

The 5¼-inch erasable devices, whether used for backup or primary storage, are no longer just promises and vaporware (see "Erasing Optical Doubts"). Maxtor Corp., San Jose, has a 5¼-inch unit that went into limited production in October, and Sony Corp. of America, Park Ridge, N.J., has introduced its 5¼-inch family of erasable optical disk drives. Next's 5¼-inch erasable drive comes from Canon U.S.A. Inc., Lake Success, N.Y.

So far, Maxtor is the only vendor that has promised a 3½-inch optical disk drive, which is scheduled to ship early next year. As the price and performance of the 3½-inch disks improve, they should begin to be used as backup for the 486-based machines, according to McCready. As backup devices, the units cannot compete with quarter-inch streaming tape on price/performance, he adds.

Indeed, for users like Mike King, operations manager for LANs and System/38 at Alexander & Alexander Inc., Towson, Md., erasable optical disks look interesting, but he meets his current backup needs with an automatic tape backup system. His 30-node LAN is attached to the VAST system, introduced earlier this year by Emerald Systems Corp., San Diego; the system allows storage of 2.2GB of data. "Previously, I was saving on several devices. VAST was the first device that allowed that large amount of data on one tape," he says. One 5¼-inch erasable optical disk offers about 1GB of storage. Additionally, the software Emerald sells with the VAST device allowed King to automatically back up the LAN at night, an advantage he has no intention of relinquishing.

When compared with conventional magnetic Winchester disks, optical disks' greatest disadvantage as primary storage devices is the amount of time it takes to retrieve data. For searches outside the same track, optical's speed is between 50msec and 60msec; the average magnetic speed is between 16msec and 20 msec. In searches of 5¼-inch disks that fall within the same track, an erasable optical drive

has a 1msec access time, while a magnetic disk drive averages 4msec. However, intratrack searches are rare; searches outside the same track occur far more frequently.

Next Inc., San Francisco, boosted the visibility of optical media as primary storage devices, but says it would provide peppier Winchester drives for users who need faster disk drive access and are uncomfortable with the new technology as their primary storage option.

In general, the experts say, the uses for erasable optical disks are likely to include:

- replacing existing tape and nonerasable optical disk backup systems, when no electronic paper trail is needed;

be used in PCs and 62,610 in workstations.

All of the units released so far use magneto-optic technology, though several firms are trying to overcome some of the problems by mass-producing phase-change and dye-polymer erasable optical systems. The dye-polymer method, if perfected, would produce cheaper media and probably reduce error rates over time. This would make any devices using that method ideal for backup storage, McCready says. He adds, however, that these units are probably still about three years away from commercial availability. Devices made with the phase-change manufacturing technique consume less power in operation, McCready says.

**Erasing Optical Doubts**

These vendors can supply erasable optical disk drives in limited quantities.

Company	Models	Capacity (average)	Seek Time (Read)	Data Transfer (1)	Price
Sony Corp.	EDM-1DA1/ 1DAO	650MB	90msec	7.4Mbps	\$4,650
Canon America*	OM-500D (5.25")	512MB	105msec	9.1Mbps	\$6,000
Olympus**	(5.25")	650MB	84msec	1.4Mbps	\$5,995
Maxtor Corp.	Tahiti 1 (5.25")	512MB	30msec	1.25Mbps	\$5,995
	Fiji 1 (3.5")	320MB	100msec	238KBps	\$1,995

\*Since the media that Canon uses do not conform to the standards for size, number of sectors, or encoding pattern that have been agreed upon by other suppliers, they are not interchangeable with the other units.  
\*\*Olympus uses media from 3M Corp.  
Source: CAP International Inc.

- on-line transaction processing (OLTP), where erasability and high-volume storage are needed; and
- workstation environments, particularly in manufacturing, where applications are graphics-intensive and speed of retrieval is not a major issue.

Certain niche markets such as seismic exploration are expected to welcome erasable optical disk systems. Other rugged environments such as factory floor and oil platforms, where magnetic media are susceptible to breakdowns because of dust and dirt, are also likely to embrace these systems.

**Poised for Growth**

Overall, CAP International estimates that the end-user market for all optical storage devices will grow from approximately 24,000 units in 1988 to about 400,000 in 1992, of which 57% will be erasable drives. McCready also predicts that prices on all optical drives will decline between 15% and 20% annually between 1987 and 1992. CAP also estimates that by 1992, 149,000 erasable optical drives will

These are three to five years away from being marketed.

The American National Standards Institute has not settled on any standard interfaces for erasable optical drives, but most manufacturers are using either the Small Computer Systems Interface (SCSI) or IBMPC interfaces for 5¼-inch drives.

Neither do any standards exist for 12-inch WORM drives or magnetic tapes. For example, in the magnetic tape backup market, three basic standards have developed, but they are not interchangeable. "There are still some standards to be resolved [with erasable optical disks]," says Goldridge, "but it's not like the 12-inch WORM, where one optical disk won't work in another drive. With erasable drives, there may be some physical differences, but these differences should be moot to the user."

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Over two thousand readers participated in the Reader Vote Contest, and here on the following pages, are the ads these Information Systems professionals chose as the winners.

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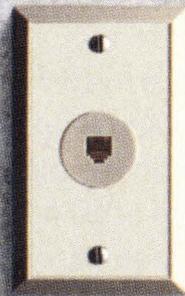
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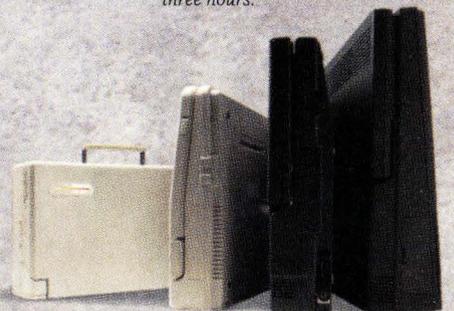
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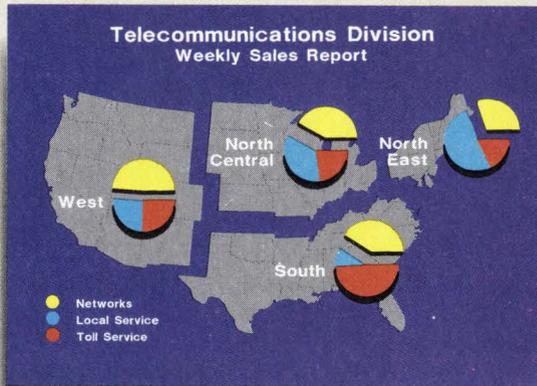
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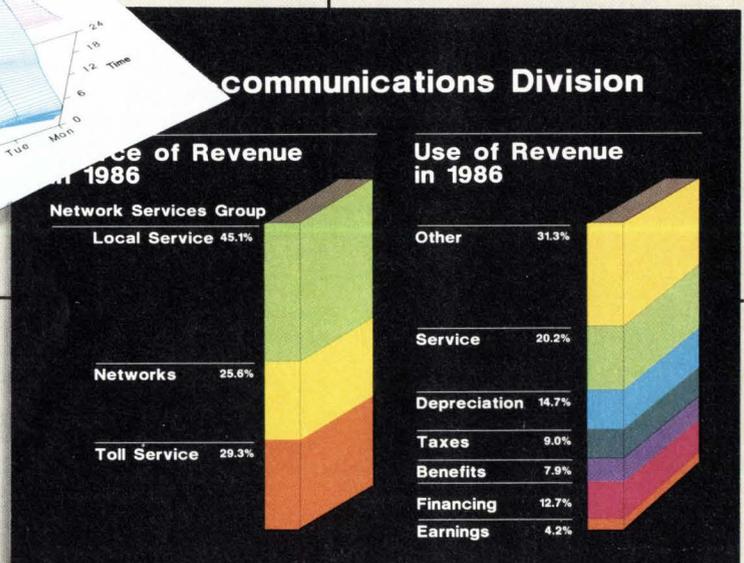
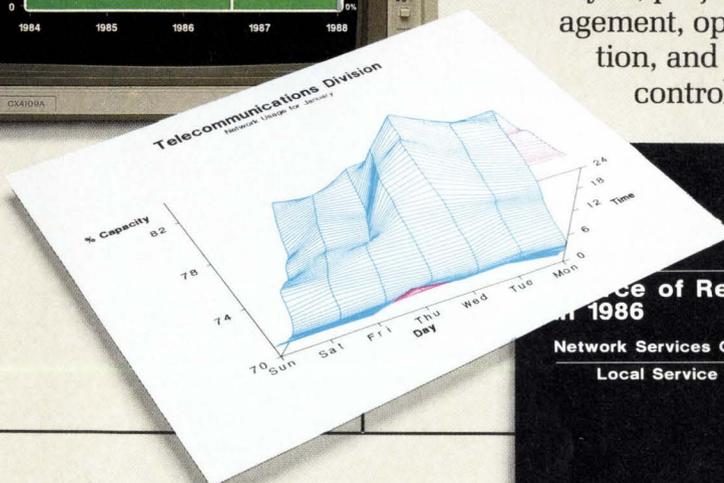
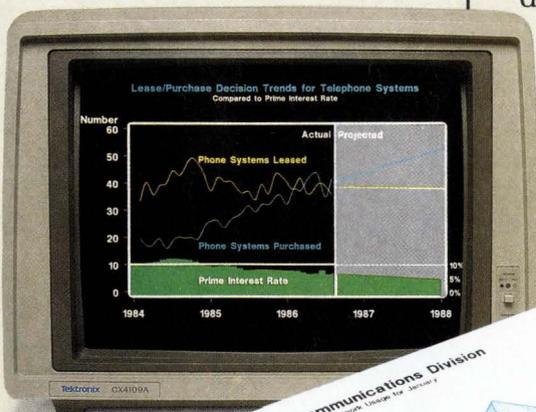
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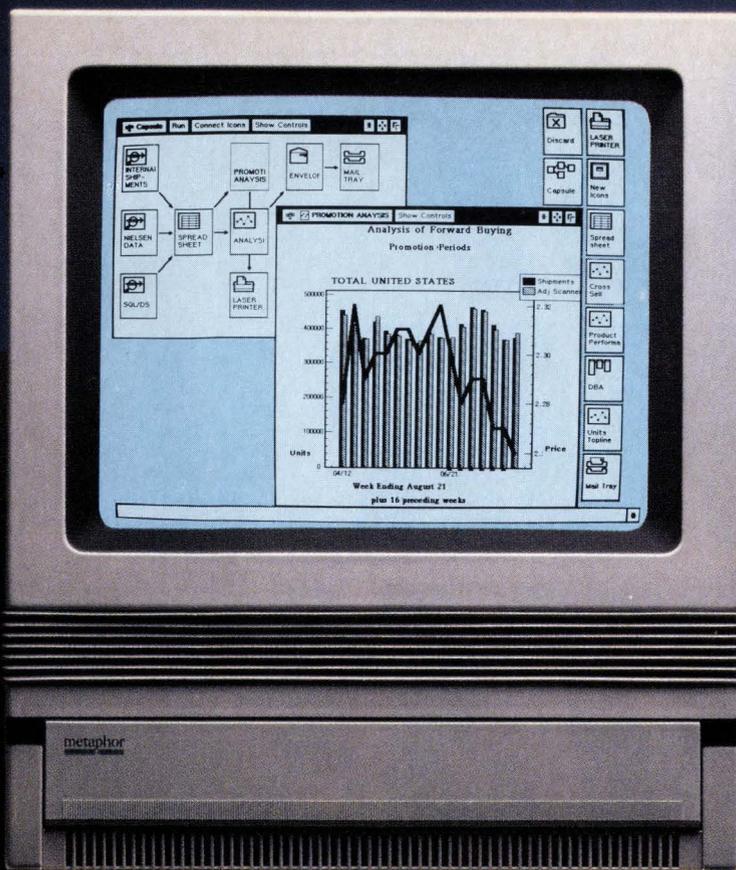
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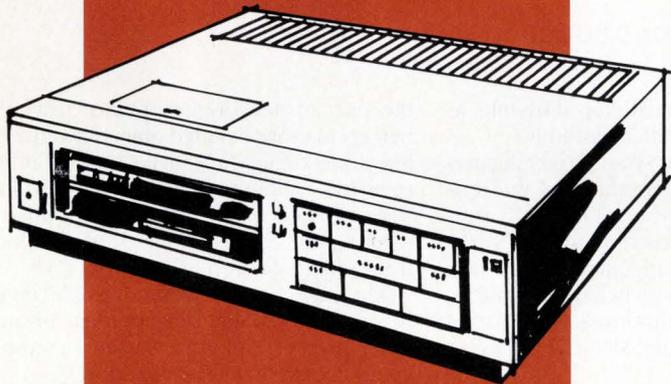
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# It's Do or Die for SWIFT II Project

Next month, banks and finance firms worldwide will hear if SWIFT II, their delay-ridden \$40 million project to develop a better global messaging network, will be scrapped.

BY RAYMOND BOULT

It was time for straight talking. After spending \$40 million in development money and suffering a three-year delay, Bessel Kok, CEO of the Society for Worldwide Interbank Financial Telecommunications (SWIFT), which looks after the global messaging needs of 1,495 of the world's banks, stood before SWIFT's members in Vienna. He promised that if its SWIFT II project to develop a new networking system does not achieve a first-class pass of its performance tests by the end of January 1989 it will be regarded as scrap. Alternative options are being developed.

This came as a great relief to SWIFT's biggest members. Sy Rosen, vice president of Citibank NA in New York, which is one of the heaviest users of the SWIFT system, points out that "the remarks and comments by the SWIFT executive about SWIFT II represent a realistic appraisal of the problems being encountered in trying to complete the project and its continued large development cost. The recognition of the need to have in place a viable alternative to SWIFT II is long overdue."

John Langridge, communications systems manager at banking systems house Alimand in London, says, "I believe one of the results of the delays in SWIFT II is that banks are making more and more use of their internal networks as a way of insuring their future. SWIFT has already lost out on some of this traffic—maybe never to regain it."

## SWIFT I Enters Old Age

SWIFT, a \$200 million a year "cooperative" registered in Brussels under Belgian law, operates a 15-year-old network of the same name. This network handles international financial transactions in the form of encrypted "messages" via data-switching computer centers in the Netherlands and the U.S. The network has 2,819 drops all over the world, and its 1,495 users in-

clude 95% of the world's top 500 banks, as well as other financial institutions.

The new network, SWIFT II, is being prepared to take over once the tried-and-tested, but rapidly aging, SWIFT I finally runs out of capacity. According to Kok, SWIFT I's capacity will be adequate, give or take the addition of a few switching computers, for about another three years. If it passes its acceptance testing, SWIFT II will even-



ually serve 3,000 financial institutions in 80 countries. But as Peter Drummond, executive vp at SWIFT, notes, SWIFT II development began in 1982, and the original date to begin acceptance testing was 1985.

One of the main technical advantages claimed for SWIFT II is security, including acknowledgment of safe receipt of a message throughout the network. By August 1988, SWIFT II had fulfilled or exceeded the objectives fixed by the society's annual general meeting in June. However, these encouraging signs—as well as the enthusiasm of the 140-man project team led by Carl Cressman at the U.S. switching center in Culpepper, Va.—were somewhat mitigated when it appeared that some of the acceptance criteria for the 978 functions, programmed in 1 million lines of code, were not rigorous enough to allow

the start of network acceptance tests. A new set of more detailed objectives covering functionality, security, operability, capacity, availability, and response time were defined at a special SWIFT board meeting on Sept. 15. SWIFT II must fulfill these objectives by mid-January.

The same board meeting also decided to continue parallel development of another project, called SIONA, as a contingency in case SWIFT II is abandoned.

## SIONA Project Is Ready To Roll

With a 30-man team seeking to recruit a further 30 SWIFT I or Unisys Corp. specialists, the \$9 million SIONA project is based on upgrading SWIFT I software to run on Unisys A Series computers. A Series capacity runs from three times that of the Unisys B4800 machines currently used as switching computers for SWIFT I (on the Unisys A12) to seven times (on the Unisys A17). Unisys's A Series has another advantage: increased memory capacity. This would enable a later, upgraded version of SIONA, already being called SIONA+, to include certain functions assigned to SWIFT II. Nevertheless, inquiries made this summer among the national SWIFT user groups, showed that the most urgently needed functions will require a considerable amount of development work, notably with regard to file organization. A final decision to go ahead with SIONA will be based on technical progress on SWIFT II.

SWIFT users are now concerned that the SWIFT II delays do no permanent damage to the organization which they, as members, own. As Citibank's Rosen puts it, "The new steps being taken are a refreshing departure from the past and should help reestablish confidence in SWIFT's managerial capability and credibility."

*Raymond Boulton is a chief technical editor at the GEID Press Agency in Paris.*

# DB/EXPO '89

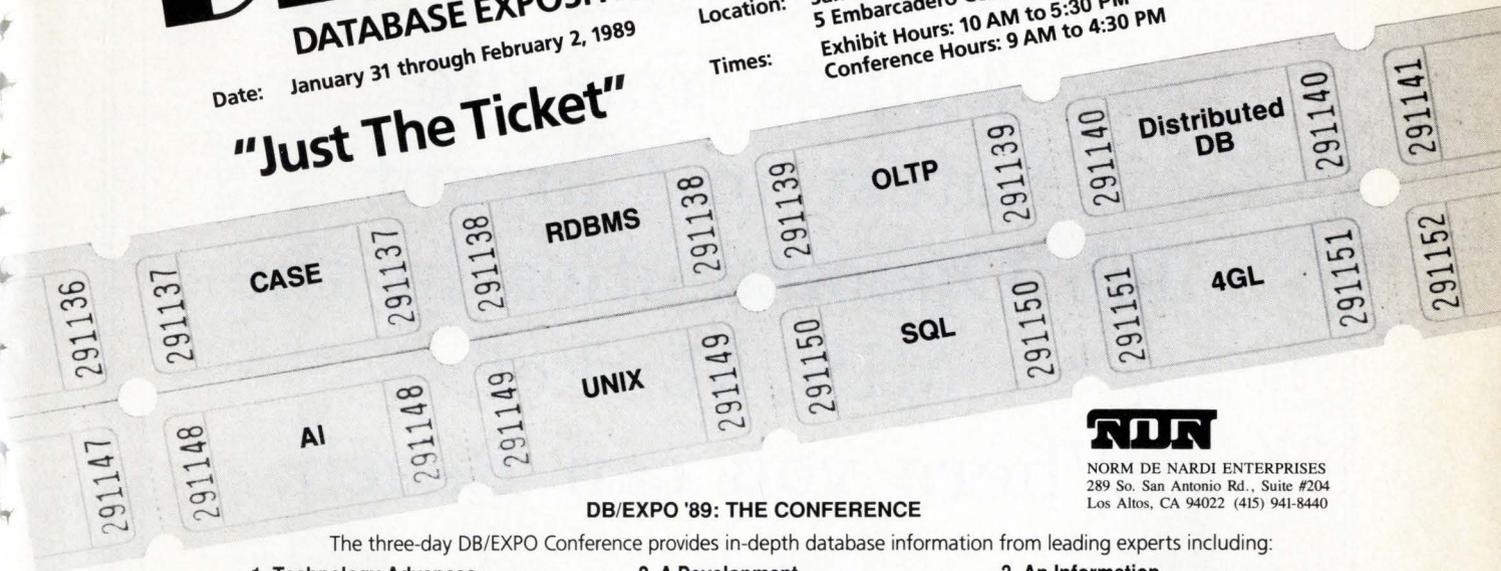
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#### 2. A Development Architecture

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**Using CASE: Critical Success Factors**, Linda Nadeau (Knowledgeware)

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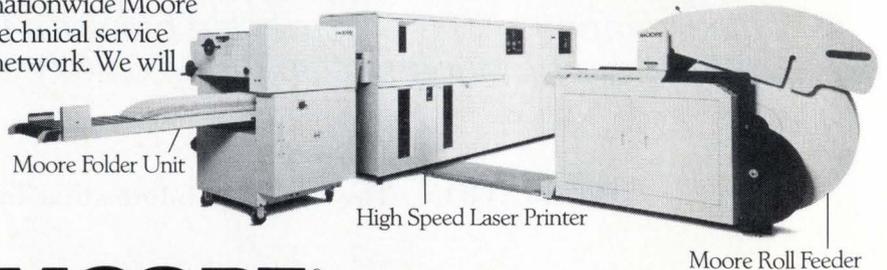
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# CURRICULUM SHORTFALL

Computer science curricula fall short of the business world reality, producing graduates who are unprepared to do maintenance, and who lack essential communications skills.

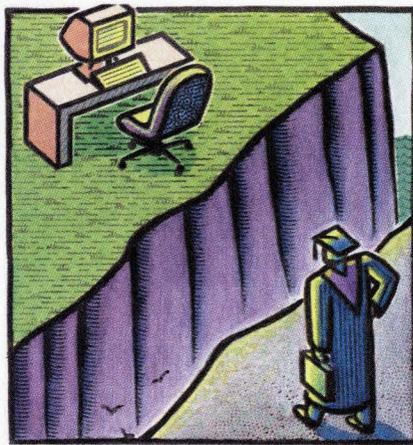
BY MICHAEL RIDGWAY

As a director of an information systems department, I have encountered the disappointing consequences of a shortfall in IS education. There are serious gaps between the curricula taught in university computer science classes and technical schools and the reality of the business world.

The higher education curricula place little or no emphasis on maintenance programming and communications skills. In reality, the IS business world involves more maintenance programming than it does new development, in some cases by a very large margin. The business world also requires the ability to communicate, in both oral and written forms. Thus, serious disparities are created between the expectations and performance capabilities of entry-level staff. Sometimes, a career hangs in the balance.

In my 10-year experience, not one person interviewed at my facility for an entry-level applications programming position has done any maintenance programming. Not even one assignment! (I am talking about people who have completed courses of study ranging in length from nine months to four years, and from a variety of institutions.) Certainly, students must be able to write programs from scratch to understand all the components of the language they are learning, but programmers also must have the skills needed to modify existing programs without crashing the system.

New development of systems and programs requires lesser skill levels because less is at stake, the environment is more controlled, and the mentality is more fundamental: start from the beginning, read the instructions, and build as you go; if that fails, read a little more, build a little differently, and so on. Changing a program in development is much easier than changing a program in production, because the programmer is changing code that is cleaner, better structured, has not been changed numerous times, and is fa-



miliar—more likely than not, the programmer changing it wrote it in the first place. And a change in a program in development does not affect production.

Maintenance to a system or program, however, requires that the programmer know a program's status precisely so that prescribed changes do not adversely affect the existing functionality of the program or system. Maintenance also requires more extensive knowledge of the business environment that the software serves.

But too many educators stress the excitement of new development to students, at the expense of maintenance programming. When we get them, they want to write or rewrite new systems; maintaining or making changes to existing programs and systems holds little appeal for these ill-prepared graduates.

In many cases, the expectations of beginning programmers and analysts are severely disappointed within the first 12 to 18 months of their careers. Many firms tout new development opportunities as a recruiting tool, although real opportunities for new development may be severely limited. Employees often will hopscotch from one company to another, only to find that the situation is pretty much the same

throughout all industries. Ultimately, their truncated tenures adversely affect their careers.

Communications skills are also suffering. For professionals to succeed, they must be able to listen and clearly express themselves, both orally and in writing. The days of sliding a sandwich under the door to a bearded, sandaled, and weird programmer who remained out of sight are gone forever. To get maximum utilization of an IS resource, the staff must be accessible and well acquainted with the user/customer community it serves. This means that IS staff must possess the ability to clarify statements and functions, and be able to document and present problems or their solutions.

I have encountered many aspiring, talented people who cannot write without misspelling words and fracturing grammar, who are incapable of organizing or vocalizing their thoughts, and who are unable to converse with coherence and understanding. They stumble and fill their listeners' ears with what sounds like jibber-jabber laced with jargon, which their audience neither needs to nor cares to understand! To be effective in this business, communications must be clear and exact. Users must have confidence that they are working with professionals who speak their language, professionals who are capable of translating users' words, ideas, and requirements into working programs or systems.

I feel that educators could prevent these deficiencies. The challenge and excitement of maintenance programming can and should be taught. We need people who are willing to get involved and learn how existing programs work and can be adapted, modified, and integrated. These people must also possess fluent language skills. We need people who are prepared to enter the *real* IS world.

*Michael Ridgway is director of data processing at Grange Insurance Co., Columbus, Ohio.*

SYSTEMS



BiiN 60: High-end system can be configured with up to eight processors.

## BiiN, Intel/Siemens Venture, Makes Debut

A new architecture for mission-critical applications is announced by BiiN, an Intel/Siemens joint venture.

BY THERESA BARRY AND KAREN SCHER

**B**iiN, the company formed by Intel and Siemens in July, has developed a new computer architecture designed for mission-critical applications, and has introduced its first two products, the BiiN 60 and the BiiN 20 systems.

The BiiN 60 can be configured with two to eight processors, with performance exceeding 40MIPS, according to the company. It features dynamically selectable fault tolerance, and it can support 1,000 terminals. Available now, it's priced from \$350,000.

The BiiN 20 is a desktop or desktop system with one or two processors and performance of up to 9MIPS, says BiiN. It will begin volume shipment in March '89 and will be priced from \$45,000.

The BiiN architecture is based on In-

tel's VLSI semiconductor technology and Siemens' systems development expertise. Both the BiiN 20 and 60 are based on the Intel 80960 chip. The company says that some typical systems software functions are carried out in the hardware. Some database software functions, such as transaction integrity and distribution, are integrated into the BiiN/OS, based on Ada.

The BiiN Open System Interface Extension (BOSIX) will provide a POSIX-compliant interface and 250 Unix utilities. Also, the BiiN iiCONS Window Manager implements X Windows. The BiiN 60 and 20 use the same architecture, run the same executable programs, and are scalable from minicomputer to mainframe, according to the company. BiiN, Hillsboro, Oreg.

Circle 224

## Fault Tolerance for Unix on 386-Based Micros

1776 Inc. has introduced Unix Fault-Freedom, which provides fault tolerance, with redundant mirrored disks, for Unix V 3.2 and Xenix 2.3 running on 386 systems.

The system is designed for applications such as on-line transaction processing, banking, order entry, network servers, message handling, medical systems, POS, and other mission-critical applications.



Fault tolerant features are available in several configurations, including automatic bad-sector managements, which is standard with all 1776 subsystems; mirrored disks; redundant subsystem electronics; and redundant computers.

Prices for the systems, which depend on configuration, range from \$1,850 to \$13,850. 1776 INC., Sherman Oaks, Calif.

Circle 225

## SOFTWARE

### IBM, Microsoft Unveil OS/2 1.1

When IBM announced the OS/2 operating system in April 1987, it promised to include the Presentation Manager graphical user interface in the second version of the product by the fall of this year. OS/2 version 1.1 with Presentation Manager is now available, and the OS/2 Extended Edition is now available with Presentation Manager as well.

Developed jointly over two years by software teams at IBM and Microsoft, OS/2 with Presentation Manager is available immediately from IBM. Microsoft is working with its oem customers to prepare MS



OS/2 version 1.1 for delivery on its hardware. These customers are expected to begin shipment early next year.

The operating system is multitasking, and can take advantage of up to 16MB of memory or 1GB of virtual memory. It also features support for fixed disks greater than 32MB in a single file.

Microsoft claims that the new version of the OS is 25% to 30% faster than Windows running Aldus's PageMaker program.

The one-time license charge for OS/2 Standard Edition 1.1 is \$340; upgrades from 1.0 are free; upgrades from DOS 3.X are \$283.

IBM and Microsoft also announced plans for printer driver devices, which will be available in the first quarter of '89. IBM, Rye Brook, N.Y.

**Circle 226**

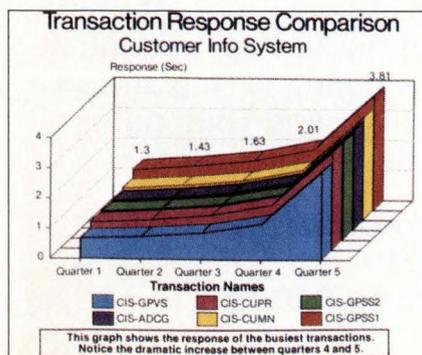
MICROSOFT CORP., Redmond, Wash.

**Circle 227**

## Performance Evaluators From BGS Systems

Waltham, Mass.-based BGS Systems has announced three new performance analysis products.

Three versions of its Crystal Performance Evaluator packages are said to calculate end-user performance and data processing costs for mainframe applications before designs are committed to code. Results are graphically presented, and the process is controlled via a PC interface design. Versions are available for use



with DB2, CICS, and IMS subsystems. The price for the DB2 package is \$27,625; IMS and CICS packages are \$25,500 each.

BGS's new Best/I/O Diagrammer for MVS and for VM are designed for systems and operations personnel responsible for managing and tuning DASD I/O subsystems. The packages are priced at \$2,995 each per cpu.

BESTnet Release 4.0, MSNF and Boundary versions, has also been released by BGS. BESTnet is a set of integrated software tools for managing SNA networks. This release includes graphics enhancements, such as a new line diagrammer, as well as system enhancements, including a feature that supports records collected by using IBM's NetView Performance Monitor. For Boundary systems the price is \$49,050, and for MSNF it's \$67,575. BGS SYSTEMS, Waltham, Mass.

**Circle 228**

## COMMUNICATIONS

### Multivendor Networking System

NCR Comten has expanded into SNA networks with its Multi-Vendor Networking Facility (MVNF).

MVNF is a software system that runs on NCR Comten 369X or 5600 communications processors and allows users to connect with and quick-switch among multiple 3270 applications, says the company. The applications can reside on SNA and pre-SNA mainframes as well as non-IBM and X.25 hosts. MVNF will support host-based network management systems such as NetView and provides its own access control, security, and statistics.

MVNF will be delivered in the second quarter of '89, says the company. Pricing for MVNF depends on the communications processor model and which software modules are selected. (Multiple Session Manager application is required, and one or more host interface modules are available). The price range is from \$2,640 to \$7,920; HIFs are priced at \$1,045 each. NCR COMTEN, St. Paul, Minn.

**Circle 229**

### CNT Expands Network Product Line

Computer Network Technology Corp. recently announced a series of new networking products for IBM mainframes.

The ChannelLink 5000 series of Inter-Processor Gateways (IPGs) is expanded with the Model 5480, a high-performance

networking gateway connecting IBM and compatible mainframes to IBM and compatible 3480 and 3420 tape subsystems. CNT says that the Model 5480 has been demonstrated to utilize up to 96% of the available bandwidth on multiple T1 links to a remotely located IBM 3480 controller. It's available immediately, and pricing starts at \$85,000.

CNT also announced the Model 5412 in the ChannelLink 5000 series. It connects IBM and compatible mainframes to the DBC/1012 Data Base Computer from Teradata Corp. It's available immediately and is priced starting at \$95,000.

The ChannelLink 5137 and 5188, also new, are lower-cost alternatives to IBM 3737 and 3088 for users needing to transfer data between local or remote IBM mainframes, says the company. The 5137 links one or two IBM mainframes using



public communications facilities at 3MBps. It can be configured with up to six remote, full duplex links. Each 5137 channel connection provides addressing for up to 256 concurrent logical application connections between multiple mainframes. Prices range from \$45,000 to \$58,000.

The 5188 offers high-speed, local channel-to-channel connectivity for IBM mainframes. From two to eight IBM host channels can be supported. Its multiprocessor store-and-forward architecture has two advantages, says CNT: up to 10MB of buffer storage capacity permits simultaneous data transmission between connected channels, and channel overhead decreases because channel connect time is lower, freeing the mainframe channels for additional data processing tasks. The 5188 is priced from \$27,000 to \$29,000. COMPUTER NETWORK TECHNOLOGY, Minneapolis.

**Circle 230**

Reprints of all DATAMATION articles are available. There is a 500-copy minimum order. Details may be obtained by telephoning the Reprints Department, (312) 635-8800.

## NEW PRODUCTS

### BRIEFS

**Canon**, Lake Success, N.Y., has announced the Canon LBP-8II R, a desktop-type, double-cassette **laser beam printer** capable of printing both sides of paper automatically. This new printer weighs approximately 67 pounds, and its suggested list price is \$4,300. **Circle 231**

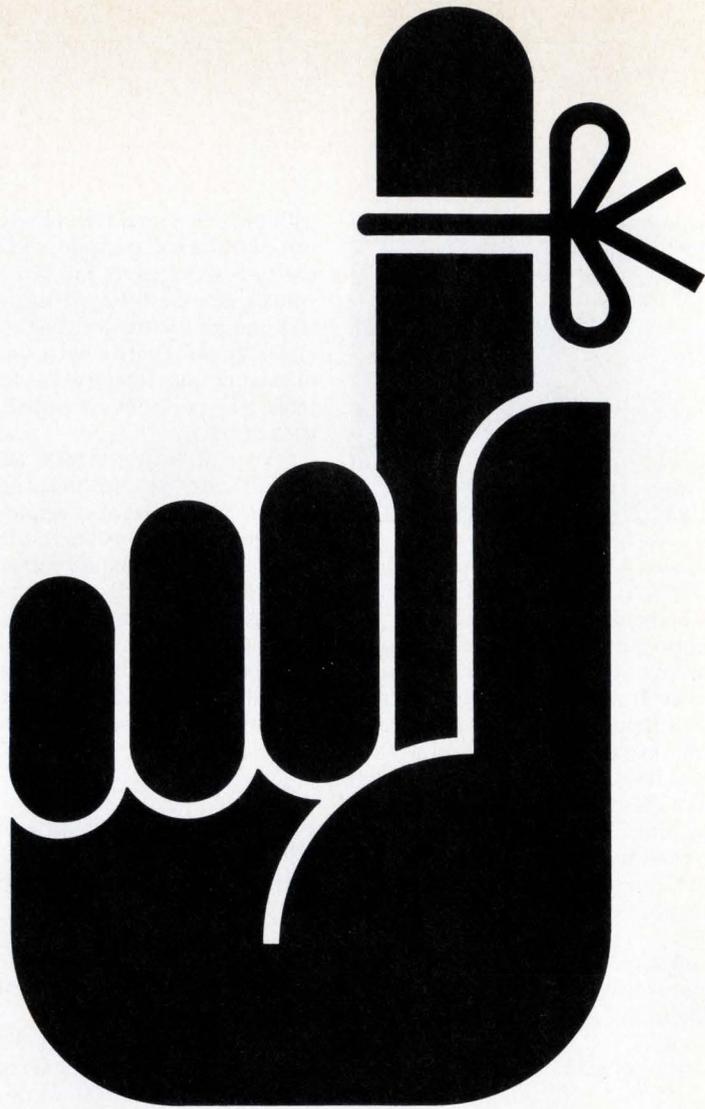
**WANG**, Lowell, Mass., has unveiled the Wang Freestyle, a **personal computing system** that allows PCs to accept handwritten notes and voice messages, combine them with electronic pages of data displayed on the PCs, and send the entire packet to other similarly equipped systems in a business network. Price ranges from \$2,000 to \$12,000. **Circle 232**

**HJC Software Inc.**, Durham, N.C., has introduced Virex, a commercial **software program that detects computer viruses** and makes repairs to infected application and system programs. It is available for \$99.95. **Circle 233**

**Falco Data Products Inc.**, Sunnyvale, Calif., has a **diskless workstation** that is a local processor, taking its data and applications from a network server. It provides EGA-level monochrome graphics and up to 2.5MB of LIM-stand memory. The Falco 5088 LAN Workstation is priced at \$975. **Circle 234**

**Vericomp Publishing**, Grand Junction, Colo., has made available "Making Lotus Work Harder for You," a **directory of enhancement programs for Lotus 1-2-3 and Symphony**. For each product listed, it contains feature-oriented product descriptions, vendor particulars, product pricing, and information about the product's compatibility with the various versions of 1-2-3 and Symphony. The price is \$19.95. **Circle 235**

**Insight Development Corp.**, Moraga, Calif., has released the LaserControl 3.3, a **software package that allows any IBM or compatible PC to work with the HP LaserJet, DeskJet, and compatible printers**. It allows existing application software packages to use all the features of inkjet and laser printer technology, regardless of compatibility between the application program and inkjet or laser printer. The price of the package is \$149. **Circle 236**



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# Quarterly Update: Datamation/Price Waterhouse Opinion Survey

Hardware and software spending is likely to rise, but personnel spending definitely won't.

BY NORMAN STATLAND

The most recent quarterly survey of information technology executives on the DATAMATION/Price Waterhouse Opinion Panel reveals that a consistent majority are planning increases in expenditures for hardware and software over the next year.

Nevertheless, the number of those planning increases in hardware spending has fallen dramatically since the first DATAMATION/Price Waterhouse survey, conducted in late 1987. Then, more than 60% were going to increase hardware spending. The most recent survey showed that 49% would increase the amount of money spent by their company on hardware over the next 12 months; 39% indicated that hardware spending would stay the same, up from the 32% who said they'd hold spending steady in late '87.

Analyzing the funds spent on the pur-

chase of application software, 43% of the companies said that they would increase the spending, while 45% said that they intend to keep it the same. Leaders in plans to increase spending include process manufacturing, government, and other manufacturing.

In contrast to these increases in expenditure for both hardware and software, increases in the number of systems and programming staff were expected for only 33% of the reporting organizations, a slight drop from the 1987 survey. More than half, 56%, expect to keep staff levels the same. Uniquely, 42% of companies with 5,000 to 10,000 employees expect an increase, almost 10% higher than the average for the respondents. The only sector with significant plans to decrease staff was the computer services group.

(Overall, increases in the number of

systems and programming staff were most noticeable at DEC and Unisys installations, while the largest increases in telecom specialists were at H-P and DEC installations.)

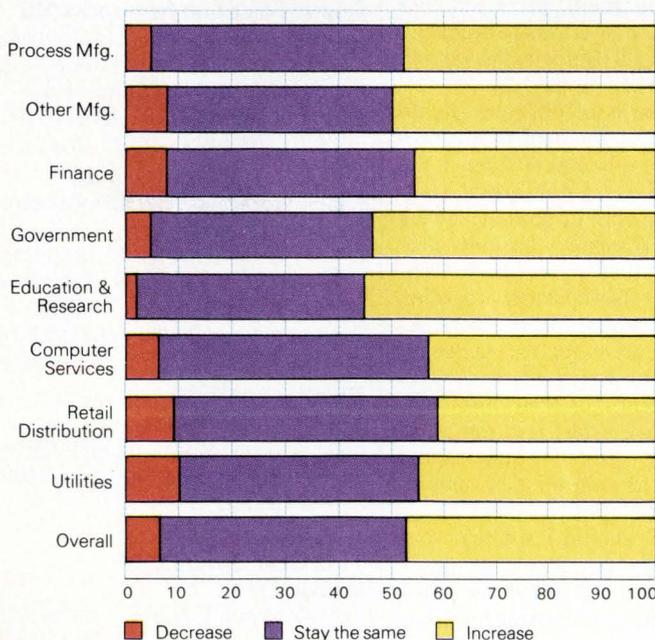
Half of the respondents said they expect to increase salaries by less than 5%; only 39% said they would increase salaries by 5% to 10%. The industry sectors that expect to lead in giving increases were process manufacturing and finance.

Though the issue of decentralization is still hot, fewer than 50% of the respondents said they expect to increase spending on decentralization. But an almost equal number said they will maintain spending at current levels. About two-thirds (67%) of companies with between 5,000 and 10,000 employees said they expect to further implement user-controlled hardware, software, and IS staff to facilitate distributed data processing.

## Spending on Decentralization by Industry

The decentralization heat is being turned up everywhere.

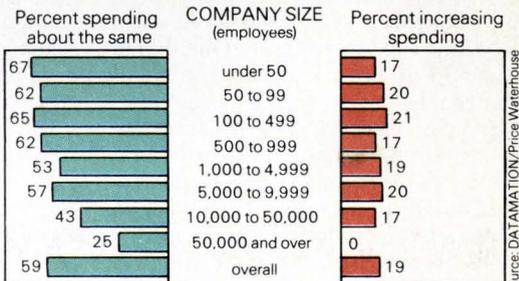
PERCENT OF INDUSTRY PANEL  
(Listed in order of panel participation.)



Source: DATAMATION/Price Waterhouse

## Outside Services Spending by Company Size

Big firms are the least likely to use outside services.

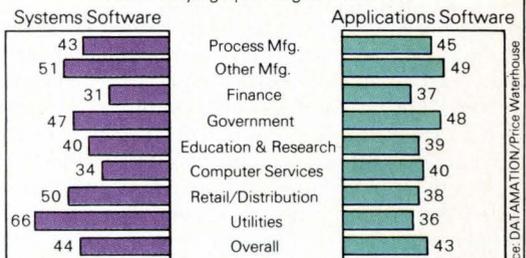


Source: DATAMATION/Price Waterhouse

## Software Spending by Industry

Utilities are the big spenders in system software.

Percent Saying Spending Will Increase



(Listed in order of panel participation.)

Source: DATAMATION/Price Waterhouse

## Computer Science Education Is Very Much Your Business

University alumni centers don't seem to take holidays off. If anything, they appear to add extra staff during these festive weeks to conduct those phonathons and mass mailings that urge us to make our charitable contributions before the end of the tax year.

Before pledging your life away to OI CPU, you should challenge your alma mater about whether it deserves your donation. Ask that energetic voice on the other end of the phone what, exactly, the college is doing in the realm of computer science to deserve a portion of the bonus you got for completing your organization's latest systems overhaul on time. If the caller doesn't know, tell him or her that your check won't hit the mail until you receive a progress report from the dean of the computer science program or one of his colleagues in the engineering or business schools at your university. What to look for in the report is evidence that today's students are being educated in the real ways of the information systems world.

### Serious Gaps Exist

What brings this topic to mind are three recent articles on the subject of higher education—two in this magazine and one in a respected general business publication. In this issue of *DATAMATION*, Michael Ridgway, the director of data processing at Columbus, Ohio-based Grange Insurance Co., decries the lack of maintenance-programming experience found in the fresh crop of graduates coming out of even the best-known programs. "There are serious gaps between the curricula taught in university computer science classes and technical schools and the reality of the business world," Ridgway states in "Curriculum Shortfall," p. 77. Chastising educators for overemphasizing new software development, Ridgway laments, "When we get them, they want to write or rewrite new systems; maintaining or making changes to existing programs and systems holds little appeal."

Ridgway's sentiments reinforce the message of an earlier article in *DATAMATION*, "The New Maturity of Computer Science" (Sept. 15, p. 37), which detailed where the field must go in the 1990s if it's to emerge as truly important discipline. Aside from urging computer science departments to teach real-world IS skills, both articles underscore the need to develop interpersonal communications

skills among today's computer majors and to attract students with greater verbal aptitude than their predecessors to fill tomorrow's IS shoes.

The reason for this, of course, is that more and more IS projects at corporations, government agencies, and the like will require IS professionals to design new systems and modify old ones in cooperation with the end users of such systems. The success or failure of their shared efforts will depend on their ability to communicate with each other—in spoken and written form as much as electronically.

Unfortunately, however, the process of change in education usually takes forever compared with that in the private sector. So reform in computer science education on a timely basis remains dim at best, absent any significant catalysts.

"Progress is slow," admits Bruce Barnes, co-chair of the Computer Science Curriculum Committee, which was formed 1½ years ago by the Association for Computing Machinery and the Institute of Electrical and Electronic Engineers to assess computer science education and make recommendations on how to improve it. Barnes' group won't issue its formal report for another year.

### Delays Will Cost Users

User organizations can't afford to wait that long. While engineers and academicians quibble over the wording of reports and while university presidents and provosts argue how to implement changes recommended in them, users will lose valuable time in their efforts to build and maintain winning IS strategies. So we suggest two courses of action.

University boards of directors should take a chapter from the book of MBA program management being rewritten at the likes of Northwestern University, Dartmouth College, and institutions giving Harvard's and Wharton's business programs a run for their money these days. Several of those MBA upstarts, according to a story last month in *Business Week*, accelerated their drive for excellence by bringing in strong-willed, business-savvy executives as deans of their B-schools, who, in turn, have invested in top-notch professors. University directors should consider doing the same for their computer science departments if need be.

You, yourself, should insist that your alma mater improve its own program. Speak with your checkbook if necessary; withhold funds if it's not making progress; be generous if it is.

Today.

—Tim Mead, Editor-in-Chief

### JANUARY

#### Supercomputing Solutions '89

Jan. 17-19, New York. Contact David J. Small, Exhibition Marketing & Management Co. Inc., 8300 Greensboro Dr., Suite 1110, McLean, VA 22102, (703) 893-4545.

#### Optical Disk Systems Conference

Jan. 23-25, Phoenix. Contact Rebecca Pesko, CAP International Inc., 1 Longwater Circle, Norwell, MA 02061, (617) 982-9500; fax (617) 878-6650.

#### Management Issues for Chief Information Officers

Jan. 24-25, New York. Contact Amy Wayte, Frost & Sullivan Inc., 106 Fulton St., New York, NY 10038, (212) 233-1080.

#### Winter 1989 Unix Technical Conference

Jan. 30-Feb. 3, San Diego. Contact Judith DesHarnais, Usenix Conference Office, P.O. Box 385, Sunset Beach, CA 90742, (213) 592-1381.

#### Database '89 Expo & Conference

Jan. 31-Feb. 2, San Francisco. Contact Charlie Hurth, NDN Enterprises, 289 S. San Antonio Rd., Suite 204, Los Altos, CA 94022, (415) 941-8440, fax (415) 941-2066.

### FEBRUARY

#### Communication Networks '89

Feb. 6-8, Washington, D.C. Contact Dorothy Ferriter, IDG Conference Management Group, 375 Cochituate Rd., Farmingham, MA 01701, (508) 879-6700 or (800) 225-4698.

#### Fifth International Conference on Data Engineering

Feb. 6-10, Los Angeles. Contact Data Engineer 1989, Computer Society of the IEEE, 1730 Massachusetts Ave, N.W., Washington, DC 20036, (202) 371-1013.

#### DEXPO EAST 89

Feb. 8-10, New York. Contact Susan Werlinich, Expoconsul, 3 Independence Way, Princeton, NJ 08540, (609) 987-9400 or 800 87-DEXPO.

#### Trax User Group 1989 Conference

Feb. 27-March 1, Marina del Rey, Calif. Contact Robert Pack, Trax Softworks Inc., 10801 National Blvd., Los Angeles, CA 90064, (213) 475-TRAX.

## Career Opportunities

# DATAMATION

## 1989 Editorial Calendar and Planning Guide

Issue Date	Recruitment Deadline	Editorial Emphasis
Jan. 1	Dec. 8	IBM
Jan. 15	Dec. 16	Technology Forecast
Feb. 1	Jan. 10	Transaction Control Systems
Feb. 15	Jan. 24	OS/2 vs. Unix
Mar. 1	Feb. 7	Digital Equipment Corporation
Mar. 15	Feb. 21	PC-DBMSs
Mar. 21	Feb 27	?
Apr. 1	Mar. 9	Budget Survey
Apr. 15	Mar. 23	Expert System Integration
May 1	Apr. 7	Companies to Watch
May 15	Apr. 21	Large Scale Systems Survey
May 22	May 1	?
June 1	May 8	Object Oriented Programming
June 15	May 18	Application Software Survey
June 21	May 22	DATAMATION 100
July 1	June 8	Non-IBM Operating Systems
July 15	June 21	On-Line Information Services
Aug. 1	July 10	Graphical User Interfaces
Aug. 15	July 25	High-Level Languages
Sept. 1	Aug. 9	User Role in Standard Setting
Sept. 15	Aug. 23	Best Computer Science Universities

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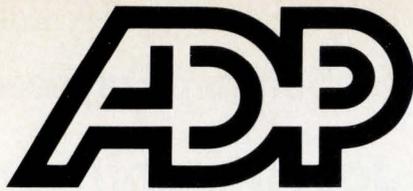
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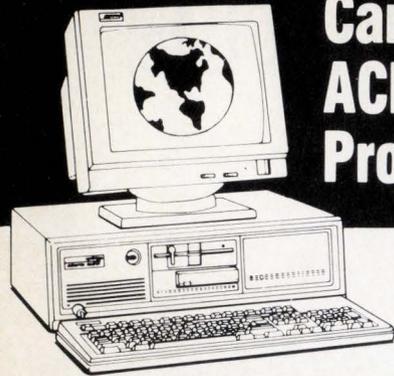
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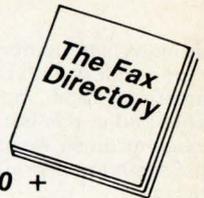
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