THE AGE
OF INFLUENCE
User Groups Direct
Vendors’ Technologies and
Strategies for the ‘90s

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- CA = Corporate Affairs
- M = Oracle User Group Meeting
- I = Networking Seminar
- P = Performance Seminar
- W = Windows Seminar
- N = Network Seminar
- M = OracleMail Seminar
- S = SQL Seminar
- K = Knowledge Seminar
- D = Development Seminar
- E = Education Seminar
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See your local Oracle representative for details.
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.

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Cover Photography by Roberto Brosan

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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
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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.

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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.
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 swollen 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 Rich’s Mytool Users Group; the other represents the Tynnet 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 available. 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 Broussell, 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. Broussell 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 the 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 facsimile machine began to whir with incoming messages from Westerstädter to Turramurra (West Germany and Australia, respectively).

After assembling the directory, Rothschild interviewed the users, 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.

Photograph by Steven Burns

FAX FANS David Broussell (L) and Kurt Rothschild in DATAMATION’s New York offices.
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Circle 6 on Reader Card
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-280T). 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.

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.

T

here 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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CHARLIE, old pal, you'd tell me the truth. Do you thank I'm being eased out?"
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This is not the first award FOCUS has won. For the second year in a row the Software Magazine 1988 Software Market Survey has named FOCUS the number one 4GL in all three categories—minis, micros and mainframe.
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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 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 telecommunication system 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 OSI-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 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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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 ROTHSCILD

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 recipients 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?

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 Bueno
Tandy User Esak: "Tandy's response has been excellent."

Banyan User Good: "Our people influence Banyan's product development."

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."

The 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 (ABU). "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
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. Pan­

sophic 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 umbrella organization.

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 intend 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 ADI 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-Universal, 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 Vendors View the Relationship

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 IT 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, Mountain 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 and users about a company's current products and future direction. Edward Goldberg, 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.
How to tap 32,000 of our best ideas.

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Covert Story
User Groups

Expected 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 MAC (Modular Application Software) user group. One of the results of Martin Marietta's action is that a "good" 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 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?

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

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
200SW 43rd St.
Renton, WA 98055
(206) 251-5222
Contact: Charles Stillman,
member services manager
Members: 28,000 internationally

Berkeley Macintosh Users Group
142A Walnut St., #62
Berkeley, CA 94709
(415) 549-2684
Contact: Harry Crichton,
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

F.O.G. 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
P.O. Box 91266
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 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: AlCorp.
Group Name: AlCorp 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: Al 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 AlCorp 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
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

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

As groups become larger and gain greater status, their actions become more independent of the vendors.
### Ashton-Tate

**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 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

### AT&T

**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

### AUUG

**Vendor:** AUUG  
**Group Name:** Association of Unix User Groups  
**Acronym:** AUUG  
**Address:** 75 Union Ave., Sudbury, MA 01776  
**Phone:** (508) 443-3330  
**Annual fee:** $395  
**Individual members:** 325  
**Corporate members:** NA  
**Systems/products:** AUUG systems  
**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

### Banyan Systems Inc.

**Vendor:** Banyan Systems Inc.  
**Group Name:** Association of Banyan Users International  
**Acronym:** ABUI  
**Address:** 266 Channing Way, Cambridge, MA 02138  
**Phone:** (617) 864-4630  
**Annual fee:** $300  
**Individual members:** 3,000  
**Corporate members:** NA  
**Systems/products:** VINES  
**Next meeting:** NA  

**Relation to Vendor:** Independent  

**Purpose:** To exchange ideas and promote future products  

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

### BBN Systems

**Vendor:** BBN Systems  
**Group Name:** BBN Systems Group  
**Acronym:** BBN  
**Address:** 700 Technology Drive, Cambridge, MA 02139  
**Phone:** (617) 864-4630  
**Annual fee:** $300  
**Individual members:** 3,000  
**Corporate members:** NA  
**Systems/products:** BBN systems  
**Next meeting:** NA  

**Relation to Vendor:** Independent  

**Purpose:** To exchange ideas and promote future products  

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

### Boole & Babbage

**Vendor:** Boole & Babbage Inc.  
**Group Name:** IFI User Group  
**Acronym:** IFI  
**Address:** 510 Oakmead Pkwy., Sunnyvale, CA 94086  
**Phone:** (408) 763-73039  
**Annual fee:** NA  
**Individual members:** 3,500, including companies and academic institutions

### VINES

**Vendor:** VINES  
**Group Name:** VINES Users Group  
**Acronym:** VINES  
**Address:** 700 Technology Drive, Cambridge, MA 02139  
**Phone:** (617) 864-4630  
**Annual fee:** $300  
**Individual members:** 3,000  
**Corporate members:** NA  
**Systems/products:** VINES  
**Next meeting:** NA  

**Relation to Vendor:** Independent  

**Purpose:** To exchange ideas and promote future products  

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

### National UNIX Users Group

**Vendor:** National UNIX Users Group  
**Group Name:** National UNIX Users Group  
**Acronym:** NUG  
**Address:** 700 Technology Drive, Cambridge, MA 02139  
**Phone:** (617) 864-4630  
**Annual fee:** $300  
**Individual members:** 3,000  
**Corporate members:** NA  
**Systems/products:** UNIX systems  
**Next meeting:** NA  

**Relation to Vendor:** Independent  

**Purpose:** To exchange ideas and promote future products  

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

### Red Hat Linux

**Vendor:** Red Hat Linux  
**Group Name:** Red Hat Linux User Group  
**Acronym:** RHUUG  
**Address:** 700 Technology Drive, Cambridge, MA 02139  
**Phone:** (617) 864-4630  
**Annual fee:** $300  
**Individual members:** 3,000  
**Corporate members:** NA  
**Systems/products:** Red Hat Linux  
**Next meeting:** NA  

**Relation to Vendor:** Independent  

**Purpose:** To exchange ideas and promote future products  

**Services provided:** Three regional meetings scheduled for 1989
Any of the older, hardware-originated groups have adopted a distinct and new software consciousness.

Vendor: Bull SA and Honeywell Bull
Group Name: European Federation of Bull & Honeywell Users Associations (with 15 member associations)
Acronym: EF OBHUA
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, Méthodes 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

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: All CADAM software
Next meeting: Spring 1989, place to be announced
Top officer: Nina Sumrall
Relation to Vendor: Independent
Purpose: To exchange information and to request product enhancements
Services provided: Two national meetings per year

Vendor: Comdisco Disaster Recovery Services Inc.
Group Name: CDRS
Address: 6111 N. River Rd.
Rosemont, IL 60018
Phone: (312) 698-3000
Annual fee: $100
Individual members: None
Corporate members: NA
Systems/products: All
Next meeting: April 20-22, 1989, Orlando, Fla.
Top officer: Raymond Hipp
Relation to Vendor: Fully subsidized
Purpose: To exchange information and to exchange product and software packages
Services provided: Meetings

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. K1G 3Z4
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 increase awareness and use of software packages
Services provided: Three meetings per year

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: None
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 exchange information on product and its use
Services provided: Two meetings per year
The idea from the first has always been simple. To provide people with the easiest way possible to access the most power possible in a database management system.

So that the process of working with information becomes the means, and not the end, of the job at hand.

Welcome to dBASE IV."

IT'S NEVER BEEN EASIER.

dBASE IV is built around an all-new Control Center—a single, understandable window from which you perform all of your key database operations. By using simple-to-use, pull-down menus.

And no programming at all.

Unless, of course, you want to. Because whether you write a program yourself, or use the Applications Generator to do it for you, dBASE IV gives you access to 310 powerful new or enhanced commands and functions. All while running significantly faster than its predecessor dBASE III PLUS.

And, since many people will need to share information in a workgroup, dBASE IV gives you all the tools you'll need to build connections. Like our dBASE IV LAN PACK, which lets multiple users share files and programs.

A VERSION FOR DEVELOPERS.

If you build heavy-duty applications, the special dBASE IV Developer's Edition is just for you.

With the Developer's Edition (sold...
separately), you get a complete development, test, and distribution environment for both stand-alone and multiuser applications. In addition to the complete dBASE IV software, the Developer's Edition includes special tools such as the Professional Compiler, as well as utilities, programming documentation, and a royalty-free, application distribution module.

And one other thing, which also comes with every other dBASE® product.

A COMMITMENT TO SUPPORT.

With over two million current dBASE users, we at Ashton-Tate have an obligation to provide the best support, service, and training in the industry. So we do.

We back an extensive network of knowledgeable dealers. And we guarantee fast, reliable technical support. As well as encourage separate, third party resources in a variety of complementary areas.

All of which means that dBASE IV is not only the most advanced PC database environment you can find.

It also means it's the easiest to find. Just give us a call at 800-437-4329 ext. 2912 for more information, including details about upgrading from dBASE III PLUS. Or simply stop by your nearest Ashton-Tate dealer for a revealing look at dBASE IV.

You won't believe what we put into it.

ASHTON TATE

Circle 14 on Reader Card
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

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.
Address: 711 Stewart Ave., Garden City, NY 11530
Phone: (516) 227-3300

Vendor: Computer Associates International Inc.
Group Name: Security and Audit Executive Committee
Address: 711 Stewart Ave., Garden City, NY 11530
Phone: (516) 227-3300

Vendor: Control Data Corp.
Group Name: European Control Data Users
Address: 8100 34th Ave. S., Minneapolis, MN 55440
Phone: (612) 853-6311
Annual fee: $100
Individual members: NA
Corporate members: 160
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: 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: VIM-Australasia
Address: 8100 34th Ave. S.

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: VIM-Australasia
Address: 8100 34th Ave. S.
Corporation members: **announced**

**Address:**

- **Vendor:** Convergent Technologies Inc.
- **Group Name:** Convergent Technologies User Forum
- **Acronym:** CTUF
- **Annual fee:** $95
- **Next meeting:** May 1989, place to be announced
- **Top officer:** Alan Bell, University of Melbourne
- **Corporation members:** 20
- **Systems/Products:** All CDC products
- **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:** NA

**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

**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:** NA

**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

**Services provided:** One national 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, HDO, Naval Security Group Command (President, DECUS U.S. Chapter)

**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

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

**Group Name:** Commodore Business Machines—Digital Equipment Corp.

**Acronym:** CBM—DECS

**Address:** Post Box 2804
N. Canton, OH 44720

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

**Annual fee:** None

**Individual members:** None

**Corporate members:** None

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

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

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

**Relation to Vendor:** Partially subsidized

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

**Services provided:** One annual meeting; quarterly newsletter
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
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 user groups; monthly technical newsletter; quarterly magazine

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, PX-20, and Equity line of computers; MX, FX, RX, and LO 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

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

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: Padao 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 FACOM 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 FACOM 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.

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**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.

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**H**

**Vendor:** Hewlett-Packard Co.

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

**Address:** 660 Almanor Ave.

Sunnyvale, CA 94086

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

**Annual fee:** Individual: $30, Corporate: $400

**Individual members:** 9,000

**Corporate members:** 5,600

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

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

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**Epson America Inc.—Hogan Systems Inc.**

**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.
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/services: 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/services: 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: 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/services: 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 among 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/services: 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 promote 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-European Association
Acronym: SEAS
Address: 17, rue Pierre 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) 3-4-4-482933
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: 595
Individual members: NA
Corporate members: 483
Systems/products: Excelsior, Excelsior/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

User 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: IGUG
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 and vendor
Services provided: One international and one U.S. group meeting per year; periodic 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 Inc.—
Management Science America Inc.
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.
<table>
<thead>
<tr>
<th>Individual members: All clients are members</th>
<th>Corporate members: NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Systems/products: All MSA software</td>
<td>Next meeting: May 14-18, 1989, Atlanta</td>
</tr>
<tr>
<td>Top officer: Dick Baker, Associated Insurance Companies Inc.</td>
<td>Relation to Vendor: Fully subsidized</td>
</tr>
<tr>
<td>Purpose: To exchange information and to promote product improvement</td>
<td>Services provided: Several international meetings, one national meeting, and 10 regional or industry-specific meetings a year in the U.S.; quarterly publications</td>
</tr>
<tr>
<td>Vendor: Martin Marietta Data Systems</td>
<td>Group Name: MAS User Group</td>
</tr>
<tr>
<td>Acronym: ASCUS</td>
<td>Address: 7100 Woodbine Ave. Markham, Ont. L3R 5J2</td>
</tr>
<tr>
<td>Phone: (416) 477-9680</td>
<td>Annual fee: None</td>
</tr>
<tr>
<td>Individual members: 22</td>
<td>Corporate members: All customers</td>
</tr>
<tr>
<td>Next meeting: April 11, 1989, Sterling, Va.</td>
<td>Next meeting: June 18-21, 1989, Nashville</td>
</tr>
<tr>
<td>Top officer: Larry Cram, Star Technologies Inc.</td>
<td>Top officer: NA</td>
</tr>
<tr>
<td>Relation to Vendor: Independent</td>
<td>Relation to Vendor: Independent</td>
</tr>
<tr>
<td>Purpose: To exchange ideas among users of MSA software</td>
<td>Purpose: To foster communication with users and vendor</td>
</tr>
<tr>
<td>Services provided: Two national meetings per year; periodic newsletters</td>
<td>Services provided: Meetings</td>
</tr>
<tr>
<td>Group Name: McCormack &amp; Dodge User Group U.K.</td>
<td>Group Name: Tymnet Users Group</td>
</tr>
<tr>
<td>Acronym: ISIS</td>
<td>Acronym: ISIS</td>
</tr>
<tr>
<td>Address: P.O. Box 273 Kings House, Bond St. Bristol BS99 7AL England</td>
<td>Address: 515 Shaw Rd. Sterling, VA 22170</td>
</tr>
<tr>
<td>Phone: (44) 272-276-866</td>
<td>Phone: (703) 689-4400</td>
</tr>
<tr>
<td>Annual fee: None</td>
<td>Annual fee: $50</td>
</tr>
<tr>
<td>Individual members: All U.K. users</td>
<td>Corporate members: All U.K. users</td>
</tr>
<tr>
<td>Next meeting: September 1989, place to be announced</td>
<td>Next meeting: June 18-21, 1989, Nashville</td>
</tr>
<tr>
<td>Top officer: NA</td>
<td>Top officer: NA</td>
</tr>
<tr>
<td>Relation to Vendor: Independent</td>
<td>Relation to Vendor: Independent</td>
</tr>
<tr>
<td>Purpose: To foster communication with users and vendor</td>
<td>Purpose: To foster communication with users and vendor</td>
</tr>
<tr>
<td>Services provided: Meetings</td>
<td>Services provided: Meetings</td>
</tr>
<tr>
<td>Group Name: Tymnet Users Group</td>
<td>Group Name: Internally Switched Interface System (ISIS) for International Tymnet Users</td>
</tr>
<tr>
<td>Acronym: THUGS</td>
<td>Acronym: ISIS</td>
</tr>
<tr>
<td>Address: 2560 N. First St. San Jose, CA 95161</td>
<td>Address: 2560 N. First St. San Jose, CA 95161</td>
</tr>
<tr>
<td>Phone: (408) 922-7534</td>
<td>Phone: (408) 922-7534</td>
</tr>
<tr>
<td>Annual fee: None</td>
<td>Annual fee: None</td>
</tr>
<tr>
<td>Individual members: 650</td>
<td>Individual members: 40-50 members (only users with equipment installed in Europe can become members)</td>
</tr>
<tr>
<td>Corporate members: 150</td>
<td>Corporate members: 150</td>
</tr>
<tr>
<td>Next meeting: May 1989, location to be announced</td>
<td>Next meeting: June 10-13, 1989, Dallas</td>
</tr>
<tr>
<td>Top officer: Bob Barbour, McDonnell Douglas</td>
<td>Top officer: Herb Jackson</td>
</tr>
<tr>
<td>Relation to Vendor: Independent</td>
<td>Relation to Vendor: Independent</td>
</tr>
<tr>
<td>Purpose: To exchange information about Tymnet technology and to influence future Tymnet product development efforts</td>
<td>Purpose: To provide an independent forum for information exchange for members of the McDonnell Douglas community</td>
</tr>
<tr>
<td>Services provided: Two meetings per year</td>
<td>Services provided: One national educational conference per year; periodic newsletters</td>
</tr>
</tbody>
</table>
Group Name: IHS (Integrated Hospital System) Users Group  
Acronym: IHUSUG  
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  
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

Vendor: Nantucket Corp.  
Group Name: No national user group, but over 50 local and regional user groups throughout the world  
Address: 12565 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: The Newtrend Group Inc.  
Group Name: MISER Users Group Inc.  
Acronym: MUG  
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  
Top officer: Charles Ashley, Sovran Bank/Kentucky  
Relation to Vendor: Independent  
Purpose: To facilitate the exchange of 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: Martin Marietta Data Systems—The Newtrend Group Inc.
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; 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

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
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

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 Pan­ sophic Manufacturing/38 and Pan­ sophic Manufacturing for the AS/ 400; the PULSE group for a variety of productivity products; and the Graphics Products group.
Address: 2400 Cabot Dr.
St. Louis, MO 63167
Phone: (314) 505-6000
Annual fee: Varies by group
Individual members: Varies by group
Corporate members: 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

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

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 of Ricoh’s personal computers
Services provided: Quarterly newsletter

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
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: Quarterly meetings per year; quarterly 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.
A byte-framing error in one of your multiplexers is the culprit today. It'll take six hours of your time to fix, once you find it. They will be six hours of frustration, of feeling stranded by vendors who believe "it isn't my problem."

With AT&T, you won't be stranded. AT&T will provide, integrate and support every component of your T1 network. You probably own or lease at least one AT&T product or service now. Every AT&T product or service you add increases your ability to manage a single unified network with a single point of contact for service and support.

Consider AT&T multiplexers, for instance. Our family of voice and data muxes fills virtually every networking need, and integrates easily with other AT&T products and services.

**Advanced multiplexer features.**

To meet your increasing voice and data communications requirements, the DATAPHONE® II 745 ACCULINK™ Multiplexer switches up to 16 T1 links, and can be combined with the 740 ACCULINK Multiplexers to connect up to 250 nodes. The 745 ACCULINK performs diagnostics, automatically generates performance reports, and will re-route your most important traffic to keep your vital information flowing.

For point-to-point communications, the 740 and 741 ACCULINK Multiplexers combine up to 128 channels into a single 1.544 Mbps stream. Since each channel can be programmed for variable data and/or voice rates, you can tie together all your DATAPHONE II equipment, including DSUs (Data Service Units), analog private line and switched modems.

AT&T's family of multiplexers also includes other versatile multiplexers: the BCM 32000 Solitaire, a bit compression multiplexer that doubles the capacity of a T1 facility; the DDM-1000, a high-capacity dual DS-3 digital multiplexer for electrical or optical transmission; the 718 STAT MUX, an efficient low-speed data multiplexer; the 719 NETWORKER, a statistical packet-switching multiplexer and network concentrator; the Channel Division Multiplexer, a bandwidth-efficient drop and insert multiplexer; and the D4 Channel Bank, a multiplexer that enables analog PBX users to enter the digital T1 world.

AT&T provides not only the technology, but the diversity needed to satisfy a broad range of your multiplexing requirements.

**Help protect your investment while preparing for the future.**

AT&T's entire family of time division and statistical multiplexers is designed—and built—to work together, eliminating the headaches caused by multi-vendor equipment. AT&T provides all the components (system controllers, multiplexers, modems, management software, and ACCUNET® T1.5 service) to develop, integrate, monitor and manage your growing, changing network. You can build cost-effective small network nodes without buying more than you need. And, when it's time to change, you can easily reconfigure with minimal service disruption.

AT&T fully supports its network management equipment with full maintenance service and post-installation support, along with network service offerings including ACCUNET T1.5, MEGACOM* and MEGACOM 800, ESF (Extended Superframe Format), CCR (Customer Controlled Reconfiguration) and DACS (Digital Access Cross-Connect System). After all, only AT&T has over 100 years experience in managing networks!

Importantly, AT&T adheres to industry and de facto standards throughout our entire multiplexer line to help protect both your network and premises investments.

**Tomorrow's private network systems.**

Cost-effective network management in the future may depend on the decisions you're making today. Forward thinking MIS and communications managers can build strong and reliable networks that will support future growth and technical enhancements with AT&T's entire family of multiplexers. To learn more, call your AT&T Account Executive, your Authorized AT&T Reseller, or call 1 800 247-1212, Extension 748.

From equipment to networking, from computers to communications, AT&T is the right choice.
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
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 Oleskiewicz, 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 Dylokcor Div.
Group Name: Dylokcor 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 Dylokcor 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 exchange technical information between StorageTek and its customers
Services provided: One annual meeting

Vendor: Sun Microsystems Inc.
Group Name: Sun Microsystems User Group Inc.
Acronym: SUG
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: Independent
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

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: One annual meeting; quarterly newsletter

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

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/SUA/E
Acronym: UUA/SUA/E
Address: Bakers Court
Bakers Rd.
Dronfield, DE4 1RT
England
Phone: (44) 24-688-3241
Annual fee: Varies by equipment
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

Vendor: Unisys Corp. International
Group Name: Unisys Users Association/SUA/E
Acronym: UUA/SUA/E
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

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 national meetings; monthly newsletter

Vendor: Unisys Corp. International
Group Name: Unisys Users Association/SUA/E
Acronym: UUA/SUA/E
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.

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. 26-March 2, 1989, San Francisco
Top officer: Donald O’Shea, Open Software Foundation
Relation to Vendor: Independent
Purpose: To facilitate communication between users and vendor
Services provided: Two meetings per year; monthly technical publication

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: Subsidized
Purpose: To facilitate communication between users and vendor
Services provided: Two meetings per year; monthly technical publication

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

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

Semantic 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.

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
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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's 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, "Retrieve 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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Circle 22 on Reader Card
Erasable, 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 Alphatronix 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.
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<td>IBM in Japan</td>
<td>Win a Free Ad: Reader Vote Contest</td>
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<td>Close: Dec. 16, '88</td>
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<td>Offshore Software</td>
<td>Cahners Advertising Performance Study</td>
<td>Uniforum, Feb. 29-Mar. 2, San Francisco</td>
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<td>Eastern Bloc Computing</td>
<td>Cahners Advertising Performance Study</td>
<td>Comdex Spring, April 10-13, Chicago</td>
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<td>NCGA, April 16-20, Philadelphia</td>
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<td>Connect, April 18-20, Boston</td>
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<td>Far East Operations</td>
<td>Cahners Advertising Performance Study</td>
<td>Market Pulse Study: Large Scale Systems Spending</td>
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<td>Executive Information</td>
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<td>PC Expo, June 20-22, New York</td>
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<td>Systems</td>
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<td>World Workstation Trends</td>
<td>Cahners Advertising Performance Study</td>
<td>Unix Expo, Nov. 1-3, New York</td>
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<td>Multilingual Software</td>
<td>Cahners Advertising Performance Study</td>
<td>Comdex Fall, Nov. 13-17, Las Vegas</td>
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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 an 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 "Erasable Optical Doubt"), 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 5¼-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 20msec. 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 peepier 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;
- 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 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 viable 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.

<table>
<thead>
<tr>
<th>Company</th>
<th>Models</th>
<th>Capacity (average)</th>
<th>Seek Time (Read)</th>
<th>Data Transfer (1)</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sony Corp.</td>
<td>EDM-1DA1/1DA0</td>
<td>650MB</td>
<td>90msec</td>
<td>7.4Mbps</td>
<td>$4,650</td>
</tr>
<tr>
<td>Canon America*</td>
<td>OM-500D</td>
<td>512MB</td>
<td>105msec</td>
<td>9.1Mbps</td>
<td>$6,000</td>
</tr>
<tr>
<td>Olympus**</td>
<td>(5.25&quot;)</td>
<td>650MB</td>
<td>84msec</td>
<td>1.4Mbps</td>
<td>$5,995</td>
</tr>
<tr>
<td>Maxtor Corp.</td>
<td>Tahiti 1</td>
<td>512MB</td>
<td>30msec</td>
<td>1.25Mbps</td>
<td>$5,995</td>
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<td></td>
<td>Fij 1</td>
<td>320MB</td>
<td>100msec</td>
<td>238KBps</td>
<td>$1,995</td>
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* 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.
Reader Vote
Advertising Contest Winners!

Congratulations to the following advertisers, the five winners of DATAMATION's Reader Vote Contest. Their ads in the August 15 issue were judged to be most informative and most helpful by DATAMATION readers:

- **IBM**
  Lord, Geller, Federico, & Einstein, New York, NY

- **Compaq Computer Corp.**
  Ogilvy & Mather, Houston, TX

- **Candle Corp.**
  In-house Agency

- **SAS**
  Software Media Consultants, Cary, NC

- **Metaphor**
  Battenberg, Fillhardt, & Wright, San Jose, CA

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.

*Watch For the Next Reader Vote Contest, Coming Up in the January 1, 1989 Issue!*
Let's talk about relational data bases.

But first, find the clown with the red nose, top hat and no balloons.

If you picked the first clown from the right on the top row, you didn’t need the help of a relational data base system.

Of course, real-life business problems are considerably more complicated. That’s why IBM, the leader in relational data base technology, offers a wide range of products to work with a full range of hardware, from workstations to midrange and mainframe computers.

IBM’s data base products can help users in any department retrieve information about as easily as you solved the problem above. They also provide tools for programmers to do their job more efficiently. And that means improved productivity for everyone.

In fact, IBM's DB2 and SQL/DS offer referential integrity, which allows you to maintain data relationships without complex programming. And with application enabling tools such as IBM’s Cross Systems Product, you can develop new programs with speed and simplicity. So even as your business needs change, your existing applications and data bases will remain sound investments.

Call 1-800-IBM-2468, ext. 44, for literature or to arrange for an IBM marketing representative—in the blue suit, yellow tie with a black briefcase—to contact you.

IBM. The Bigger Picture
Compaq introduces the first laptop PC to do all this.

A removable keyboard gives your fingers full-size keys, with standard spacing.

The new COMPAQ SLT/286 has high-resolution VGA graphics. Compared to other laptops, that will make everything look a whole lot better.

If numbers are your life, an optional numeric keypad is a simple addition.

An optional internal 2400-baud modem is available.

A 3½" 1.44-MB diskette drive is standard.

New battery technology delivers the power to run all these components for over three hours.

Weighing in at 14 lb. with a space-saving footprint, the COMPAQ SLT/286 gives you more PC in less space.

An optional Desktop Expansion Base gives you two expansion slots.

COMPAQ is a trademark of Compaq Computer Corporation. Microsoft, MS-DOS and MS are trademarks of Microsoft Corporation. MS OS/2 is a product of Microsoft Corporation. Product names mentioned herein may be trademarks and/or registered trademarks of their respective companies.

Registered U.S. Patent and Trademark Office. ©1988 Compaq Computer Corporation. All rights reserved.
Before now, getting a laptop with the performance of a desktop came with certain limitations. We changed that. Introducing the new COMPAQ SLT/286. It's the first laptop to give you everything you want. Without compromise.

Creating a high-performance PC this small was no small feat. It took all of these advanced features to deliver desktop performance on battery power. So you can work longer. And do more.

Its 12-MHz 80C286 microprocessor runs the world's largest library of software 20% faster than most 10-MHz 80286-based PC's, using MS-DOS® or Microsoft® Operating System/2.

You can set up the COMPAQ SLT/286 to match your work habits. Choose a high-speed 40- or 20- MB fixed disk drive. Expand RAM to 3.6 megabytes internally. Even add an optional coprocessor to speed number crunching.

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For a free brochure and the location of an Authorized COMPAQ Computer Dealer, call 1-800-231-0900, Operator 73. In Canada, 1-800-263-5868, Operator 73.

It simply works better.
To manage DB2 performance, you need more than information. You need solutions. OMEGAMON® for DB2 gives you both.

Exception Analysis warns you when key thresholds are exceeded. Before a stray thread turns your system to stone. Then powerful zooming features take you where no one else can. Deep into the passageways of DB2. Right down to the SQL call. And Recommendation Screens translate detailed data into realtime solutions.

Yet what’s sophisticated on the inside is made simple on the outside with menus and help screens. OMEGAMON identifies the problem thread so your troubleshooting is as effortless as pressing a PF key.

Proprietary software engineering keeps overhead as low as 1% with minimal space requirements. And OMEGAMON is always available—even when DB2 is locked up.

Candle’s always available, too. With round-the-clock customer service, technical education, and a commitment to stay current with IBM. So you won’t ever be lost in the passageways of DB2.

To decipher the mystery of DB2 performance, call Terry Forbes today at (800) 541-8513.
When you’ve got to turn those numbers into a presentation, turn to the SAS® System. The SAS System includes easy-to-use procedures for charts, plots, maps, and three-dimensional displays. At a glance, you can grasp detailed statistics, spot relationships among items, and trace emerging trends. And when your manager wants more, the SAS System lets you customize your graphs and present multiple displays on the same page for easy comparison. You can produce your graphs on terminals, plotters, transparencies, or slides.

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For details, send us your name and address. Or call a Software Sales Representative today.

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The SAS System runs on these minicomputers: Digital Equipment Corp. VAX® Bxxx and 11/7xx series under VM/VMS® and MicroVAX II™ under MicroVMS®.

Prime Computer, Inc. Prime 50 series under PRIMOS®, and Data General SSX, and ICCF; IBM XT/370 and AT/370 under VM/PC; and IBM PC XT and PC AT under PC DOS. Not all products are available for all systems.

SAS and SAS/GRAPH® are registered trademarks of SAS Institute Inc., Cary, NC, USA. Copyright © 1987 by SAS Institute Inc. Printed in the USA.
The next generation of desktop computing will let us merge data from different sources into a useful flow of information.
Your company undoubtedly has tremendous data resources. Metaphor's Data Interpretation System can help you turn them into a tremendous competitive advantage.

Metaphor's system is far more than an incredibly sophisticated, amazingly easy-to-use computer. It's a means of gaining a real edge in the battle for more business, through gains in professional productivity and enhanced business decision-making.

Metaphor is the only system that can give your key decision-makers direct access to multiple data bases. They will be able to readily transform raw data into meaningful information. And share the results with management and peers, quickly, easily. So decisions can be made in time to make a difference.

Metaphor's system makes a big difference for Information Systems professionals, too. Metaphor lets users build their own applications, so IS managers can turn their skills to more effectively managing the corporate information resource, rather than grinding out user reports and applications from a seemingly endless backlog of requests. And given Metaphor's proven understanding of end-user needs, IS gains a strong "support arm," too.

That's what customers at over 100 installations in the world's largest and most successful companies tell us. They've proved Metaphor's Data Interpretation System is a powerful business tool, giving them an enormous advantage over those who don't keep up with the latest technologies.

Start the competitive advantage flowing to your company now, with Metaphor. Write us at 1965 Charleston Road, Mountain View, CA 94043, or call us toll-free at 800-255-5803 today.

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2. List your selections on the entry card provided in the JANUARY 1ST ISSUE.


CONTEST RULES

1. List your top 5 ads in rank order on the entry card provided in the JANUARY 1ST ISSUE of Datamation. Indicate the name of the advertiser (company or organization) and the page number. Ads placed by Cahners Publishing Company, Datamation or other Cahners publications cannot be considered in this contest.

2. No more than one entry may be submitted by any one individual. Entry blank MUST be filled in completely or it will not be considered.

3. To qualify, you MUST be engaged in information processing, supervising or managing MIS/DP personnel, or setting standards for selection of information processing or telecommunications hardware, software or services.

4. Contest void where prohibited or taxed by law. Liability for any taxes on prizes is the sole responsibility of the winners.

5. Entries that most closely match the rank selected by Datamation readers will be declared winners.


7. In case of a tie, the earlier postmark will determine the winner. Decisions of the contest judges will be final.

8. In the event that a prize is not available, the publisher may substitute an alternative prize of equal value without prior notice.
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 include 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 eventually 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 Gressman 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 Boult is a chief technical editor at the GEID Press Agency in Paris.
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   Understanding the CASE Marketplace, Vaughan P. Merlyn (CASE Research)

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   Micro DBMS’s: Host Compatibility and Connectivity, Richard Finkelstein (Performance Computing)

   Developing an Information Architecture, Jeff Tash (Database Decisions, Inc.)

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   Dr. Larry Harris (AI Corp)

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Software Bugs: A Matter of Life and Liability

You read it first in DATAMATION when a major software glitch was linked to the deaths of patients. Once again, the editors of DATAMATION went beyond business as usual to get the full story and its precedent setting legal ramifications for producers of software and hardware.

In addition to keeping MIS professionals informed on the subject, the article also provided important background and a clear mapping of the borderline between technology and the law for the producers of an ABC 20/20 tv segment.

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This single roll of forms can feed your high speed laser printer nonstop up to 5 hours!

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The system is supported by the nationwide Moore technical service network. We will install it, train your operators and provide a six month/2000 hour warranty, all at no extra charge.

To learn more about this dramatic productivity booster, call Moore at 1-800-447-3000, ext. 6200.

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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 familiar—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 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 fragmenting 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 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.
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

BiiN, 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 40 MIPS, 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 deskside or desktop system with one or two processors and performance of up to 9 MIPS, says BiiN. It will begin volume shipment in March '89 and will be priced from $45,000.

The BiiN architecture is based on Intel'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 iCONS 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.

Fault Tolerance for Unix on 386-Based Micros

1776 Inc. has introduced Unix Fault-Freeom, 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.

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 its
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/1 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 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 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 ChanneLink 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 ChanneLink 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 ChanneLink 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-811R, 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 IIM-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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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 purchase 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.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Systems Software</th>
<th>Applications Software</th>
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<tbody>
<tr>
<td>Process Mfg.</td>
<td>43</td>
<td>45</td>
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<tr>
<td>Other Mfg.</td>
<td>51</td>
<td>49</td>
</tr>
<tr>
<td>Finance</td>
<td>47</td>
<td>37</td>
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<tr>
<td>Government</td>
<td>40</td>
<td>48</td>
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<tr>
<td>Education &amp; Research</td>
<td>34</td>
<td>37</td>
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<tr>
<td>Computer Services</td>
<td>51</td>
<td>48</td>
</tr>
<tr>
<td>Retail/Distribution</td>
<td>66</td>
<td>43</td>
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Source: Datamation/Price Waterhouse

**Spending on Decentralization by Industry**

The decentralization heat is being turned up everywhere.

<table>
<thead>
<tr>
<th>Industry</th>
<th>Percent of Industry Panel</th>
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<tbody>
<tr>
<td>Process Mfg.</td>
<td>50</td>
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<tr>
<td>Other Mfg.</td>
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<td>Finance</td>
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<td>Retail/Distribution</td>
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<tr>
<td>Utilities</td>
<td>50</td>
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<tr>
<td>Overall</td>
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</table>

**Outside Services Spending by Company Size**

Big firms are the least likely to use outside services.

<table>
<thead>
<tr>
<th>Company Size</th>
<th>Percent Spending</th>
<th>Percent Increasing Spending</th>
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<tr>
<td>Overall</td>
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<tr>
<td>500 to 999</td>
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<td>10,000 to 50,000</td>
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<tr>
<td>50,000 and over</td>
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**Software Spending by Industry**

Utilities are the big spenders in system software.

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<tr>
<th>Industry</th>
<th>Percent Spending Will Increase</th>
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<td>Overall</td>
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(Listed in order of panel participation.)
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 Ol' 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 emphasizing 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 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 IT shoes.

The reason for this, of course, is that more and more IT projects at corporations, government agencies, and the like will require IT 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 proponents argue how to implement changes recommended in them, users will lose valuable time in their efforts to build and maintain winning IT 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 it's not making progress; be generous if it is.

Today,

—Tim Mead, Editor-in-Chief

PLANNER

JANUARY

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Winter 1989 Unix Technical Conference
Jan. 30-Feb. 3, San Diego. Contact Judith DesHarnais, Useunix Conference Office, P.O. Box 385, Sunset Beach, CA 90742, (213) 592-1381.

DATABASE 89 Expo & Conference

FEBRUARY

Communication Networks '89
Feb. 6-8, Washington, D.C. Contact Dorothy Ferriter, IDG Conference Management Group, 375 Cochtuate Rd., Farmingham, MA 01701, (508) 879-6700 or (800) 225-4698.

Fifth International Conference on Data Engineering

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.
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