of building a screen and files by the next morning. With no prior experience, Sakamoto stayed up working until midnight and achieved the task. The next morning, MacLachlan told him, "Now you know how easy it is to use!"

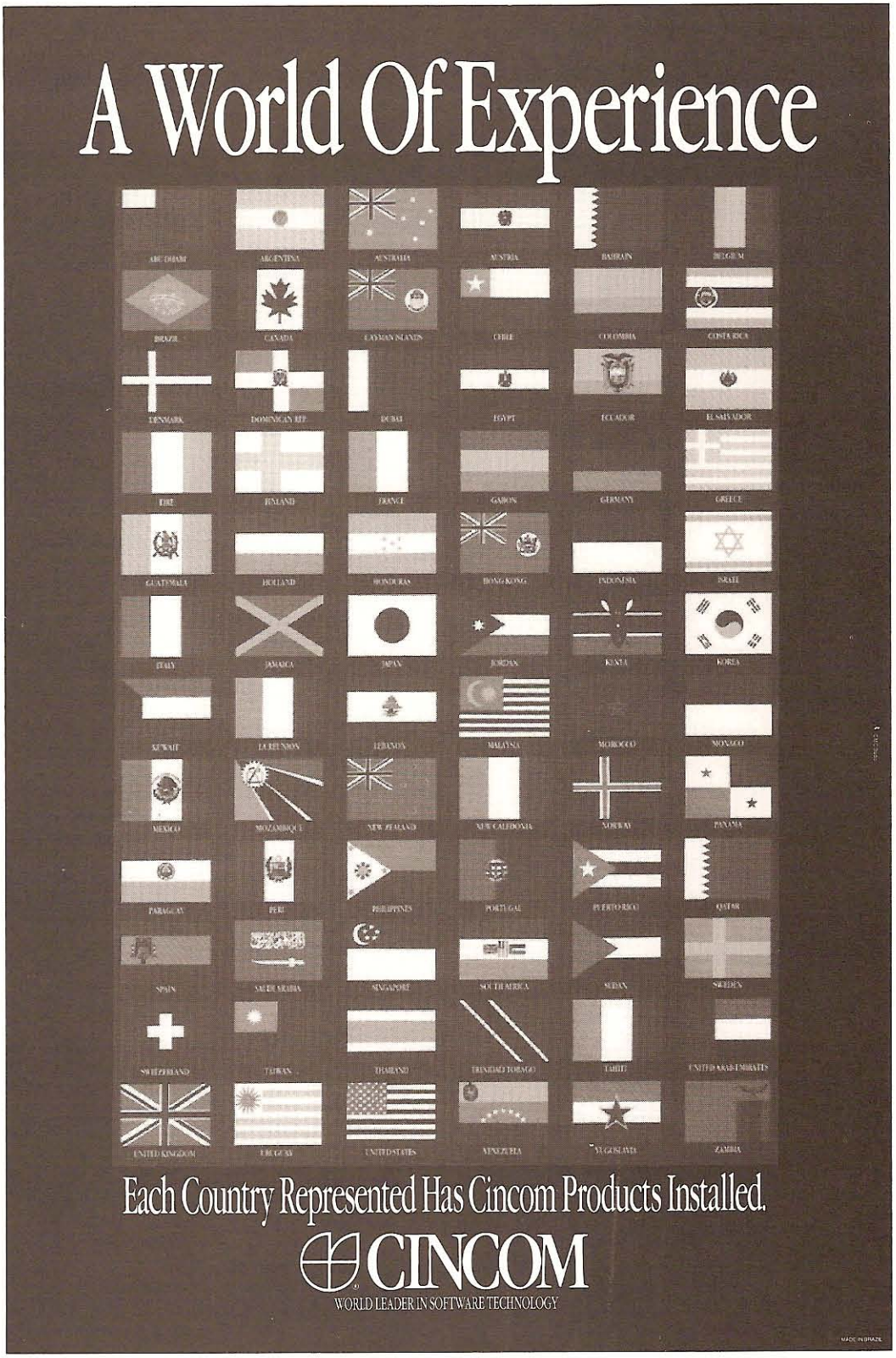
The product succeeded and so did the Japanese operation as it continued to customize its marketing efforts for the Japanese market. Today, Nippon Telegraph and Telephone, Japan's largest telecommunications company, is among Cincom Japan's long list of clients. In fact, Cincom Japan is among Cincom's fastest growing and most successful international operations. Indeed, Cincom Japan has overcome its many challenges and become a real contender in the Japanese market, even though Cincom Japan sells only a small subset of the entire Cincom product line.

"Wherever there's a business need, you'll find Cincom; from Singapore to Cincinnati, from Tokyo to Texas, from Anchorage to Auckland, from Sao Paulo to San Francisco."

Quality, Courage, Commitment

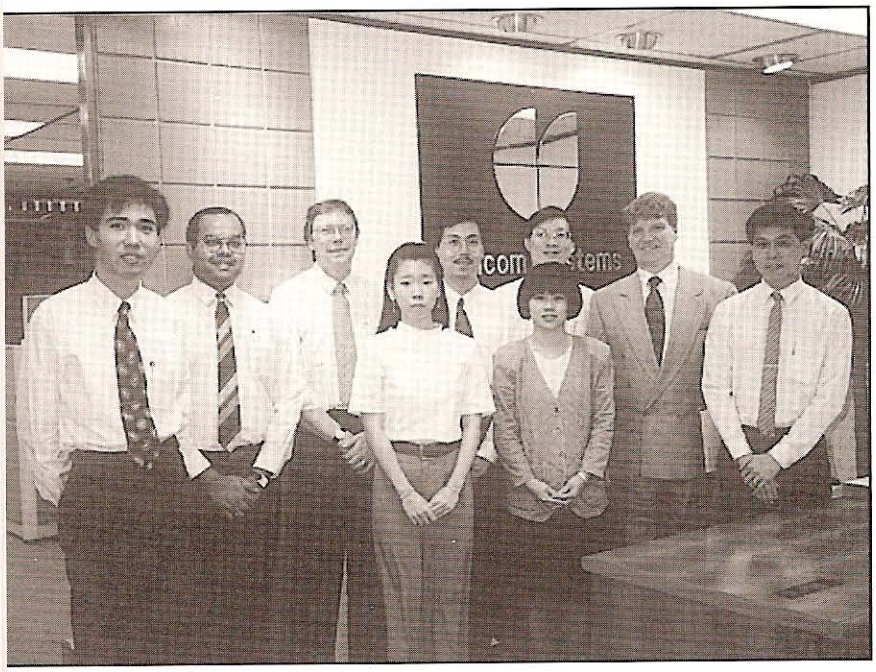
Cincom can boast that it does business in every continent on the globe except Antarctica. The company now enjoys a successful partnership with users in 72 countries and is continuing to expand into more and more countries through licensees and agents, as well as through direct operations.

According to Nies, "Cincom's excellence in technology, support and education are important reasons for Cincom's success. But Cincom's understanding of both similarities and differences in business practices, culture, language, economy and other aspects of the countries in which we do business are of immense importance too. And all of these are due almost entirely to the quality, courage and commitment of Cincomers all over the world."



1981
Solution Software division formed.

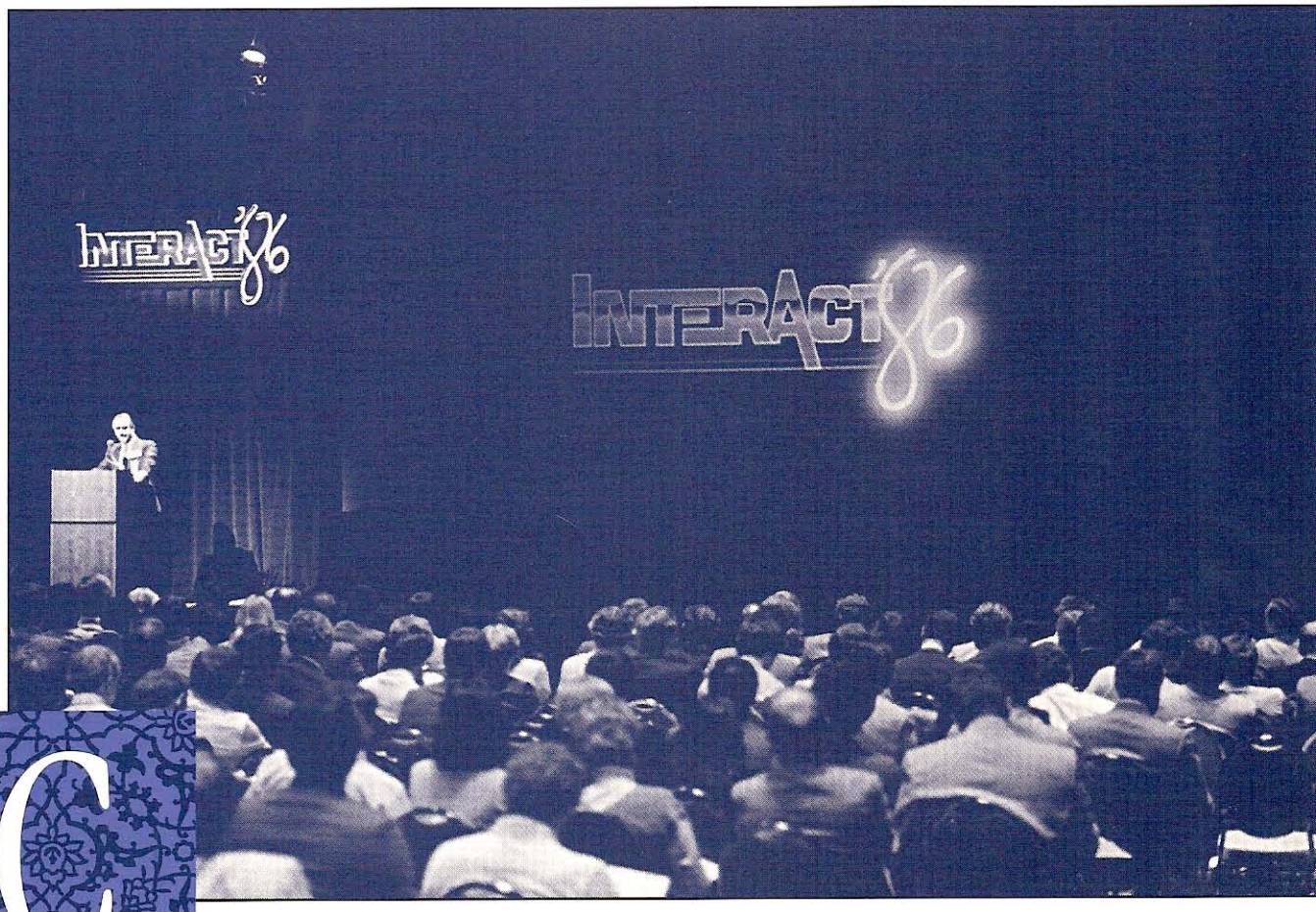
Perhaps the key to Cincom's long history of international success is its flexibility in response to technological changes and the evolving needs of its clients. "For over 15 years, the sun has never set on any Cincom operation without rising on another," Nies said. "Cincom is a continually regenerative process. Each generation in its turn becomes more proficient and more skilled. Each technology becomes more advanced and more valued to its users."



Cincom Singapore office:
Back row left to right:
Neville Tang, Kathir Sivagurunathan, Chris Lines, Saik Lee, James Loo, Tom Nies, Francis Teo.
Front row left to right:
Sally Yong, Nancy Tan

"We're justifiably proud of our reputation around the world, and we take our international citizenship very seriously," Nies said in 1985. "For our users, all of this translates into better products that satisfy so many complex situations. Wherever there's a business need, you'll find Cincom Systems; from Singapore to Cincinnati, from Tokyo to Texas, from Anchorage to Auckland, from Sao Paulo to San Francisco."

1981
International Product Engineering holds first Management Conference.



Cincom experienced rapid and explosive growth as it expanded its operations around the world. As the company continued to grow, so did its need to find new and innovative ways to serve its clients.

There was a true pioneer spirit in the Cincom of the 70s. And like the early American government's push to attract settlers to the Wild West, Cincom looked for ways to attract quality people to the company.

If we all did the things we are capable of doing, we would literally astonish ourselves.

—Thomas Edison

Photo above: InterAct'86 International User Conference in Orlando, Florida.

It is no secret that Cincom has always recruited the cream of the graduating classes of leading colleges and universities. This healthy competition is one way Cincom has avoided the stagnation, apathy and bureaucracy so common in many businesses today. Indeed, personnel recruiters who bring candidates to Cincom must convince top management that the people they want to hire will "stretch" other Cincomers to further their pursuit of excellence and increase their commitment to the company—in other words, to "average up."

Many of the early Cincomers have taken what they have learned at Cincom to rise to the top of their field in many different companies. Take a look at some of the largest software companies' rosters and you'll see any number of presidents and vice presidents with one thing in common: they learned the business at Cincom. In more ways than one can easily count, Cincom has helped to build the software industry, even as it was building itself.

There was a true pioneer spirit in the Cincom of the 70s.

To seek out the best and brightest individuals, in 1974, Cincom began a new referral incentive program called the Cincom Bounty Hunters. Cincom asked its employees to seek out the most wanted professionals in the industry. If the person they referred to Cincom was hired, the responsible Cincomer would be awarded a modest bonus.

The philosophy behind this venture was that the best people are usually not looking for a job. The company's very own clients were considered an excellent resource for also directing Cincom to quality people. Prospects were also good sources of top people. Cincomers were encouraged to find out from clients and prospects who the sharp people were in the industry.

This aggressive recruiting illustrates the exciting growth and changes happening during this period. During this time, Cincom started to fully demonstrate that it

1981
Cincom introduces SERIES 80 MANTIS—first software company to provide end-user procedural manipulation of both data base and non-data base files with MANTIS.

was not just a software provider. It was also a vehicle for information sharing and support and an environment which stimulated, nourished and facilitated personal growth and fulfillment.

Knockabouts

Cincom has always tried to find the best ways to meet client needs. What better way to find out how to better serve clients than to hear directly from clients? In 1971, Nies originated a then-unique idea—hold a conference to help facilitate communication among users and Cincom representatives. The idea was an outgrowth of Nies' philosophy that the best way to compete was to offer superior customer services and products, and to be highly responsive to client needs and wants.

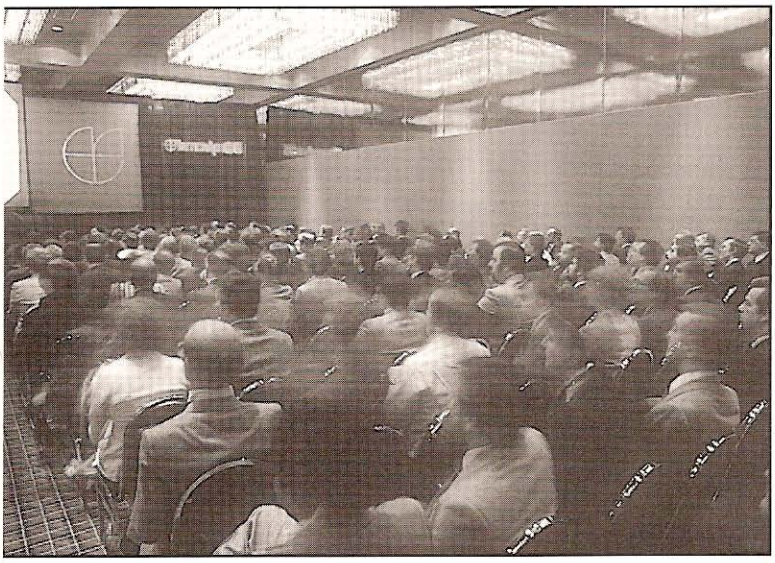
Cincom has helped to build the software industry, even as it was building itself.

These conferences, called Knockabouts, were predecessors to today's user conferences. They gave Cincomers and the actual users of the company's products a chance to "knock about" ideas regarding Cincom products and new technologies. The sessions had several functions:

1. They gave Cincomers information on what features should be included in planned products.
2. They helped promote ideas for new products.
3. They provided users with information about new Cincom features, products and services.
4. They helped Cincom find better ways to meet the needs of users.
5. They gave users the chance to interact with one another so they could learn how to use current Cincom technology better and learn firsthand about other users' experiences with products they may not already be using.
6. They enhanced the relationship between customers and Cincom.

Early attendees were skilled technical people, so the discussions tended to be very technical and specific in nature. The first Knockabout was not heavily attended, but

there was a feeling among participants that this new idea might catch on.



InterAct'85 International User Conference in Cincinnati, Ohio

And it did. Through the years, the sessions have gone from an informal group to a highly organized gathering with growing attendance. By 1978, Cincom's tenth anniversary, a then-record 700 people attended the Knockabout at Stouffer's Hotel in Cincinnati.

User participation continued to grow over the years to the point that they did much of the planning and organizing of Knockabouts. Cincomers felt that is exactly the way it should be. "The whole idea of the Knockabout is to better serve our clients," Nies told *CincomWorld* in 1979. "And now that so much of the Knockabout is a joint effort, we all feel that it's a better meeting all the way around."

Today Cincom's User Conference draws hundreds of people from around the world. It is one of the largest, most successful annual users' conferences in the industry. Typically the event lasts four days with about 100 different sessions led by Cincomers, outside experts and clients. In addition to technical topics, the sessions now include information on management issues to better satisfy the needs and interests of executive, managerial and supervisory personnel.

Knowledge Is Power

With new technologies developing at breakneck speed, Cincom also saw the need for sessions to help everyone stay on top of the ever-changing technological environment. In the mid-seventies, a series of regular sessions, called "Knowledge is Power," reached new heights of popularity. The sessions were open forums where Cincomers, clients and others interested in the software industry converged to discuss the latest trends or issues. Held in Cincinnati, the sessions attracted people from around the world.

Perhaps the most beneficial aspect of these knowledge-sharing gatherings was that everyone had the opportunity to participate. Participants gave presentations about subjects such as different product applications, tricks of the trade, and popular trends. No matter if the participant was a system engineer or a vice president, everyone had the opportunity to get up in front of the group and share.

Seminars such as these follow the philosophy that Cincom's business is one of "knowledge transference." As Nies said in 1981, "Our first and most vital step must be to better transfer knowledge... Persons who strive to share their own knowledge substantially improve their own knowledge in the process... Knowledge is much like love: the more one imparts, the more one receives in return. Further, the more one imparts, the more valuable and respected he becomes to others and to the company. So, unlike material things, where the more one gives the less one has in remainder, in things of the spirit, such as knowledge, love or kindness, the more one gives the more one has to give."

Our first and most vital step must be to better transfer knowledge.

Technical Product Support

In addition to imparted knowledge, product support was also becoming more and more crucial as clients' needs continued to grow. To meet these growing needs, Cincom established its first regional Technical Product Support Group in 1977. This strong commitment to product support has been one of the primary reasons clients choose Cincom as their software supplier. The Cincom philosophy was that the product was more than simply the code and the reference manuals, it was a "Total Service" to provide a Total Solution. Support is but one part of this Total Solution.

Originally, support calls from all over the country came into one location: Cincinnati's Technical Product Support Center (TPS). As the client base grew, so did their need for more extensive product

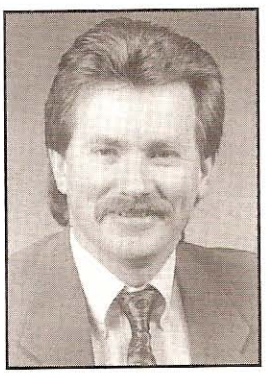
support. Because of this, Cincom decentralized its support, establishing four regional Technical Service Centers (TSC). The first such TSC was located in Fairfax, Virginia in 1977; the second in San Francisco in 1978. One year later, the St. Louis TSC opened, along with a support arm located in the Cincinnati headquarters.

This decentralization did much to improve customer service. It was much easier and quicker to dispatch someone nearby to resolve problems that require immediate attention than to send someone from Cincinnati. And it gave clients a sense that help was near which, particularly in those days, was very important.

Cincom received much positive feedback from clients regarding the move to branch out. In 1978, TSCs became a formal entity of the company as part of Cincom's System Software sales organization.

The backbone of TSCs is the dedicated, knowledgeable staff. TSC staff members average more than ten years of data processing experience. Each knows the software and users and are skilled in identifying problems and providing solutions. Staff members provide support that will keep the client's production cycle in operation and maintain what is already existing in the field. This includes meeting changing client needs and providing on-site development work where needed to keep a product fully operational. And TSC must be "on call," ready to immediately respond to client requests on a day-to-day basis.

TSCs have been a major focus as the needs of our clients grow. "Service and support plays a most important role in the leadership image of our company," Bill Scully told *CincomWorld* in 1982. "And our major objective will always be to provide the most professional support that customers have the right to expect from us, the kind of support that makes Cincom the true leader." Likewise, Brian Bish has long promised that Cincom, and especially the support team, will do "whatever it takes to satisfy client needs."



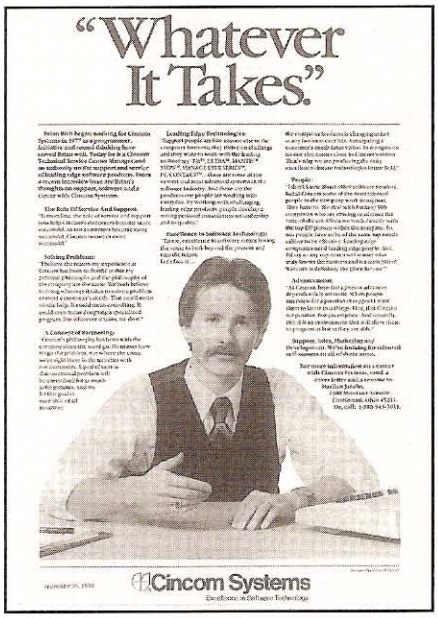
Brian Bish

Client Services

This dedication to support is what prompted the formation of the Professional Services organization, a group of highly skilled, well-trained data processing professionals

who travel to the client's location to solve complex problems. The group evolved from the Custom Systems Department, which originally offered limited design and programming service to our clients.

Custom Systems originally offered services primarily to clients with problems of limited complexity. As clients' problems grew more and more complex over the years, Cincom saw a need urging to be filled and a potential to be involved in more highly profitable projects. Thus Professional Services was formed.


"Whatever It Takes."

Cincom Systems

Through the group, Cincom strove to:

- Expand its reputation of the quality implementation of the database/data communications
- Pursue business opportunities throughout the data processing community
- Increase client satisfaction and success with Cincom products.

Group members were able to go into complex client environments, analyze the problems and design solutions quickly and accurately. Clients did not need to hire and train scarce and expensive permanent personnel to solve problems; they saved time and money by using the Professional Services members on either a short- or long-term basis. They received much higher quality solutions at much lower overall costs. It was truly a "win-win-win" situation for the client, for Cincom, and for the Cincomers working in the Professional Services Group.

But, finding high-quality staff members was a key concern, because the people are integral to the solution provided. Cincomers were again encouraged to help recruit qualified individuals to build Professionals Services into the premier organization in the consulting and services industry. To help attract staff members, Cincom offered various financial incentives, state-of-the-art applications, extensive training, a variety of industry assignments, travel opportunities,

and freedom from maintenance-type work assignments. Plus, because the work was intellectually stimulating, members' successes were all the more fulfilling and gratifying.

To help group members become the best they could be, Cincom developed a professional development program which fostered long-term professional growth. The program included a series of training programs to increase knowledge of database/data communications concepts, project management techniques, structured techniques for systems analysis and design, and, of course, information on Cincom products. In addition, staff members from around the world attended group conferences and seminars which encouraged members to help educate and train each other.

Later, the group was renamed Client Services. Today, it operates on a worldwide basis with offices in the U.S., Europe, Canada and Australia to respond to our clients' increasingly complex needs. The group is one of Cincom's fastest growing areas and promises a profitable future with rapid expansion.

Indeed, Cincom has always been much more than a software provider. Cincom is a company of people dedicated to help clients achieve success. Truly, the "impossible dream" came true to deliver optimal client success in an area that previously experienced all too much failure and disappointment. This is a pursuit well worth the effort. Cincom's strength lies not only in its people, it rests also on helping people. With this perspective, Cincom began its journey into the 1980s poised for growth.

PART THREE

Flying High, Flying Far, Flying Fast

"Work All Day
Fly All Night
Cincom, Cincom,
Fight! Fight! Fight!"

–The Cincom fight song

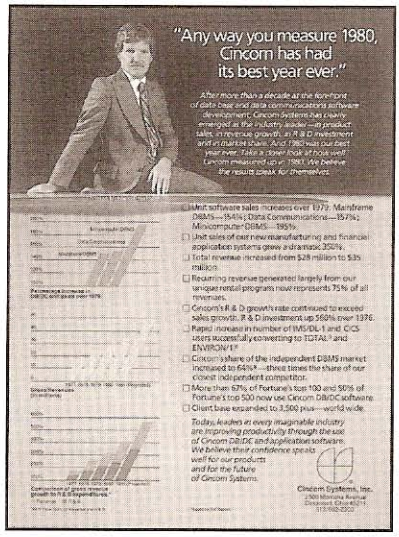
The early 1980s saw Cincom's remarkable growth pattern continue. Some of the challenges were similar to those encountered in earlier years—recruiting enough quality people to continue "averaging up;" maintaining a creative, open atmosphere; investing wisely in technology developments that would keep the company profitable and competitive for the long term. All of these tasks focused on maintaining and enhancing the elements of the culture that had helped make Cincom successful in the first place, while the company moved from its founding days, through its adolescence and into its prime. The vigorous growth which produced a seventyfold revenue increase in the first five years (to 1974) produced a fourfold growth in the next five years from a larger base, and from 1979 through 1984 tripled once again from a still-larger base.

"If I were to deny that this road is rough, I should lie."

—Cicero

Photo above: Tom Nies with his vintage 1967 GTO

But the company faced a new set of challenges too. As it moved toward the $100 million mark in annual revenues in 1985, it found that it had to deal with a whole range of problems Cincom hadn't encountered before. The technology became increasingly more complex. The range of different technologies expanded, as did the number and type of competitors. And there were massive investments needed to develop more and better technology, and to satisfy new technical challenges. Above all, in the face of these pressures, the company had to struggle to remain market driven in its current markets, while striving to be a market driver in new areas. As industry growth continued to move forward at explosive rates, Cincom faced challenges in sales and distribution it had never seen before. And as the software industry matured, a whole fleet of well-financed competitors lusted after Cincom's market position: Cullinet Software, Applied Data Research, and Software AG, to name but a few. IBM itself had begun to grab a huge chunk of the database market with its DB2 product, and Digital—trying hard to emulate IBM's efforts to maintain account control—pushed hard with Rdb. Almost all of Cincom's competitors had far larger capital resources and corporate mass than did Cincom.



Throughout the rapid growth years of the '70s and early '80s, Cincom had poured over 20 percent of its revenue into its R&D laboratories in Cincinnati, the United Kingdom, France, Australia, Brazil, and Japan. That constituted a remarkably heavy investment during a period when most American companies were investing far smaller percentages in R&D. But the investment produced significant new products, which hit the market throughout the '70s and early '80s. These products were not just newer and better products for markets already served by Cincom. They were also new products for new markets the company did not yet serve, new markets in which Cincom could become the market driver.

Manufacturing Resource Planning System

In 1979, Cincom organized a new division, the Manufacturing Systems Division, one which had its roots in the very origins of Cincom itself. From its beginnings, one of Cincom's areas of specialization had been manufacturing systems, particularly the bill of material processor applications. Many of the early users of TOTAL had used the product for the general manufacturing area.

After ten years of experience installing TOTAL in over a thousand manufacturing organizations, Cincom found itself with an in-depth understanding of the manufacturing industry which was second to none. The firm became convinced it had the expertise and people necessary to develop a superior manufacturing application system which users could quickly implement. Instead of having clients buy the TOTAL database and then build the manufacturing application solution, Cincom sought to provide an even more "TOTAL Solution." After all, TOTAL Solutions had always been the corporate goal, and it seemed only logical that Cincom should become the very first database vendor to also offer the complete application solution too. This was a market driving concept that would prove to have considerable merit and appeal.

First MRP training class

Many of these modules had been created by the system designers and programmers who were once part of the Custom Systems group. This organization, which had been built up around the mission of servicing Cincom's DBMS products, was an intense training ground where people gained tremendous knowledge quickly. John Duckworth, an early member of the team, recalls, "We were mainly young people,

right out of college in most cases. The thing we liked was that we were getting a chance to be creative with the tools and apply all the theory we had learned in college. We worked some incredibly long hours, yet we still had a great time. The teams themselves became very close, functioning like small fraternities. The camaraderie was great, and so was the opportunity to work on specific problems, to see that the success of the client was the end point of all our work."

In 1978, Tom Nies decided it was now time to build a complete manufacturing solution, rather than to continue to help build various modules for different clients. A manufacturing team was pulled together in part from the Custom Systems pool of talent. Some of the original members were Kevin McQuillen, Mike Ehrensberger, Ed Bauer, Tom Womeldorff, and John Duckworth. But it grew quickly. Today, the CONTROL:Manufacturing™ product line employs more than 200 people in America alone and accounts for about a third of Cincom's new business worldwide. CONTROL is not only widely regarded as one of the most powerful manufacturing systems ever developed, but easily has the most successful user community in the entire industry.

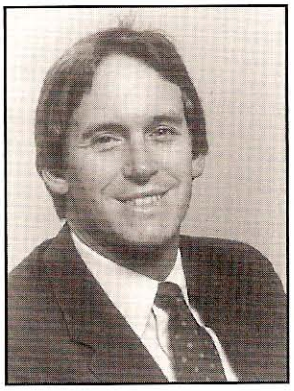
In the beginning, Duckworth, McQuillen, and a new member of the team, Mike Welsh, put together some of the first modules into a package that was to eventually become the foundation of the system. After a couple of years of developing the initial code, performing trial installations, and conducting market research, the first modules were ready. These eventually became Cincom's new product, the Manufacturing Resource Planning System, or MRPS. Later a much more comprehensive product was named CONTROL.

A Manufacturing Systems Division was then organized to market and support the system. In a sense, it was a forerunner of today's concept of Integrated Business Units. Mike Ehrensberger noted at the time, "One of the most important qualities our division possesses is an open line of communication between each functional area. The people work together and depend on each other... This environment encourages a spirit of teamwork."

The concept of interdependency which is now widely promoted as a key to success for sophisticated modern organizations was, from its early days, key to Cincom's style. This spirit of teamwork has long been a key to Cincom's successes, based on the belief that human beings live and produce best when united into limited-sized teams. But all of the team members must have a sense of the ultimate mission, focusing on the job at hand as well as understanding the end purpose of the effort.

The new organization was facing some well-entrenched competition. Several major software firms, as well as IBM, already had manufacturing applications available. Yet the Cincom team believed their product had a significant advantage. It had been designed from its conception to become a fully integrated system, designed around the database concept. It was the very first such system ever developed. Moreover, it took advantage of fresh thinking. The existing manufacturing programs from competitors, most of which were five to ten years old, had been built as a hodgepodge of components picked up from various custom projects, none of which were integrated systems. But Cincom's manufacturing system was designed from the beginning as an integrated, yet modular, solution. This, too, was a revolutionary breakthrough.

In addition, the MRPS package was built on a unique design philosophy, called the modular "generic solution" which was built to be readily enhanceable. The product strategy also allowed a client to start with a single module, if they chose to, and add other modules as required. This was Cincom market driving at its best. Against powerfully entrenched competitors, Cincom soon began to win important clients.



Tom Womeldorff

Mike Ehrensberger, the young programmer who had first learned to give a sales presentation when Nies gave him the keys to the car in Europe, was named manager of the new division. John Duckworth became manager of development, Tom Womeldorff managed product support, and Ed Bauer handled sales.

"We were convinced we had the experience and the people to offer and support a state-of-the-art product," Ehrensberger has said, "and gain a significant share of a fast-growing market."

These Cincomers weren't concerned by the fact that competitors already had literally thousands of people selling scores of manufacturing applications.

Cincom also benefited strategically by also addressing the diverse platforms in the marketplace, offering a product that was portable and compatible across a wide range of sizes and types of computers. By later developing the system for VAX minicomputers as well as traditional IBM mainframes, Cincom saw its manufacturing business grow while well-entrenched competitors, who continued to support only IBM mainframes with old technology, faded from the race. In fact, today, except for IBM, there's not one survivor from among the many, larger manufacturing software providers that were well-established in the IBM markets when Cincom began its efforts. And IBM no longer seriously markets its COPICS manufacturing system.

Of course, with the advent of the AS-400, the workstation, and the UNIX marketplace, a whole new group of competitors has sprung up. Many have quickly grown strong by aggressively responding to these new market opportunities. For Cincom, too, there are hosts of new opportunities as thousands of users of older, mainframe-based systems begin re-evaluating their technology position and consider modern alternatives. Cincom's new generation of manufacturing systems will offer them a comprehensive and smooth transition, and offers the company outstanding growth potential. The new Cincom manufacturing systems will provide architecture, design, functionality, and usage advantages which will be unparalleled. Many within the CONTROL group feel that Cincom's new generation of manufacturing software may well become Cincom's largest selling and most successful product line—ever!

MANTIS

One of the most significant new product introductions in Cincom's history, and perhaps in the history of commercial data processing, was MANTIS. For several years, organizations had been evolving away from the batch processing of data and the preparation of printed reports and toward the online, real-time applications that have now become the norm. Back then, most organizations did not have the internal resources to make this transition easily. Their development and support personnel had to be trained extensively in complex processes, and the development cycles for online applications were

extremely long and costly. Moreover, the old-fashioned, batch-oriented programming languages which had been used for so long, such as COBOL and PL/1, were labor-intensive and ill-designed for modern online requirements.

Another factor was adding pressure to the development of online systems. The user community was broadening, moving away from a central core of MIS professionals to include people in the various operating and functional departments of a company. These users had less background and sophistication in computer systems, and they required friendlier applications.

Joe Williams

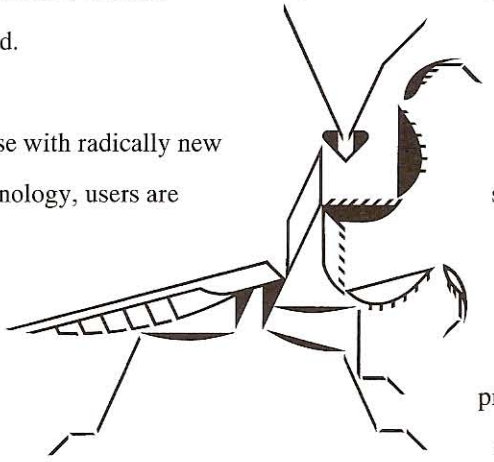
Cincom recognized quite early the opportunity inherent in these changes. What the industry needed was a set of advanced software development tools to support the massive online development efforts already underway or being planned. The original concepts for the MANTIS interactive application development system were conceived in 1975. Joe Williams, then an MIS director and known by a Cincom agent, was developing a system which later became MANTIS. When introduced to this software, Nies immediately felt that it offered the nucleus of what could become a perfect solution for the problems plaguing those trying to develop online systems.

Williams had spent years prototyping the structure of the basic system and refining the overall concept, resulting in the creation of a basic language and some development tools. After it was decided that Cincom would market MANTIS, Williams took a year's leave of absence from his job to help introduce MANTIS with Cincom. When the year was up, he decided not to go back. Instead, he joined the Cincom team.

For some reason, there are a number of myths surrounding the creation and naming of MANTIS. One is that Williams wrote the code sitting at a rickety kitchen table

covered by an oilcloth overlooking a beautiful, isolated oceanfront beach. According to this myth, a huge praying mantis crawled up on the table and watched him, inspiring the name. Even though it's only a myth, Williams himself can see some rationale for it. "After all, mantises are bug killers and programs contain bugs," he has commented, "but the fact is, there was no insect keeping me company."

In reality, Williams named the system "MANTIS" simply because he liked the sound of the word.

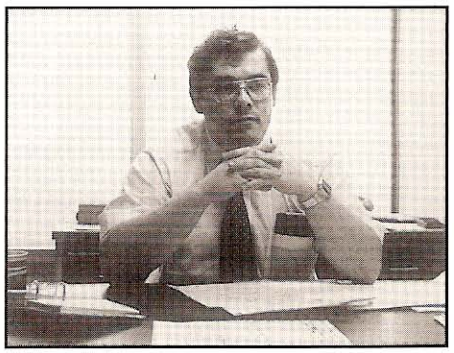


As is so often the case with radically new ideas and better technology, users are initially reluctant to embrace it wholeheartedly. Instead, they tend to hold on to older technologies while they experiment with the new. That was the case with MANTIS. The companies who purchased the first commercial release of MANTIS, which hit the market in 1979, used it primarily to prototype applications to run on IBM's CICS teleprocessing monitor. They then rewrote these prototypes in COBOL or another accepted language. But they quickly recognized the speed and ease with which they could accomplish their prototyping with MANTIS. What also soon became obvious was that the prototypes users developed ran just fine as production applications and really didn't need to be rewritten. In fact, right from the beginning MANTIS was not only a technology which enabled rapid building of applications in an interactive mode, it was also so robust that it could handle just about any commercial requirement. As a result, clients began requesting enhancements to MANTIS that would make it an even more suitable tool for developing more sophisticated and comprehensive systems. While Cincom continued to emphasize the concept of prototyping as the best development process, it was very soon quite clear that the MANTIS programs were not prototypes, but instead were fully system processing ready.

Gradually, MANTIS began to achieve acceptance in the IBM marketplace. As MANTIS gained that wider acceptance, it was further enhanced with subroutines and language enhancements for advanced string

management, loop control, and other programming features in 1980. This version, which was released as MANTIS 2.0, was backed with an aggressive development and marketing effort to present its programming and production processing capabilities.

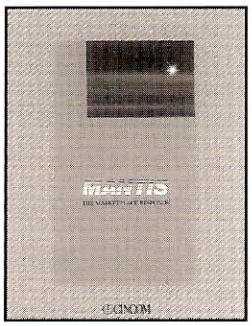
This introductory "missionary phase" was led by Ian MacLachlan. Then the product was transferred to the System Software Division, where Merle Parks was named Product Manager. Dennis Yablonsky, who was then the U.S. National Sales Manager, assigned Parks the responsibility for developing product plans, marketing communications pieces and sales collateral, sales training, and general sales promotion activities. In addition, the company announced plans to have the Product Engineering group, under Ray Banks, develop and improve the product further. A key goal was to develop an ENVIRON/1 version of MANTIS, and to develop integrated TOTAL support. The technical product support was handled by the original developer of the code, Joe Williams, and by Vicki Duckworth (then Vicki Neas).



Ray Banks

By 1982, non-IBM versions of MANTIS were also ready. The product was fully integrated with the ENVIRON/1 teleprocessing monitor and with the TOTAL database management system. Product development continued over the years, culminating when the MANTIS language became an integral component of the new AD/Advantage® application generation system.

The development of MANTIS was an important act of foresight. For one thing, IBM's release of DB2 took away a chunk of the mainframe DBMS market. For another, the direction of the industry toward online, real-time systems accelerated during the coming years. However, that was not nearly so obvious when Cincom decided to introduce MANTIS, as it was after the fact.

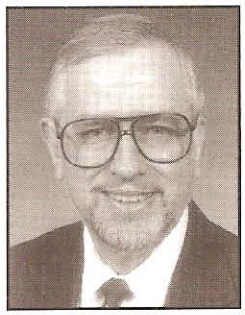


In the United States, MANTIS by 1981 had become a smash hit for Cincom. It was easy to learn and easy to use, which meant that even inexperienced programmers could quickly develop and deliver online, interactive applications. MANTIS rapidly demonstrated its superiority to older languages like COBOL, often increasing the productivity of programmers four to ten times.

In spite of its great success in the United States, MANTIS initially proved difficult to introduce into Europe. The problem may have stemmed from Cincomers' reluctance to buy into such a revolutionary programming concept. They may have wondered if the more conservative European market was truly ready for such a system. And besides, database sales were booming, and resources were already spread thin. So another "missionary" effort was called for, just like the one that had led to earlier acceptance in America. Tony Watson volunteered to be the MANTIS ambassador into England. Within a year, he had almost single-handedly sold MANTIS to 20 new users. Once these users' enormous success became apparent to others, the MANTIS boom quickly spread throughout Europe, where eventually MANTIS became even more successful than in America.

Tony Watson

Terry Ohr relates the kind of impression MANTIS made on clients: "I had been a biology teacher, and knew absolutely nothing about programming. Yet I learned MANTIS in about a week. I began going out to client sites to teach it. I didn't really understand what the real world of the COBOL programmer was up against. So I was mystified as to what was so wonderful about this stuff. At some of these sites, I was treated like a savior! Then I happened to watch a developer using COBOL. A misplaced period in the code could make all the difference. Yet there was no way to find this out until you compiled all the code! Here we had a product that allowed a newcomer, me, who had been in the business for a week, to develop applications faster and better than heavily experienced COBOL programmers. Clients were in awe."



Terry Ohr

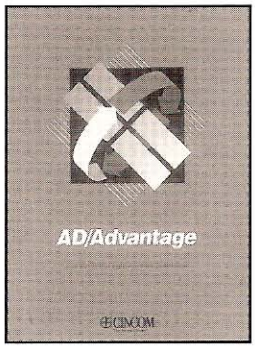
The rapid move to provide MANTIS on a large number of different systems also contributed to its success. And MANTIS

was designed to work with the strategic database and file management systems on each of the platforms. Cincom did not demand that a Cincom database be used with MANTIS. On the contrary—Cincom led the way to "open systems" thinking by providing the power of MANTIS to even the strongest competitors of Cincom's DBMS systems. As a result, Cincom penetrated dozens of new accounts that were using competitive database products. In fact, over half of all MANTIS clients used non-Cincom databases. Also, the implementation of MANTIS on strategically important "regional" computers—ICL in the United Kingdom, Fujitsu in Japan, Bull in France, and Siemens Nixdorf in Germany—further increased Cincom's penetration of those markets. These implementations gave Cincom another important opportunity to "own" various submarkets. Today, MANTIS runs on a greater variety of different computers under the native proprietary operating systems for those machines than any other development language.

The value of building portability into MANTIS was clearly demonstrated in France, where the government services, ministries, city governments, and many corporations have a mixed computer environment—a combination of IBM and Bull hardware. These users wanted common, portable solutions. As a result, Groupe Bull (which was then owned by the French government) formed an alliance with Cincom's Bull development group to provide MANTIS on their DPS7 hardware lines. Now Cincom not only "owned" this market, but had a powerful ally to help in the marketing and distribution of the system. Not surprisingly, Bull MANTIS was a huge success.

The rapid growth of MANTIS was particularly important because it helped compensate for the slowing in growth of new business revenues from the mainframe database area in the mid-eighties. What's more, MANTIS gave Cincom an entry into the world of open systems long before that was a serious issue for the majority of clients. MANTIS works on more computer systems than any other program of its type, and to the user looks virtually the same on every system. In fact, it's possible to write a program in MANTIS for PCs and run it on a mainframe virtually unchanged. Now, of course, open systems and platform independence are becoming key issues of the '90s. And today, no software product is better positioned as a development tool than

the AD/Advantage system, which incorporates MANTIS as one of its key components. It provides a "develop anywhere, deploy everywhere" approach. Once again, Cincom has the opportunity to become the market leader, with yet another important market *driving* opportunity to exploit.



The growth of MANTIS highlights another key Cincom concept—never become overly dependent on any one central technology. Although Cullinet's limited focus on DBMS for the mainframe enabled it to grow faster than Cincom in the database arena, when the boom in mainframe DBMS ended, so did Cullinet. This same sudden, catastrophic end has come to many other software firms which were either unable or unwilling to broaden their organizational focus to include more environments and more technologies. The challenge to high technology companies is to constantly seek out and invest wisely in new technology, to create a balance of multiple technologies that reinforce and positively leverage each other. This process can help provide an overall positive growth continuum for the corporation, even as individual business segments and product lines go through their inevitable life cycle of growth, stability, and decline. Of course, finding the right new technologies in which to invest is easier said than done. It is a process that recalls American humorist Will Rogers' advice on buying stocks: "Buy some stocks cheap, wait until they go up, and then sell 'em. If they don't go up, don't buy 'em." But of course, buying the right stocks is not so easy. Neither is building and introducing the right technologies.

In today's fast-paced environment, another Will Rogers' saying is relevant too: "Even if you're on the right track, if you don't move fast enough, you're going to get run over." Since its founding, Cincom has continued to move steadily in the right direction. Inherent in that success, though, are the seeds of failure: the tendency to assume that success in the past guarantees success indefinitely. Dr. Ichak Adizes once wrote that "the greater the organization's success, the more arrogant the (organization) becomes." Cincom's strategy must be to prevent success from leading to arrogance, but rather to continue focusing on doing what the company does best. Offering better solutions, better values, and better service at lower costs.

Net/Master

The acquisition of the Net/Master marketing rights and the funding of this technology from its "embryonic state" was another example of "buying a stock that went up." Whereas TOTAL and SUPRA were management systems for data, Net/Master was a management system for networks. It was the first product of its kind on the market, a system that beautifully solved network integration. It was also, once again, an area where Cincom was the market driver, gaining immense success for Net/Master users and Cincom too. Several years passed before IBM could offer a comparable product and, with its immense marketing power, slow the growth of Net/Master.

But, in spite of being a technical and marketing success, the unusual part of the Net/Master story is one of litigation and eventual divestment. Net/Master was the object of a protracted lawsuit, one that corporate counsel Mark Gabis believes is easily the single most significant legal case in the company's history. Eventually, Cincom divested the product, in part to end the legal wrangling, but also in part to focus more of its energy on the UNIX and "open" markets of the future, rather than the "closed," proprietary systems which Net/Master then supported.

Cincom acquired Net/Master's marketing rights in January 1984, under a long-term perpetual type license from Software Development Pty., Ltd., the company that had first developed the product. Cincom's objective initially was to penetrate the proprietary SNA markets, such as IBM's MVS and DOS-VSE areas, and then to migrate Net/Master to VAX, UNIX, and other environments which Cincom felt would become major markets as well. The strategy was to gain market preference and prestige for Net/Master in the IBM markets and then, when IBM eventually countered, to offer Net/Master into complementary markets which Cincom would then "own."

Cincom had made major investments in Net/Master for the proprietary IBM markets and had built Net/Master into a major success in these markets. But since Net/Master was limited to the proprietary IBM markets, Cincom wanted the development partner to begin the funding for the large range of non-IBM and UNIX environments. From the start, Cincom felt this was necessary to eventually differentiate Net/Master significantly from

whatever IBM would offer. At the same time, by offering a widely available Net/Master across many operating systems, Cincom felt that Net/Master could become the industry standard for network management systems, as well as offer a unified "total solution." Nothing such as this had been envisioned by anyone before. And even today no such solutions exist. This opportunity was immense! But the moment had to be seized or this great opportunity would be lost.

Unfortunately, at this point the Net/Master developer in Australia became diametrically opposed to these plans, even though such a strategy had been clearly agreed to at the beginning of the relationship. Whether the development partner did not want to invest further and thereby maximize profits from the then-current IBM-only technology; whether they did not feel that there was potential other than in the proprietary IBM SNA field; whether they wanted to negotiate for more favorable terms; or whether they wanted to then deal separately with various hardware vendors and exclude Cincom from all markets other than the proprietary IBM ones, will likely never be known. But after years of intensive but unsuccessful discussion, where precious lead time was forever lost, Cincom was left with its only alternative: to exercise its R&D rights under the partnership agreement and redevelop Net/Master for all the other marketplaces itself. Cincom preferred that the Australians continue to do the development, but became reluctantly willing to also accept these responsibilities since this was felt to be the only long-term winning strategy for Net/Master.

At this point, the Australian developer decided instead that it wanted to terminate what Cincom had always believed to be a perpetual license. Cincom had made significant investments to create a customer base and a product reputation of immense value, and over 125 Cincomers and thousands of Net/Master users were heavily dependent on the product. Cincom felt obliged to continue to fulfill its commitments to clients and to Cincomers.

Even worse for Cincom, the Australian developer wanted to terminate the license without compensation to Cincom. That was obviously unthinkable since Cincom had made such substantial investments in Net/Master. And, thanks to Cincom's heavy emphasis on it, Net/Master was already accounting for a significant portion of all revenues for Cincom, somewhere close to 20 percent. It was a particularly

important product in Europe where it was producing a tremendous volume of business, and a much larger share of total European revenues. But for Cincom, Net/Master was not yet a profitable product line. So such a termination would mean that not only would the immense future potential be lost to Cincom, but so too would all of the investments needed to gain the success Net/Master then enjoyed. As a result, Cincom was compelled to endure a lawsuit in which the Australian developer sought to terminate the agreement. The lawsuit dragged on for 18 months.

While all of this was happening, Cincom was also confronted with sudden changes in the financial markets. As a privately held company, Cincom's primary source of financing for development and growth for most of its history had been profits. The company had grown through 16 consecutive years of revenue growth and 16 consecutive years of profitability and, in 1984, exceeded $90 million in annual revenues. But more importantly, 1983 and 1984 had produced two of the most profitable years the company had ever experienced. Retained earnings were now quite substantial compared to what they had been only a few years earlier. Moreover, the company was over 1,000 persons strong, and Cincom was successful in both database and application development, with both lines producing significant profits and highly regarded worldwide.

But during the '80s the need for faster growth and higher investments in R&D had required certain limited borrowing from banks. Moreover, 1985 proved to be a difficult year for Cincom. In part due to the enthusiasm of future potential and in part to the fact that in the years immediately past, Cincom had experienced good growth momentum and significant profitability, operating expenses were allowed to increase by about the same $13 million in 1985 that they had in 1984. But unlike 1984 which had produced some $15 million in revenue growth, 1985 did not see significant revenue growth. Instead, net revenues grew scarcely 1.5 million, or less than 2%. As a result, for the first time ever, Cincom was thrown into a loss position. And these losses were severe. In one single year, 1985, all of the operating profits gained during the first five years of the 1980s were wiped out. And because Cincom did not immediately act to cut back the costs added in 1985, the next year, 1986, was also to produce significant losses as well. These two years back-to-back wiped out all of the operating profits Cincom had earned in its first 16 years

combined. To finance these losses, Cincom was plunged suddenly and heavily into debt.

Moreover, soaring interest rates became a real burden. Interest paid to bankers as the cost of funding the much-expanded debt of the company became quite significant. What's more, the U.S. banking industry was very soon to be facing major troubles of its own. Questionable investments in leveraged buy outs and shaky real estate and foreign loans had contributed to an atmosphere of anxiety. The collapse of the S&L industry only made matters worse. As a result, bankers were becoming more coercive in trying to influence how companies conducted business so as to reduce their own risks. In Cincom's case, the situation was suddenly and unexpectedly worsened when Cincom's primary bank was sold to another bank. This new bank, which had no experience with either the software industry or Cincom itself, began to suffer serious losses. As one result, this bank began pressuring Cincom to lay off employees to immediately improve Cincom's near-term profits and thereby increase the potential collateral for the bank loans. The bankers indicated they wanted Cincom to immediately cut the total Cincom workforce by 20 to 25 percent!

Crisis is always 50 percent danger and 50 percent opportunity.

As a result of all this adversity at once, Cincom was losing momentum rapidly, even as competition was intensifying. The hopes for corporate reinvention and re-engineering unfortunately were not emphasized in times of such sudden and sweeping crisis. But since crisis is always 50% danger and 50% opportunity, even in these perilous times, Cincom began taking the initiative for future events. As a solution to many concurrent problems, Cincom concluded that the best overall approach would be to sell our Net/Master rights to a buyer who would also be willing to buy out the Australian developer.

"Happily such a solution was found." Tom Nies explains. "Another six months of lawsuits and uncertainties would almost

surely have killed Net/Master and would have destroyed any possibility of our divestment strategy working."

Systems Center, located in Reston, Virginia, bought the Australian development company for about $42 million and bought the Net/Master marketing rights from Cincom for $43.5 million. At a cost of about $85 million total, Systems Center bought Net/Master for less than three times the Net/Master revenues at a time when Systems Center's own stock was trading for more than three times revenues. So, initially it seemed like an excellent deal for all parties concerned, even though by taking such a course, Cincom would never realize Net/Master's true potential value had the original strategies been carried out. Unfortunately, Systems Center was not Cincom and for a variety of reasons they were unable to capitalize on the immense potential for Net/Master's future that Cincom had largely created.

As Vicki Duckworth explains, "They had a very different culture. They wanted to change everything about how the product was sold, and as a result, they killed its momentum." And Vicki Duckworth should know, because she and other Cincom employees who were involved with the Net/Master product were transferred to Systems Center as part of the deal. She was a key part of the marketing leadership of Net/Master when it was transferred to Systems Center.

In addition, Systems Center was unable to respond successfully to the challenge of IBM, which offered a competing product, NetView. Also by that time, Novell and others had already seized the other network management markets which the Net/Master controversies had precluded Cincom from entering.

Vicki Duckworth

Given its enormous potential, the sale of Net/Master had been a painful choice in many respects. And yet the sale provided many new opportunities too. By liquidating the Net/Master assets and converting them to capital, the company was able to immediately retire significant portions of the bank debt, and still have resources to move the rest of the product line forward into the open markets of the future more quickly. In addition, because of the Australian developer's seemingly refusal to participate in, or allow, the

redevelopment of Net/Master for the open markets, Net/Master really didn't fit into the company's future direction—a downsized, open systems product line, which would add to Cincom's MVS, VSE and VMS offerings, and then heavily target the UNIX, Windows and OS/2 markets. This is the total solution which Cincom believes is needed to provide clients with the *integrated enterprise* which is so critical to the more effective and efficient information systems of today. That perspective is a little more clear now, particularly in light of what has happened to the product since it was sold in November 1989, and also because of the significant user interest in UNIX and downsizing since then.

For Cincom, it was Providential timing, indeed. For the Australians and for Systems Center, it eventually meant misfortune and disappointment. In the end, perhaps no area in which Cincom was ever involved had a potentially brighter future, but eventually saw that future so terribly diminished.

Casey Stengel once said "If you don't know where you're going, you might end up somewhere else." Unfortunately, everyone involved in the Net/Master transaction ended up "somewhere else."

SUPRA®

Since its beginnings, database software had been the foundation of Cincom's success. But other companies had begun to encroach on the database market in the 10 years from 1976 through 1986. One of the most aggressive was Cullinet Software.

Cullinet was led by John Cullinane, who began the company as an entrepreneurial venture in 1968, the same year Cincom was founded. One of the key differences, however, was that where Nies had an original stake of $600, Cullinane had approximately $600,000! In later years, Cullinane often referred back to his meager beginnings as a comparison of how far the company had come. Cincom could readily relate to "meager beginnings," but Cincomers might be forgiven if they have always had some difficulty in viewing a $600,000 initial capital foundation as "meager."

Cullinane originally sold a report writer, but had no data management product. However, Cullinet decided to get into the database market somehow, after seeing Cincom's immense success in that area.

1984
During a visit to Cincinnati, President Reagan praises Cincom's founder, Tom Nies, for his hard work and realizing "the impossible dream."

Years earlier, General Electric had gone into the computer business. Like IBM, GE had bundled its database management software named, Integrated Data Store or IDS, with each machine it sold. To encourage use of IDS, GE worked aggressively to get itself on the various database standards committees. One of the most prestigious of these, CODASYL, had created the standards for COBOL. The eventual output of the CODASYL committee's work on database was the 1968 Database Task Group (DBTG) recommendations. Because of GE's leadership in this effort, the 1968 DBTG was essentially a standardization and codification of IDS as the task force's recommendation for a standard.

Cincom realized early on that this was an opportunity to establish the new generation of Cincom databases: SUPRA.

In spite of being well-positioned politically with the standards committee, and even though it had hundreds of large customers, many believe that GE eventually found the computer business much more difficult than appliances, light bulbs or jet engines. To achieve more "critical mass" in the industry, GE looked at acquiring a small general purpose computer division of Honeywell. But, at the very last moment in the negotiations, GE instead sold its computer group to Honeywell. Suddenly, Honeywell Computers, which had been a small manufacturer of low-end computers, primarily IBM/1401 replacements, found itself owning a sizable installed base of large and quite sophisticated users, but with Honeywell having no experience in strategic systems itself.

It appeared as though Honeywell did not fully appreciate at that time all that they had inherited from GE. The GE employees who were transferred to the new firm seemed to resent small Honeywell's dominance of the much larger and then far more sophisticated former GE computer group. Moreover, many of the former GE clients became nervous and thus began considering converting to IBM.

A major company in Cleveland had been using GE equipment and the IDS software

when they decided to convert to IBM. To minimize the conversion effort, they felt that it would be easier to have DBMS software as close to the IDS software as possible, but to run on an IBM platform. Thus, Integrated Data Store, or IDS, led to Integrated Data Management System, or IDMS. The similarity of the initials, IDS and IDMS, spoke volumes about the similarity of the two systems.

It is not the objective herein to explore whether this IDS user may have converted the IDS source software which it may have had, or whether it used the IDS design and structure to create an "IDS look-alike," nor is it the intent to inquire whether this was done with the approval of Honeywell or GE. But what did happen was that a close image of IDS was built.

Because GE had such a large number of very good clients, the Cleveland firm may also have loosely collaborated with IBM in replacing GE computers by providing the IDMS software to other GE users of IDS who also wanted to replace the GE computer hardware with IBM gear. Honeywell didn't seem to realize what was happening, and never mounted any legal challenge to the activity. For Honeywell, the tragic irony in all this was that what was essentially GE-built and now Honeywell-owned software, was being used as either the model for, or the source of the key technology to help to rapidly displace significant portions of the GE-installed user base with IBM computers.

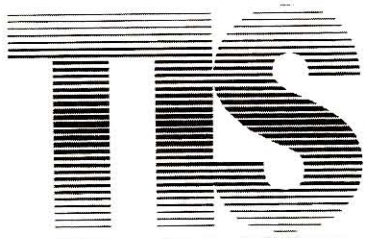
Later, after a number of large former GE users had converted from IDS and GE to IDMS and IBM, Cullinet acquired a license from the Cleveland firm to sell IDMS. Essentially, Cullinet inherited a significant and important customer base, the CODASYL endorsement to boot, and a very well-engineered DBMS that was immediately market-ready. Seemingly out of nowhere, Cincom suddenly had a formidable foe in the database field. Not unsurprisingly, Cullinet became an overnight success. Since few people knew how this sudden success had come about, Cullinet and John Cullinane quickly became "media darlings," and eventually one of the hottest stocks on Wall Street as well.

In spite of the difficulties from this once-powerful competition, Cincom learned some valuable lessons from this experience. One was the value of developing software in conformity to accepted standards instead of as a proprietary system. Another lesson was the value of providing clients as early

as possible the technology they would use over the longer term. Ironically, Cincom had been trying to get the Cleveland firm to switch from IDS to TOTAL. But, in spite of some heroic efforts, the sale was never made since the company was already so heavily "locked in" to IDS. The company seemed to be more comfortable staying with technology similar to what they already had than moving to a different product, even though that product may be a better and even safer choice. And that led to yet a third lesson: developing software that was as portable and interoperable as possible. Clearly, customers did not want to convert their large existing application portfolios, if it could be avoided. Software that afforded a wide variety of future alternatives with little conversion would be of great value to potential users.

These lessons became particularly valuable as the database field evolved. A later key development was the move to relational databases, and it was a move that probably hastened the demise and near bankruptcy of Cullinet. Since CODASYL was not a relational design, the success of relational systems and SQL standards meant that CODASYL and Cullinet were both "dead."

Meanwhile, TOTAL had evolved into a much more sophisticated database system, the TOTAL INFORMATION SYSTEM™ (TIS™), through the addition of a data directory and other powerful new features. Unfortunately, in spite of having even better technology, Cincom had lost DBMS market share. In part, that was a consequence of the power of the IBM juggernaut in marketing as well as the proliferation of competitive DBMS providers. It was also partially caused because Cincom was unable to quickly support SQL standards without significant retreats from commitments already made to current DBMS users. And it was partially a result of Cincom's own broadened focus into manufacturing systems and application development technology and the limits of Cincom's resources which prevented maximum development of so many markets concurrently. Regardless, Cincom continued working aggressively to move TIS ahead into the next generation of technology.



For one thing, the company recognized the need to add a query function to TIS to allow nonprogrammers to obtain information in a free-form manner. This was a predecessor to the SQL approach that has become the standard in database systems. Rick Pressler was asked to investigate the availability of query technology. In the process, he found a creative group of "west coast mavericks" at Orange Coast Community College, a very successful Cincom client. They had formed a project team and built a query system known as Intelligence Query (IQ). Pressler eventually relocated to the west coast to manage the office and lead the completion of the IQ project. The same team, with the technical leadership of Mike Benson, went on to develop LUV, a Logical User View, which was another key step forward for the SUPRA product. They also developed SPECTRA™, which became the relational data manager component in SUPRA. These key developments helped put Cincom into the new generation of relational database products in a big way. They helped move Cincom to the forefront of mainframe relational technology years before IBM's introduction of its relational offering, DB2. In addition, LUV automated a big part of user application database programming while insulating these programs from the data structure. It also provided greater consistency to database navigation.

Rick Pressler

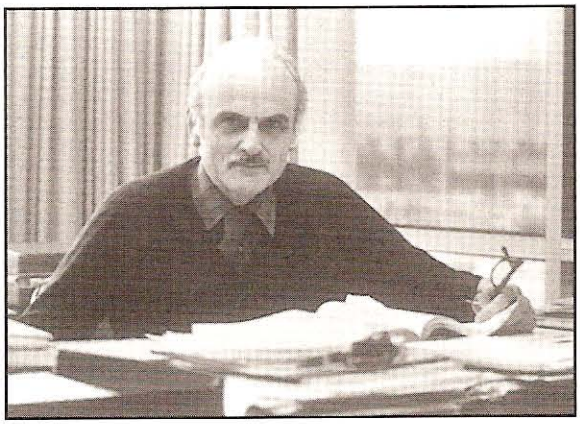
However, it was important to learn from the earlier CODASYL experience. As early as 1977, an American National Standards Institute (ANSI) study group had established standards for relational databases. Although not involved with the earlier CODASYL standards, this time Cincom was part of the development of the ANSI standards. The ANSI recommendations called for a "three schema architecture," which insulates the application program from the physical and logical structures of the database.

The first, or internal, schema describes the physical data structures and access methods used in the database.

The second, or conceptual, schema describes the logical structure of the data.

The third, or external, schema is independent of the first two, and describes how each application program interfaces with the data.

The most important aspect of the architecture is that application programs can and must deal with a data view that is independent of both the data's logical and physical structures. This is important because it allows for those structures to change without affecting the application programs. Maintenance of the database does not necessarily entail maintenance of the application programs.



Dr. E. F. Codd

Then, the most influential figure in the relational field, and the man who was seen by many people as the father of the relational model, was Dr. E. F. Codd, formerly of IBM. He had played a key role in the development of these relational standards, which were based on an advanced application of set theory, and had defined a model used in developing some of the IBM products, most notably DB2.

Codd had also developed a set of rules—12 general rules, 18 manipulative rules, and three integrity rules—to measure the degree to which a database was truly relational. Although some in the industry attacked them as being too restrictive or arbitrary, Codd's evaluation criteria quickly became an accepted measure of the degree to which new database technology was actually fulfilling the promise of relational theory.

The criteria were useful and necessary for two reasons. First, the whole area of relational databases was complex and confusing. Having a clearly defined model was intended to bring some degree of standardization to the field. Second, a number of database providers were claiming to offer a relational product on flimsy evidence. One of the most notorious was Cullinet, whose only significant change to the IDMS database to make it "relational," according to Dr. Codd, was to tack the letter "R" on the end, making it IDMS/R.

But Cincom took Dr. Codd's criteria very seriously. Cincom realized early on that this was an opportunity to establish the new generation of Cincom databases, called SUPRA, with external "official"

endorsement. A team of Cincomers, particularly Dave Wood, Marco Emrich, and Ron Hank, visited Dr. Codd's offices in San Jose, California, to present the SUPRA product and to achieve as high a rating as possible for SUPRA. The company had learned it was not only tough to buck standards, but that compliance with standards addressed an important client need, and hence was an important product attribute.

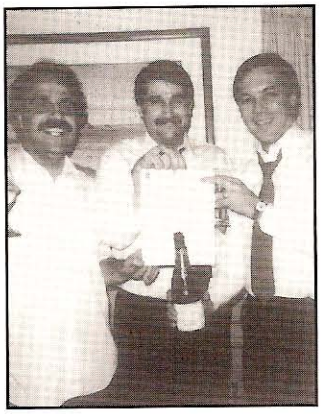
Dave Bunker

Dave Bunker was the manager of marketing research for the new database. "Given our long history in database," he has said, "we had done extensive research ourselves into relational models. We knew the market was strongly interested in it and that the market needed some measurement standards. We felt that Dr. Codd's relational model was real in the sense that it applied valid standards, and we thought that buyers would appreciate buying a verified relational product."

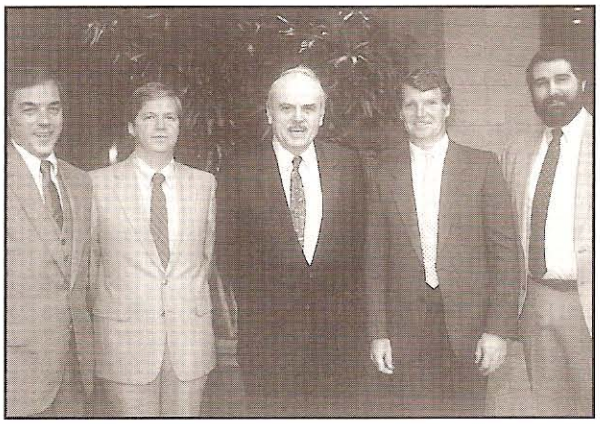
So Cincom decided not only to support Codd's relational model, but to make it a key part of the marketing strategy. Dr. Codd began doing his own evaluations of available products for compliance with his rules. To make sure that Dr. Codd understood how SUPRA was structured, the team spent a great deal of time and effort in educating him about the product's architecture and features.

Finally, after spending a full day in San Jose at Dr. Codd's institute, the Cincomers received his evaluation: SUPRA had received a 54 percent, the highest score of any relational database Dr. Codd had ever reviewed!

The Cincomers were ecstatic. They returned to their hotel and began to celebrate. Wood got a bottle of champagne. Hank cajoled a hotel employee into finding a Polaroid camera and getting their picture taken holding the score sheet. Then they began calling every Cincomer they knew, all over the world, spreading the good news. Some of their colleagues were roused from a sound sleep to hear the message blurted, "We got a 54! SUPRA got a 54!" The longer the



Marco Emrich, Dave Wood and Ron Hank celebrate SUPRA's rating.



Ron Hank, Mike Benson, Dr. Codd, Tom Nies, Dave Wood

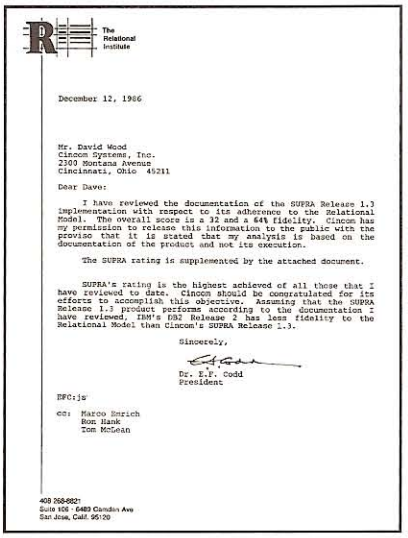
evening went on, the more distant were the phone calls, with the last one being placed to Tim Tyler in Tokyo.

The next morning, bags packed, Ron Hank pulled their rental car around and walked over to get Emrich and Wood. He entered Wood's room and was greeted by his colleague with a strange message: "We're going back to Dr. Codd."

Not unlike Archimedes, who in settling into a warm bath, suddenly conceived the principle of measuring the volume of uneven bodies, so too did Dave Wood in a similar "Eureka!" moment, conceive certain new discoveries. It turned out that while taking his shower that morning, Wood, the product manager, had realized that SUPRA deserved ten more points on Dr. Codd's scale. Arthur Koestler might once more have reminded us of the three essentials needed for creativity.

"I tried to talk him out of it," Hank recalls. "I was afraid that if we went back for more points, we might somehow lose ground rather than gain it. Dave and I went back and forth for quite awhile, but Dave was resolute. Finally I gave in. We went back."

Dave was convinced, and he was convincing too. After hearing Dave's discussion, Dr. Codd agreed. SUPRA got the ten extra points. As a result, when Dr. Codd announced in January of 1987 the results of his evaluation, he gave Cincom's release 1.3 of SUPRA a grade of 64%, the highest grade of any product he had evaluated. The next highest grade went to IBM's DB2, which received a 46%. ADR's Datacom/DB scored a 10% and Cullinet's IDMS/R scored an 8%. The news made every magazine in the computer industry, providing a windfall of positive publicity and a turning point for Cincom and SUPRA. These differentials in rating had shown how far Cincom had come in outdistancing ADR and Cullinet in a relatively short period of time, even as



The Relational Institute

December 12, 1986

Mr. David Wood
Cincom Systems, Inc.
2300 Montana Avenue
Cincinnati, Ohio 45211

Dear Dave:

I have reviewed the documentation of the SUPRA Release 1.3 implementation with respect to its adherence to the Relational Model. The overall score is a 32 and a 64% fidelity. Cincom has my permission to release this information to the public with the proviso that it is stated that my analysis is based on the documentation of the product and not its execution.

The SUPRA rating is supplemented by the attached document.

SUPRA's rating is the highest achieved of all those that I have reviewed to date. Cincom should be congratulated for its efforts to accomplish this objective. Assuming that the SUPRA Release 1.3 product performs according to the documentation I have reviewed, IBM's DB2 Release 2 has less fidelity to the Relational Model than Cincom's SUPRA Release 1.3.

Sincerely,

Dr. E.F. Codd
President

EFC:js

cc: Marco Emrich
Ron Hank
Tom McLean

408 268-6821
Suite 105 - 6483 Camden Ave
San Jose, Calif. 95120

Dr. Codd's letter giving SUPRA a grade of 64%

Wall Street was trumpeting the merits of ADR and Cullinet and ignoring Cincom.

It also turned out to be a crushing blow for IDMS/R, Cullinet's product. John Cullinane wrote a stinging letter to *Computer World*, attacking Dr. Codd and his scoring methods. Unfortunately for Cullinane, Dr. Codd replied, absolutely destroying the credibility of IDMS/R as a relational product.

"There are at least three things wrong with Cullinane's response to my article," wrote Dr. Codd. "First, it is completely lacking in truly technical comments and truly technical criticism; second, it is irrational; third, it is uncivilized. Nevertheless, I am happy that this response was so hostile and angry, because it exposes the Cullinet claim that IDMS/R is a relational database management system for exactly what that claim is—undiluted humbug."

Dr. Codd went on to ask, "Is the '/R' merely advertising creativity—in place of creativity applied to the quality of the product? It is time for the Cullinet Corporation to take a clear-cut stand consistent with the realities of its products and stop trying to mislead the public."

Codd's letter was detailed, thorough, and unflinching. And Cullinet never recovered, sliding precipitously toward bankruptcy until, gasping for its last corporate breath, it was unceremoniously absorbed by Computer Associates.

Cincom's approach has remained consistent—provide better technology to deliver greater value at lower cost.

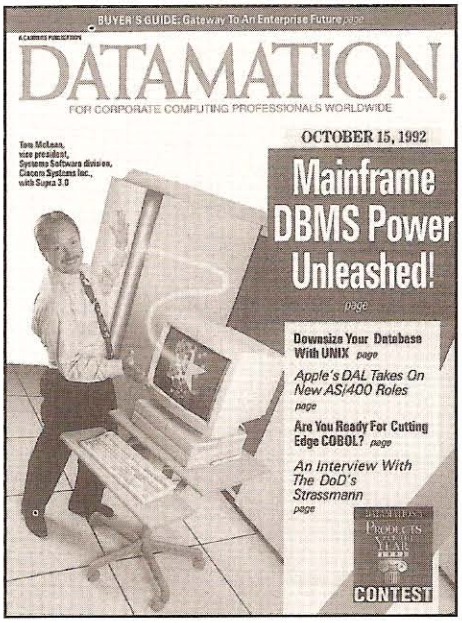
The theme of Cincom's marketing campaign for SUPRA was "What we used to call competition, we're now calling prey." Certainly, in the case of long-time competitor Cullinet, all that was left after the dust had settled was the carcass. The tone of that marketing slogan reflected a more assertive approach on Cincom's part. As Tom McLean, who was then vice president of marketing and product planning announced in an interview, "There will be no more Mr. Nice Guy at Cincom." He admitted that the company had to develop a more assertive attitude in its approach to marketing. Regardless of the marketing

tone, the proof of the fundamental soundness of the SUPRA architecture can be seen in the evolution of the product in subsequent years.

What we used to call competition, we're now calling prey.

One of the most dramatic events in the recent history of Cincom's DBMS product line was the introduction of an entirely new system called "SUPRA Server." This new distributed and client/server technology was hailed by Datamation as the only database product that could deliver true cross-platform compatibility and full relational capability. The SUPRA Server line feature is an advanced client/server system and also provides a distributed and central data server system as well.

The old group of mainframe database vendors have long since departed as legitimate factors in the server database field and a new host of competitors has emerged. Clearly, in such an important and potentially lucrative field as database systems, there will always be many well-financed and eager competitors. Times change, so do competitors. But Cincom's approach has remained consistent—provide better technology to deliver greater value at lower cost. It is a formula for success. And as Cincom hones its marketing skills, this formula promises to not only be generating greater success for clients, but for Cincom as well.

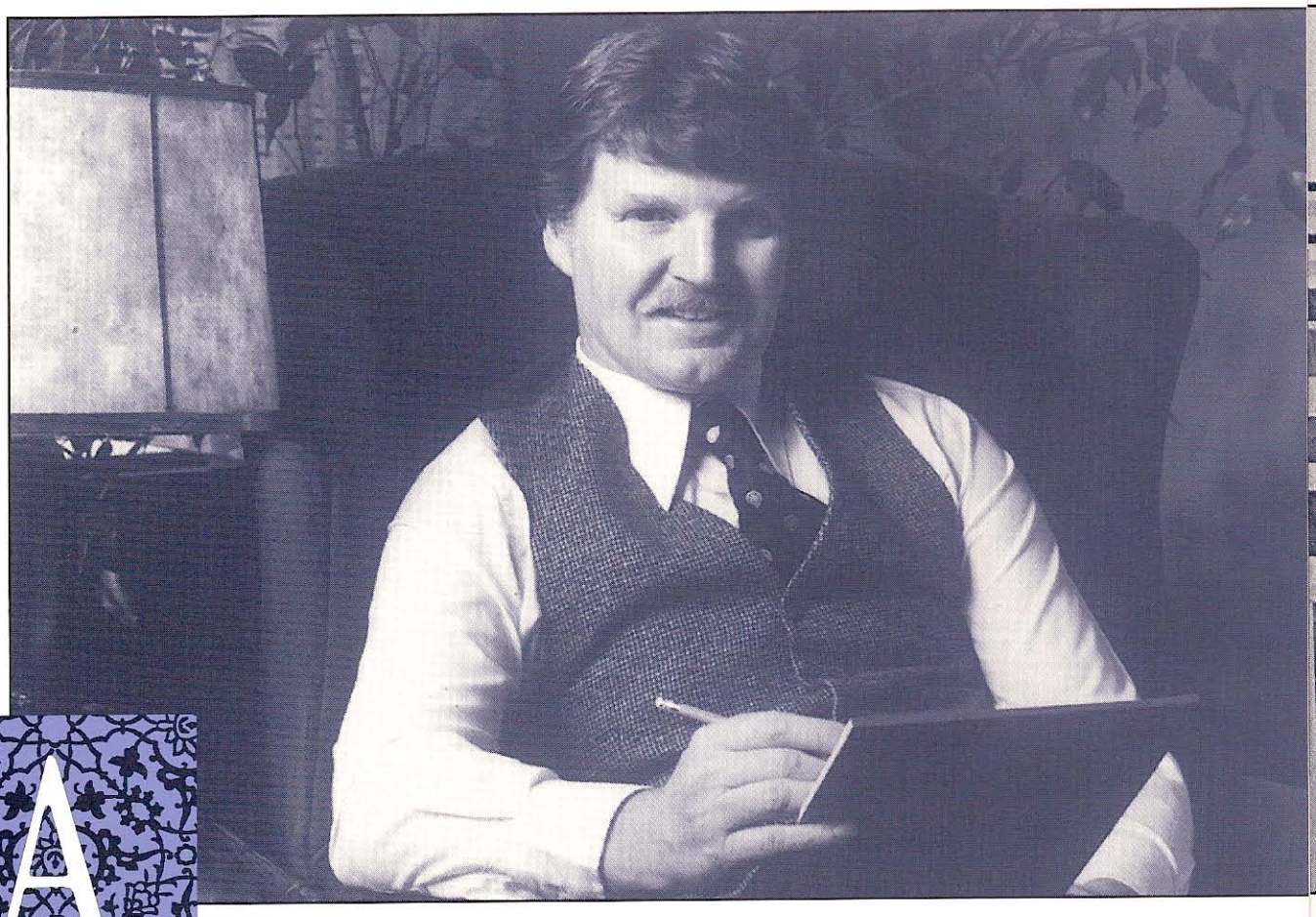


Datamation

October 15, 1992

1985

The U.S. Department of Commerce awards Cincom the President's "E Star," the highest award given for continued export excellence.



Along with growth and change in the company's product line, there was growth and change in the company itself. In 1981, Tom Nies issued "The Cincom Mission," which consisted of several interrelated topics, including strategies, tactics, leadership, service, and research and development. His goal was to capture an in-depth communication of the company's midterm and long-range goals and to clearly explain the forces and factors that would be involved in pursuing them.

Business, more than any other occupation, is a continual dealing with the future; it is a continual calculation, an instinctive exercise in foresight.

—Henry R. Luce, Founder, Time Magazine

Essentially, Nies was restating the vision for the company once again. He noted that high-tech products and companies typically go through a clearly defined life cycle. The first stage is the period of missionary work, followed by the period of growth, then the period of maturity, and finally the decline. The question is whether or not decline is an inevitable consequence of being in a high-tech business. Could the company avoid that kind of problem? Nies' answer was that it could, but only by focusing on providing *solutions,* not on technology. The company had to remain rooted in the marketplace—in a clear understanding of users' needs and wants—so that its products never became obsolete through marketplace neglect, and also so that the right new products could be developed and offered as older ones matured. While technology was very important, the key issue was the solutions provided by this technology, and the values generated by these solutions. In a way, this was but an updated restatement and re-emphasis of Cincom's long-held beliefs and strategies.

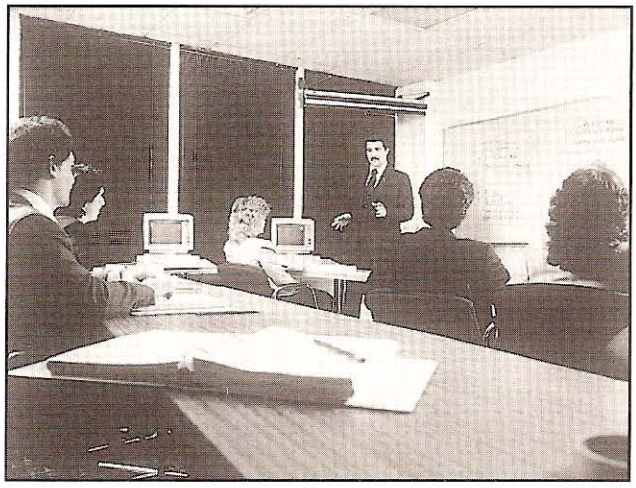
The company had to continually reinvent itself as its market changed.

The challenge that such a plan entailed was clear. The company had to continually reinvent itself as its market changed. And as Cincom grew in size, it had to grow in maturity. As it struggled to move from adolescence to prime, the company had to leave behind the style and the management approaches of its adolescence. This meant, most of all, that each person had to take more responsibility for their own duties and actions. In its early, fast-growth, "entrepreneurial" days, Cincom had a ready, ubiquitous founder/president/leader. In the future, more people would have to accept responsibility for making the right things happen more quickly. This meant a whole new style of management.

Nies wanted the company to move from an intuitive approach centered about a single leader to a process-oriented approach to running the business which would embrace the skills and insights of many. He wanted to move Cincom forward. No matter how brilliant or how useful intuitive leadership may be in the founding and missionary

years, eventually there comes the time when processes must be relied upon. Nies knew that growth companies must all continuously reinvent and re-engineer themselves if they are to continue growing successfully and profitably.

That process of continuous reinvention would require heavy investments in R&D, market research, and employee training. It would also require continual reinvention of the company's processes and its methods. Interestingly, these concepts are being presented by leading thinkers today under the label "corporate re-engineering." Although Cincom did not use that phrase many years ago, its message then was clearly the same message now being heralded as the management approach of the future—"the company continually reinventing itself."

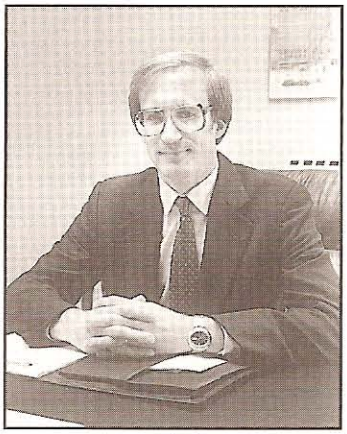


Dave Wood teaching an early education class

One way Cincom met this challenge was by redefining the role of the Education Division. The Education Division had evolved into a profit-making business unit that focused on supporting the strategies of the entire company as well as identifying client needs in the area of education or training and designing classes to meet those needs.

Significant emphasis was placed on the company's product lines, of course, but at the same time, the Education Division sought to contribute to sales and marketing effectiveness. In particular, the division offered training in the "presale environment," a continuation and extension of Cincom's long tradition of seminar selling. Also, the division provided after-sale training to support successful implementations and ongoing training to help clients enrich their understanding of the product. This was a far cry from the early days, when a Cincomer would be handed the TOTAL manual on Tuesday and told to read it so he or she could teach it on Wednesday!

Another step toward creating a more robust company was to implement a more consistent management structure. In particular, Cincom implemented improved operational controls, a formal planning process, and enhanced cost control procedures. But in perhaps the most dramatic move of the period, Tom Nies assumed the role of chairman and appointed Dennis Yablonsky as president.



Dennis Yablonsky

"The goal was not only to provide a major growth opportunity for Dennis," Tom Nies has explained, "but also to provide opportunities for many of his subordinates who could all move into roles of greater responsibility." Nies felt the time was ideal to give others the opportunity to move the company beyond the current level of operation. But the emphasis was clearly to delegate responsibility and authority. It would soon be impossible to continue to rely on the intuitive grasp of the leader, no matter how visionary that intuition might be.

Yablonsky had enjoyed a meteoric rise through the company. Starting as a programmer, he worked with the Custom Systems Group during 1975-76, working on a couple of projects involving customization of TOTAL. From there, he went into sales, where he found his real love. The period was one of rapid growth for the company as a whole, and Yablonsky established an enviable record of success. He spent a year in the Philadelphia office, then opened Cincom's first office in Buffalo, New York. After a year and a half, Yablonsky was transferred to Cincinnati to head the Cincinnati sales branch. From there, he went to New York City as regional sales manager. In 1979, he returned to Cincinnati, this time as National Sales Manager. In 1980, he added International Sales to his responsibilities. In 1982, he became responsible for all marketing, sales, and service activities. In October 1984, he became president and took over the reins of leadership as fiscal 1985 began.

Dennis Yablonsky and Tom Nies

"I loved my experiences at Cincom," Yablonsky said recently, "and Tom Nies was just an outstanding person to work for."

"I loved my experiences at Cincom," Yablonsky said recently, "and Tom Nies was just an outstanding person to work for. We had a great relationship and he spent a lot of time mentoring me. And we developed clearly delineated areas of responsibility and a structured approach to decision making that proved to be very effective."

Nies' own goal was that he himself should recede, so that Yablonsky and his team could more rapidly accede. Nies believed that properly providing for management succession was an essential function of every manager. This was especially so in the need to provide for his successor as president.

Nies and Yablonsky agreed that the company had to have the technologies to continue to be a market driver in the future, as it had in the past. Cincom could not merely mine the profit from past successes, but had to carefully manage cost increases while going bravely forward into an uncertain but intriguing future, so as not to damage the hard-won profit generation of the firm.

Nies recalls that during Yablonsky's term as President, *Business Week* featured the then-new IBM President John Akers on its cover with a major story in which IBM was predicting that it would be a $100 billion company by the early 1990s. "Since IBM had no technology basis for anticipating such future growth, I suspected that they were making the grave error of mathematically projecting future growth based simply on past experiences, with little other basis for this optimism." said Nies. "I wanted to help Dennis to see how dangerous this could be. I showed him the story and told him to remember it well. I thought that with such excessive revenue growth forecasts and so little new technology to support these expectations, IBM might well be headed for a disaster.

1980 100% Club: Richard Collins, Alex Kuli, Tom Nies, Dennis Yablonsky, Stan Sewall, Steve Whiteman, Barry Sargeant, Rich Warren

When a company of IBM's size makes such optimistic revenue forecasts so publicly, it has to match those forecasts with immense investments in plant and staff lest it lose its credibility. And if those forecasts don't prove correct, there will be massive losses and immense restructuring write-offs that IBM would have to absorb later on."

The point was not to prophesy from the outside what IBM itself might not be able to see from the inside, but rather to emphasize the point that sound growth can best be gained only by creating markets, which an organization would then "drive." And to be a market driver for the future Cincom had to continuously invest in the kinds of technology that would be necessary to create those unique leadership positions from which one "drives" the market.

Sound growth can best be gained only by creating markets, which an organization would then "drive."

And there was another point. Cincom itself could not use its own past successes to optimistically project forward to a bright future and to substantially add to a cost base without sound justification for this optimism. Without the increased revenue to offset cost increases, without the technology in hand, and without the market and distribution processes needed to generate this expected revenue growth, any company would be badly damaged. We did not want what might happen to IBM to also happen to Cincom.

Unfortunately, personal and family reasons cut Yablonsky's term as president short. He only served through fiscal 1985, 1986 and most of 1987. He did not have the time himself to carry the company through the cycle of change necessary to move Cincom beyond its adolescence and into its prime. After Yablonsky left Cincom, Nies returned as president, more determined than ever that the objectives of moving the company away from its adolescence and towards its prime should remain a key corporate imperative.

More than 20 years ago, Tom Nies first predicted that the software industry would become so important to the national economy that Presidents and heads of state would confer with the leaders of the industry the way those figures conferred with the heads of railroads and steel companies earlier in the century. In light of recent events, in which we have seen the head of Microsoft testifying before Congress, in which the CEO of Apple Computer has been a regular visitor to the President of the United States, Nies' prediction seems to have been uncannily accurate.

The future is not a gift. It is an achievement.

—Harry Lauder, Forbes Magazine

Photo above: Tom Nies receiving the President's "E-Star" award for continued export excellence

But it was Nies himself who first fulfilled his own prediction. While on the campaign trail in August 1984, President Ronald Reagan flew into Cincinnati where he gave a speech honoring Tom Nies and Cincom as an embodiment of his economic philosophy and Cincom as an example of the kind of high-growth, high-tech company so important to the nation's future.

Tom Nies receiving the President's "E" award for superior performance in increasing or promoting exports

Cincom had already received recognition from the U.S. government for its contributions to the development of the American software industry. In 1982, Cincom had become the very first software firm to receive the President's "E" award for superior performance in increasing or promoting exports. Later it became the first software firm to receive the President's "E Star" award for continued export excellence. Indeed, the Cincom name was beginning to be heard in Washington, even as Cincom was becoming the number-one ranking software firm in terms of the percentage of revenues earned internationally.

On August 20, 1984, President Ronald Reagan visited Cincinnati to campaign for his economic policies. In advance of his visit, White House aides contacted Cincinnati city officials, asking them to recommend their best locally-based companies, preferably high-tech companies, that showed growth and vitality. Cincom's name was on the list.

According to Gene Gaines, then president of the Cincinnati Chamber of Commerce, "When a screening committee came from Washington D.C. to visit Cincom and interview Tom Nies, they were so impressed they made plans for President Reagan to meet Nies." The concept was for President Reagan to visit Cincom, and to have major media coverage featuring President Reagan and Tom Nies together within a high-tech environment.

Unfortunately, President Reagan's schedule was such that he could not make a personal visit to Cincom as was originally planned. But Nies did get to meet and privately talk with the nation's leader during the day's festivities. According to Nies, the President told him that he was sure Nies would be pleased with what he would say about Nies and Cincom in his speech.

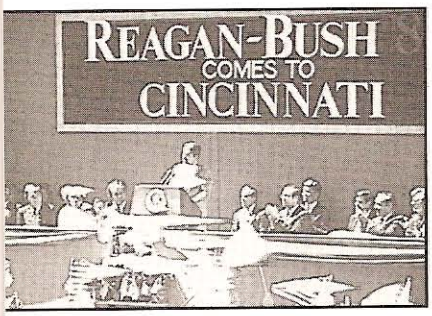
It seemed that Nies and Reagan had a mutual admiration going. Nies had enthusiastically supported the President's economic policies of smaller government, lower taxes, and more incentives for productivity increases and R&D investment. Nies credited part of Cincom's remarkable growth during the early '80s to those policies. "Investment tax credits for research and development have helped enable Cincom to spend five times more today for research than it did in 1980," Nies told the *Cincinnati Enquirer* the day of the visit. "There's no subsidies or gifts, it's just been the creation of a more favorable economic climate that helps."

To symbolize this growth and to plant the seed for another presidential term, Nies decided to plant two Kwansan Japanese cherry trees, like those seen around our nation's capital, in his backyard. One tree was in honor of Reagan's past term and one in honor of his anticipated future term.

Tom Nies with President Ronald Reagan

When he told Reagan about his two cherry trees during the visit, the president's eyes sparkled and he literally beamed as he quipped, "I hope they both flourish."

But this meeting was just a preview of the coming attractions that day. Later, in a speech on Cincinnati's Fountain Square, before a crowd of several thousand people and dozens of television cameras, Tom Nies and Cincom became a symbol.



In a speech on Cincinnati's Fountain Square, before a crowd of several thousand people, Tom Nies and Cincom became a symbol.

"[Economic growth] took hard, concerted effort," Reagan said, "by the leaders, builders, business and working people of your city. Men like Tom Nies, who started out 15 years ago with $600 and what he called 'an impossible dream.' He was a worker at IBM—his field was computers—but he loved Cincinnati and he wanted to stay here. So he started his own company—Cincom Systems—and it has grown by leaps and bounds. In 1980, it had 637 employees. Now it has 1,350. Four years ago, it had sales of $36 million a year. Now its sales are $95 million a year. Four years ago, its return on investment was 6 percent. Today it is 30 percent.

"Now Tom Nies says something very interesting. He says, 'Only in a healthy America can this happen.'

"That is our opinion exactly," the President concluded.

Nies was asked how it felt to have the President of the United States mention him by name, to quote him, and to confirm that he agreed with Nies' views "exactly."

"I'm pleased to have been used as a symbol in that regard," he replied at the time. "I was thinking of how many of us for so long and so hard worked to get us where we are."

A videotape of the speech was sent to Cincom offices around the world. But the moment itself must have been particularly gratifying to Nies himself, who had predicted so many years before that one day the computer and software industry would play a dominant role in the nation's economy, that its leaders would consult with presidents and kings, and that it might even produce a national leader in its own right. When asked whether America might one day see a former computer executive as its nation's President, Tom Nies said, "It's a virtual certainty."

Cincom again made the big headlines in June 1988 when it celebrated its 20th anniversary in sky-high style. Cincomers were not going to let something as important as a 20-year milestone pass without a big event. From its imaginings that "anything's possible," Cincom had a brilliant idea that would symbolize the type of high technology for which Cincom is known: why not fly some CinterAct participants to the annual user conference in Cincinnati in a British Airways *Concorde* supersonic jet?

Cincom was the first U.S. company to charter the Concorde for corporate purposes.

Cincom executives decided to take the idea a step further. The flight would also celebrate Cincinnati's bicentennial and carry another passenger—a stuffed winged pig named "Miss Peggy." This particular passenger, which Cincom presented to the city's bicentennial commission, was symbolic of Cincinnati's history as the nineteenth-century hub of American pork processing, for which it earned its name, "Porkopolis."

Tom McLean with "Miss Peggy", Tom Nies, Concorde flight crew

A true marvel of technology, the *Concorde* was becoming a household word during that time, although few Cincinnatians had ever seen it. With a speed capacity of 1,350 miles per hour, it had set a number of speed records throughout the world. It was also famous for its loud roar. Cincomers hoped that its arrival in Cincinnati would create a roar of its own.

The idea flew. On June 10, 1988, at 10:55 a.m., the *Concorde,* carrying more than 70 Cincom clients from 10 European countries, arrived at the Greater Cincinnati International Airport. Cincom was the first U.S. company to charter the plane for corporate purposes and it was the first time the high-speed jet made a private landing in Cincinnati. In fact, it was the first time the *Concorde* had ever come to an inland American city. On the way, the huge jet stopped in New York City to pick up a news reporter from the popular Cincinnati radio station 55KRC.