

Portia Isaacson Wright, Ph.D.

September 1, 1988
Volume 1, Number 2

The newsletter for users of published market information in the computer, telecommunications, electronics and office products industries.

Future Thinker is dedicated to executives who plan the future using the best information they can buy.

FUTURE THINKER

A FEW WORDS	2	Thanks, Update and More
REVIEWS	4	ISDN Report — In-Stat's report on Integrated Services Digital Networks
	8	OS/2: Building Block for the Future — Patricia Seybold's Office Computing Group report
	12	Soft•Letter — Jeffrey Tarter's newsletter
	17	CD Data Report — Linda Helgersen's newsletter on the CD ROM business
	21	Electronic Mail Systems, Services and Software Market — Frost & Sullivan
	26	Superconductors — S.E.A.I. report and Survey on High-Tc Superconductor Applications — Future Technology Surveys report
	29	Future Perfect — A book by Stanley M. Davis
PROFILE	30	Gartner Group — Unique with a capital "U". Gartner Group has reinvented market information publishing
MORE GOOD NEWS	37	Sixty-seven Market Information Publishing Companies Have Agreed to Participate in <i>Future Thinker</i> Reviews
NEW	40	Reports — Transmission Equipment . . . Optical Disk Drives . . . Network Management . . . ASIC . . . Semiconductor Industry . . . SAA . . . PCs & Workstations . . . Home Automation . . . Supercomputer Equipment . . . OS/2 Presentation Manager . . . more
FOUNDATIONS OF THE FUTURE	42	Cost of Memory — Integrated Circuit Engineering Corporation
NEXT ISSUE		VLSI Research, Inc. <i>Profile</i> . . . <i>Software Management Strategies Service</i> — Gartner Group . . . <i>IBM's Telecommunications Strategy</i> — Architecture Technology Corporation . . . <i>Home Automation 88: A Market Overview</i> — Parks Associates . . . <i>The Future of Transaction Processing</i> — The Yankee Group . . . <i>OS/2 Presentation Manager: Competitive Strategies in the New Graphical World</i> — Summit Strategies & DATEK . . . <i>EDI Yellow Pages</i> — EDI, spread the Word! . . . <i>Mid-Term 1988</i> — Integrated Circuit Engineering Corporation . . . and more . . .
COMING SOON		See Back Cover

A FEW WORDS

It's been a real cliff-hanger

But I can breath again now

Another newsletter writer, of course

Besides he's the only person he knows who can accurately predict the future and he just gets lucky. He would let us publish his predictions, however

The information specialist who manages the central library at one of our industry's leading vendor companies

*They like what we are doing — they learn from it, they enjoy it. They see **Future Thinker's** role in educating both users and providers of market information as very helpful in expanding the market and in improving quality by making users more knowledgeable about what to expect and about what is available*

Thanks, Update and More

Thanks

I've started several little businesses in my time¹. All under-capitalized, all a bit left of center and definitely all early for their market. Some succeeded, some failed. But I've never been more on the edge of my seat than I have been with Future Think. Waiting for reviews of one's first Broadway play couldn't be worse.

Thanks. Many of you actually read the first *Future Thinker*. Some of you liked it enough to call or write. With questions, comments, rave reviews, enough orders that I can breath again and terrific criticisms and suggestions.

Some suggestions we are implementing immediately such as larger, darker type on our stationery so that people with thick glasses like me can read it. Some we sympathize but can't help you with such as the criticism that *Future Thinker* contains too much material. We do give you permission not to read it all. Think of it as reference. We'll even provide an index at least twice a year so that you can find a review you want.

The most negative response

He didn't like anything about *Future Thinker* — well almost. The layout and graphics are crude — he recommended we change computers and software. Humor and irreverence have no place in business writing. He can't follow the two-column, non-linear communication.

The most positive response

*"I can't recall reading something so intently, in one sitting, as your Volume 1, Number 1, July 21, 1988 **Future Thinker**. Not even the last couple of **Sports Illustrated Swimsuit Issues** got my juices flowing and my brain shifted into high-gear, the way your newsletter did (and for ME, that's saying a lot)!"*

And the market information publishing companies responded positively *en masse*. Well, nearly . . .

The calls and letters poured in from the publishers of market information. Twenty-four more have agreed to cooperate in our reviews. That's 67 out of the 112 contacted (see page 37). We gratefully give our publications to the companies who cooperate by loaning us their materials for review. However, two have insisted on paying. They remember how it was to be small and hand to mouth. Others have offered to give or exchange mailing lists — a big boost to a new publisher. Some have even offered to distribute our newsletter to their subscribers or conference attendees. And check below —

Very nice, but that may have been before Jeff had seen the limerick (page 16). Just teasing, of course

And they don't think for a minute that this help will affect my reviews — they know me too well

Until I'm overrun with calls, you subscribers may call me for an opinion if you can't wait for the review

Sorry. We seem a little cramped in the 44 pages that I had planned for this issue

*Apologies, John Naisbitt,
I did enjoy your book the first time*

"... intensely personal, opinionated and profoundly knowledgeable. You couldn't hope for a better guide to the hundreds of possible research sources out there. And even if you don't spend a dime on research, you'll find Isaacson's insights too fascinating to miss."

— *Soft•letter*

I am deeply grateful for all this support.

This Issue and Future Plans

This issue we offer seven **REVIEWS** and a **PROFILE** compared to five and a **PROFILE** last issue. But even at this rate, it will be many issues before we can complete a **REVIEW** or a **PROFILE** for each of the cooperating companies.

We try to balance each issue so that it has something from each of the areas: computers, telecommunications, electronics and office products. We seem shortest on office products but will definitely be correcting that within two issues.

This issue we're trying two more column ideas. One is **FOUNDATIONS OF THE FUTURE**, in which we discuss what we think is a fundamental gigaforce² in our industry. We quote and reference the market information publishing company that does a super job of documenting the trend.

The other new column is **NEW REPORTS**, which will contain shorts on a few of the reports I've received. Most I have read cover to cover, but can't review for a few issues.

There is no **POLL** this issue. However, we have received quite a number of responses to the questions in the July 21 issue. If you haven't filled it out yet, there's still time. And remember you get a free *Future Think Companies*. Oh. You don't have a July 21 issue? Call or write, it's yours. There is also no **EDITORIAL** this issue. I had planned to pontificate on why one market researcher's numbers are so different from another's. It's one of my favorite soap boxes. And my apologies to Yankee Group. We had planned a review on *The Future of Transaction Processing*, but alas it was the last one on my schedule and I used up the pages. All next issue.

1. Let's see — there was: (1) a computer store in 1976 — success; it supported us and gave us back more money than we had started with, (2) in 1978 a business to produce broadcast-quality, video-tape instructional materials about personal computers — failure; lost a million dollars of Ross Perot's money, (3) in 1980 Future Computing — success; we were paid several million for it in 1984, (4) in 1986 Isaacson, Inc. a business to assist with mergers and acquisitions in the computer industry — OK, but I didn't want to spend the rest of my life in hotel rooms, (5) in 1986 Intellisys, a company that developed software to control a fully integrated electronic home — failure; although the prototype house worked (I didn't manage this company but I did manage to lose a bundle) and (6) in 1987 University of Life[®], a registered name and logo and a warehouse full of T-shirts, mugs, notebooks and other student paraphernalia — maybe, the jury's still out.

Now here is Future Think, Inc. I bet it's the best ever. I know I'm having the most fun.

2. I have a personal abhorrence of the term "megatrends" due to its over use. Now that I think about it, "gigaforce" isn't better.

REVIEW

ISDN Report by In-Stat

Only the bold

In the semiconductor business, it's not just the chicken or the egg problem — either may be a bomb

They forecast markets for products that are incorporated into products for which the market is not known

A semiconductor market researcher is nearly always exploring territory he has never experienced before — the end use market might be ISDN one day, electronic toys the next, automotive electronics the next, then personal computers

Semiconductor companies are faced with myriad mountains each year. Which ones to explore? Which ones to ignore?

The Mission, If . . .

They had climbed both mythical mountains and real mountains before — every semiconductor market researcher has.

There can't be an application or a market until there are chips. What's the opportunity for chips? Who knows — there's no end-use market yet. The semiconductor market researcher must chart the potential end-use market, then dig underneath it to find the market for semiconductors.

The semiconductor companies who pioneer markets possess great courage and their market scouts are brave indeed.

To Understand a Market for Semiconductors One Must First Dig through the Market for the End-Use Equipment



How big is the mountain? We don't know — it's in a fog. Is it worth exploring? Maybe. Frequently the explorer who first claims the territory has it forever, or at least during its most profitable years. Send out the scouts.

Is ISDN¹ myth or mountain?

And so they embarked. The team was well equipped —

- ★ Jack Beedle, founder and President of In-Stat, had 30 years in the industry and a track record of spotting the big ones.
- ★ Walt Lahti, In-Stat's Director of Research, had 15 years in the semiconductor industry at Intel, GTE, DEC, Motorola and Fairchild before In-Stat.
- ★ Zohar Raz, now In-Stat's Director of Technology, was at Motorola as Senior Staff Scientist.
- ★ Stu Kelly, now Brooktree's V.P. Strategic Planning, was at Intel as Manager of Telecom Design and Strategic Business Segment Chairman for Telecom Products.
- ★ Christie Jones, an In-Stat original, readied herself for some major wordsmithing.

They set off — to understand the forces giving birth to ISDN; to establish ISDN as real or a mirage; to estimate the height of the mountain complete with ifs, buts, best, worst and likely cases; to find a path for semiconductor and other companies to follow; and to identify the participants in this possibly giant opportunity. And to just plain chart as much of this unknown future territory as possible.

A Solid, Mountain of a Study

And chart it they did. It took nearly a year. They took the classical approach to supply-side market analysis. They interviewed telecommunications industry experts, manufacturers of telecom equipment, integrated circuit manufacturers, local telephone operating companies, long distance carriers, federal agencies, trade associations and even a few users.

Oh. You'd like more emphasis on users and demand side analysis? Well, its hard to do that at this stage in a market. There are no users. A few dreamers at best.

So you do the best you can to see if a consensus is developing among potential suppliers to the end-use market. Do they think it's real? Are they investing enough to make it happen? Who are the stakeholders and will they choke on their stake if the market doesn't go forward?

What's in the mountain?

ISDN Report gives a bit of history, explains how our phone systems work today, how the phone system will look in the transition to ISDN and, most importantly, what pieces are needed to make the system all digital. It follows with a technical (but not too) definition of the standards required and where we are in creating each standard. There's even a tutorial on the politics of the ISDN standards organizations and feuding factions.

A Section on the field trials from U.S. West to GTE, both in the U.S. and abroad, is convincing. But one must remember — there are two motivations for participating in a field trail. One — the intention to be an aggressive early participant. The other — the intention to be an aggressive early do-nothing-er or "I'm only doing this because everybody else is." In-Stat's documentation indicates ISDN field-trial participants are mostly the former — except maybe IBM.

Twenty major players from NEC to NYNEX are profiled with background on each and a discussion of their ISDN thrust. A separate section profiles nine semiconductor suppliers from AMD to TI. The purpose — evidence that there's enough interest to make the market. I'm convinced — looks like everybody wants to play.

There's an intriguing chapter on competing and overlapping services including LANs, modems, corporate networks, fiber optic networks and packet switching networks. These 39 pages could be the basis of a very useful study by itself.

We're not talking extrapolating from a trend here. We're talking new market. I said N-E-W

One can look at analogous markets — always imperfect analogies — and how, when and at what rate they developed. In-Stat didn't

They're all there. AT&T, the BOCs, the telecom manufacturers and, of course, IBM. Even Hayes — wondering what to do when we don't need modems anymore, I suppose

It stops just short of a thorough competitive analysis of the players. But that wasn't the purpose

Few need to know about a new technology more than those who may be negatively impacted by it

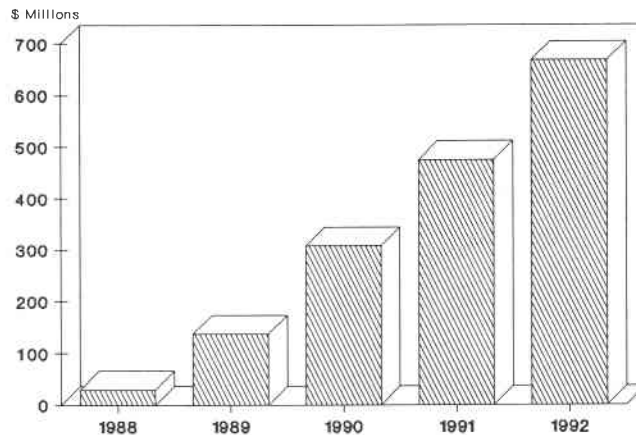
The assumptions and method of construction of the forecast appear so well-documented that the reader could construct a spreadsheet model to experiment with. I didn't. Too bad In-Stat didn't provide it. I love to play what-if with forecasts. Some are very sensitive

By 1992 In-Stat's most likely case forecast is that only 6% of the U.S. lines and 2% of the European lines will be connected to ISDN, yet it's a sizeable VLSI market

The forecast — the bottom line on the future

The forecast methodology is straight forward. First, **ISDN Report** forecasts the number of ISDN lines year by year in the U.S., Canada and Europe (the end-use mountain). The number of ISDN lines are forecasted separately for each geographic area and for residential/Centrax and PABX environments. From this basis **ISDN Report** forecasts the growth of the market for VLSI devices based on their predictions about average VLSI usage and selling price. Part of the bottom line —

Total North American and European ISDN VLSI Market Source: In-Stat



"The Integrated Services Digital Network will transform the worldwide telephone network into a worldwide distributed computing system, supporting a wide range of voice, data and video communications.

The changes in the way we live and work brought on by this process will be as fundamental as those caused by the introduction of the telephone, the automobile, the airplane, radio, and television, semiconductors and computers.

Production roll-out of ISDN equipment and services will begin in 1988 and by 1992, will have created a \$700 million annual market for integrated circuits in North America (U.S. and Canada) and Europe, a \$1.5 billion annual market for terminal adapters and a \$3.2 billion annual market for ISDN PABX and central office switching equipment.

The growth in ISDN markets for ICs, terminal adapters, keysets, telephones and switching equipment will show even more dramatic growth through the end of the century.

While it is difficult to forecast so far out with any accuracy, In-Stat believes the European and North American IC market will be in excess of \$3 billion/year by 1995.

In addition, ISDN will facilitate the growth of markets for information services, data base access and transactional services."

— edited from In-Stat's **ISDN Report**

Oh, boy! Oh, boy!

That's great. But it is printed on only one side of the paper. The good news — no bleed through in printing and in a notebook, it's easier to read. The bad news — the fat notebook is cumbersome and heavy. But who's complaining? That fat notebook is full of good stuff

I've certainly published enough sideways charts in my time. It's a dilemma

Specifics

ISDN Report is 309 pages. Charts, drawings and tables occupy 152 of the pages. The rest are double-spaced typed, quite readable although they are more like notes than a novel in places.

The drawings are particularly useful in understanding the complex technical and business relationships. Most charts, drawings or tables are sideways on a full page. Nice and big. Terrific for complex drawings. Also a plus if you want to make slides or overheads (you need In-Stat's permission). The charts are complete enough to make a very good presentation.

However, those full-page landscape charts are a pain when you're reading. I'm glad they are in a notebook so a chart can be removed for viewing while reading the associated text. But be careful. Charts aren't page-numbered. You'll have to go to the List of Figures to find which page it follows.

There's no index; however, the Table of Contents listing all subheads is very thorough and useful. It's easy to spot information about a particular company or subject. It's available on request from In-Stat to prospective purchasers.

Date and price

The **ISDN Report** was released in April 1988. It is priced at \$1,995 — an easy decision for ISDN participants or would be participants.

For Additional Information about the **ISDN Report** Contact:

In-Stat, Inc.
P.O. Box 8130
Scottsdale, AZ 85252

602/860-8515

Fax: 602/860-1863

1. ISDN — Integrated Services Digital Network —

"An ISDN is a network, in general evolving from a telephone Integrated Digital Network, that provides end-to-end digital connectivity to support a wide range of services, including voice and non-voice services, to which users have access by a limited set of standard, multi-purpose user-network interfaces."

— In-Stat's **ISDN Report** quoted from
International Telecommunication Union, CCITT

"ISDN is essentially the extension of the digitization of the telephone network from the central office out to the subscriber."

— In-Stat's **ISDN Report**

REVIEW

OS/2: *Building Block for the Future* -- Patricia Seybold's Office Computing Group

Although it's written for users, I am quite sure that computer manufacturers and software companies can understand it — and they'd better

Written for users in their planning cycle for the next generation of operating systems, this report more than meets its objectives. Mike Millikin and Judy Hurwitz make clear, if not simple, the complex, mnemonic soup world of operating system software from personal computers to mainframes — where it is now, where it's going and why it's going there.

The Future Office

Patricia Seybold's Office Computing Groups's model of the future office is clear —

"Technology and market forces are favoring a shift to a fourth-generation systems architecture in which the network becomes the computer, rather than just a series of cables stringing together various resources and processors. In this fourth-generation architecture, applications are distributed, resources are distributed, and soon, application subtasks will be distributed.

Such an architecture is an excellent model for future office systems. In this model, each individual has his or her own computer with transparent access to files and data that may be distributed anywhere across the network. To be able to take complete advantage of a distributed processing environment, a PC needs a multi-tasking operating system. Enter OS/2. "

— edited from sales literature

OS/2 — Questions, Questions, Questions

On April 2, 1987 the future was not what it had been

The announcement of OS/2 caused more questions for both users and vendors than most any event in recent history. *OS/2: Building Block for the Future* answers many of them —

- ✓ What are the components that make OS/2 work?
- ✓ What is the role of OS/2 within SAA?
- ✓ What are the networking options within OS/2?
- ✓ How will the LAN vendors respond to OS/2?
- ✓ How does Unix fit into the scheme? What is the role of each operating system?
- ✓ How will other vendors, including Apple and Digital, respond to OS/2?
- ✓ What is the long-term prognosis for OS/2 in terms of functionality and networking?
- ✓ When will distributed network computing be part of OS/2 and its follow-ons?

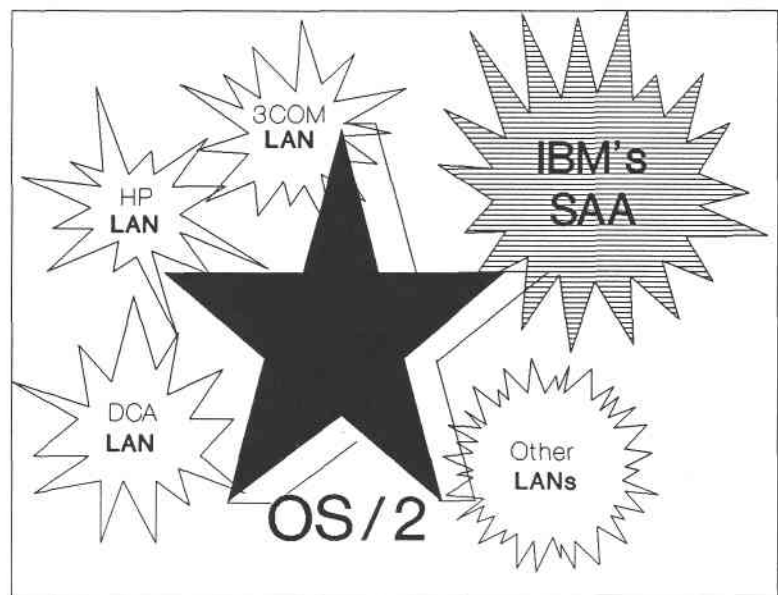
OS/2 — Its Significance and Future *a la* Patricia Seybold's Office Computing Group

The key determinants of OS/2's future are that:

- it was born to network,
- it is the choice environment for standalone complex, graphical and multitasking applications and
- it is a fundamental part of IBM's SAA¹ strategy.

IBM's Future Architecture Spanning PCs to Mainframes Depends on the OS/2 Building Block. So Do Local Area Networks from Diverse Suppliers

OS/2's the kingpin



OS/2: Building Block for the Future does a thorough job of explaining how OS/2 works and its features to lay the foundation for the report's conclusions. Its description of OS/2 is just the right level for managers who need to understand OS/2's strategic importance and implications, without the pain of a programmer-level description. Potential users will also get an understanding of the benefits of OS/2 in their environment and the benefits of application software written for the OS/2 platform over today's operating systems.

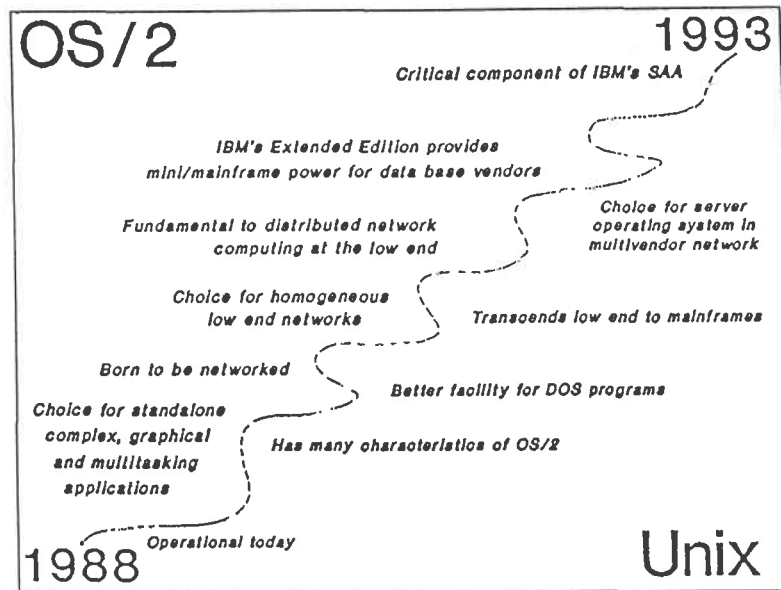
But what about Unix?

Coexistence. The report contains no shipment or installed base forecasts, but the net of my impression is that although Unix's momentum will continue for a time, within five years it will be relegated to non-homogeneous local area networks and systems requiring operating system compatibility across diverse computer systems from personal computers to mainframes. So the future of Unix must be argued based on the importance of these non-homogeneous architectures versus homogeneous LANs² and IBM's SAA. **OS/2: Building Block for the Future** reaches no conclusions as to a winner. Coexistence.

The explanations and scenarios given for Unix versus OS/2 are excellent

The Future of OS/2 and Unix -- Coexistence

The path from 1988 to 1993 for OS/2 and Unix will be a winding road with coexistence at every step. Unix has a decided head start and many of the characteristics of OS/2. It even has a better facility for running DOS programs than the OS/2 compatibility box which many say is more of a box than it is compatible. But long term OS/2 looks like a powerhouse



I never knew a user who craved an operating system of a particular flavor. He or she just wants the application to run. Okay. You're right. Programmers are users, too

Remember the first batch-oriented word processors on personal computers? Then they were great. Today's WYASIWYG³ word processors are very distant descendants

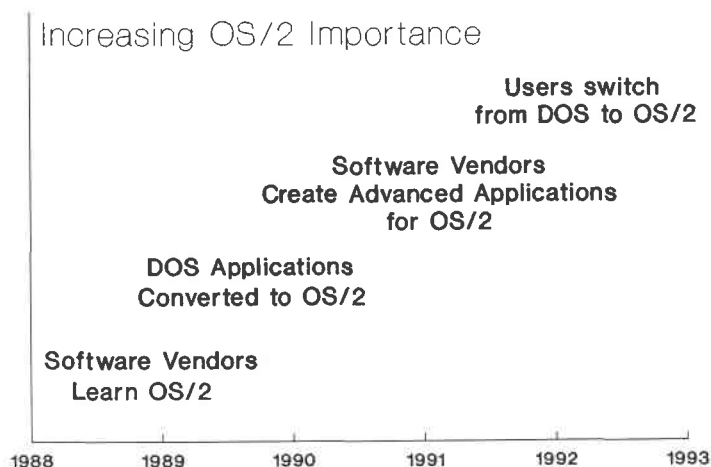
It'll be a long, long road. To Microsoft and IBM it will seem like forever

The road to OS/2 dominance

New operating systems are never adopted overnight. Remember — to a user the operating system is just a gasket that fits over the computer so that the application software will run. So until there is application software discernably better than DOS-based application software, very few users will rush out to buy OS/2. However, slowly but surely, software developers will move to OS/2 — first with their current applications. Later they will race to build software applications beyond the imagination of the DOS world.

It's the usual phases of the adoption of new technology. First, we do the same old things in an improved way. Later waves apply the technology in ways that were never, or perhaps just crudely, imagined in the beginning. It will be the same with the transition from DOS to OS/2.

OS/2 Support Will Build Slowly, Then Explode



Methodology, Pluses, Wishes, Price, Date and Form

The names of the authors, Mike Millikin and Judy Hurwitz, are featured prominently on the cover of the report. Thanks

Methodology

OS/2: Building Block for the Future is based primarily on the repository of knowledge about office computing that is Patricia Seybold's Office Computing Group. Few people would argue with that A1 qualification. This expertise was supplemented with numerous interviews with IBM, Microsoft, other software companies, network vendors and end users. The conclusions are the qualitative opinions of Patricia Seybold's Office Computing Group.

A few pluses and wishes

This report had not one single picture, chart, graph or drawing. The complex relationships among the various operating systems, networks and architectures discussed could have been made clearer with drawings. Admittedly the information is in the report and drawings would have been a time-consuming process — but, well worth it.

This report is chock full of mnemonics — a reflection on our industry, not on the writers. They meticulously defined each mnemonic the first time it was used. But, alas, I like to start reading from the back. A glossary of abbreviations would have been helpful and not too hard to do.

Price, data and form

For any company in a quandary about how to get from here to there in operating systems, it is easily worth the money

OS/2: Building Block for the Future was released in May 1988. It is priced at \$395. Discounts are available for multiple copy purchases.

The report is 133 pages, perfect bound, double spaced and very nicely produced on a laser printer. I liked the large print and space between paragraphs. It cut the slow-to-digest information into bite-size pieces.

For Additional Information about **OS/2: Building Block for the Future** Contact:

Patricia Seybold's Office Computing Group
148 State Street, Suite 612
Boston, MA 02109

617/742-5200

Fax: 617/742-1028

1. SAA — Systems Application Architecture. A very important part of IBM's future computer architecture strategy. SAA is a set of programming standards that will allow applications to be interchanged and communicate across all IBM computers.
2. LAN — Local Area Network. The connection of computers and the programs running on them *via* wiring, communication protocols and software for the purpose of sharing data and other resources. From the user-centered view the network is transparent.
3. WYASIWYG — What You Almost See Is What You Get. You're right. I added the "Almost."

REVIEW

Soft•letter by Jeffrey Tarter

*Totally painless.
In fact, delightful.
And just full of good stuff*

When my **Soft•letter** arrives, I pick it out of the pile. It's so fun to read that I'm glad it's twice a month. I feel like I'm reading the most inside stuff about software companies, people and products. Many issues lead with a story based on an interview with an industry-significant person. And it's not puffery. It's real nuts and bolts stuff about the software business. Lots of "how to's" on managing software companies, sales approaches and operating information.

*A little corny at times
but definitely to my taste*

I Always Suspected the Software Business of Being Naturally Funny

Part of the fun is Jeff's sense of humor. For example, his quarterly interviews with Deep Broker are both entertaining and full of insights about software companies' performance in the stock market.

*Sometimes it's hard to tell the
not-real or meant-to-be-funny
from the real*

Or the Comdex interview with Horace Bigbang, Professor of Astrodynamical Marketing at Harvard, who sells rumors to industry fictitious characters such as Spencer Katt and John Dvorak. Bigbang's best stuff was the color pictures of satanic cult activities at Borland clearly showing the large druid in front to be Philippe Kahn.

*What a soap!
But not so funny*

But most of the entertainment is that the software business is funniest when it is trying to be serious. Take the lawsuit between Apple and Microsoft, for example. Jeff does an excellent job of analyzing the situation and its potential impact on the software business.

*Now come on, Michael. Why
don't you just tell them and then
look at the other value they offer*

Or take Michael Solomon, Aldus' Vice-President of Sales and Marketing, bragging that he never uses published market information because market research companies don't get Aldus' numbers right.

Then there are **Soft•letter**'s pithy quotes on the back page of most issues. Here's one of the pithiest —

Is that funny?

"OS/2 doesn't have the stuff to be a minicomputer operating system. OS/2 to me is like the Rambler of computing. It's too big for people that like small cars and too small for people that like big cars. It had the 3% of the market that liked mid-sized cars that are ugly."

— Dataquest analyst Paul Cabbage
Software Magazine, May 1988

*Check the end of this article
for my entry*

If none of this catches your fancy, try your own hand at **Soft•letter**'s summer limerick contest. Software related topic. Deadline September 1. Late entries? Ask Jeff.

Software Publishers Association's Best Analysis Award

Between the chuckles, and sometimes during them, *Soft•letter* is an excellent source of analysis of the software industry. In fact, this year the Software Publishers Association created three journalism awards; and *Soft•letter* took the one for the best industry analysis. It's easy to see why.

The *Soft•letter* 100

Methodology

Soft•letter is well known for its *Soft•letter* 100 published in March every year and widely picked up by the press. The data collection method is clearly defined. *Soft•letter* has 2,500 software publishers and developers in its data base and nearly half of them have supplied official, if unverified, revenue figures. All figures are reported on a calendar year so comparisons are valid. Rather than estimate their revenue, *Soft•letter* simply does not include companies that will not supply numbers. For example, Spinnaker was not in the recent *Soft•letter* 100; and based on their estimated 1987 revenues would have been number 20. Nonetheless, I think *Soft•letter*'s methodology is excellent. I like knowing that every number is from the company in question. I'll get my estimates from somewhere else.

Presentation

This year's tables of data for the *Soft•letter* 100 are very nicely presented. They show the rank, the company, its address, the company president, whether it is public or private, the number of employees, the revenues every year since 1983 (when available), the growth percentage from the prior year and the types of products offered by the company.

Soft•letter 100 on diskette

The data is available on diskette in either Macintosh or IBM format for only \$18 to *Soft•letter* subscribers or purchasers of the *Soft•letter* 100 issue (\$50). I played with my disk for hours. Every time I segmented it a different way, I could see even more possibilities —

The things one can learn from that little bit of painstakingly collected data! Thanks, Jeff

- ✓ The highest growth types of software
- ✓ The revenue per employee of companies with various characteristics
- ✓ The percent of the market controlled by the top three companies
- ✓ The growth of a given company compared to all others
- ✓ Which companies declined or dropped off the list
- ✓ The highest growth type of software
- ✓ The growth of a given company compared to others offering software of the same type
- ✓ The revenue required to be one of the 100 largest software companies
- ✓ Which application segment grew the least
- ✓ Which are the hottest vertical market software applications
- ✓ The ranges for revenue per employee for companies in different software segments

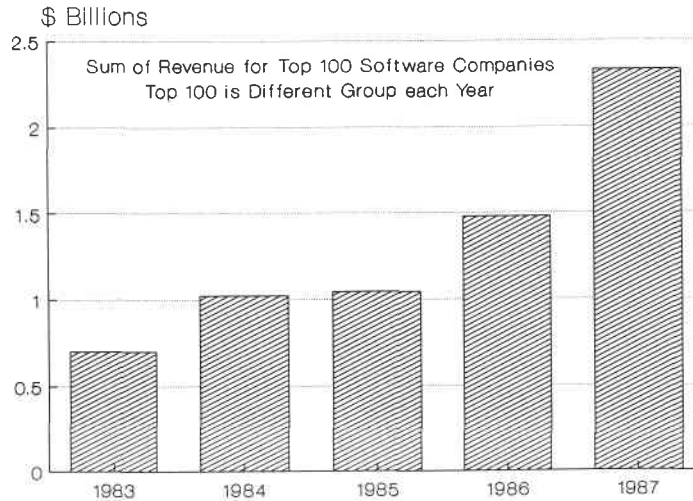
*We chose a few data points to share with you. The **Soft•letter 100** is so data rich, it was very difficult to choose*

*From 1986 to 1987 the **Soft•letter 100** grew in revenue by \$1 Billion, up 57.5%. This kind of growth is rare when an industry reaches such a size*

Soft•letter 100 data points

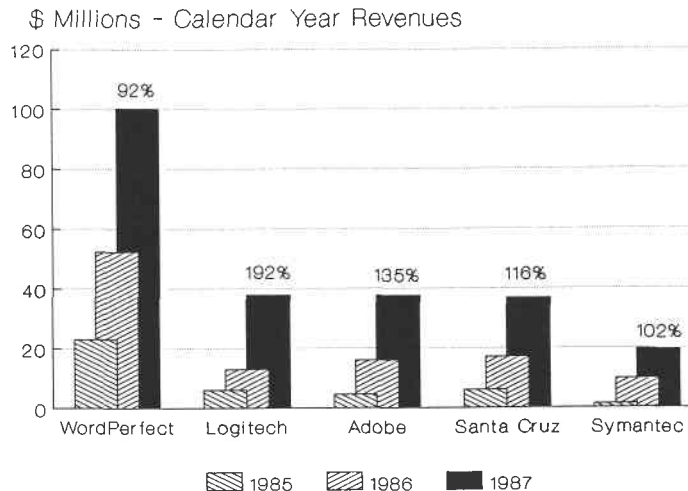
Of course, the **Soft•letter 100** is not the entire software industry; but it is a good portion of it. On the 1988 list which reports revenue from calendar year 1987, the smallest company making the list is Buttonware with 1987 revenues of \$2,250,000.

The **Soft•letter 100 Mirrors, If Not Measures, Industry Growth**



The highest growth companies in the top 25 of the **Soft•letter 100** were WordPerfect, Logitech, Adobe, Santa Cruz and Symantec. Logitech offers mouse software and hardware and Modula-2 software development tools. Adobe offers the PostScript page-description language and laser printer typefaces. Santa Cruz offers Unix systems software and applications. Symantec offers data base, word processing, project management, e-mail and utilities. WordPerfect offers word processing and other productivity tools.

Highest Growth Software Companies in the Top 25 in Revenue of the 1988 **Soft•letter 100**



Other Data and a Rare Forecast

The results were published in the 10-page October 1, 1987 issue. You'll just have to read it (available as a single issue for \$75). It's the last word on the structure of relationships in the software world

I got the impression that Jeff doesn't think much of forecasters. Now come on, Jeff — someone has to do it

Perhaps every industry forecast should come with a Surgeon General's (or I guess Commerce Department) warning that it is not the "real" future

We're going to check you in 1991 to see if you did forecast the "real" future

Besides the **Soft•letter 100** March issue, **Soft•letter** publishes other data. For example, the software contracts survey done last fall published very hard-to-find information about the details of contracts between software publishers, software developers and software distributors. It was based on 300 responses to 1,800 mailed forms. A four-page questionnaire went into much depth about specified payments, terms and conditions of contracts. **Soft•letter** plans to increase its data gathering.

A rare forecast

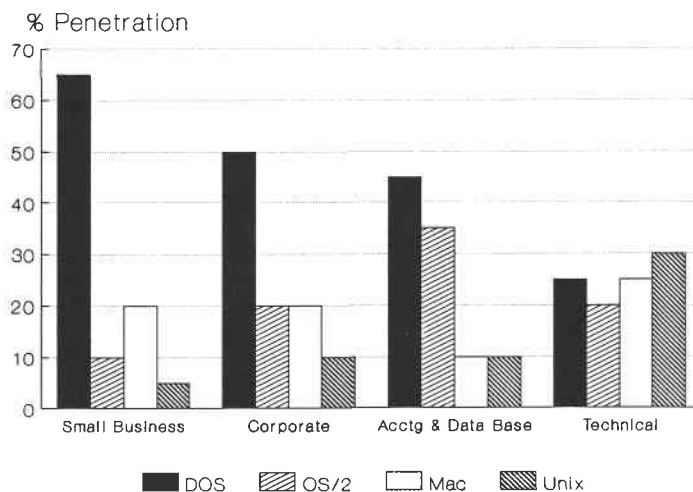
Forecasts rarely appear in **Soft•letter**. But, I read with interest the recent June 1, 1988 exception when Jeff decided to try a hand at forecasting operating system penetration in 1991. With all the noise caused by the recent OS/2 introduction, I have to give him credit. When he decides to forecast, he certainly doesn't pick something easy.

But first he hedged —

"So we've decided to offer our own projections — with fair warning up front that the numbers we offer are intended primarily to illustrate observations about market dynamics, not to predict the 'real future.' (In other words, it's not our fault if you put this stuff in a business plan and then go broke.)"

— Jeffrey Tarter, **Soft•letter**

1991 Projected Operating System by Segment
Source: **Soft•letter** June 1, 1988



Soft•letter's picture of three years from now shows DOS dominance, significant Macintosh presence, and OS/2 leading Unix except in the technical segment.

***Soft•letter* — The Business**

Soft•letter was started in 1983 by Jeffrey Tarter and his friend, Stewart Alsop, who now publishes another industry newsletter.

With 700 subscribers and renewals at around 80%, ***Soft•letter*** is among the few most important newsletters in the personal computer industry. Most of ***Soft•letter***'s subscribers are people in software companies — 80%. The rest are in venture capital, hardware companies and market research companies. It is the only newsletter focused specifically on the software industry.

Soft•letter's marketing includes word of mouth, requests for sample issues, good press coverage of the ***Soft•letter 100***, a free six-month subscription to Software Publishers Association members (50% renew) and occasional mailings. ***Soft•letter***'s hand-built data base of prospects contains 5,000 names. The launch mailing in 1983 got a 10% response from a data base of 700-800 names compiled from directories. Extraordinary, but it hasn't been matched since. Such an unusual response shows that ***Soft•letter*** was needed. Most of the original subscribers still subscribe.

***Soft•letter* — The Product**

Each ***Soft•letter*** issue is 6-16 pages. There are 24 issues each year.

Priced at \$285, it's affordable. Each subscription comes with permission to make up to five copies. After that a 25% multiple copy purchase discount schedule is offered.

For Additional Information about *Soft•letter* Contact:

Soft•letter
1679 Massachusetts Avenue
Cambridge, MA 02138

617/868-0157

My *Soft•letter* limerick contest entry —

There once was a man named Jeff Tarter¹.
Who wrote about software with ardor.
He told SPA².
That software is play
And that every publisher's a f _ _ _ _ .

— Portia

Although I wouldn't consider the marketing aggressive, the number of subscribers builds a bit every month

A unique way to handle the problem of newsletter copying by subscribers — he gives them permission

Being married to a limerick man myself, I understand the lengths to which some limerick enthusiasts will go

1. Jeff choose his parents for the limerickability of their last name.
2. SPA — Software Publishers Association.

REVIEW

CD Data Report -- Linda Helgerson

def•in•i•tive *adj*

1: **DECISIVE, CONCLUSIVE**

2: *being authoritative and apparently exhaustive* 3: *serving to define or specify precisely*

— Webster's

Ed Juge, Tandy's Director of Market Planning, clarified Tandy's legal and technical position on its recently announced THOR-CD technology. Bill Gates, Microsoft's Chairman, explained in his letter that Microsoft's recent dissolution of its CD ROM Group and the departure of Tom Lopez was to give even greater emphasis to the CD ROM effort by folding it into other groups. . . . If you say so

Many high-tech industry newsletters feature analysis, data and opinion with little or no news. They're called newsletters because that's the catchall term for monthly periodicals that do not accept advertising

Definitive. That's the word used to describe **CD Data Report** by the readers I interviewed. Their opinion to a person was that it is the source for information in the CD ROM industry. Linda Helgerson started **CD Data Report** in November 1984. Since that time it has been an essential vehicle in the education of the emerging CD ROM industry.

CD Data Report is read by manufacturers of CD ROM drives on three continents, computer manufacturers, CD ROM reproduction services, software companies, information providers, publishers, libraries, distribution channels and end users of CD ROM applications. We estimate more than 1,000 subscribers which places **CD Data Report** among the highest circulation newsletters for the vendor community.

Being definitive certainly makes you read, but it doesn't always make you popular. The companies in the CD ROM industry are typically very concerned that the information reported in **CD Data Report** is accurate and favorable to them. Linda Helgerson's emphasis is on accurate. Favorable is in the eye of the beholder. She has a reputation for asking piercing, tough questions — the type of questions that are impossible to sidestep. Her readers love it. If occasionally a company feels inaccurately represented or that their news is so sensitive that they want to put it in their own words, **CD Data Report** promptly prints the letter stating their point of view. That's fair. And makes for interesting reading. It's all very polite.

A Newsletter That's a Newsletter

Unlike many others, **CD Data Report** really is a newsletter. Although it has some analysis, some data and some opinion, it is mostly news. News about CD ROM technology, products, applications, companies, mergers, contracts, new titles, standards, associations, publications and conferences. If it's related to CD ROM, it's covered. Even news and reviews of competitive information products sometimes make **CD Data Report**'s pages. Now that's a reader-centered writer!

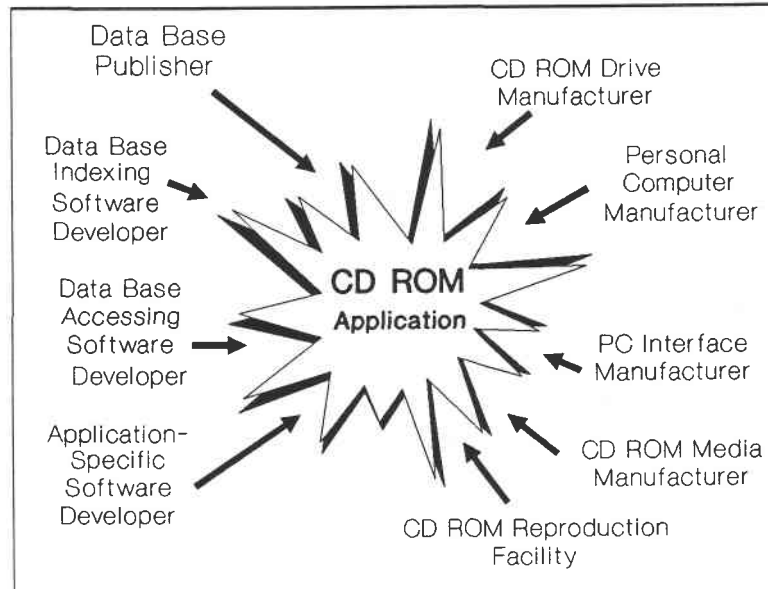
Linda Helgerson reports the news almost before it's news. But rumors are not her business. Through her close, long-standing relationships with people in the CD ROM business she frequently learns of a development before it is announced. The moment it's public knowledge, **CD Data Report** reports — usually with insight beyond what's possible from a press release and an interview. It's the kind of insight that comes from being an important industry participant and leader as well as being an industry observer.

Is Anyone in This with Me?

I've long been fascinated by the importance of tiny market information publishing companies in emerging industries that require complex infrastructures to develop

The CD ROM industry is as complex as any we've seen in recent history. A CD ROM application requires a computer, a CD ROM drive attached to it, the data for the application on CD ROM media, the data retrieval software and sometimes software for the specific application.

The Diverse Businesses Required to Create a CD ROM Application



One person is frequently a central hub of communication, decidedly speeding the development of the industry. From this simplified drawing it's obvious why a little help is needed to initiate and maintain communication among the industry participants

The key to developing the market is applications, of course. The companies with the applications, typically large data bases, must acquire understanding of an entirely new technology and way of organizing and thinking about and using their data in order to create a useful CD ROM product. The hurdles are many. Software is available for assisting them in indexing their information for CD ROM applications — but this software, part of the needed infrastructure, was not available just a few years ago. Information providers, once they have their master produced, then depend on disk reproduction facilities to create the quantity of disks needed for testing and sales.

After the application is created, the real problem appears — where is the distribution channel that can competently integrate, market and support these diverse pieces? Who will provide the patience and education for a customer who is technically unsophisticated but has a sophisticated appetite for large data base applications — the kind that will develop the CD ROM market?

Every participant's daily question — Is anyone in this with me? That's the question *CD Data Report* answers month after month.

Distribution and end-user support — the toughest infrastructure question

*Every issue of **CD Data Report** contains a complete listing of the names, addresses and phone numbers of the people and companies mentioned in the issue — a very unusual, very useful feature in an emerging industry where deals are the daily bread of participants*

Judging from the push in titles and equipment, it will be a whopper

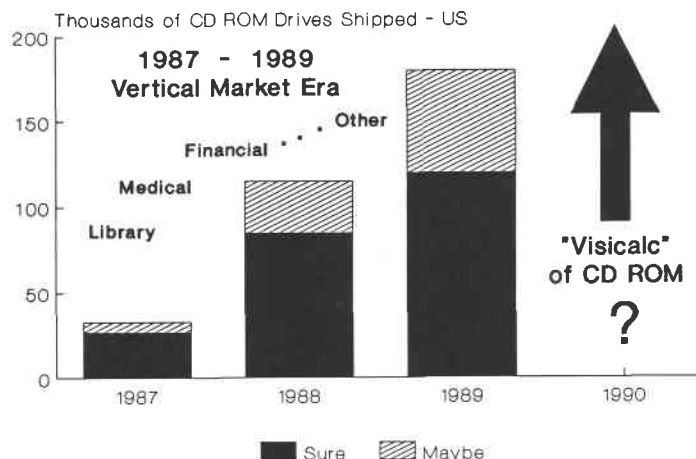
Catalyst, Switch, Cheerleader, Matchmaker

Progress in an industry this complex depends on all the diverse participants going forward together. Communication of every bit of progress to the other participants is absolutely essential, and that's the role **CD Data Report** plays. It's a catalyst in that the industry has and will develop more rapidly because it exists. It's been a switch and matchmaker in connecting people and companies who need each other's help. It's been a cheerleader in telling its readers in issue after issue that the industry is real. The market will develop — don't be discouraged if it's not as fast as other forecasters say.

How Big Is The CD ROM Market? — Hard to Say, the Industry Is Still in Labor

A recent issue of **CD Data Report** did a good job of explaining why the CD ROM market is very hard to forecast at this time — and why most forecasters have been much higher than the actual sales of CD ROM drives. There is no history. There are no analogous markets except possibly personal computers in the pre-Visicalc era. The market today is strictly vertical. For example, 90% of the 40,000 libraries in the United States will have at least one CD ROM application installed by the end of 1988. Applications are being created industry by industry. West Publishing just introduced legal documents on CD ROM. McGraw-Hill Sweet's catalogs for architectures and construction are now available on CD ROM. **CD Data Report's** pages are filled with examples of the over 300 titles being offered today.

The Explosion of the CD ROM Market Awaits the Dream, Everyone-Will-Want-It, Generic Application



What is that first high-volume application for CD ROM? If there is someone who knows, she's too busy to write newsletters

The big market, the one everyone is waiting for, depends on the discovery of the first high-volume horizontal application that will make everyone with a personal computer want a CD ROM player and some people may even buy their first personal computer.

Does *CD Data Report* have a bias?

Of course. The bias is toward developing the CD ROM industry. Linda Helgerson believes in CD ROM as an important business and consumer technology. She is decidedly an advocate. Objective? No. Rational? Yes. In fact, I find *CD Data Report*'s pages to be conservative, relative to other prognosticators.

A wise position. One of the biggest risks in new technology markets is that companies will expect too much too soon, will be disappointed and withdraw too early. Markets for new technology requiring complex infrastructures take time to develop — much more time than most people expect.

It's Fat, Frequent and Reasonably Priced

CD Data Report is published 12 times a year and averages 30 pages per issue. That's very large for a business newsletter. Still it's priced at \$225 — a low-end price for a business newsletter.

Some readers complain that they aren't that interested in all the pages devoted to new CD ROM title announcements anymore. But other readers, such as libraries, are more interested in title announcements than anything else.

So this fall *CD Data Report* will change a bit. The subscription price will increase to \$275. Each subscriber will receive the new thinner newsletter and a separate new titles section, which is also individually priced for libraries at \$50.

Could anything else be improved?

CD Data Report's strength is its insightful news and explanation of the market. A few readers I interviewed wished for greater technical depth in explanations of CD ROM developments. Me? Well, I always want pictures. *CD Data Report* has a rare drawing or graph.

Related Information Products

CD Data Report is published by Langley Publications which is owned by Linda Helgerson. Linda also is the principal in Diversified Data Resources which publishes *The CD ROM Sourcebook* and its CD ROM version (watch for a review soon).

**For Additional Information about
CD Data Report Contact:**

Langley Publications, Inc.
1350 Beverly Road, Suite 115-324
McLean, VA 22101

703/241-2131

Fax: 703/532-5447

The personal computer market dribbled the first five years. In 1979 Visicalc appeared and the curve shot up soon afterward. Nearly 15 years have passed

A good response to differing subscriber needs

My right brain thinks about the future, too. . . . And usually does a better job than my left. You can really influence my intuition with an insightful drawing

REVIEW

Electronic Mail Systems, Services and Software Markets -- Frost & Sullivan

Not pie-in-the-sky

A solid, straight-forward, survey-based study

Electronic mail defined

Now, would you use a phone if you could only talk to a few people and needed different phones for each group with whom you wanted to communicate? That's how it's been with electronic mail

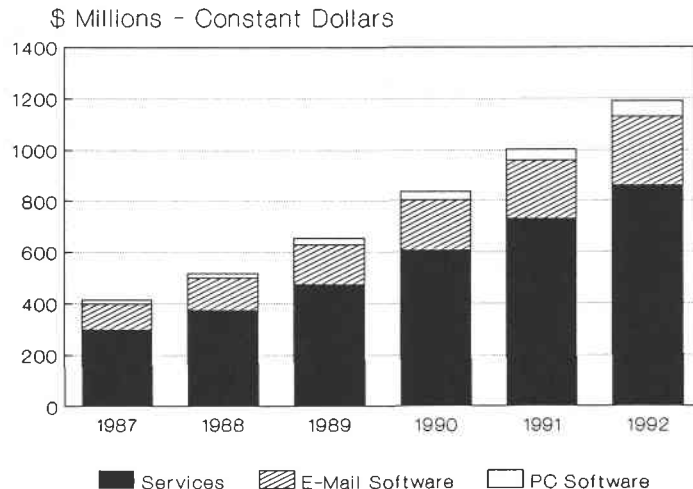
This report takes a look at the past, present and future of electronic mail. Written by Bob Stafford of Barton Associates, a veteran computer industry consultant, it takes a realistic look at the state of the electronic mail industry and market. It profiles competitors, assesses the technology and forecasts mainframe software, personal computer software and service revenue for the United States commercial electronic mail market. I found particularly interesting the survey of 5,000 electronic mail users which, among other information, identified present and future uses and the relative importance of features of electronic mail systems. This report excludes TWX and Telex, LAN-based electronic mail, voice mail and facsimile. Electronic Data Interchange is included, but not specifically discussed.

Electronic mail is the terminal-to-terminal transmission of text or data through a host computer without either terminal having to be simultaneously online.

Electronic Mail Comes of Age

Electronic mail is finally growing up. After years of electronic mail systems not talking to each other, the vendors have finally decided that they're each not going to be the only one. Now they are hard at work interfacing with each other. The X.400 electronic mail standard has made it possible.

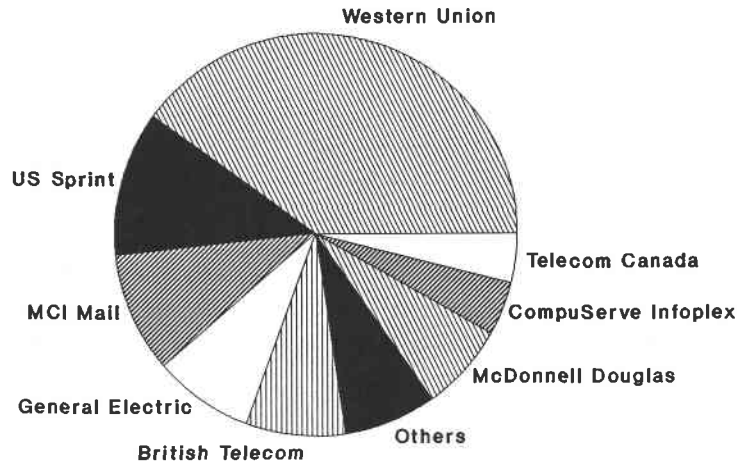
Market Forecast for Electronic Mail Services, Host E-Mail Software and PC E-Mail Software Source: Frost & Sullivan



That's a lot of electronic talking

Today there are a host of user companies committed to their internal electronic mail systems in addition to nearly a million electronic mail boxes divided among over 14 third-party electronic mail services. Through these third-party services more than 18 million messages are transmitted each month.

**Third Party Electronic Mail Services
Market Share as of Mid-1987
Source: Frost & Sullivan**



Key Report Findings

Electronic Mail Systems, Services and Software Market reached the following conclusions:

- ✓ Electronic mail pricing will continue to decline; but at a slower rate than the past 3-4 years.
- ✓ Users expect electronic mail systems, regardless of cost, to have a high degree of reliability and flexibility.
- ✓ The impact of the microcomputer on the electronic mail market will be significant.
- ✓ Electronic mail is largely a business market except for CompuServe and The Source.
- ✓ Most major vendors have reported disappointing revenues and an absence of profits. The US Postal Service's E-COM and Federal Express's Zap-Mail are gone. Yet more vendors will enter what is currently a limited market.
- ✓ The electronic mail industry lacks a critical mass of users.
- ✓ Electronic mail is not necessarily an economical service to all users, especially small business users where minimum monthly fees can be prohibitive.
- ✓ Electronic mail frequently requires additional hardware purchase of either a terminal or a PC board.

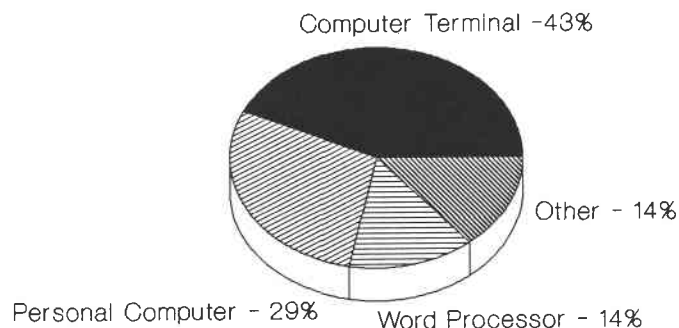
This report backs these as well as other conclusions with a thorough discussion. Only the tip is presented here

- ✓ Many organizations have used public electronic mail services as a testing mechanism to evaluate functionality prior to installing an internal system.
- ✓ Since there is no guarantee that the recipient of a message will check his or her mailbox on a regular basis, most important messages must be converted into telegrams, cablegrams and other hard copy messages or conveyed via telephone.
- ✓ Interfaces between electronic mail systems are only just beginning. But, they are beginning.
- ✓ The use of an electronic mail service requires the user to progress through a learning curve to become proficient. From the survey results, it appears that most electronic mail systems could still be made more user-friendly.

Originating Devices

Today most electronic mail originates from a computer terminal with the personal computer being the number two type of originating device.

Types of Equipment Used to Originate Electronic Mail
Source: Frost & Sullivan



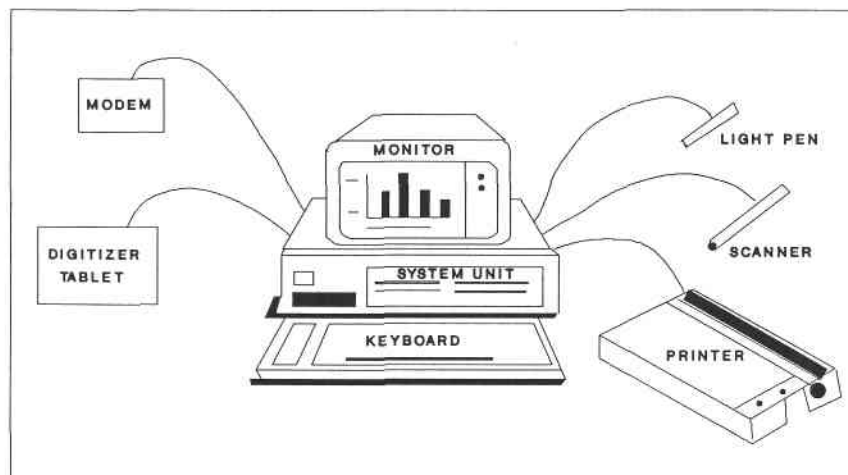
A Few Future Thoughts on Electronic Mail

Although *Electronic Mail Systems, Services and Software Market* did not attempt an exhaustive discussion of the technology of future electronic mail systems, it contains several thought-provoking insights. A few follow.

In the future the personal computer used in electronic mail applications will grow up to be a Personal Computer Document Transceiver which *Electronic Mail Systems, Services and Software Market* predicts will replace most facsimile devices. Most electronic mail today is text only. But, the Personal Computer Document Transceiver will originate and receive both text and graphics through electronic mail systems.

Personal Computer Document Transceiver of the Future Source: Frost & Sullivan

Personal Computer Document Transceiver = personal computer, modem, dot matrix or laser printer, scanner, light pen and digitizer



Electronic Mail Systems, Services and Software Market predicts that speech synthesis will revolutionize the use of electronic mail by allowing users to access the mail system from any telephone and listen to text messages delivered *via* synthesized speech with user control of the process *via* touch tone.

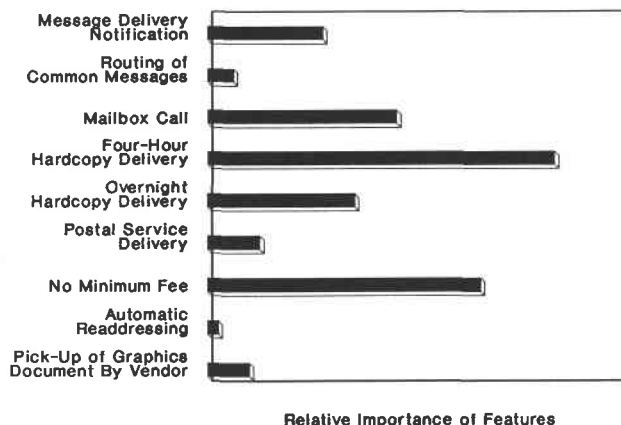
The Electronic Mail User's Perspective

The survey for this study was mailed to 5,000 individuals with job titles indicating management responsibility in the MIS organization. The names were selected from *Computer Decisions Magazine* subscribers. Valid responses were received from 421 people. *Electronic Mail Systems, Services and Software Market's* discussion of the strengths and weaknesses of the survey data are excellent. For example, it points to the probable bias in the survey results toward medium and large companies.

The survey respondents indicated their present uses for electronic mail are (in descending order of importance): terminal-to-terminal messages *via* a mailbox, internal letters, external letters and overseas cables. In the future they expect to give greater emphasis to sales promotion, customer statements, billing, catalog updates and vendor notices.

Electronic mail users were asked to rate the value of various electronic mail features on a scale of 1 to 5. The survey showed the features most important to electronic mail users are (in descending order): four-hour hardcopy delivery, no minimum fee, mailbox call, overnight hardcopy delivery, message delivery notification, postal service delivery, pick-up of graphics document by vendor, and routing of common messages.

Relative Importance of Electronic Mail Features Source: Frost & Sullivan



I wish all reports had a description as good as this one of the assumed environment during the forecast period — business, computer industry, driving technology and other. Excellent

Forecast Methodology

The forecast is prefaced with a thorough discussion of assumptions including: macro-economic setting, computer industry climate, technology assumptions, key industry factors and electronic mail market assumptions. The relationship to a prior Frost & Sullivan report is described.

After the thorough presentation of assumptions, I was disappointed that the report did not show the calculations that usually underlie a forecast. A simple spreadsheet model of just one page would have been very helpful.

The When, What and How Much

This report was published in November 1987. It is 230 pages with 30 figures and charts. An appendix contains a directory of electronic mail companies but there are no names of people within these companies who are responsible for electronic mail. The report is double-spaced typed. It is spiral-bound and comes in the Frost & Sullivan slip-case cover.

The price of the report is \$2000, with second copies priced at \$300 to the purchaser of the original.

For Additional Information about *Electronic Mail Systems, Services and Software Markets* Contact:

Frost & Sullivan, Inc.
106 Fulton Street
New York, NY 10038

212/233-1080

Fax: 212/619-0831
Telex: 235986

REVIEW

Superconductors: Exploiting Electronics and Computer Applications -- SEAI Technical Publications and

Survey on High-Tc Superconductor Applications -- Future Technology Surveys, Inc.

What do these two reports and companies have in common?

Besides both being chock full of information about superconductor applications, both were authored by Rich Miller who is a principal in both companies.

What's a Superconductor?

*A technology looking for a market?
Well, it's not quite a technology yet.
It's one terrific breakthrough. We
may look back on it someday as
being as significant as the
transistor. It could be dreams come
true —
(science-fiction dreams that is)*

Superconductivity is the total elimination of electrical resistance in materials. Until recently superconductivity was known to occur only when certain materials were cooled to temperatures approaching absolute zero (-460°F). A superconductor can circulate electricity indefinitely, creating powerful magnetic fields, with no energy or cost added except that required to cool the superconducting material. That cost has been too great for any except the most precious applications. Recent developments make us dream of materials that can be superconductive at room temperature.

Now Rich Miller was no expert in superconductors before he tackled these reports but he was expert in something that even better qualified him for the task — assessing very early technologies, many of which are still in search of a market. Recently he's looked at AI in several application areas, mobile robots, and neural networks

"Since late 1986, when IBM scientists Bednrooz and Muller announced discovery of a family of ceramics that become superconducting at record high temperatures, superconductivity has become the most exciting area of current scientific research. They were honored with a Nobel prize for their efforts. In a matter of weeks, scores of labs around the world were experimenting with the new materials, pushing the temperature limits steadily higher. Conventional superconductors must be bathed in liquid helium (-459°F) to achieve the desired loss of resistance to the flow of an electric current. By February 1987, the new 'high-temperature' superconductors were operating at liquid nitrogen temperatures (-320°F). Since then, various research groups have reported temperatures even higher."

— Rich Miller

The reports are not redundant

In fact, there is almost no overlap.

Each application is explained in an understandable fashion even if your degree in physics is, like mine, 20 + years old

Superconductors: Exploiting Electronics and Computer Applications

Released in November 1987 and priced at \$415, this report is a 207 page compendium of all the information Rich and his staff could find on potential applications of superconductors. For example, if you want to understand how integrated circuits or sensors might work using superconductors, this is the report for you. It also contains background information on the state of superconductor research with references and a thorough directory of 91 research organizations doing research in superconductors, with a brief research description of their research activity and a contact name. To some this directory might be worth the price of the report.

Survey on High-Tc Superconductor Applications

This report, on the other hand, is a very different style — a style recently invented by, and unique to, Future Technology Surveys. Released in April 1988 and priced at \$200, this 49-page report is the result of a survey of experts on High-Tc Superconductors. The experts were principals of superconductor-related companies, both management and technical, as well as leading researchers. The scope was intentionally limited to the United States. Nothing else is revealed in the report about the 22 respondents.

An interesting use of Future Technology Surveys would be to fill out the survey in your own company then compare the result to the ones provided by Rich's panel of experts

After a brief introduction to the superconductor technology, the result to the survey questions are presented. And well-asked questions they were. Lots to ponder — both the questions and the compiled answers. Just a few of the 39 intriguing questions —

- ✓ What is your forecast for the total U.S. market for high-Tc superconductor-based devices and products for 1990? 1992? 1997?
- ✓ What technological pitfalls do you foresee for the high-Tc superconductor industry?
- ✓ What market pitfalls do you foresee for the high-Tc superconductor industry?
- ✓ What specific developments do you foresee occurring which will have significant impact on the high-Tc superconductor field?
- ✓ What year do you foresee initial commercialization in the U.S. for superconductor semiconductor integrated circuits?
- ✓ What year do you foresee initial commercialization in the United States for thin film interconnects between VLSI chips?
- ✓ What year do you foresee initial commercialization in the U.S. for integrated circuit package/substrate?

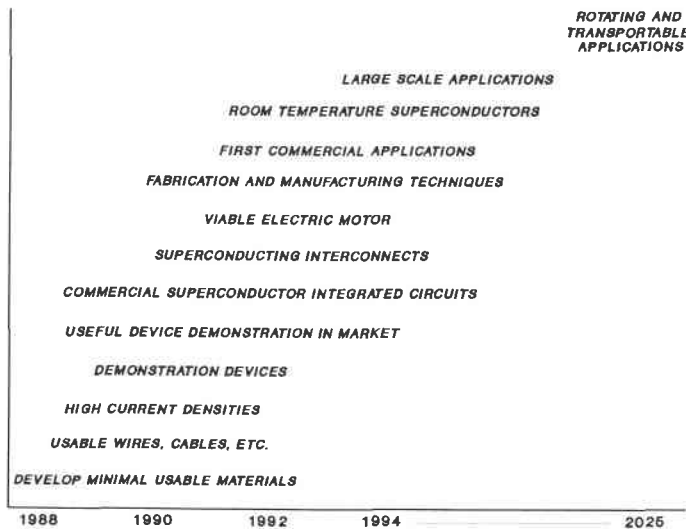
Each question was preceded by a brief but lucid discussion of the background information necessary to understand the question

I needn't tell you that asking the right question is half the battle — Rich's questions are excellent

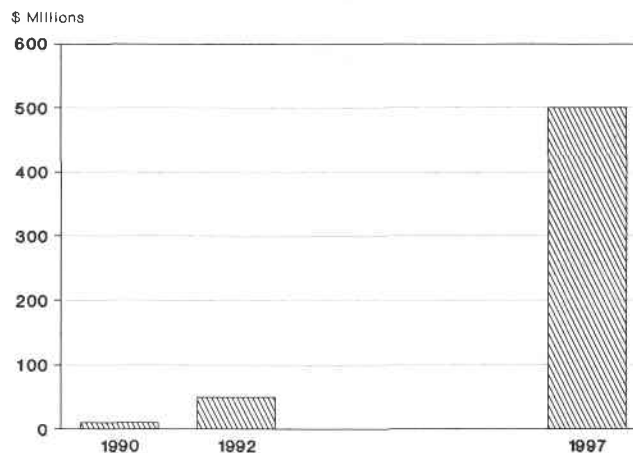
The few answers

The Commercialization of Superconductor Applications Source: Future Technology Surveys, Inc.

Survey on High-Tc Superconductor Applications presents the answers to the survey questions in a concise form including the statistical limits of each. If the answers were not numerical for a particular question, each respondent's answer is given in full



Total U.S. Market for High-Tc Superconductor-Based Devices and Products Source: Future Technology Surveys, Inc.



**For Additional Information about
*Superconductors: Exploiting Electronics and
Computer Applications* or
Survey on High-Tc Superconductor Applications
Contact:**

SEAI Technical Publications or
Future Technology Surveys, Inc.
P.O. Box 590
Madison, GA 30650

404/342-9638

REVIEW

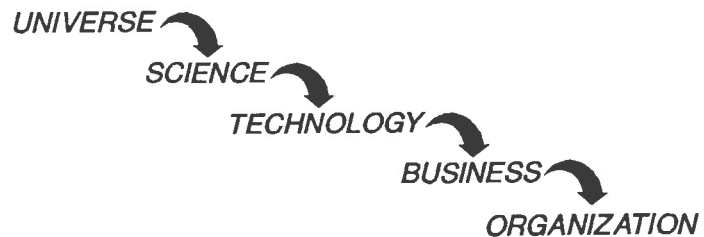
Future Perfect -- a book by Stanley M. Davis

*In Future Thinker past
I invented the term
"superconnectivity"
without defining it. I figured it
was inevitable. Sure enough just a
few days later I picked up this book.
Price \$16.95, 231 little pages.
There it was — defined, although
he never used the term*

"Technology provides a conceptual bridge that links the operating rules of science and the universe with those of economics and that ultimately gives shape to the way we manage. It is no accident that Sir Isaac Newton came before Adam Smith, whose theories in turn had to be spelled out before Henry Ford could create the assembly line and Alfred Sloan could then devise the divisional corporate structure."

The Fundamental Progression of Models

*After reading Future Perfect you'll
understand that the whole of an
organization is represented in each of
its people*



*You'll also understand why we're
building all these networks of every
type imaginable. Perhaps the
connections are more important than
what's connected*

Enter Einstein

*A little Eastern philosophical
orientation is helpful in absorbing
this book, but not required*

"In the industrial economy managers considered time, space and matter as constraints, whereas in the new economy they will come to think of them as resources. This will require profound transformation in the way we think about time, space and matter. Just as the scientific shift from the mechanistic age of Newton to the holistic age of Einstein affected notions of what was meant by time, space and matter, these new notions in turn will affect the managerial transformation from an industrial mindset to a fundamentally new one."

— Stanley M. Davis, *Future Perfect*, 1987

*With jacket endorsements by Fred
Smith, Founder and Chairman,
American Express; L.M. Cook,
Chairman and CEO, ARCO; and
Walter Shipley, Chairman and
CEO, Chemical Bank this book
deserves a serious read. And then
maybe another*

Say goodbye to the industrial age.
(I didn't say resurgence or even second. I said goodbye.)

For Additional Information about Future Perfect Contact:

Addison-Wesley Publishing Company
via your book store

PROFILE

Gartner Group

Every researcher has his or her ever-revolving favorite question. Mine for the past few weeks has been: What's a Gartner Group?

With Gartner Group one could get the idea that IBM Watching is a never-ending sport — complete with rules, ethics, fans, white-knuckle moments and fun, fun, fun

Like the elephant, Gartner Group is perceived differently depending on which part you're touching and your own experience base

What's a Gartner Group?

Interesting answers from Gideon Gartner, Gartner Group employees, Saatchi & Saatchi, Gartner Group clients¹, the press and . . . me —

- ★ A research culture
- ★ One of the four largest market information publishing companies — achieving nearly \$40M in sales in the fiscal year ended April 1988. And the fastest growing of the four — 52% in fiscal 1988
- ★ An information provider serving computer, telecommunications and office products end users and vendors
- ★ A Major source of influence
- ★ The leading purveyor of higher-priced continuous services to users of office technology — in 1988, \$25M in business in the user segment
- ★ InfoCorp's parent company
- ★ The first of its kind to go public
- ★ The leading IBM Watcher
- ★ A market research company offering 13 continuous services costing \$16,500 per year each. Gartner also offer conferences, consulting and data products
- ★ A Wall Street-style, business-oriented, decision-support company for the industrial market
- ★ The company for which Saatchi & Saatchi paid a premium price exceeded only by its great expectations — \$90.3M which is 2.25 times trailing year sales and 38 times trailing year earnings but just 20 times projected earnings this year
- ★ An information rental business
- ★ An information consulting business
- ★ The company with the enchanting classical music-on-hold

Unique with a capital "U"

I'm here to tell you Gartner Group is like nothing the computer industry has seen before

I listened to Gartner Group clients and I sat for hours with the Gartner Group materials. Finally it hit me².

Market research companies who have made a living lining the shelves of libraries in high-tech vendor and user companies, take heed — times are a-changin'! Once buyers get used to it, they'll think all market research should be this way

We call them entrepreneurs and they are the creators of our time

It's too easy to categorize Gartner Group as something we already know. It's not. At the very least, Gartner Group has reinvented market information publishing. We will all benefit, some more painfully than others.

It's flight planning maps and the weather forecast

If managers were pilots, then Gartner Group would provide flight planning maps and the weather forecast. The pilot charts his or her course, but the maps provide the context. The pilot may choose to proceed, but the weather forecast alerts him to the dangers ahead. Maps must be up-to-date and weather forecasts can't be too wishy-washy. Sometimes you would even appreciate being told straight-out to stay in out of the fray.

Maps of an unfolding business environment are harder to come by than air maps. Estimates about the severity of a storm in the aftermath of a big industry announcement — where do you get them? Maps and forecasts are always a matter of opinion backed up more or less by data and methodology.

But don't all market researchers do that?

No. At least not with the same clarity, brevity, decisiveness, timeliness and easy-to-find-what-you-need information organization methodology. And you don't want a weather-person not quite willing to take a stand on what they think the weather's going to be. Gartner Group's people are known for giving their clear and detailed opinion, then changing it if needed in the wake of new evidence.

Some call that Wall Street-style research. I call it the kind of information every manager needs to make good business decisions in real-time.

A Simple, Clear Vision and A First-Rate Implementation

Today's Gartner Group had its roots in Gideon Gartner's 1979 vision. He left Oppenheimer & Co. with \$675,000 in venture capital and a simple, clear vision to bring Wall Street-style research to the business world in the computer industry. He had the perfect credentials. According to *Institutional Investor* he had been the leading Wall Street computer industry analyst for seven years running. Before that he had been with IBM in competitive analysis, so he knew the market information needs of vendors in the computer industry.

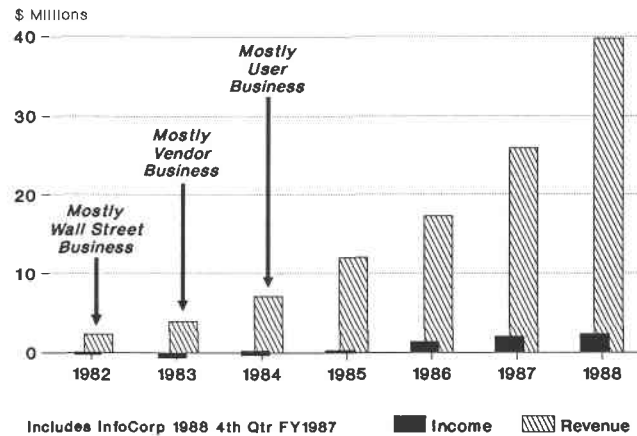
Of the few people with vision, even fewer can create an enterprise to realize their vision. Gideon is among the best. He had a board willing to reinvest and sustain losses during the early years. The plan was to tailor a core of research for three markets — Wall Street, vendors and users. Users were the toughest nut but crack it they did. From the beginning, Gideon brought top-notch talent³ into Gartner Group. The vision grew and the company grew.

Gartner Group's Growth in Revenue and Income

Source: Gartner Group's 1988 Annual Report for Fiscal Year Ending April 30, 1988⁴.

With 269 employees at the end of its fiscal year 1988, Gartner Group's revenue per employee was \$148K

Today 75% of Gartner Group's revenue is from continuous services. The other 25% is from conferences, consulting and data products



It's All in the Culture

According to Gideon, Gartner Group's #1 Secret to Success

One right-brained future thinker knows another one at first sight. What's even better is a right-brained information analyzer and future communicator. And Gartner Group's full of 'em — Gideon style

Gartner Group is a KISS¹⁰. Master

Gideon focused on building the research culture in Gartner Group. Not just any research culture, but a special Gideon-expounded culture.

Massive information collection, library *par excellence*, 5:00 PM meetings, vendor briefings, pattern recognition⁵, inferential analysis⁶, right-brain thinking⁷, breakthrough ideas⁸, stalking the halls for stalking horses⁹, put it in one drawing or table, defend your position, revise, clarify, numbers are great but trust your intuition, decide how it is and will be, recommend action, prove it to your peers, then extract the essence until the research result is presented with index codes, one-sentence summary, drawings, tables and glossary all on one very full page, front and back.

More valuable for its brevity — each research note obviously the crystalized gem of much raw data, heat and contraction. Few will shatter under pressure. And the pilot in need of guidance in that particular segment of the future can find it easily and understand in just a few seconds Gartner Group's map of that quantum of time and business.

Well, Not Quite All — The Sales Force is Formidable, Well Deployed, Well Equipped and Well Incentivized

Tigers they are, with polish

Complete with cellular phones and voice mail, the Gartner Group sales force charges out to increase its Contract Value. The incentive plan is based, not on the total value of the business each person brings in, but the increase in the value. If an account executive loses a client, a replacement must be found to stay even. But the upside's terrific — 2-3 times the base and certainly among the top salaries in the business.

Organized and deployed geographically, a Gartner Group account executive spends most of his or her time on location with a client or prospect. Each sells the complete Gartner Group product line, now including the COMTEC end-user survey data base, in his or her geographical area.

A Full and Growing Passel of Products

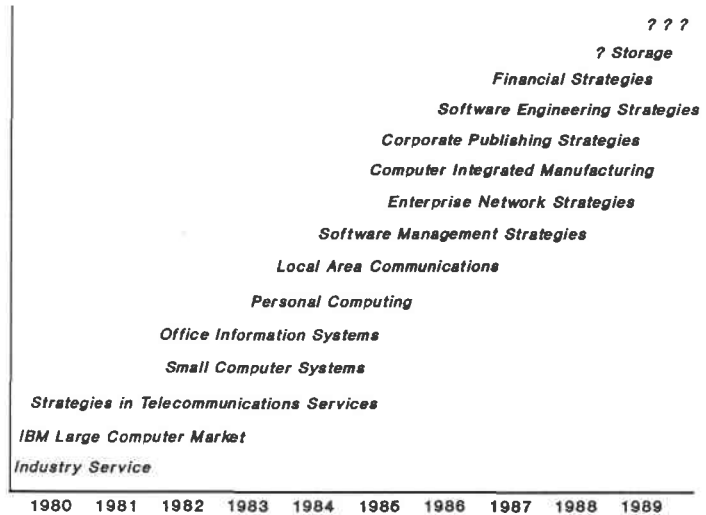
Gartner Group's continuous service client enterprises numbered 830 at the end of fiscal '88, up from 657 the year before. And each client subscribed to 3.1 services, up from 2.7

Continuous Services — Gartner Group Style

Gartner Group's strength is in continuous services for end users. In 1988 Gartner Group's ratio of continuous service subscribers were end users over vendors 3 to 1. Of course, vendors buy but they are dwarfed by the much larger number of users in Gartner's market. In fact, advising and influencing users (the customers of vendors) is one of the best ways to get vendors to buy — they've got to know what you're saying.

Gartner Group's Continuous Service Offerings

Introducing a new continuous service is no small undertaking but Gartner Group keeps 'em coming year after year



The strength of Gartner Group's end user continuous service business is a first in our industry for higher-priced services. I expect there is much greater potential for this business than Gartner Group has served and, of course, Gartner is best positioned to capture it. This business segment is particularly attractive because there are many more potential subscribers than for services that appeal only to vendors — the most common type of continuous service in our industry heretofore.

Gartner Group calls its continuous services "Research, Advisory & Strategic Planning (RAS) Services." Each service costs \$16,500 per year for two client Interfaces. There are additional fees for additional copies and relationships with the same client enterprise. There are scheduled discounts for clients who retain five or more services.

*For a more detailed description of a Gartner Group continuous service, stay tuned. In a later issue, **Future Thinker** will review Gartner Group's Software Management Strategies Service*

Each of the two client Interfaces receive two big binders with some starter material, 500 new pages of material during the subscription year, one conference ticket and telephone inquiry privileges. Telephone privileges are limited to the designated client Interfaces. A little over half the written material is the famous Gartner Group One Pagers — the *Research Notes*. The remainder are *Strategic Analysis Reports*, *Strategic Planning Scenarios*, indices and other deliverables specific to the service. One of the outstanding features of the Gartner Group material is the method of filing and indexing. Very usable.

Conferences and Regional User Briefings

In addition to continuous services, Gartner Group offers conferences and user briefings. In fiscal 1988, 33 conferences and 47 regional user briefings were held. A conference is held on the subject of each continuous service in addition to several conferences on particularly hot topics. The user briefings are less formal regional gatherings where no vendors are allowed. Gartner Group also makes heavy use of telephone conferencing.

COMTEC — an ambitious annual end user survey

The COMTEC market research survey activity is now owned completely by Gartner Group. It is positioned as a demand-side perspective of the information industry. Data is gathered annually from 40,000 interviews with individuals in 8,000 business establishments selected in such a way that the resulting data is projectable to the entire U.S. market. Data on a broad assortment of office equipment are gathered including computers, telephones, typewriters and copiers. The data is delivered to clients in volumes and via a turnkey desktop system.

Some of the COMTEC data finds its way into Gartner Group Research Notes and certainly into their understanding of the market. COMTEC analyses are also included with the data.

The Future Gartner Group

Listening to Gideon can give one the impression that Gartner Group is a new star just beginning to shine. And its new parent, Saatchi & Saatchi, couldn't be more supportive, possibly even insistent, on growth. Saatchi & Saatchi, the London based advertising and consulting conglomerate is a very aggressive, creative growth culture — Gartner Group should fit in just fine.

The "ifs" in Gartner Group's past are now axioms — the business formula has been proven —

- ★ The high-tech business world loves Wall Street-style research — and will pay handsomely for it.
- ★ Users, as well as vendors, are an excellent market for higher-priced loose-leaf services.
- ★ A Gideon Gartner-style research culture can be institutionalized.
- ★ Hiring the best talent and incenting them aggressively in both sales and research works.

Watch for a review soon

I would bet on growth, growth, growth

Gartner Group will grow in all directions —

Look out, Dataquest

- ✓ continuous services in other areas, especially technology (e.g. storage)

Look out, world

- ✓ greater international activity — first sales of present products, later research specific to local markets

Pioneering

- ✓ continuous services tailored to special groups of end users (e.g. small businesses)

Look out, Datapro

- ✓ lower-priced continuous services

Look out, McKinsey

- ✓ increased customized consulting using the Gartner Group published material and data bases such as COMTEC, as the unique competitive edge

Look out, everybody

- ✓ new types of research, methodologies, products or acquisitions

Looks like it's going great. I see no unusual problems, except some of the absurd manufactured concerns of the press. Having been there, I know that of which I speak

Of course, they may not — some have been snoozing for years

Challenges, if not limits, to growth

How many products can a salesman sell? Gartner's new products for new markets will likely require very different sales approaches and sales organizations. Challenging, it will be.

Adapting to a new parent company, no matter how wonderful, takes some adjustment. Takes about a year for everyone (parent, employees and clients) to settle down following an acquisition. But settle they will, and once settled they'll be ready for a new launch.

The biggest potential stopper to Gartner's growth rate is that its competitors may wake up. Gartner Group's formula is not magic. Features from it can be applied by other market information publishers, thereby lessening Gartner's uniqueness. But I've watched Gideon watch his competition — awesome.

For Additional Information about Gartner Group Contact:

Gartner Group, Inc.
56 Top Gallant Road
Stamford, CT 06904-2212

203/964-0096

Fax: 203/324-7901

Telex: 643 528

It would have been fun but as it turned out we had fun anyway

*It was so much fun to see real numbers.
We learned a lot from you, Gartner Group.
Thanks*

1. How did I find Gartner Group clients? Easy. It's more difficult to find someone who isn't, hasn't been and doesn't plan to be.
2. It hit me — an expression describing the kick in of the right brain with the answer. You just suddenly know. You didn't deduce it or logically arrive at it. Those are left brain functions. Intuition is a right brain function.
3. In 1981 Gideon nearly persuaded me that Egil and I should become Gartner Group's personal computer industry research branch. We had started Future Computing in 1980 and had just published *IBM's Billion Dollar Baby*.
4. Gartner Group's Fiscal Year 1988 Annual Report. The last of its kind now that they have been acquired by Saatchi & Saatchi. We'll miss our industry's only independent public company.

It's like guessing the next note in a complex symphony that you've never heard before. Can it be done? By some, frequently

Did you think market research was easy?

We don't really know how the right brain works, but it is not like the computer-like left brain. It recognizes patterns in ways we haven't documented. It takes leaps of faith to an insight that stands up under scrutiny

Then the challenge is to communicate so well that others have the same shift in their perspective. Such a guru-lead shift has happened many times in our high-tech industry

Even when shown to be incorrect, the intuiitor of a lightbulb will frequently defend it valiantly. It's the type of idea that makes believers and advocates out of otherwise objective and neutral analysts

And you need much more than phone calls and spreadsheets to find 'em

5. Pattern recognition — Einstein said it: "God does not play dice with the universe." Order, of course, does not imply totally deterministic — as physics has so painfully documented.

Well, believe it or not there is also order in the business world of high technology. If you'll watch closely enough the phenomenon that is IBM, another that is the market for software, another that is the value-added distribution channel and another that is DEC and so on; you'll start to see patterns. Even if you don't realize you see patterns, if your intuitive right brain is given half a chance, at least you'll know what the next important event will be and be able to crystalize its long-term significance.

6. Inferential analysis — the process of surmising, guessing, deducing, reasoning, concluding, judging and intuiting from facts, premises and large bodies of seemingly unrelated and inconclusive information.

7. Right-brain thinking — The left brain is the seat of the logical, build a spreadsheet model, analytical type of thinking. The right-brain is the center for intuition, flashes of insight, and seeing as in understanding.

Some people are more left or more right in their overall approach to a problem. But everyone uses both parts of their brain. The two hemispheres work together and communicate.

The left brain can be directed to do its job. The right brain is more independent. If you're really looking for that flash of creative insight, you might do better spending an hour in a hammock than staying at your desk hacking away.

On the other hand, I've consistently had some of my most significant right-brain insights burst upon me in the middle of an impassioned speech. Typically at COMDEX or in an IBM cafeteria. Sometimes I've just had to stop and scratch my head. What does one do with a new revolutionary lightbulb concept? That type of thought which shifts your total perspective on a subject. Nothing looks as it did before. It's like seeing into another dimension that simplifies everything.

If you're conservative, best see if the lightbulb is still burning the next day before expounding. Me, I throw away my lecture notes and proceed into new territory. My audiences have usually told me when I was too far left of center.

8. Breakthrough ideas — lightbulbs. That idea that leaps from many unrelated, unexplained phenomena and brilliantly asked questions. It synthesizes from them a simple, clear idea; a paradigm, a conceptual framework from which all else follows. You know it's correct because it is beautifully simple and self-consistent.
9. Stalking horses — similar to straw men but not quite. A stalking horse is waiting out there to grab you. That idea waiting to crystalize. Floating in the ozone. If you're receptive it will come over you when you least expect it. It can become your straw man — a fairly-well-thought-out idea that is presented to a group as a point of departure — in reaching a refinement, or attacking it to strengthen an opposing view.

In Gartner Group, stalking horses are presented as either a single drawing or table. A single crystalized representation of an idea at just the right level of abstraction to make it digestible. You software types might call this a little top-down thinking. And sure enough when you dig into a Gartner Group gem, you'll find it has other previously developed positions being used as the basis or what you might call an assumption of truth, an axiom.

10. Keep-It-Simple-Stupid. Keeping it simple isn't just so that the managers who use Gartner Group material can understand it. It is so the analyst who wrote it can understand it. In fact, if it isn't simple, it's probably wrong. Was $E = mc^2$ a complicated formula? No. But all those formulas before it that were approaching the same idea were full of ifs, buts and whatever. They went on for pages and pages.

But the breakthrough, the impossible to refute shift in paradigm, was elegantly simple. And oh what power was embodied in that simplicity. So it is with simple crystal-clear breakthrough ideas in market research and analysis. Gartner Group's research culture actively seeks such ideas and rewards their dissemination.

More Good News **Sixty-seven Market Information Publishing Companies Have Agreed to Cooperate with *Future Thinker* Reviews**

*Perfect we're not.
Improving though*

Every day a few more market information publishers become positive about Future Think's plan. And so they should. I see our role as being an advocate for excellence in market information publishing.

We apologize to Wohl Associates, Winters Group, VLSI Research and Business Technology Research. We left them off the list in the last issue.

Already Sixty-seven Market Information Publishing Companies have Agreed to Cooperate with *Future Thinker* Reviews

Of the 112 market information publishing companies that we have contacted, 67 have agreed to cooperate with *Future Thinker* reviews. New since last issue are starred. They are:

★ Able Communications Milpitas, CA	408/945-1484
✓ Adscope Goldendale, WA	509/773-3701
★ AIM Consulting & Publications, Inc. Natick, MA	508/653-1622
✓ Architecture Technology Corporation Minneapolis, MN	612/935-2035
★ Associated Research Services Dallas, TX	214/644-1733
★ Business Communications Co. Inc. Norwalk, CT	203/853-4266
★ Business Technology Research Wellesley Hills, MA	617/237-3111
✓ Broadview Associates Ft Lee, NJ	201/461-7929
★ CASE Research Corporation Bellevue, WA	206/453-9900
★ California Technology Stock Letter San Francisco, CA	415/982-0125
✓ Camarro Research Fairfield, CT	203/255-4100
✓ CAP International, Inc. Norwell, MA	617/982-9500
★ CCMI/McGraw-Hill Ramsey, NJ	201/825-3311
✓ CIMI Corporation Haddonfield, NJ	609/354-1088

✓ Computer Industry Almanac Dallas, TX	214/231-8735
✓ Computer Intelligence La Jolla, CA	619/450-1667
★ Computer Shoptalk Millburn, NJ	201/376-8181
★ Creative Strategies Research International Santa Clara, CA	408/245-4750
✓ Datapro Delran, NJ	609/764-0100
✓ Dataquest San Jose, CA	408/437-8000
✓ DATEK Newtonville, MA	617/894-5093
✓ DISK/TREND, Inc. Mountain View, CA	415/961-6209
✓ Diversified Data Resources Falls Church, VA	703/237-0682
✓ EDI, spread the word! Dallas, TX	214/243-3456
★ EDI Strategies Marietta, GA	404/973-4683
✓ EDventure Holdings, Inc. New York, NY	212/758-3434
✓ Electronic Trend Publications Saratoga, CA	408/996-7416
✓ ElectroniCast San Mateo, CA	415/572-1800
★ Find/SVP New York, NY	212/645-4500
✓ Focus Research Systems West Hartford, CT	203/561-1047
✓ Forrester Research Cambridge, MA	617/497-7090
✓ Frost & Sullivan New York, NY	212/233-1080
✓ Future Computing Dallas, TX	214/437-2400
✓ Future Technology Surveys Madison, GA	404/342-9638
✓ Gartner Group Stamford, CT	203/964-0096
★ Integrated Circuit Engineering Corporation Scottsdale, AZ	602/998-9780
✓ Infonetics Santa Clara, CA	408/746-2500
✓ In-Stat Scottsdale, AZ	602/860-8515
✓ International Data Group, CD ROM Continuous Information Service Peterborough, NH	603/924-9471
★ Information Gatekeeper, Inc. Boston, MA	617/738-8088
★ Input Mountain View, CA	415/961-3300
★ Institute for Graphics Communications Boston, MA	617/267-9425

★ International Planning Information, Inc. Redlands, CA	415/364-9040
★ International Resource Development, Inc. New Canaan, CT	203/966-2525
✓ International Technology Group Los Altos, CA	415/941-2433
✓ Langley Publications, Inc. Falls Church, VA	703/241-2131
★ Market Intelligence Research Co. Mountain View, CA	415/961-9000
✓ National Software Testing Laboratories Philadelphia, PA	215/878-9300
✓ Neal Nelson & Associates Chicago, IL	312/332-3242
✓ Newton-Evans Research Company Ellicott City, MD	301/465-7316
✓ Northern Business Information New York, NY	212/732-0775
✓ Parks Associates Dallas, TX	214/233-8497
✓ Patricia Seybold's Office Computing Group Boston, MA	617/742-5200
★ P.C. Letter Redwood City, CA	415/592-9192
✓ Probe Research Cedar Knolls, NJ	201-285-1500
✓ S.E.A.I. Madison, GA	404/342-9638
★ Sentry Market Research Westborough, MA	617/366-2031
✓ Soft•Letter Cambridge, MA	617/868-0157
✓ StoreBoard Dallas, TX	214/231-5964
✓ Summit Strategies Boston, MA	617/266-9050
✓ Technology Financial Services Chelmsford, MA	617/458-3974
✓ Venture Economics Wellesley Hills, MA	617/431-8100
★ VLSI Research San Jose, CA	408/289-9983
★ The Winters Group Rochester, NY	716/546-7480
★ Wohl Associates Bala Cynwyd, PA	215/667-4842
✓ Workstation Labs Dallas, TX	214/644-1733
✓ Yankee Group, The Boston, MA	617/367-1000

We are grateful to these companies for their cooperation. If your favorite market information publishing company isn't on this list, be patient. Only one has actually declined. We find a few more every week. We would appreciate any help you can give us.

NEW**Reports 1.**

Mid-year update on the semiconductor industry. See Foundations of the Future, page 42 and a review next issue

★ **Mid-Term 1988**

Integrated Circuit Engineering Corporation
Scottsdale, AZ 602/998-9780
Pages: 251 Price: \$345
Exhibits: 255 Date: July 1988

Forecasts demand to 1992 — flat. U.S. 1987's \$6.61B to 1992's \$6.93B. Covers suppliers and buyers. See review of AT&T: A Strategic Analysis in Vol. 1, #1

★ **Transmission Equipment Market: 1988 Edition**

Northern Business Information
New York, NY 212/732-0775
Pages: 187 Price: \$1,975
Exhibits: 68 Date: July 1988

Worldwide shipments of optical disk drives for computer applications were less than 100,000 units in 1987. Forecasted for 1991 — 1.4 million units valued at \$1.5 billion. Review of 1987 DISK/TREND Reports in Vol. 1, #1

★ **1988 Optical Disk Drive Report**

DISK/TREND, Inc.
Mountain View, CA 415/961-6209
Pages: 158 Price: \$1,140
Exhibits: 44 Date: July 1988

Reasons behind SAA, what it is, issues and concerns, market forecast and opportunities. See Future Thinker's Foundations next issue. Now I understand SAA

★ **IBM Systems Application Architecture**

Input
Mountain View, CA 415/961-3300
Pages: 62 Price: \$695
Exhibits: 31 Date: February 1988

Opportunities abound in this emerging market with no dominant players — yet. Users demand simplicity. Today's products, complex. This report? — The basis for understanding

★ **Network Management Hardware & Software Markets**

International Resource Development, Inc.
New Canaan, CT 203/966-2525
Pages: 259 Price: \$2,300
Exhibits: 49 Date: February 1988

A pleasure for the mind and the eyes, this report looks far into the future but with a very pragmatic evaluation of where we are today, and routes from here to there. Review in next Future Thinker

★ **Home Automation 88: A Market Overview**

Parks Associates
Dallas, TX 214/233-8497
Pages: 217 Price: \$3,500
Exhibits: 129 Date: 1st Qtr 1988

Application-Specific Integrated Circuits, now a \$6B worldwide market will more than double by 1992. A most readable report

★ **ASIC Outlook 1988**

Integrated Circuit Engineering Corporation
Scottsdale, AZ 602/998-9780
Pages: 231 Price: \$485
Exhibits: 140 Date: May 1988

The results of a fascinating survey-based research project. Its emphasis on external supercomputer services as well as in-house usage is particularly valuable

★ ***Supercomputer Equipment and Services Usage Trends in Large Organizations***
 Newton-Evans Research Company, Inc.
 Ellicott City, MD 301/465-7316
 Pages: 247 Price: \$995
 Exhibits: 71 Date: May 1988

*The first line in this report — "OS/2 Presentation Manager will revolutionize the personal computer industry." I don't doubt it. A review's in the next **Future Thinker***

★ ***OS/2 Presentation Manager: Competitive Strategies in the New Graphical World***
 Summit Strategies
 Boston, MA 617/266-9050
 &
 DATEK
 Newtonville, MA 617/894-5093
 Pages: 148 Price: \$1,095
 Exhibits: 20 Date: February 1988

1. The reports selected for this section are newly released reports that I think are worthy of your consideration. In most cases I have read the report. Some I have only weighed and scanned. A review may or may not be in a future *Future Thinker* issue. Unfortunately, we cannot mention every newly released report here — even those we have on our shelves. We do try to be fair to all the companies sending us reports.

All the reports we can find are listed in *Future Think Resources*, our directory of market information products for the computer, telecommunications, electronics and office products industries.

Future Thought

"The future as an object of analysis does not exist."

— Robert E. Baker
*Future Studies: Defining Our Way
 Futures Research Quarterly,
 Volume 3, Number 3
 World Future Society*

"Are you sure?"

— Portia

FOUNDATIONS¹. OF THE FUTURE

Cost of Memory

You may find it hard to believe with all the hoopla about memory prices, but the long-term trend in cost per bit is down, down, down with no end in sight

In 1978 one bit of memory cost nearly 100 millicents (1/1,000) of a 1978 penny. By 1983 the cost of that one bit had come down to 6 millicents in 1983 dollars — a much bigger drop than it appears (remember inflation). In 1984 a bit was 5.5 millicents. In 1985 the price plummeted to 1.65 millicents/bit and continued its fall to 1.0 in 1986. For the first time ever the cost of a bit increased in 1987 to 1.12 millicents. 1988 looks flat. Mid-Term 1988 from ICE does a great job of explaining the whys of these ups and downs and the long-term trends. ICE forecasts .8 millicents (constant 1988 dollars) for 1989 and continuing future decreases

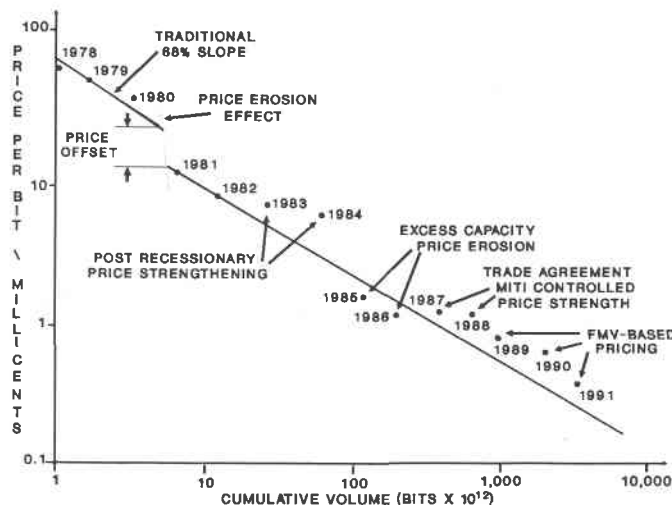
A complete review of Mid-Term 1988 will appear in the next Future Thinker. I hope you'll like the review and I know you'll like the report. It's a 251 page, 255 figure, \$345, best graphics I've seen lately, detailed, data-rich update on the mid-year status of the worldwide semiconductor industry. It's one terrific read

It's A-comin' Down — Still

Integrated Circuit Engineering Corporation (ICE) forecasts 1989 memory worldwide sales — 410 million 256Kb (kilobit) chips at \$1.95 average selling price, 525 million 1Mb (megabit) chips at \$8 and the debut of the 4Mb chip shipping one million units at \$65. The 16Mbs are a-comin' in 1991 . . . if there's a 1 and a 4 and a 16, surely there must be a 64. And any chip in high-volume competitive production, eventually costs a few bucks.

Price Curves for MOS Dynamic RAM

Source: Integrated Circuit Engineering Corporation



For Additional Information about Mid-Term 1988 Contact:

Integrated Circuit Engineering Corporation
15022 N. 75th Street
Scottsdale, AZ 85260

602/998-9780

Fax: 602/948-1925

Telex: 165-755 ICE SCOT

1. *Foundations of the Future* is a regular column in *Future Thinker*. We discuss what we think is a gigaforce in our industry. We quote and reference the market information publishing company that we think does a super job of tracking the trend.

Order Form -- U.S. and Canada -- 9/1/88

Circle
Choices

The newsletter for users of published market research and information services in the computer, telecommunications, electronics and office products industries

Future Thinker

Annual Subscription (12 issues) \$395
Includes 2 copies of each issue and
1st Edition of ***Future Think Companies***

The directory of market information publishing companies in the computer, telecommunications, electronics and office products industries

Future Think Companies

Fall 1988 Edition - 185 pages \$195
Annual Subscription (2 Editions) \$295

The directory of market information products including: annual subscription services, multiclient studies, market research reports, data bases, directories, newsletters, conferences and seminars in the computer, telecommunications, electronics, and office products industries

Future Think Resources

Fall 1988 Edition - 400 + pages \$395
Annual Subscription (2 Editions) \$595

The directory of experts in the computer, telecommunications, electronics and office products industries

Future Think Gurus

Fall 1988 Edition - 250 + pages \$195
Annual Subscription (2 Editions) \$295

*Includes: ***Future Thinker*** (12 issues),
Future Think Companies (2 Editions),
Future Think Resources (2 Editions)
and ***Future Think Gurus*** (2 Editions)*

Future Think Everything

\$1135

Total \$_____

Purchase Order Number:_____ Please complete the following or attach your business card:

Name:_____ Title:_____

Company:_____

Division/Address:_____

Address:_____

City:_____ State:_____ Zip:_____ Telephone:_____

We will invoice you when the item or the first item of a subscription is shipped. Thanks.

Mail copy of this form to: Future Think, Inc., PO Box 49248, Colorado Springs, CO 80919

Or call: 719/598-9000 **Or fax:** 719/598-6537

If you feel talkative, ask to speak to me. I like to speak with our subscribers . . . Portia.

FREE AND TWO

*Don't miss the **Future!**
(Thinker, that is.)*

*For only \$395/year we'll provide a big boost — two copies of each packed monthly **Future Thinker** issue and our first directory of market research companies for being an early subscriber*

Free Future Think Companies to First 500 Future Thinker Subscribers and Two Future Thinkers per Subscriber

The first 500 subscribers to **Future Thinker** will receive free the \$195 First Edition of **Future Think Companies**, our directory of market information publishing companies in the computer, telecommunications, electronics and office products industries. It's indexed by subject, and we think you'll find it very useful.

Subscribers will also receive two copies of every **Future Thinker** issue. We hope you'll like it so much you will pass it along to someone else who may benefit. Thanks.

I'LL TRADE

I drink my coffee from Apple and my beer from NCR. I couldn't possibly have too many mugs

You know University of Life®, don't you. My degrees in market research and business are from its School of Hard Knocks. Most future thinkers I know have taken more than a few of its courses

A MUG FOR A MUG

Some people collect T-shirts and I like them, too (size XL). Others like notebooks (I still have my Computer Usage Company notebook). And although I'll treasure any company T-shirt or notebook you send me, I absolutely go nuts about mugs. Any old company mug. I love the ones out of business. Or the high flyers. Or the big old nice companies.

So how about a trade. You send me a company T-shirt, notebook or mug and I'll send you a T-shirt, notebook or mug — your choice. But you'll have to be a bit patient. While you're waiting we'll send you a very nice University of Life one. We'll be making **Future Thinker's** masterpieces as soon as we get our computer systems, copier, fax and phones paid for.

COMING SOON

COMTEC PC Survey — Gartner Group . . . **Mainframe Installations Database** — Computer Intelligence . . . **IBM's Systems Application Architecture** — Input . . . **Supercomputer Equipment and Services Usage** . . . Newton-Evans Research Company . . . **Focus Research Systems Profile** . . . **Analysis of Facsimile Market and Product Trends** — Camarro Research . . . **Telecom Strategy Letter** — Northern Business Information . . . **VLSI Manufacturing Outlook Continuous Service** — VLSI Research . . . **CD ROM Sourcebook** — Diversified Data Resources . . . and so much more . . .

**FUTURE
THINK**

Future Thinker is published by Future Think, Inc. Copyright © 1988 by Future Think, Inc. All rights reserved. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, in any form or by any means: electronic, mechanical or otherwise; without the prior written permission of the publisher. The information and statistical data contained herein have been obtained from sources which we believe to be reliable, but are in no way warranted by us as to accuracy or completeness. We do not undertake to advise you as to any change in figures or our opinions. Future Think, Inc., its affiliates, and any officer, director or stockholder thereof or any member of their families, may have a position in and may from time to time purchase or sell securities of one or more of the companies referred to in this newsletter, or own securities of their competitors, or perform services for, or engage in business with, one or more of such companies.

Subscriptions (12 issues): U.S. and Canada - \$395/year Outside the U.S. and Canada - \$495/year (airmail)

Future Think, Inc. P.O. Box 49248, Colorado Springs, CO 80919, 719/598-9000