IBM,

its view of a "network-centric" future
driven by the desire of people and enterprises to connect to
other people and enterprises around the world
and leverage information using powerful new technologies
that transcend distance and time,
lower boundaries between markets, cultures and individuals
and actually deliver solutions that fulfill the promise of
universal connectivity — plus a report on IBM's 1995 performance...

(in 10 words or less).

The interactive version of IBM's 1995 Annual Report can be found on the World Wide Web at: http://www.ibm.com/IBM/ar95

(1) vision

Last year I told you that the question about IBM was no longer one of survival. IBM had been stabilized and strengthened. The important question – the relevant question – was, could IBM grow?

By just about any measure, the answer in 1995 was that IBM could indeed grow.

IBM reported record revenues last year, topping $70 billion for the first time. Our rate of revenue growth — 12 percent over the previous year — was the best in more than a decade.

We doubled our earnings to $6.3 billion, excluding a one-time charge related to the acquisition of Lotus Development Corp. and two special items taken in the fourth quarter.

Our cash flow was very strong. We ended the year with $7.7 billion in cash — and that's after spending $5.7 billion to repurchase IBM stock and $2.9 billion to acquire Lotus.

One of the best indicators of our progress — and the one that probably matters most to investors — is market value. Last year IBM's market value grew by $6.9 billion, an increase of 16 percent. Since the summer of 1993, when we announced our restructuring program, through year-end 1995, IBM's market value improved nearly $27 billion.

Just as significant, I believe, is that IBM is growing pretty much across the board, and that our businesses with the greatest growth potential are the ones that are growing the most:

● Services grew to become our second-largest source of revenue, up 31 percent over 1994. Today IBM is the world's largest information

(DOLLARS IN MILLIONS EXCEPT PER SHARE AMOUNTS)	1995	1994
For the year:		
Revenue	$ 71,940	$ 64,052
Earnings before income taxes	$ 7,813	$ 5,155
Income taxes	$ 3,635	$ 2,134
Net earnings	$ 4,178	$ 3,021
Per share of common stock	$ 7.23	$ 5.02
Cash dividends paid on common stock	$ 572	$ 585
Per share of common stock	$ 1.00	$ 1.00
Investment in plant, rental machines and other property	$ 4,744	$ 3,078
Average number of common shares outstanding (in millions)	569	585
At end of year:		
Total assets	$ 80,292	$ 81,091
Net investment in plant, rental machines and other property	$ 16,579	$ 16,664
Working capital	$ 9,043	$ 12,112
Total debt	$ 21,629	$ 22,118
Stockholders' equity	$ 22,423	$ 23,413
Number of regular, full-time employees	225,347	219,839
Number of common stockholders	668,931	713,060

technology services company, with more than 80,000 people providing consulting, systems integration and solution development services worldwide.

71.9
64.1
62.7

o Few people know it, but IBM is the world's largest software company, too. Our acquisition of Lotus helped increase our software revenues 12 percent to $12.6 billion. We're already seeing encouraging results from the merger. Since we combined, the installed base of Lotus Notes has more than doubled. More Notes installations (we call them "seats") were sold in the last half of 1995 than in the whole

93 94 95   REVENUE ($ in billions)

prior six-year life of the product. We expect continued robust growth with the recent introduction of Notes Release 4, which has many enhanced features for the Internet.

o We continued to revamp and strengthen our hardware offerings. New products introduced in the past 12 months accounted for nearly half of last year's $35.6 billion in total hardware sales, which grew 10 percent from 1994.

o Our OEM revenue — sales of components and technology to other companies — grew 38 percent last year to $4.5 billion. That's about three and a half times greater than 1993 OEM revenues. Our microelectronics unit was the biggest driver of this growth, with OEM sales of more than $2 billion in 1995.

o Revenues increased in every geographic area, with the most significant growth in our

Asia Pacific region. Last year the Netherlands and Switzerland became our tenth and eleventh countries to each generate more than $1 billion in revenue. We continue to grow rapidly in China, India, South Africa and other emerging nations. IBM is today the leading computer company in China.

And, we are making investments that will fuel continued growth:

- In 1995 we increased our capital spending for the first time since 1991, investing in high-growth areas such as semiconductor manufacturing and services. Last year we invested $4.7 billion, up from $3.1 billion in 1994.

- We are making select strategic acquisitions, most notably Lotus and, more recently, Tivoli Systems. As opportunities arise to strengthen our ability to serve our customers, there will likely be others.

- We are expanding and investing in our most important asset — IBM people. Last year we hired about 15,000 new people, most of them for our sales and services businesses. In fact, our overall workforce grew in 1995. We began implementing an incentive-based compensation system that pays better rewards to our star performers at all levels of the company. We're taking an intensive look at our overall compensation system to make sure we are paying at competitive levels. And, we are revving up all-new employee training programs that increase skills and career development.

Just about any way you look at IBM — from performance to potential — we are growing.

So now what? Now that our financial foundation is again strong, now that we are growing, now that we seem to have some momentum — what's the next mountain?

Which brings me to the V-word.

Almost three years ago — July 1993 — I
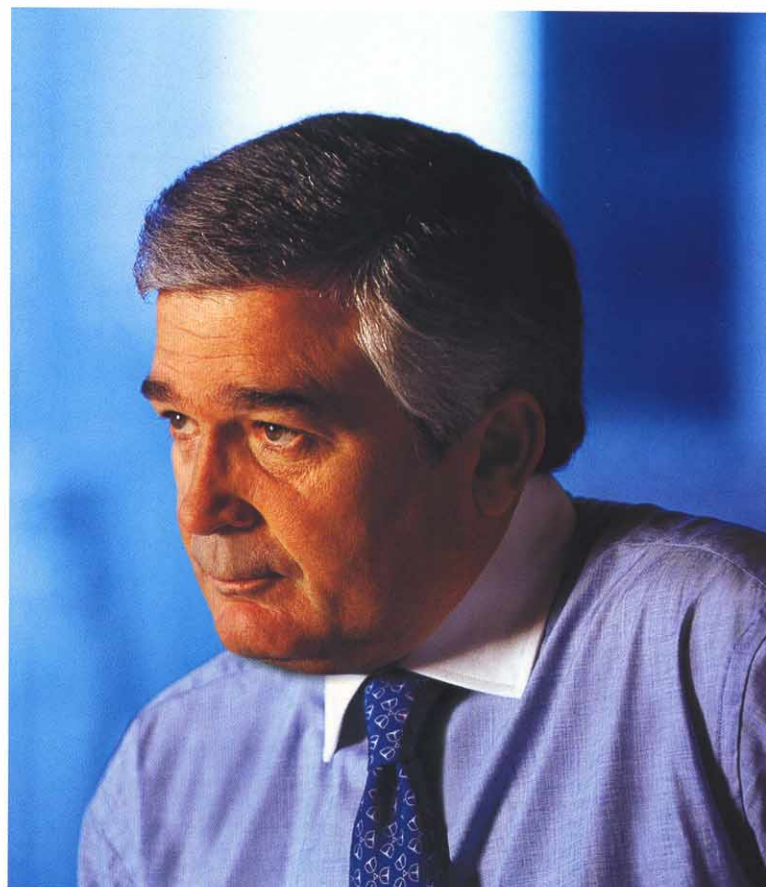
Louis V. Gerstner, Jr. CHAIRMAN AND CHIEF EXECUTIVE OFFICER

announced a massive restructuring of IBM. We were having serious financial problems. In fact, financially it was the worst year in our proud history. No one suffered more than our employees, who were stunned. For everyone else — customers, shareholders, suppliers, analysts — it was red alert.

During the press conference, I said, "The last thing IBM needs *right now* is a vision." Almost immediately, there was a lot of whooping and hollering in the media about IBM wandering, visionless, through the wilderness.

So it's with an enormous sense

NET EARNINGS ($ in billions)

	4.2
3.0	
(8.1)	

93 94 95

of irony that now, almost three years later, I say this: What IBM needs most *right now* is a vision.

I don't mean a slogan. I don't mean promises and vaporware (announced products that don't exist now and never will). I don't mean here's-what's-good-for-IBM-and-therefore-it's-good-for-you-too.

Here's what I do mean:

We've seen great changes in computing before — from centralized mainframes to decentralized PCs to distributed client/server computing.

We now realize that client/server is not a full-blown phase of computing. It's the leading edge of what will be the next phase — what we call network-centric computing. I'll admit it's a cumbersome name, if not out-and-out dull. (I'd like to come up with something snappier, but I think it's too late.) But what we call it is less important than what it describes: a powerful change that has sweeping implications for individuals and institutions of all kinds.

From a pure technology perspective, the networked world begins with new communications capabilities that allow digital networks to handle rich sources of information: video, high-resolution images, voice and music. High transmission speed also allows these networks to support interaction — real-time collaboration between people.

The Internet, of course, stands as the most prominent living representation of global networking. Some estimates say a billion people will have Internet access by the year 2000. Yet, as with previous market shifts, the driving force of this change is not raw

38.3

32.0

28.2

TOTAL EXPENSES AS A PERCENTAGE OF REVENUE *(after adjustments)*

93 94 95

technology. After all, the Internet has been around — albeit quietly — for 25 years.

The real catalyst of this new era is a powerful set of emerging customer priorities. Everywhere you look today, businesses and institutions alike, you see the need for things like more speed to market, more flexibility and nimbleness, accelerated global expansion, and more customer and supplier integration. People around the world are finding that networks are highly effective tools to meet these priorities, and to communicate across and among enterprises and people.

And because networks can support interactivity and transport rich content, they are redefining things like value, competitiveness and the very nature of commercial transactions. Networks are changing the way we work, receive government services, educate our children and enjoy entertainment. We're already seeing people and organizations use networks to do real work and get real results. They're moving from surfing to working, from browsing to buying. You'll see examples of that throughout this Annual Report.

So this convergence of two powerful forces — customer need and advanced network technology — leads IBM to a strategy, or vision, that is simple and clear, and consistent with our company mission. IBM will lead the transition to network-centric computing by:

- Continuing to create the advanced products and technologies needed to make powerful networks real; and

- Working with our customers to help them fully exploit these networks.

First, customers. Our customers look to IBM to provide the skills and expertise that will allow them to use networks in meaningful ways. They are asking for our assistance in extending their assets and brands to reach new markets and customers via networks. That's why services is one of

Last year, **IBM**'s **OEM** business – sales of components and technology to other companies – grew 38 percent to $4.5 billion. That's about three and a half times greater than in 1993.

our fastest-growing businesses and now our second largest.

Unlike some in our industry, we don't want to displace our customers by inserting ourselves in front of their own customers. Our job is to help our customers leverage their information to their advantage. After all, the most important and valuable content in the world is the intellectual property housed in the information systems of corporations and institutions. Most of this information resides in IBM databases and is processed by IBM computing systems. We are rapidly adapting our systems and delivering new services that allow customers to move their content to networks — and do it with the security and reliability they have come to expect from IBM.

An increasing number of customers are signing up with the IBM Global Network, the world's largest data network and Internet services provider. We run it as sort of an "information utility," giving customers the option of subscribing to a

rich portfolio of applications and as much or as little computing power and connectivity as they need. They pay for only what they use, sometimes on a usage or transaction basis (most people now call it "per click"). For IBM, this has the added advantage of creating a recurring revenue stream.

On the technology side of the equation, we are moving on many fronts.

We are developing and bringing to market new networking technologies — Web servers, groupware, intelligent agents and encryption technologies for secure electronic transactions, to name just a few.

Our strengthened financial position gives us the flexibility to consider acquisitions that will broaden and complement our offerings and worldwide development teams. Where these make good business sense for both parties, we move quickly. Our mergers with Lotus and Tivoli Systems are the two most visible recent examples.

I should add that far more important than the technologies we gain through these moves are the thousands of talented people who bring to IBM fresh perspective and drive. They are very welcome additions to the IBM family.

Perhaps the greatest product opportunity we see lies in leveraging IBM's vast existing portfolio — scalable servers, middleware, networking, systems management, microelectronics, storage. We've worked hard to put all our products on the absolute leading edge of technology, to ensure they are cost-competitive with any offerings in the industry, support open industry standards and work effectively in distributed computing environ-

CAPITAL INVESTMENTS *($ in billions)*
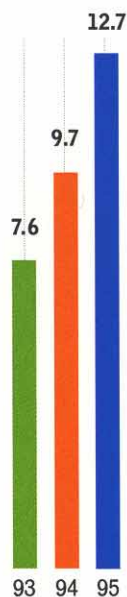
93	94	95
3.2	3.1	4.7

Nearly half of 1995's $35.6 billion in hardware revenue was generated by products introduced in the past 12 months.

ments. All of this work and investment will serve us well as we move into the networked world.

Consider the implications of global networks as they become the locus of commerce and communications and, over time, of computing itself. Databases expand enormously. Transactions skyrocket. Demand grows rapidly for products that move, manage, store, process, present and protect all of this information.

This is one of the reasons we shipped to customers more mainframe computing power in 1995 than in any year in history. In fact, in the fourth quarter of 1995 alone, we shipped 80 percent more mainframe computing power than in the fourth quarter of 1994.

So this new model of computing does not displace or replace everything that has existed in previous models. And its success does not depend on some piece of "killer" technology created and controlled by any one company. In fact, the networked world — by definition — must remain open to support seamless access and navigation to people and information. The very market forces that are creating it

will repel any company's attempt to erect proprietary walls. Customers will simply not embrace innovation created to enrich the inventor without enriching the network.

Perhaps IBM's greatest strength as we pursue these opportunities is our experience. Simply put, network-centric computing feels right to us. We understand powerful computing, how to solve complex problems, how to work with customers to develop global solutions. We've been doing this, with great success, for decades.

Of course, in a company of IBM's size and breadth, not every strategic project and priority fits neatly under the network-centric computing banner. With vigor and determination, we continue to pursue our OEM, emerging market and consumer strategies.

We continue to invest heavily in research and development. I should note here that in 1995, IBM was number one in U.S. patents issued for the third consecutive year. And we beat our own record in receiving more patents than any company in any year.

We continue to fine-tune IBM's operations to improve efficiency and productivity, mostly through our reengineering projects. Since 1993, these projects have reduced cost and expense by more than $7 billion.

But for the first time in nearly 30 years, we have an opportunity to align virtually every part of IBM in a single direction. Network-centric computing has emerged as our integrating strategy — the vision guiding our investments, products, services and our people.

❍   ❍   ❍

Two final thoughts:

First, it's easy to get caught up in the potential and promise of these new technologies, and how we see them applied by people and institutions. Yet, some people are concerned — rightly — that

12.7

9.7

7.6

93 94 95   **SERVICES REVENUE** (*$ in billions*)

this technology is creating a lot of new issues regarding privacy, security, censorship and universal access, and the possibility of a world of haves and have-nots. These are all legitimate concerns, and we must deal with them.

As a leader in creating networks and as a citizen of the world, we at IBM take our responsibilities seriously. We will do everything we can — and work with governments and others — to help ensure that our technology works to the benefit of all people, everywhere. If properly managed, these technologies, rather than creating new problems, can solve centuries-old problems for people and societies. The powerful networks we are building can bring the best doctors to the neediest patients. They can bring education to children in remote villages. They can bring information and the whole rest of the world to the oppressed.

o   o   o

Finally, I want to personally thank the people who brought IBM back from the brink to this new point of opportunity — the employees of IBM, most of whom are shareholders.

You never, never, never quit. Others said IBM was dead, but you rolled up your sleeves, picked up the bricks and rebuilt your company, day by day, product by product, customer by customer. Wherever I was in the IBM world, at night I saw the lights still on in your offices. The next morning, I saw all the empty pizza boxes.
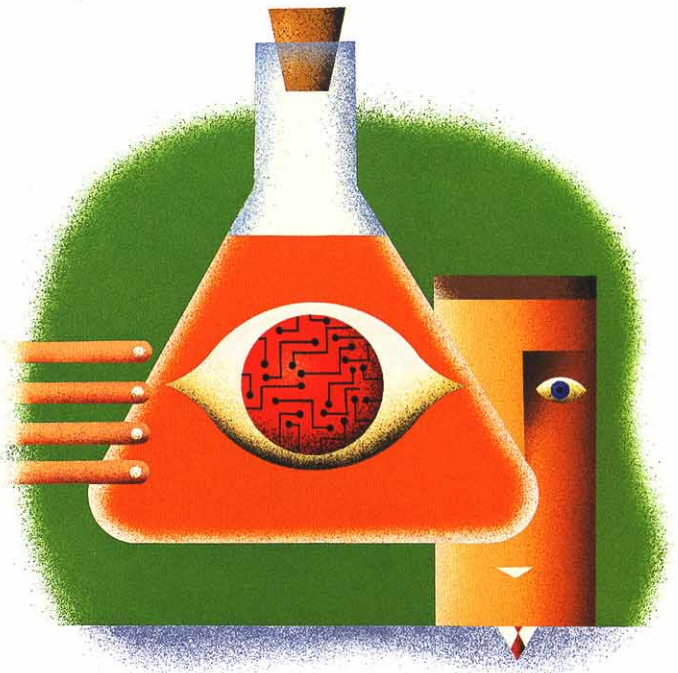
We're not done yet — because we'll never be done. But the fact that we've come this far this fast is testimony to your grit and to your stubborn determination to win.

I'm very proud to work alongside you.

Thank you.

Louis V. Gerstner, Jr.
CHAIRMAN AND CHIEF EXECUTIVE OFFICER

For the third year in a row, **IBM** led in the number of **U.S.** patents issued, and our **1,383 patents** were the most ever issued to any company in any year.

(2) bits

The face of computing is changing. Again.

Truly significant change is easy to miss — and dismiss — in an industry synonymous with all things new, improved and leading edge. But this change is not just about technology getting smaller, faster, more powerful. It's far more profound, more expansive. It affects the heart and soul of every business and institution in the world. It's changing the way we live and work. The way we teach our children. How we communicate with one another.

We're talking about a universally connected world. A new era, driven chiefly by customers — organizations and individuals discovering the power of networks.

In terms of technology, two intertwined forces are at play. It begins with bits, the elemental language of computers — zeros and ones — a language IBM has spoken fluently for decades. Business information, medical records, art, music, film. All are being digitized. Conversion into bits gives information a digital passport to travel across global networks — such as the Internet — to digital devices like PCs or TV set-top boxes.
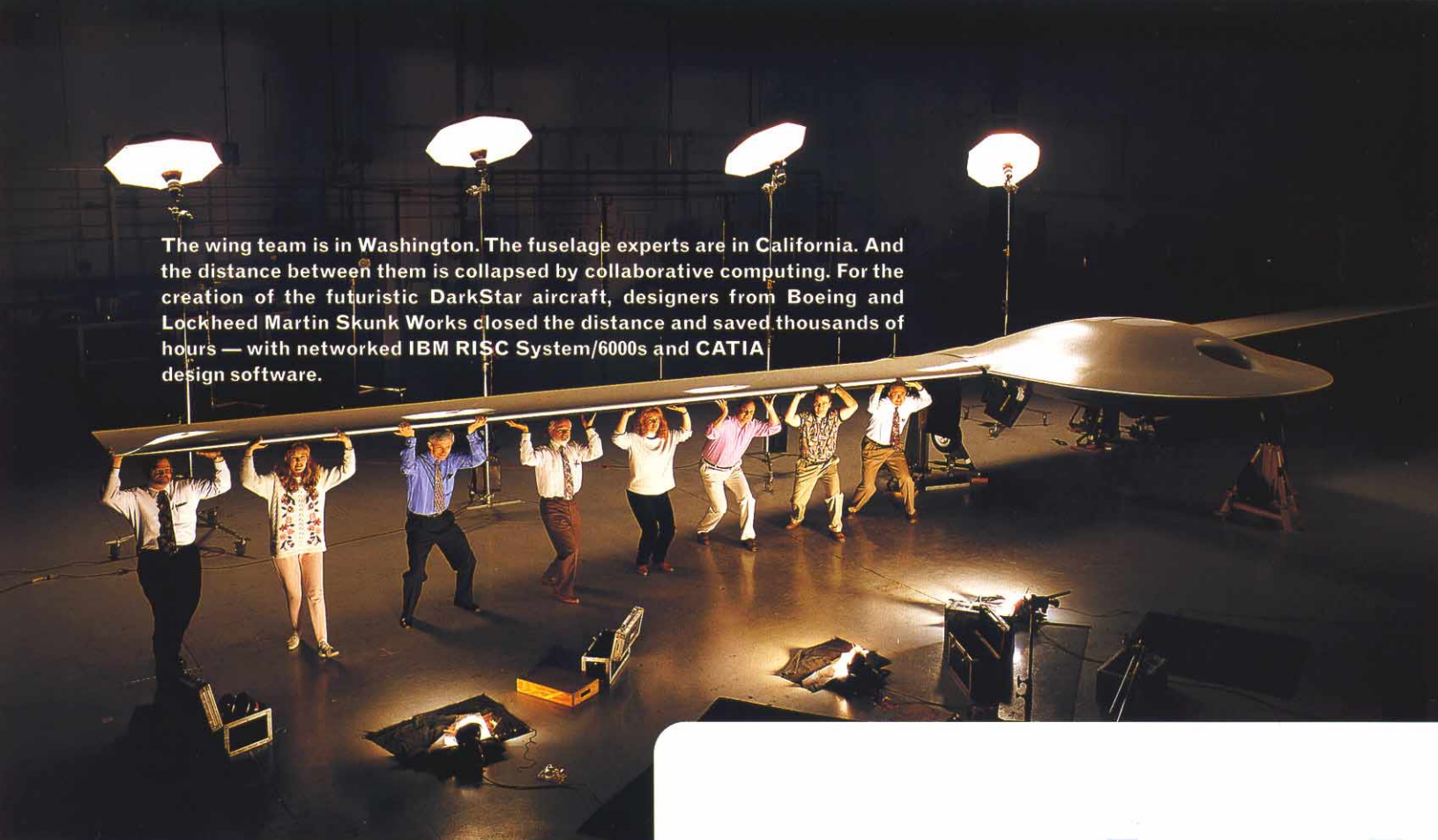
The second transformation is radically reshaping networks themselves. Powerful new communications technologies are giving networks the bandwidth they need to handle rich but space-consuming content, like movies, MRI scans or great works of art. And with the speed to support interaction over the network. Two-way communication. True collaboration.

Together, digital content and high-speed networks make the once-improbable entirely possible. Things like "distance learning" — teachers teaching and students learning, though not in the same classroom. And "telemedicine," allowing physicians in different hospitals to consult and examine the same medical histories, X-rays, CAT scans.

Using a health application network, the Greater Dayton Area Hospital Association will deliver critical medical information to 2,300 physicians throughout Ohio. State universities in Florida are creating an online digital library starting with 100,000 journal articles, with plans to grow indefinitely. The Lutherhalle Wittenberg museum in Germany is digitizing the world's largest collection of 16th-century Reformation documents. And IBM is helping them all.

IBM is committed to helping create this network-centric world. Simply stated, the network is the unifying strategy of IBM. It drives our investments. It touches virtually every product in our portfolio. And it will touch you soon.

The wing team is in Washington. The fuselage experts are in California. And the distance between them is collapsed by collaborative computing. For the creation of the futuristic DarkStar aircraft, designers from Boeing and Lockheed Martin Skunk Works closed the distance and saved thousands of hours — with networked **IBM RISC** System/6000s and **CATIA** design software.

(3) mind

A long, long time ago, we were taught that two heads are better than one. Intuitively, we understood. And we learned from experience the advantages of teamwork and collaboration.

Then we went to work on stand-alone PCs. Powerful tools, but we remembered the lessons of our youth, and we struggled to take advantage of linking distant — and disparate — PCs.

Enter network-centric computing.

With networks, we bridge the distance between people who need to collaborate, share ideas, solve problems together.

Far more than a '90s spin on "connectivity," the networked world is the digital alternative to bringing people together in the same room — to work on a product design, brainstorm a new strategy, spark a creative thought.

This powerful approach to working is paying off. It's allowing SmithKline Beecham to connect 5,000 researchers around the world with outside clinical groups to speed the introduction of new pharmaceutical products.

It's why leading consulting firms like Andersen Consulting and Coopers & Lybrand, whose fortunes rise and fall based on the most ephemeral commodity of all — thought leadership — have embraced Lotus Notes as a new, networked way to do business. The plasma of their organizations — and of many, many others — is ideas. And the ability of people to share them. Improve them. By working together.

share

Leapfrogging generations of technology, the Shanghai Posts and Telecommunications Administration (SPT), China's largest telecommunications agency, is going directly to advanced network computing. SPT and IBM designed and built an ATM-based regional information superhighway that supports collaboration — using interactive videoconferencing and video-on-demand — between SPT's customers. Future network enhancements will enable distance learning for universities, remote diagnosis for hospitals and online government services.

"A project of this complexity normally requires hundreds of designers and takes years to complete," says Bob Fischer, chief engineer on the project that produced the world's most sophisticated unpiloted reconnaissance aircraft. "Because we could pull together the best team electronically, we finished DarkStar in just 11 months with 50 people."
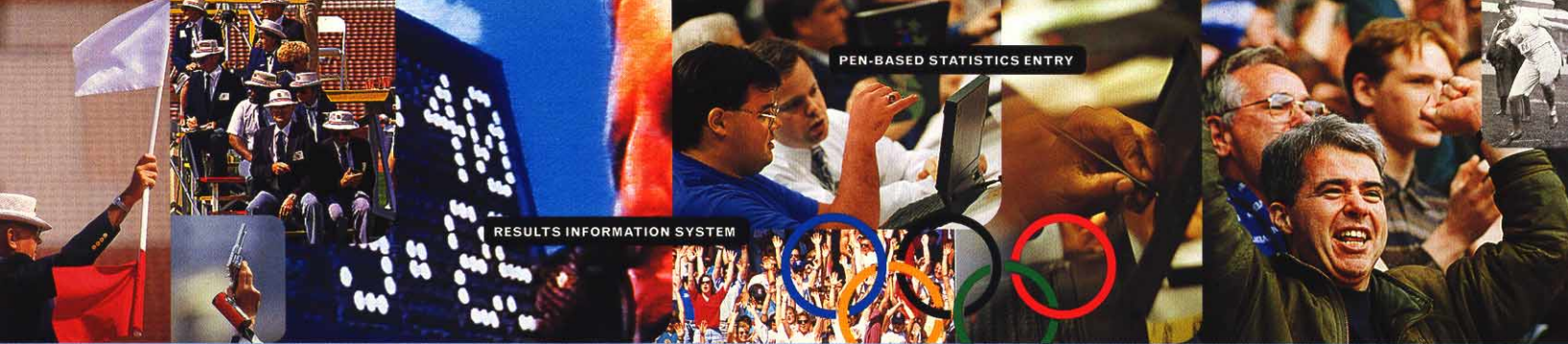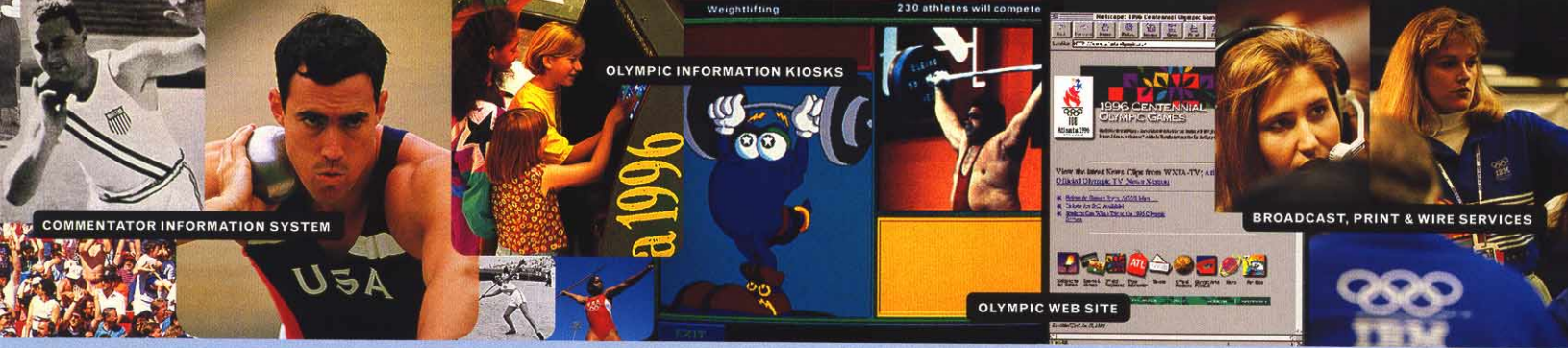
(4) liquid

A 16-pound globe of steel thuds onto a patch of sod, joining a thousand other Olympic moments — some trivial, some historic. Times, records, scores, distances, triumphs, failures. All are significant to someone, somewhere. But how will you know?

In any event of Olympic scale and complexity, the amount of information distributed to people is constrained by rigid — but very real — dimensions of time and space: minutes in a newscast or column inches of newsprint.

Network-centric computing lifts these constraints, triggering a free-form flow of information that ripples out from the Olympic Village to the Global Village. Information becomes available. Accessible. In context. To anyone interested. When they want it.

Information in liquid form. For sports fans, it's a matter of convenience and personal interest. For businesses, governments and institutions, information is often their central asset. It's how they

COMMENTATOR INFORMATION SYSTEM

OLYMPIC INFORMATION KIOSKS

Weightlifting

230 athletes will compete

BROADCAST, PRINT & WIRE SERVICES

OLYMPIC WEB SITE

a1996

The Centennial Olympic Games in Atlanta: a billion-dollar enterprise operating under the expectant gaze of the planet. For the first time in Olympic history, one company — IBM — is providing a total information technology solution. IBM is creating custom applications to support Olympic administrators, 10,000 athletes, 2 million spectators and broadcasters reaching an expected audience of 3.5 billion. Those solutions draw on an array of IBM products, from System/390 servers and DB2 databases to OS/2 on wireless ThinkPads. Event results will be disseminated via an Olympic Internet site designed by IBM and supported by an IBM SP2 supercomputer. As the exclusive World Wide Information Technology Sponsor for the next three Olympic Games, IBM will transfer its Olympic solutions from Atlanta to Nagano, Japan in 1998 and Sydney, Australia in 2000.

compete and grow and serve their customers. For them, networked computing means the swift, fluid movement of information to decision makers within their enterprise and beyond — to customers, suppliers, distributors, partners.

IBM is working with organizations like the Atlanta Committee for the Olympic Games that are pioneering the application of networked computing. How they use information makes the difference between triumph. And failure.

(5) now

The value of information is seldom a function of volume. For information to be truly valuable, it must be pertinent. Accurate. Timely. Targeted. And most of all, available to the people who need it. When they need it.

So, while networks can provide access to unprecedented volumes of information, their usefulness really depends on tools that connect the right information, with the right person, right now.

Like financial news. Information about changing marketplace dynamics. Or even the latest weather report. Perishable information. Knowledge with a shelf life measured in minutes, seconds.

IBM technologies connect customers to the information they need. Network-based intelligent agents, for example. One IBM technology, infoSage, constantly scans more than 2,200 sources of business content to find information personalized to your specific request. It then delivers that information

11:15ᴬᴹ FAMILY CONSULTATION

10:05ᴬᴹ TRIAGE
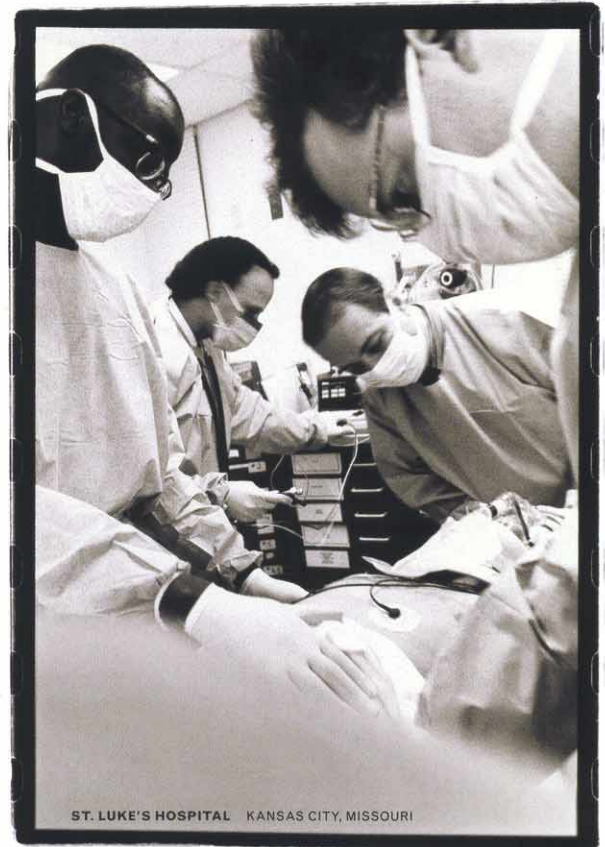
ST. LUKE'S HOSPITAL KANSAS CITY, MISSOURI

09:31ᴬᴹ MEDVAC ALERT

02:00 PM RETRIEVAL SURGERY

ORGAN/TISSUE FOR TRANSPLANT

MIDWEST ORGAN BANK WESTWOOD, KANSAS

02:20 PM ORGAN TO MEDVAC

Wasted time and human error are the critical inhibitors to successfully matching donor organs with waiting recipients. The United Network for Organ Sharing (UNOS) has improved and accelerated the process by almost 12 precious hours by replacing phone lists and fax machines with a custom Lotus Notes application called Xpedite. Notes contains names and critical details of recipients across the United States. When an organ becomes available, Xpedite instantly identifies the right potential recipients and automatically "alerts" emergency medical teams.

RESEARCH MEDICAL CENTER KANSAS CITY, MISSOURI

12:35 PM XPEDITE MATCH

via E-mail or the World Wide Web, packaged as a personalized newsletter, if you like.

Working with a British development partner — Multimedia Archive and Retrieval Systems — the IBM Digital Library has taken the music library of EMI Music Publishing and made it available online to producers of films, videos and television programming. And at BJC Health Systems, IBM, Kodak and Southwestern Bell created a network linking 15 hospitals. One application allows physicians to work together to reach a diagnosis using digital radiology images shared across a fiber-optic network.

Networks that deliver just the right information. Think of it as the difference between surfing and working.

For 25 years, **Oreste Candia** has crafted **Bottega Veneta's** fine leather handbags and accessories the same way — by hand. But if Bottega's manufacturing process hasn't changed, its distribution network, built around **IBM's Continuous Replenishment Process**, is 21st century. An **IBM AS/400** at Bottega's **Vicenza, Italy** plant shares sales and inventory data with 20 retail stores worldwide via the **IBM Global Network**. **"We can keep a close eye on purchasing trends and instantly respond,"** says Giuseppe Pilotto, chief information officer. **"The network gives us a vital link to our stores we could never afford to build."**

BOTTEGA VENETA
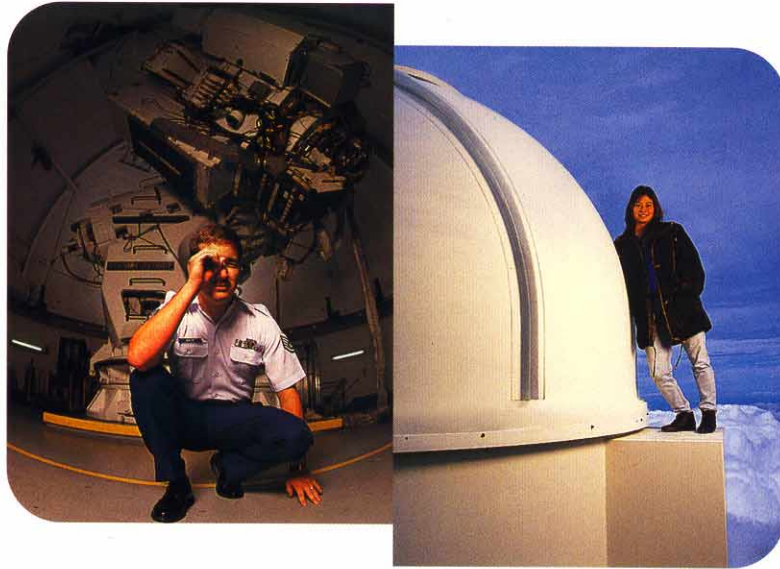
(6) reach

Work locally. Compete — and compute — globally. Networks let you do that.

They level the playing field for small businesses. And help organizations large and small reshape the how, where and when of their operations. Bringing employees, customers and suppliers together in entirely new, more effective ways.

We're helping create the networked environment that makes all this possible. Take publishing, for example. IBM's innovative Cryptolope technology lets major music producers, movie studios, publishers, writers, artists, photographers and other intellectual property owners distribute their works across the Internet — and makes sure they are paid and their copyrights are protected.

Similarly, we're working to promote electronic commerce by ensuring that financial transactions are standard and secure. We played a key role in developing the technological aspects of a landmark network security agreement among MasterCard, VISA and others to ensure secure payments on the Internet. And we created infoMarket, an Internet-based marketplace where publishers can securely distribute their information and users can find specific Web content. IBM generates revenue on a "per transaction" basis.

Customers even subscribe to computing power itself. An increasing number are leveraging the IBM Global Network, the world's largest data network and the largest Internet services provider worldwide.

With IGN, customers can access and exploit a portfolio of networked applications and connect their operations around the world — without having to build a global network themselves. They use and pay for only what they need. IBM as information utility company.

U.S. Air Force Staff Sgt. Steve Baker and Rockwell Power Systems' Laurie Bosque are part of a team tracking thousands of objects orbiting Earth — everything from asteroids to man-made space debris. They rely on an **IBM SP2** supercomputer at the Maui High Performance Computing Center connected to the U.S. Air Force Phillips Laboratory's powerful telescope perched atop Mt. Haleakala. The **SP2** renders fast, detailed image enhancements for users networked throughout the world, including **NASA** and the **Jet Propulsion Laboratory.**

(7) open

For openers, let's be clear about what we mean by closed. In the lexicon of the information technology industry, when people say "closed," they're referring to a proprietary architecture. Developed by a single company. Mostly incompatible with other makers' computers.

Contrast that with "open." Where computers conform to industry-accepted standards. So they can easily communicate and interoperate with other systems — regardless of whose logo is on the cover. Open means choice. Control. In the hands of the customer. Where it belongs.

IBM has invested heavily to make our products open. Extending our software offerings to run on industry-leading platforms — from IBM and competitors. Key middleware products like DB2 and CICS, and our communications products and tools all run on competitors' systems. Our System/390 servers support UNIX. Our commitment is also reflected in our merger agreement with Tivoli Systems, a leader in distributed systems management.

All this work leads straight to the world of network-centric computing. Today, we're optimizing all our database and transaction software for the Internet. We're introducing servers for the World Wide Web, plus an array of products and services that allow customers to exploit the Internet by leveraging information on their existing systems. With Lotus, we've announced Notes-based Internet solutions that run across platforms.

It's all part of our commitment to give customers the freedom to exploit networks from one end to another without regard for barriers. Corporate. National. Or architectural.
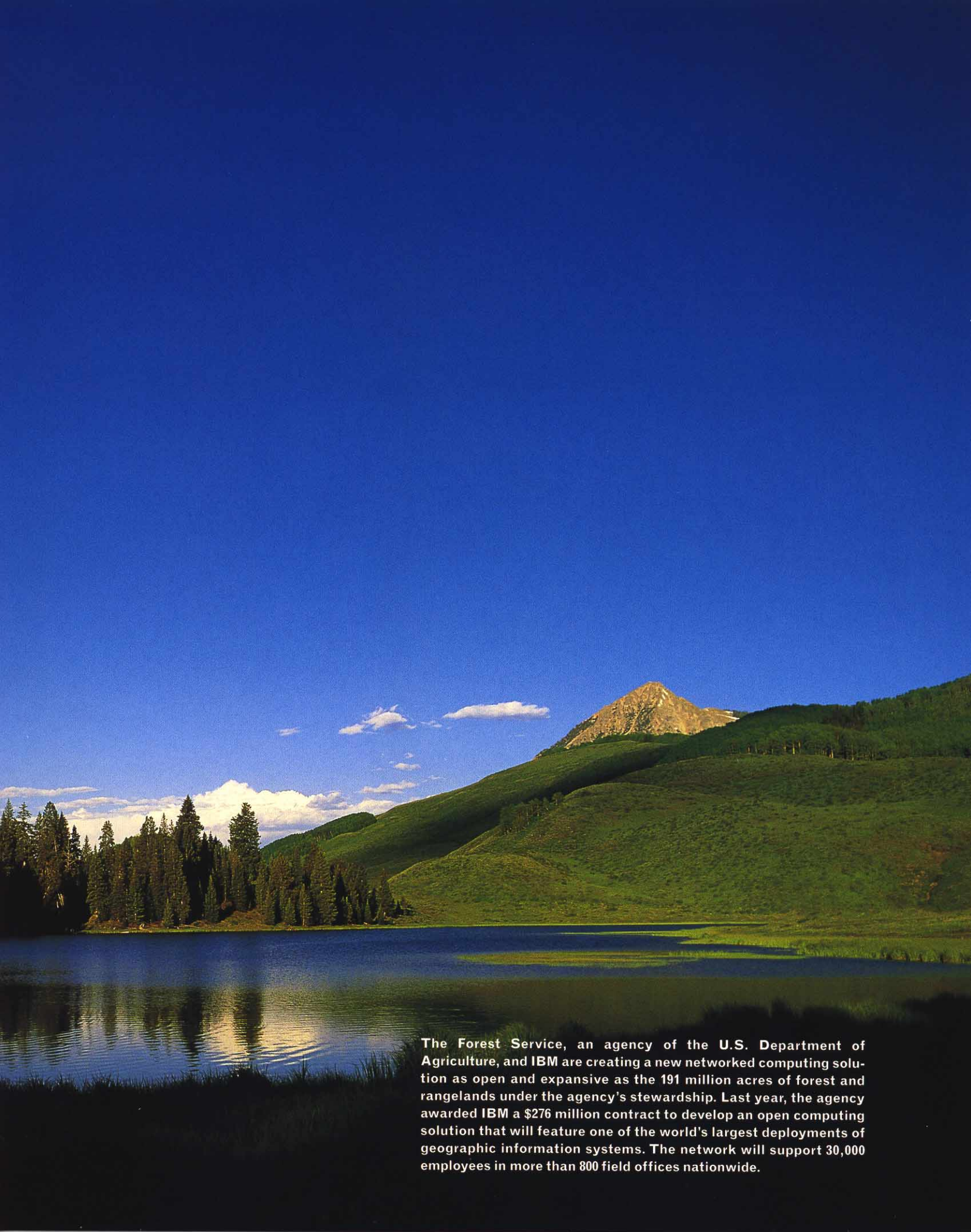
The Forest Service, an agency of the U.S. Department of Agriculture, and IBM are creating a new networked computing solution as open and expansive as the 191 million acres of forest and rangelands under the agency's stewardship. Last year, the agency awarded IBM a $276 million contract to develop an open computing solution that will feature one of the world's largest deployments of geographic information systems. The network will support 30,000 employees in more than 800 field offices nationwide.

(8) invisible

In a networked world, it's easy to lose sight of a few things. Like complexity. And the physical elements of computing — memory, storage, software — that now reside on your desktop **PC** or in your enterprise system.

How so? Consider how it's done today. To perform even the simplest function on your very powerful **PC**, you press a key or click a mouse button that stirs the innards of the machine. And computing happens.

But in a network-centric environment, when the communications link between the computer and the network is fast enough, cheap enough, and has virtually unlimited bandwidth, things like applications, data, storage and even some of the processing can migrate out of sight. To the network.

With them go the complexity of computing — systems management, upgrades, and a shelf full of applications. In return, you get networked access to more computing power than could ever be economically justified inside a stand-alone PC. Automatic upgrades. Continually updated content. And performance like you've never seen.

One last thing. Consider the effect of more and more devices becoming digital. Set-top TV boxes. Smart machine tools and household appliances. In some of today's automobiles, the cost of microelectronics surpasses the cost of steel. Researchers at one U.S. university are embedding microprocessors into doorknobs, apparel, even shoes. Digital devices interlinked in the network. Complexity fades. Computing recedes. Becomes ubiquitous. Invisible.

(9) edge

Most of our customers don't awaken from dreams of exotic advances in asynchronous transfer mode technology; or polymorphism as it applies to object-oriented programming. For them, hubs may well be wheel covers; servers, restaurant staff.

Our customers are bankers. Manufacturers. Government officials. Educators. They're focused on improving efficiency. Entering new markets. Compressing development cycles. Outwitting competitors. Basically, getting an edge.

Make no mistake. We're moving fast to deliver the advanced technologies needed to make powerful networks real. Massively parallel servers, microprocessors, groupware, database software, switches, systems management tools. And more.

But raw technology in itself doesn't give customers an edge. That's why we're investing just as aggressively in services and expertise to help our customers exploit network technology and put it to good use.

An increasing number of our services experts specialize in translating network-centric computing into value for specific industries.

We've established an Internet consulting practice to help customers transform their businesses with networks, and do so securely.

And by year-end, we'll add another 1,000 Internet professionals — consultants and systems integration experts — working on even more network solutions.

To help ensure that the performance of its dealers is every bit as high as its cars, Paris-based **PSA Peugeot Citroen** is tapping the **IBM Global Network** to link its 4,200 independent dealers across 11 European countries. Networked applications are improving operations and offering customers enhanced service. For example, dealers can now locate a vehicle with the exact features desired by a customer — anywhere in the dealer network. Live videoconferences for training, product announcements and marketing meetings, and an online parts inventory system are among applications now under development.

Efficiency at managing, loading and unloading massive cargo ships makes the Port of Colombo in Sri Lanka one of the busiest — and most competitive — in south Asia. To keep the freight flowing so vessels can get back to sea quickly, the port connects 20 of its largest shippers' computer systems into its own network — which is anchored by an **IBM System/390** server, a dozen **RISC System/6000s** and hundreds of **IBM PCs**. Together with **Japan Port Consultants Ltd.** and **Mitsui Shipbuilding and Construction Co. Ltd.**, **IBM** helped implement the network solution, which manages everything from billing to berthing schedules and container handling operations, including yard planning, yard operations and vessel planning.

There's a new wrinkle in denim. Levi Strauss & Co. is using a networked Lotus Notes solution to offer women an industry-first: affordable individually fit jeans. Customers try on prototype jeans in an Original Levi's Store. Once the customer is satis-fied with the fit, the information is entered into the Notes database and transmitted to a Levi's factory. A pattern is precision-cut by computer-controlled tools, the jeans are hand-sewn and, if requested, shipped directly to the customer's home.

SHIP TO >>
RETAIL NO. 2012

Levi's

TAPERED LEG
27 33

CUSTOMER >>
Ginny GAINES

Levi's

TAPERED LEG
27 33 B 33

CUSTOMER >>
Patty MANNING

Levi's

TAPERED LEG
26 32 B 33

CUSTOMER >>
**Karen BETZ**

Levi's

TAPERED LEG
29 34 B 34

Lauretta Jones is an expert in creating screen interfaces that help even novice computer users navigate complex applications. The IBM researcher is part of a team that made unemployment benefits applications available on computer kiosks. That work is now being adapted for touch-screen systems that let people use the Internet to shop for and obtain consumer loans.

Lisa Su joined the IBM Research Division last year. She's part of a team developing advanced semiconductor devices for future generations of IBM's advanced microprocessors.

The latest version of Lotus Notes — Release 4 — features hundreds of enhancements, including new Internet capabilities. Part of the group at Lotus subsidiary Iris Associates, which pioneered the concept of groupware (from left): Len Kawell, vice president; Mussie Shore, chief designer; Ray Ozzie, Iris president; Steve Beckhardt, vice president; Tim Halvorsen, vice president.
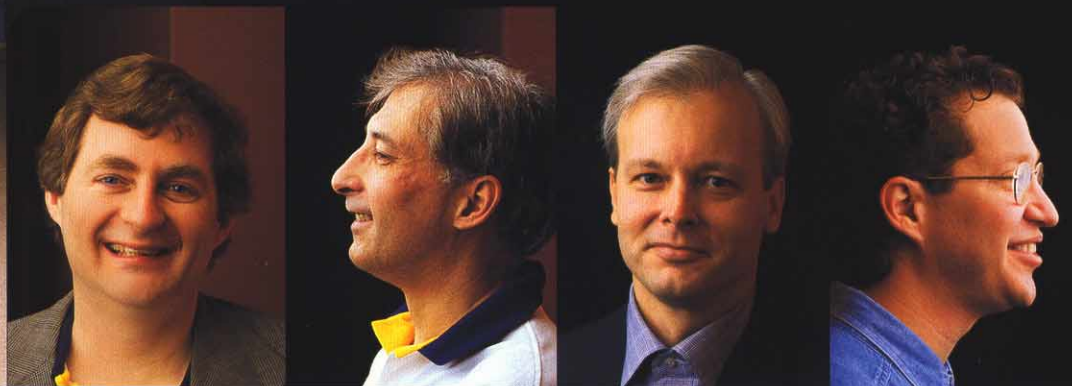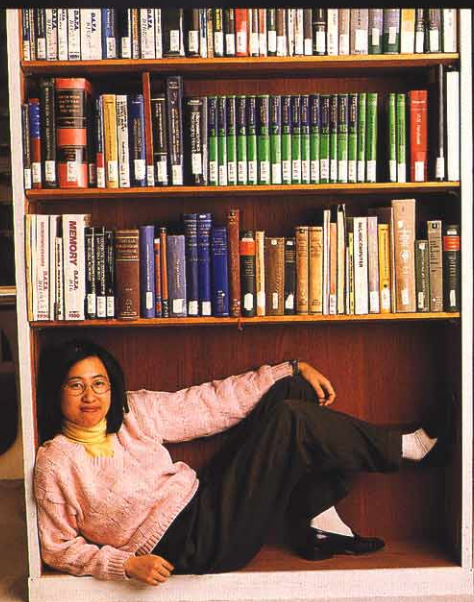
A team at IBM's Yamato Laboratory in Japan has developed one of the world's smallest full-featured PCs — IBM's new Palm Top PC110. Weighing a scant 630 grams (about 1.5 pounds), the unit not only connects easily to public telephone networks, it contains a phone receiver and microphone that let it "be" a phone. Team members (from left): Yoshihisa Sueta, Tetsuya Kaku, Junko Minagawa, Eiki Shibata, Yohgoh Tanabe, Shichiro Miyashita.

(10) smart

By now the message, we hope, is clear. Network-centric computing is coming fast. It will change the world. And it's the integrating strategy of IBM.

Getting there requires continued improvements in communications technology. In processing and software. In the creation of networked, rather than stand-alone, applications and customer solutions. A truly networked world may take a while to achieve. But it's already happening, and its advent is driving IBM's investments and priorities.

Even as we work to make the networked world real, to deliver on its promise for our customers, we continue to explore. Innovate. Create. And nurture some of the brightest minds in the business.

For the past three years, IBM has led in the number of patents awarded by the U.S. Patent Office. Last year in the United States we more than doubled our hiring of people with Ph.D.s in electrical engineering and computer science – and hired a full 10 percent of the total number of these Ph.D.s entering the workforce.

Because in an industry and a world changing as fast as ours, it can be tough to know exactly when the next great idea's time will come. What's not hard — for a company with the depth and breadth of IBM — is being ready.

From her desktop at IBM's Thomas J. Watson Research Center, Sandra Johnson Baylor runs simulations that mimic the performance of supercomputers that are among the largest on Earth. Her work produces design refinements that squeeze extra performance from "clusters" of microprocessors in IBM parallel computing systems.

surfing

Pleasant-sounding, but too passive and imprecise. Implies network users spend a lot of time wandering aimlessly through cyberspace. In fact, a growing number are going online to conduct a phenomenal amount of business, both commercial and personal. Ditto for "browsing," which suggests the kind of idle absorption done in front of a TV. Call us radical, but we think the modern network user is moving beyond window shopping.

paradigm

Cliche. Too bad, because the concept is still quite useful. Means a set of theories or assumptions that shapes the thinking of an entire society or industry — that is, until something better comes along. Like network-centric computing. In a startlingly short time, the once-firm belief in the necessity of ever-more powerful stand-alone PCs has given way to the logic of increasingly powerful and accessible networks. Called a "paradigm shift," which is also cliche, but succinctly explains why so many of our customers are migrating to the networked world. Besides, we suspect "new paradigm" won't be so hard on the ears when people actually see one.

client/server

Important. But not for the reasons we thought a few years ago. Not the end-all in computing, but the first stirrings of the networked world. Client/server is a phase in the continuum of systems linking to ever-more powerful networks. It describes the here and now in computing. And don't worry. You *can* get there from here.

zzzzzzzzz

The idea is right. Too bad this isn't a word. (See TCP/IP.) Refers to what you'd rather be doing at night instead of worrying about the security of your computer systems. And in fact, as networks gain more users and branch into more personal and commercial spaces, concerns about privacy and security have risen. That's why IBM and other information industry leaders are developing a host of security-related processes and products, from encryption systems to anti-virus software to sophisticated electronic "firewalls" that keep unwanted Internet traffic out of your private network. In the information age, network security is an obvious priority for the industry. But it shouldn't keep you up at night. We're working on it.
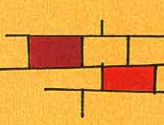
make the list

reengineering

Apt, but for some people, too theoretical. Describes a fundamental transformation of basic business processes — from assembly lines to payroll to corporate structure — to make the most efficient use of time, resources and information. Networks — within an organization and beyond an organization's walls — can make reengineering real. Eliminates unnecessary steps. Reduces cycle times. Good for the bottom line. And considerably more interesting than flow charts.

TCP/IP

Not even a word. But TCP/IP, or Transmission Control Protocol/Internet Protocol, is singlehandedly responsible for the universal connectivity the Internet provides. A set of technical standards that allows chunks of data — text, pictures, sound, graphics, you name it — to flow from one computer to another, with ease, and error-free. Key to home pages, Web sites, browsers and much of network-centric computing's ease of use and seamless "transparency." So while you may never have to say TCP/IP, you're already depending on it.

homogeneous

Sounds too much like a dairy product. In "homogeneous" computing, all the pieces work together because they're the same. One architecture, probably one vendor, one way of doing things. Heterogeneous computing is more complicated, but preserves customer preference, flexibility and investments. Network-centric computing combines the best of both — seamlessness and ease of use with choice and control left where it belongs. With customers, not vendors.

multimedia

Misunderstood. For most people, it means a shiny, 4-inch-diameter disk packed with digital words, pictures and sounds — neat, as far as it goes, but it has little to do with what's coming soon. Networked multimedia. Video-on-demand. Live, fully interactive events. Research and reference resources far too large for local storage, yet available instantly and updated constantly. Not exactly what comes to mind when you think of "multimedia." But it will be.
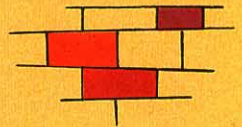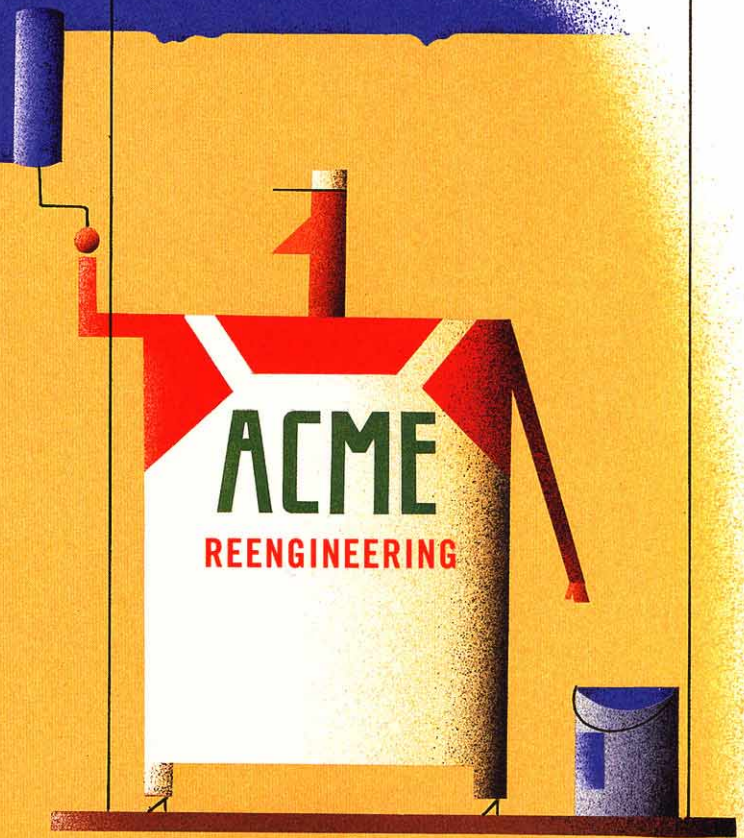
everywhere

Not quite, but getting there. While network-centric computing is taking off on the commercial front, it's just starting to make the consumer scene — in unexpected ways. Sure, someday consumers will feast on movies-on-demand and interactive TV. But their first taste of networked computing will come — is coming — as businesses use it to provide new and better products and services. Internet malls. Home banking. Real estate. Auto financing. The impact to consumers isn't glaringly obvious today. But it should be staggering in time.

ACME
REENGINEERING

A final word.

It might be commitment. Or involvement. Citizenship. Perhaps just plain old heart.

Whatever word you use, it's what you find anywhere you look in IBM, in any part of the world — an unwavering sense of responsibility for other people, both inside and outside the company; a focused determination to improve the communities in which we work and live.

It's also an IBM tradition going way, way back. Many things about IBM have changed. This, however, has been cherished, encouraged and underscored.

Over the last 10 years, IBM has been the largest corporate contributor of cash, equipment and people — more than $1.2 billion — to non-profit organizations and educational institutions across the U.S. and around the world. In 153 countries, we help people use information technology to help other people. In South Africa, for example, we've trained rural teachers on the use of technology in schools. In Sweden, we helped create a CD-ROM about AIDS/HIV as part of a public awareness program.

One of our top priorities is education. In the U.S., we established a $25 million grant program in 1994, "Reinventing Education," to help states and school districts embrace technology and take other steps to reform and revitalize the K-12 public education system. To date we have awarded 10 grants across the country, and we're already seeing some exciting changes — the way teachers are trained in Philadelphia, the way math and science are taught in Dallas and how learning is assessed in Vermont. Cincinnati is increasing the length of the school day and year.

West Virginia is exploring meaningful ways to harness the power of the Internet for instruction.

Cabell Midland High School in Huntington was one of the first to incorporate the Internet in the classroom for research projects and homework assignments. Eventually, students and teachers at more than 900 West Virginia schools will be connected to the Internet.

Our education initiatives also extend to improving the environment. Through the IBM Environmental Research Program, we've awarded grants totaling $16 million to support research at 14 major universities and research institutions around the world. Research, all being conducted through computer-based technology, ranges from regional air quality to global climate changes, and from environmental design to biological diversity.

In Australia, for example, researchers are using computer visualization to better understand how to conserve coral reefs in several Southeast Asian countries. IBM is also sponsoring researchers who are developing an environmental information and modeling system to devise strategies to control the loss of productive land in the arid subtropics of Chile. (To get a copy of our report, "IBM and the Environment," see page 81.)

We're also committed to creating an environment inside IBM that reflects the diversity and changing needs of society. In 1995, we doubled our dependent care fund to $50 million to support our child and elder care programs. *Working Mother* magazine rated both IBM and Lotus two of the best companies in 1995 for working parents. This is the tenth year IBM has been on the list and the eighth consecutive year we've been in the top 10.

"I think buying a computer is going to be as normal as buying a car or a television. It's going to be something every family has."
AMY SMITH

"I've got a couple of friends that have moved away. They're on the Internet and have E-mail addresses and I can still talk to them. If I called them on the phone, my bill would be outrageous."
BENJAMIN REID

"Technology is good unless it keeps us from thinking."
WENDY ROMANOWSKI

"The stuff we see on TV commercials, like the guy in the desert using the video phone on his wrist... when is that going to happen?"
HEATHER SPENCER

"My parents don't have a clue on how to even turn a computer on."
BENJAMIN REID

"Research on the Net is cool because you know that you're connecting with somebody who could be across the world and you're finding out things from 10,000 miles away."
NATHAN JACKSON

"I look at computers more as tools than toys now. They give you a chance to be an active part of what you are learning instead of just reading words."
LARA TURLEY

"One of the reasons I became interested in physical therapy was because of information I found on Web sites."
TARA DRYER

CABELL MIDLAND HIGH SCHOOL   HUNTINGTON, WEST VIRGINIA   11TH & 12TH GRADERS

IBM has two fundamental missions.

(1) First, we strive to lead in the creation, development and manufacture of the industry's most advanced information technologies, including computer systems, software, networking systems, storage devices and microelectronics.

(2) Second, we translate these advanced technologies into value for our customers through our professional solutions businesses worldwide.