

SAVE
GORILLA

FOR AND ABOUT THE PEOPLE OF AT&T

FOCUS

SEPTEMBER
1993



AT&T TrueVoice:
SOUND CHOICE



By Pat Bridgman

PAPA, READ ME THE PART ABOUT THE WORLDWIDE INTELLIGENT NETWORK ... Oswin Schreiber came home from work one day to find his three-year-old daughter Johanna cuddled up with her baby bottle in an AT&T carton she'd been playing with. Oswin, Microelectronics' Regional Sales Manager in Munich, placed an AT&T Fact Book in her hand and took the picture you see below. We think it's pretty cute. **ENTER PERSONAL COMMUNICATIONS ...** As of Sept. 1, 145 Phone Centers across the U.S. will carry the AT&T EO 440 Personal Communicator. Read all about it in this issue of *Focus*. **10,000 SOLD ...** July 7, GBCS sold its 10,000th small-business voice messaging system to Terrestris Development in Chicago. According to Dataquest, an industry analyst, AT&T leads the voice messaging industry in revenue and systems shipped. **ANOTHER MILESTONE ...** This summer, BellSouth turned up the 50,000,000th telephone line served by an AT&T 5ESS switch. **BAD DOG ...** The National Animal Poison Control Center, based at the University of Illinois, is now using AT&T *MultiQuest* 900 Service for a poison-control hotline ... for pets. The hotline (1-900-680-0000) puts the pet owner in touch with vets and toxicologists. The first five minutes cost \$20; each additional minute costs \$2.95. Take it out of Spike's T-bone allowance. **YOU'VE GOT OUR WORD ...** AT&T's Corporate Calling Card has always guaranteed zero-liability if some alleged perp puts fraudulent calls on a member's card. This summer, we put this promise in writing. No other company does. **MULTINATIONAL SPOKEN HERE ...** A new service, AT&T Business Translations, specializes in translating business and technical documents for multi-national business customers. (How do you say "proactively facilitate values deployment" in Urdu? How do you say it in English?) **I'M BEGINNING TO SEE THE LIGHT ...** Network Services Division is introducing optical amplifiers into AT&T's long-distance network. Optical amplifiers give light signals a boost as they travel through fiber-optic cables. To the best of our knowledge, AT&T is the first U.S. carrier to do this. **GOOD FOR-**

TUNE ... Who scores best on the environment? Fortune magazine put AT&T on its top-10 list of leaders in the green revolution. Fortune's July 26 issue gives us a nice write-up, citing, among other things, AT&T's Total Quality Management approach to paper reduction and our efforts to eliminate CFCs. **2001? No, 2500!...** It was like something from "2001: A Space Odyssey." Arthur C. Clarke, author and futurist, addressed a conference on cold fusion recently via AT&T's *VideoPhone* 2500. The conference was in New York; he was at home in Sri Lanka. A few weeks later he spoke to a sci-fi convention in Atlanta the same way. At both events, a TV camera trained on the *VideoPhone*'s screen projected Dr. Clarke's image onto a larger screen so the whole room could see him. **A RELATED ITEM**

... General Ramos, president of the Philippines, used a *VideoPhone* 2500 to share his Independence Day speech with about 1,000 Filipino-Americans at a reception in San Francisco. Gen. Ramos placed the call from the Presidential Palace in Manila. **EFFECTIVE EFFORTS EFFECTUATE "EFFIES" ...** The American Marketing Association has given a gold EFFIE award for effective advertising to Consumer Communications Services' "10+ATT+0" campaign and a bronze EFFIE to Business Communications Services' "800-Service quality" ads. **SEEING STARS ...** The Pioneers made a nice contribution to homeless shelters in the Norfolk, Va., area recently—proceeds from an all-star production of the second act of "Die Fledermaus." Among the artists performing at the gala were Tyne Daley of "Cagney & Lacey" fame and Dolores Riego de Dios, Network Services senior operations clerk, who sang the role of Ida. **COMING HOME ...** Among the customers who've come back to AT&T is New York City's Covenant House. It's well-known "nineline" (1-800-999-9999), a nationwide hotline for troubled kids and their families, used to belong to MCI. **GUTEN NACHT, JOHANNA ...** And goodnight, all!

It's not that Johanna Schreiber found the AT&T Fact Book boring, but this was the 1990 edition ... she'd already read it.



FOCUS

September 1993

20 COVER STORY: SOUND CHOICE

AT&T *TrueVoice* improves the sound quality of calls placed within the continental United States and to Canada—and the patented technology behind this significant innovation is exclusive to AT&T.

24 DIGITAL NOMADS

With or without wires, these devices are about to change the meaning of the words “mobile communications.” Coupled with a new generation of AT&T network services, they may even change your life.

28 BUILDING BRIDGES

Customers want solutions, and that’s what inter-business-unit cooperation gives them.

30 SAFETY FIRST

Trends in safety have changed over the years, but pain is just as painful as it’s always been. It costs more now, and that’s another kind of pain.

32 SEAMLESS SOLUTIONS

Customers with factories and offices around the world have demanded faster ways to communicate. AT&T has an answer: *WorldSource* services delivered through the WorldPartners Co.

38 GETTING PERSONAL

AT&T goes to the neighborhoods to meet ethnic customers face to face.

42 A MELTING POT IN MERRIMACK VALLEY

When a group at the Merrimack Valley Works organized a small quality team to help with overseas sales, they never realized their creation would become a veritable United Nations.

INSERT: INNOVATION ANNUAL REPORT

Innovation fuels AT&T’s growth and is critical to its move into global markets. Here’s a special look at AT&T’s recent innovations and what the company is doing to build on its reputation as the innovation leader.

8 UP FRONT

In the news up front this month, quarterly profits reach record high; Vice Chairman Randy Tobias retires; AT&T’s new superheroes help revitalize C/PIP; AT&T helps its customers during the devastating flood in the Midwest; a series of executive moves is announced; and direct mail arrives in Russia.

CHECK OUT THE INTERNATIONAL QUIZ IN OUR NEW DEPARTMENT—FUN ‘N’ GAMES—ON PAGE 51. KNOWING ALL THE RIGHT ANSWERS COULD WIN YOU A UNIQUE PRIZE.



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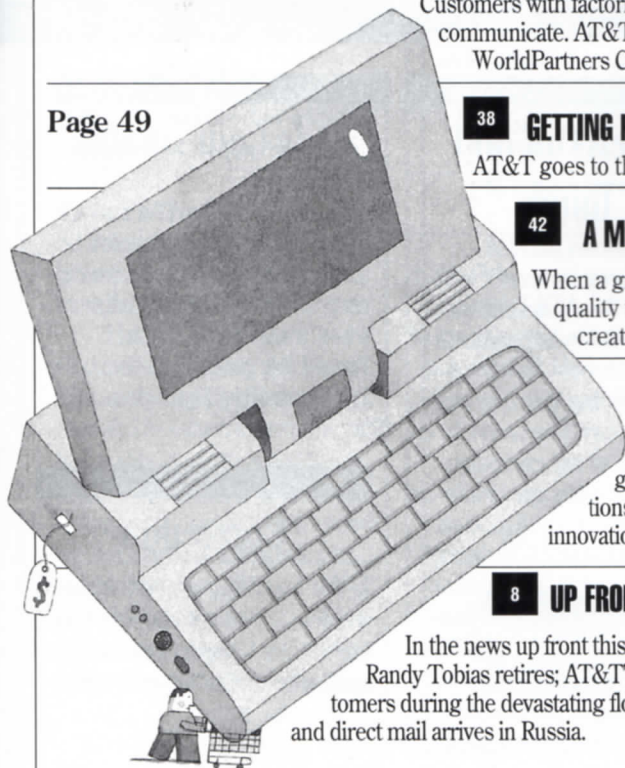
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ON THE COVER

AT&T *TrueVoice* telemarketers from left, front row, Cheryl Vigliotte, Gena Janda. Middle row, Cesar Vargas, Kathy Banayi. Back row, Ron Hill. Photo by Peter Mortimer

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Answering the Call

AT&T Newline is retiring effective Sept. 15. Since we removed the toll-free number and introduced AT&T TODAY, the electronic publication, which delivers news in a matter of minutes, Newline calling volumes have dropped drastically. Conversely, surveys indicate that AT&T TODAY's readership is rising steadily, indicating that employees worldwide are relying more on electronic mail for their information needs. Calling reports also show that an overwhelming majority of Newline calls are for the stock quote, which is readily available from a variety of sources such as newspapers, stock brokers and AT&T TODAY.

AT&T TODAY also provides important company announcements, a bird's-eye view of how the world sees us, industry trends and a lively letters dialogue on a daily basis. If you don't receive the newsletter, please check with your supervisor about subscribing to AT&T TODAY via an AT&T Mail shared folder (!att3:today) or your system administrator. Please remember to post or pass along copies to fellow employees.

Focus will continue to deliver features about AT&T people, products and directions. *Compensation & Benefit Update* will keep you in-the-know about benefits-related issues. And *Encore*, of course, will still keep retirees informed about the company and their benefits.

As always, the Employee Communications group will continue to investigate innovative technology to answer the call and keep employees up-to-date.

On the Outs

I was very pleased to read "The Long and The Short of It" in the June issue of *Focus*. Finally, I thought, the company is recognizing the agony it's been putting us through all these years with pompous officialese and unintelligible linguistics. "This article will help put a stop to it," I said to the muses.

Then, on the next page, I read how I can get a report to help me understand market growth, users' preference/plans and the domestic and international outlook for outsourcing. Outsourcing? I looked it up in the dictionary. It ain't there.

Sigh. I guess we'll just have to keep working on it.

Carl D. Klingaman
Chicago

First Things

First

I was impressed by the article, "One Giant Step," about China (June). Signing the Memorandum of Understanding was a further step for AT&T to be a major player in the Chinese telecommunications market.

Your story, however, could have been stronger if more attention was paid to the existing AT&T Transmission Systems joint ventures with about 400 Chinese people who really made the first step a few years ago. They showed that AT&T can position itself and cooperate very well with its Chinese partners.

Jan C. Leguyt
Shanghai



Reach Out and Touch

In the the June issue of *Focus*, I read about the AT&T family phones available to residents of Ronald McDonald Houses and AT&T providing one free call per room a day. I've never been more proud of my company.

Several years ago, while my sister was treated at Egleston Children's Hospital in Atlanta, my parents met many families that were forced to travel hundreds of miles so their children could receive specialized medical care. Ronald McDonald Houses provide a convenient

and comfortable setting where families with similar concerns can share support and understanding.

Kudos to the AT&T team that provides an avenue for these families to stay in touch with loved ones, especially when it means so much.

Tracie M. Johnson
Jacksonville, Fla.

Correction

In the July/August 1993 issue we misspelled scholarship winner Sanjay Vanguri's name. We apologize to the Vanguri family.

—The Editor

Elizabeth Timm makes inaugural AT&T Family Phone call from the Chicago Ronald McDonald House.



Living the Values

We want to thank the Customer Information Center (CIC), especially Ed Gaston and Michelle Harmon, for their help over the years.

The CIC prepares our Occupational Staffing and Force Management projects, usually required in a short time frame, with top quality, dedication and teamwork. It is truly dedicated to providing quality service, understanding our needs and delivering a superior product. They provide cost and time-saving suggestions and are most patient—even as we make changes for the 10th time.

We believe the CIC team has been living Our Common Bond for some time now and will continue to do so in the future.

**Lucille Finocchio
Carol Smith
Morristown, N.J.**

Helpful in the Spirit of Communication

My husband, who is from Cyprus, Greece, flew home to help his brother, who had been seriously hurt in a car accident. As the hospitals there are not equipped to handle such injuries, he and my husband were immediately transported to one in Israel with no time for them to notify the family.

After four days with no word, the family panicked and I started a search from the United

States with the help of my district manager, Pete Coulter, IOD Deputy Director Laura Monahan, Don Thuren, in-house contact in Greece, and Karen De Vrande, AT&T representative in Israel.

Through it all, the folks at AT&T went above and beyond to help. While Pete, Laura, Don and Karen searched internationally, my peers in the Fraud Resolution group lent their support in the office.

The harrowing experience ended with a call from my father-in-law a couple of days later, saying that all was well, and my husband had been prohibited, for security reasons, from calling home.

My husband and I thank all the AT&T people for their concern and prayers. AT&T is the right choice, with the best people who really do care.

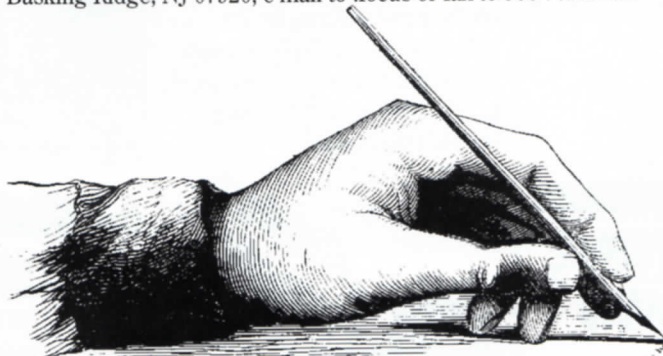
**Andrea Funari-Hadjikyriacou
Morristown, N.J.**

Pen Those Thoughts

The 10th anniversary of divestiture is just around the corner. *Focus* is planning a special anniversary issue January 1994 and we'd like our readers' thoughts.

- Where were you 10 years ago? And where have you worked since then?
- What should be preserved from the "old" AT&T?
- What's the most memorable AT&T event you experienced in the last 10 years?
- What excites you about AT&T's future?

Please send your thoughts, with your name, telephone number and business unit to *Focus*, 295 N. Maple Ave., Rm. 2233H1, Basking Ridge, NJ 07920, e-mail to lfocus or fax to 908-766-1705.



IABC Gold Quill Award Winner
1989, 1990, 1992, 1993

AT&T Transmission Systems and AT&T Universal Card Services are 1992 winners of the Malcolm Baldrige National Quality Award.

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Please note that all signed letters received will be treated as having been submitted for publication. Kindly include the name of your business unit or division, work location and telephone number. The editors reserve the right to edit all letters for length and clarity. Opinions expressed in letters to the editor do not necessarily reflect the views of AT&T management.

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Got a story idea? Fax it to us on a single sheet at 908-766-1705.

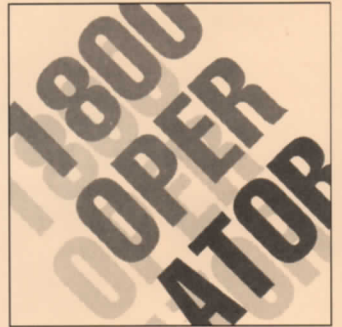


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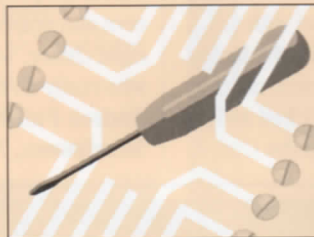
US

A NEW OPTION FOR COLLECT CALLS

AT&T has announced an additional choice in the way customers can place collect calls: 1-800-OPERATOR. This calling method uses an innovative adaptation of speech recognition technology. 1-800-OPERATOR can be used from any phone, regardless of the long-distance company serving that phone. Callers who have enrolled in the company's *Simple Savings* program, one of the programs available under AT&T's customized "i Plans," will save 15 percent on all collect, billed-to-third-party, AT&T Calling Card and person-to-person calls.

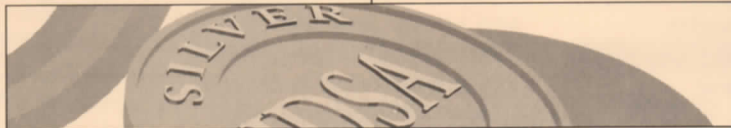


FIX IT BEFORE IT BREAKS?



When AT&T's new computerized network is finished, the time it takes to restore service will be shorter than the time it takes for cable cuts or other interruptions to disconnect calls. The network takes a call down in six seconds when it recognizes an interruption. The goal of the new technology is to restore service in 2.5 seconds ... that's right, 3.5 seconds before the calls would be disconnected.

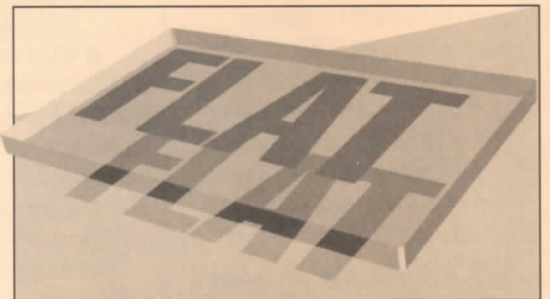
SITTING PRETTY



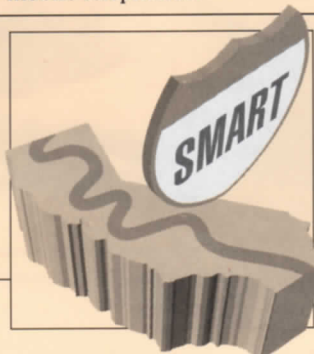
NCR's Waterloo, Ontario Works manufactures an imaging workstation that won a silver medal for excellence from the Industrial Designers Society of America. NCR human factors specialists, who are experts in the way people sit, think and work, collaborated with engineers early in the design process to make sure the workstations would be easy for real people to use. The award-winning 7780 workstation processes remittance slips, checks and other documents at 500 items a minute.

BUSINESS IS FLAT, AND THAT'S GOOD

AT&T, Xerox and Standish are allies in developing a flat-panel screen prototype whose quality exceeds what's already available in the marketplace. AT&T relies on flat-panel screens for its videophones and NCR computers. In the future they'll be used in hand-held computers and mobile telephones.



WHEN IN CALIFORNIA, DO AS THE ROMANS



AT&T's smart cards are already in use on Italy's Autostrada express highway system, allowing drivers to pay tolls without stopping. Smart cards will soon be in use on three new toll roads in Orange County, California. AT&T is also working with Trendar Corp. to develop "SmartFuel" systems at truckstops that would let trucks move through fueling stations faster and would reduce billing errors.

THEM

1-800-COLLECT



We thought MCT's new collect calling offer should be shown clearly on the THEM side of the ledger. In introducing the service, their introductory advertising did not specify who was offering it, but an announcement at the end that said rates would be "x" percent lower than AT&T long-distance business day rates led many viewers and listeners to believe it was an AT&T offering. Not so! AT&T's collect call offering is 1-800-OPERATOR.

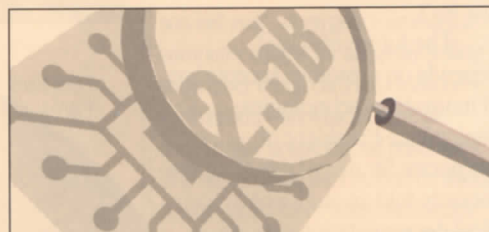


IN A STATE OF NO FLUX

Compaq Computer Corp. has announced implementation of its No Clean Flux (NCF) technology, making Compaq chlorofluorocarbon-free in its manufacturing operations worldwide. Developed by Compaq engineers in conjunction with suppliers, NCF employs materials that are non-corrosive and therefore can be left on circuit boards, so CFCs aren't required to clean the boards. (AT&T's announcement that we would eliminate virtually all ozone-depleting substances from our manufacturing operations by May 15 was made one month before the Compaq announcement.)

LIKE, IT'S REALLY DENSE...IT'S ULTRA-DENSE

IBM has developed an optical technique that allows ultra-dense storage of computer data. The technology incorporates a short-wavelength laser to store information at 2.5 billion bits per square inch, five times more than today's most advanced optical disk drives.



SAFE DATA

BT North America's new Security Products Portfolio includes four key components of network security: user identification and authentication, data encryption, customized security reports and specialized consulting services. The telecommunications industry loses an estimated \$3 to \$5 billion annually due to security breaches.

BELLING THE BULL



Group Bull S.A. of France and Packard Bell Electronics Inc. announced an agreement in principle to form an alliance between Packard Bell and Zenith Data Systems (ZDS), a microcomputer subsidiary of Bull. The intent of the agreement is that Packard Bell and ZDS will jointly design and manufacture desktop personal computers. Also, ZDS will provide private-label versions of its notebook and subnotebook PCs to Packard Bell.

LA CUENTA, POR FAVOR

Sprint announced Sprint Advantage Spanish Invoice Option for its customers who would prefer to receive their bill in Spanish. The invoicing offer rounds out the company's package of Spanish language services. Sprint already offered customer service in Spanish 24 hours a day. Sprint also said they intend to offer customer service and invoicing in other languages in the future.

(Competitive information supplied by the AT&T Information Research Center. If you would like to submit an item for this column, send it to Jean Pascual, Focus, Rm. 2233H3, 295 North Maple Ave., Basking Ridge, NJ 07920.)

FUTURE SHOCK

EASY TO BE
HARD

Can't reprogram the time on your telephone? Not to worry...without lots of help, neither could AT&T's chief strategist.

Sometimes, "easy to use" just isn't.

The future of AT&T depends on customer acceptance of innovative technologies, Senior Vice President of Corporate Strategy Dick Bodman recently told an audience of technical documentation experts. Customer satisfaction demands intuitive designs and clear explanations for each new AT&T product and service.

Bodman was the featured speaker at the fifth annual Customer Documentation Symposium held this June at Bell Labs in Holmdel, N.J.

Bodman took his audience on an off-the-cuff tour of AT&T's future. Once-clear distinctions—between traditional information-based industries such as telephony, computing, cable TV, consumer electronics, entertainment and

publishing—fade daily into the past, he said.

"Anyone in those businesses can't go a day without thinking about what's going on in any of those other businesses, and almost all of them have

decided that the place to make the buck is in our business—the business of getting people to communicate," he said.

In Bodman's words, AT&T's focus is "to give folks easy access to each other, and easy access to the information and services they want and need. And we want to do it anytime, anywhere."

That AT&T mission statement was revolutionary three years ago, he said. "Now the annual report of no fewer than 100 companies in the industries we are converging with all have in there the term 'anytime, anywhere' and this concept of bringing people together," he said.

"We're now working on the most popular theme in the world, which means we're going to have a whole lot of competition."

The AT&T network, AT&T products and the integration of both into "bundled, packaged, integrated solutions" will carry AT&T to success, Bodman said. The growth critical to AT&T's future prosperity will be found overseas and in "a lot of new businesses we haven't

invented yet."

Technologies identified in the AT&T strategic initiatives—cellular and wireless communications, voice and audio processing, messaging technology, scalable computing and improved data communications—will drive these new businesses, Bodman predicted.

"We are spending some real time coming up with new ways to force these now-dispersed business units to think collectively about some of the biggest prob-

lems and opportunities that we face," Bodman said.

And the

reason AT&T will learn to work together while focusing on the strategic initiatives is simple economics, Bodman said. Our Common Bond is not a set of five empty platitudes but an effort to make AT&T employees understand the economic consequences of failing to live a shared set of values, he said.

"I'm talking about a set of values that are tied to our economic success—our paychecks today and our pensions tomorrow," Bodman said.

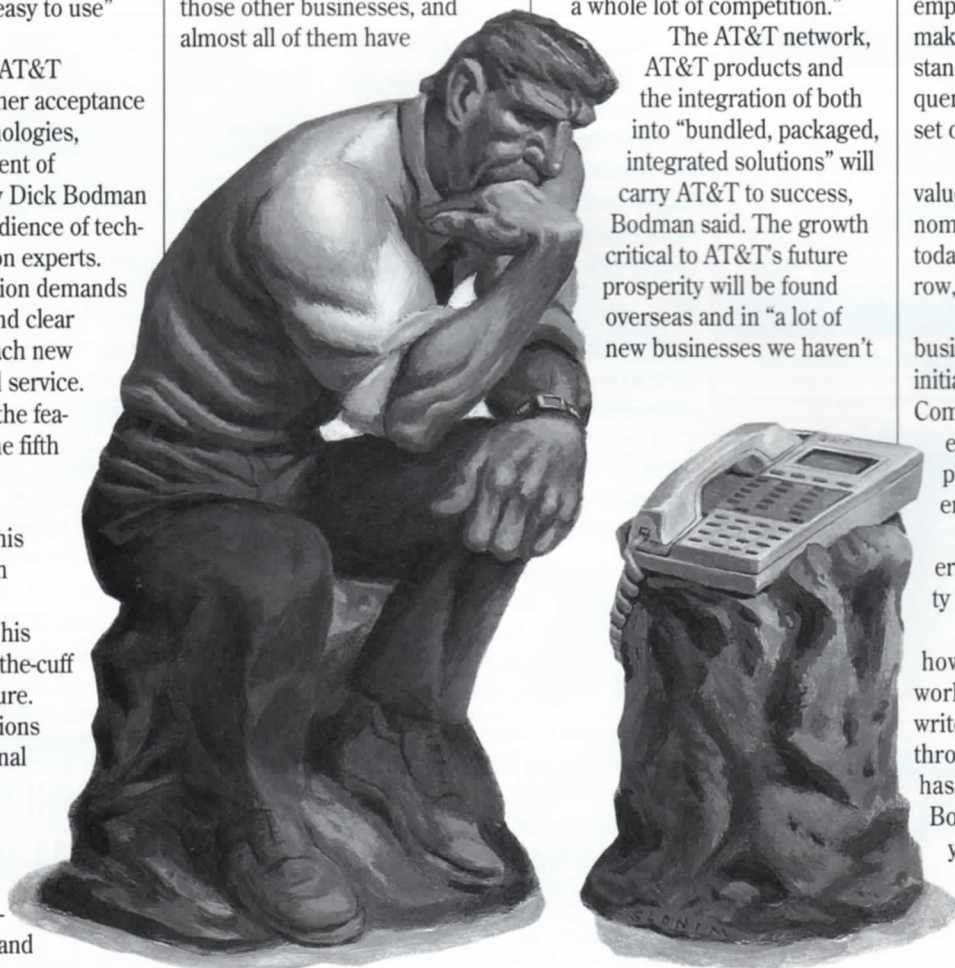
Out of this renewed cross-business-unit focus on strategic initiatives, fueled by Our Common Bond, Bodman predicted some "nifty" and unique products and services will emerge.

When they do, tech writers will have a great opportunity to shine, Bodman said.

"Customers don't know how to make new technologies work, and you, the technical writers, are the bottleneck through which understanding has to flow to make it work," Bodman said. "Without what you do, we can't be successful."

—Dennis McGrath

Innovations you can't
use won't sell.



KEEP THAT TO YOURSELF



At left, members of AT&T's Information Protection Council.

can cost the company money, market position or a competitive edge."

The council, with members from each of AT&T's business units and divisions, is sponsoring the week's events.

"People don't realize that what they consider trivial information could be of value to the competition," says Tom King of AT&T Corporate Security. "We must be sensitive to what could happen if information falls into the wrong hands."

Time magazine learned that lesson last year, when police arrested a computer analyst for allegedly selling subscriber credit card information—information with which criminals could make unauthorized purchases. The suspect had information on about 80,000 subscribers when authorities caught him. Time has since bolstered their computer safeguards.

—Greg McCormick

As a leader in the telecommunications industry, AT&T attracts a lot of interest—not all of it desirable.

The FBI's National Security Threat List identifies 22 emerging technologies sought by foreign intelligence agencies. AT&T has a stake in more than half of them. But it's not just technical information the bad guys are after—business plans, marketing strategies, profit and loss statements and even your computer password would make a crook's day.

The problem is widespread and growing.

Recent reports from the American Society for Industrial Security indicate a 250 percent increase since 1985 in attempts to steal proprietary information from corporations.

AT&T Corporate Security reported more than 260 cases involving unauthorized use of proprietary information and computer intrusion in the first quarter of 1993, up from about 150 in the same period last year. Monetary gain was the

most prevalent motive.

Employees will have a chance to learn more about this important issue during Information Protection Awareness Week, Sept. 13-17. Activities companywide will focus on safeguarding proprietary information and what employees should do if they believe information has

been compromised.

"It's part of everyone's job to keep what goes on within AT&T *within* AT&T," says Joe Calafiore, information protection coordinator for Information Management Services and a member of the company's Information Protection Council. "Even the slightest slip



Animated exchanges of ideas were the order of the day at the annual "International Assignee Conference," held in June in Parsippany, N.J. Among the more than 20 people working temporarily in the United States who attended were Roland Muller (center) and Ahmad Hassan, shown talking with Chuck Yates (right), U.S. vice president of International Operations Division (IOD). Muller is an IOD international account manager from Geneva, and Hassan, an IOD marketing director from Paris.

QUARTERLY RESULTS

QUARTERLY PROFITS REACH RECORD HIGH

AT&T posted \$1.04 billion, or 77 cents per share, in second-quarter profits, compared with \$961 million and 72 cents a year ago. Revenues increased 3 percent to \$16.32 billion, compared with \$15.85 billion in 1992.

"It was a good quarter, in spite of an economy growing more slowly than expected," said AT&T Chairman Bob Allen. "Revenues increased, margins improved because of strong cost controls, and profits were a record."

Sales of products and systems, particularly network telecommunications equipment, led the gains with nearly 9 per-

cent growth. NCR's revenues increased, but operating income fell, as it continues to feel the effect of weak overseas markets.

Financial services and leasing revenues, from AT&T Universal Card and AT&T Capital Corp., increased nearly 39 percent.

Long-distance revenues were about even with the year-ago quarter, with call volumes up 5 percent.

Results included a pretax gain of \$217 million from the sale of AT&T's stake in UNIX Systems Laboratories, which partially offset \$287 million of costs for business restructuring activities.

—Jean Greenlee

	2nd Quarter '93	2nd Quarter '92	%Change
TOTAL SALES & REVENUES	\$16,316	\$15,845	+3.0
Telecommunications services	\$9,833	\$9,851	-.2
Sales of Products & Systems	\$4,175	\$3,842	+8.7
Rentals & other Services	\$1,720	\$1,727	-.5
Financial Services & Leasing	\$588	\$425	+38.5
TOTAL COSTS	\$9,730	\$9,660	+.7
TOTAL OPERATING EXPENSES	\$5,115	\$4,667	+9.6
NET INCOME	\$1,044	\$961	+8.7
EARNINGS PER SHARE	\$.77	\$.72	+6.9

NOTE: DOLLARS ARE SHOWN IN MILLIONS, EXCEPT PER SHARE AMOUNTS.

ECONOMIC VALUE ADDED (EVA)	
1993 Target:	\$2 Billion
First Quarter:	\$352 Million
Second Quarter:	\$354 Million
TOTAL TO DATE: \$706 MILLION—93 PERCENT OF SIX-MONTH TARGET	

(Note: EVA is a comprehensive measure of the company's financial performance during a business period. It reflects profits in excess of the cost of capital. The 1993 EVA target, consistent with AT&T's earnings growth target of 10 percent, requires growth in every part of the business in the third and fourth quarters.)

HIGHLIGHTS

APRIL

1 AT&T negotiates a \$28 million, three-year contract to provide a custom telecommunications network for Avis.

14 AT&T says it has purchased Shaye Communications Ltd., a U.K. developer of wireless phones for homes and businesses.

14 Louis Gerstner Jr., who became the chairman and CEO of IBM on April 1, resigns from the AT&T Board of Directors.

15 AT&T announces plans to provide communications services in the United Kingdom, and between the United States and the U.K. The plans must first be approved by the governments of both countries.

21 A previously announced charge against earnings for retiree health and other benefits causes AT&T to report a loss for the first quarter of 1993.

21 Carla Hills, chairman and chief executive officer of Hills & Co., International Consultants, and former trade representative, agrees to join the board of directors of AT&T.

27 Carl Ledbetter Jr., an executive with Sun Microsystems, is named president of AT&T Consumer Products, effective May 1.

28 The first of two 1993 "Live from Bell Labs" broadcasts, starring AT&T Bell Laboratories scientists and engineers, airs. The second will be shown Sept. 29.

MAY

3 Vice President Al Gore pledges to keep federal dollars flowing into high-technology research during a visit to Bell Labs in Murray Hill, N.J.

11 AT&T introduces the new AT&T Picasso Still-Image Phone, which allows users to send full-color, TV-quality images between Picasso phones while simultaneously talking over the same phone line.

25 AT&T announces the formation of WorldPartners, an organization founded by AT&T and two leading telecommunications carriers to provide *WorldSource* services, a family of customized business communications services designed to make it easier for customers to communicate internationally.

JUNE

8 AT&T files a complaint in U.S. District Court charging MCI with continuing to provide long-distance services improperly to some businesses.

16 AT&T announces the formation of a new business unit in China and names Bill Warwick to head it. Curtis Crawford succeeds Warwick as head of AT&T Microelectronics.

23 AT&T announces plans to donate more than \$7 million worth of networked computing equipment to more than 60 colleges and universities.

25 AT&T announces that Vice-Chairman Randy Tobias is retiring from AT&T in order to become chairman, president and chief executive officer at Eli Lilly and Co.

29 AT&T announces AT&T International Advanced FAX Service, which eliminates faxing problems such as incomplete transmissions.

EXECUTIVE MOVES

ANALYSTS' QUOTES

"AT&T is delivering the goods and its core businesses are clearly on the upswing. In addition, the overall industry climate in long distance has never been better and the outlook for infrastructure spending around the world is huge."

—**JACK GRUBMAN,**
PAINEWEBBER

"... structural changes within the company will be the driving force behind the shares in the near term. The new management changes announced by the company [see story, this page] are dramatic and positive for a streamlined and more aggressive global company."

—**CRAIG ELLIS WHEAT,**
FIRST, BUTCHER & SINGER

"Overall, the company's earnings were right in line with expectations. Long-distance unit growth was up five percent, which is below industry rates, implying the company continues to lose market share."

—**CRAIG ELLIS WHEAT,**
FIRST, BUTCHER & SINGER

"Although NCR's results were weak [73 percent decline in operating income], it is doing better than the computer industry in general..."

—**FRANK GOVERNALL,**
FIRST BOSTON

On Aug. 1, a series of executive moves went into effect that will accelerate the pace of AT&T's globalization and its growth in new markets.

In announcing the moves, Chairman Bob Allen said, "Our intent is to build on our recent successes in international markets to globalize the business more quickly and, at the same time, take advantage of new market opportunities that are emerging as a result of the convergence of the communications, computer, consumer electronics and entertainment industries."

Vic Pelson, group executive responsible for Communications Services, became executive vice president-AT&T and a member of AT&T's Board of Directors. In addition, Pelson now chairs the company's Global Operations Team and is responsible for the effectiveness of AT&T's operations worldwide.

Bill Marx, group executive responsible for AT&T Network Systems Group, became executive vice president-AT&T and chief executive officer-AT&T Network Systems Group. He also became accountable for AT&T's worldwide purchasing operations and global manufacturing planning.

Pelson and Marx were given joint responsibility for accelerating the globalization of AT&T's businesses. They will oversee the global integration of AT&T's individual business strategies and the

creation of regional and country operations that are highly responsive to local customers and other stakeholders.

Jerre Stead, chief executive officer of NCR, became executive vice president-AT&T. He will work with Pelson and Marx to use NCR's presence and infrastructure around the world to speed AT&T's globalization.

Rich McGinn, senior vice president responsible for marketing and strategic planning for AT&T Network Systems, became president and chief operating officer of AT&T Network Systems, reporting to Marx.

Bob Kavner, group executive responsible for Communications Products, became executive vice president-AT&T, and chief executive officer of the Multimedia Products and Services Group, and assumed leadership of strategic cross-business initiatives. Working with the company's business units, Kavner will bring focused leadership to AT&T's timely participation in markets emerging as a result of the intersection of computing, communications, consumer electronics and entertainment.

Alex Mandl, group executive and chief financial officer, succeeded Pelson as executive vice president and chief executive officer of the Communications Services Group.

Richard Miller joined AT&T as executive vice president-AT&T and chief financial officer, succeeding Mandl. He

was chairman, president and CEO of Wang Laboratories Inc. for three years, resigning in January 1993.

Miller has a strong financial background and operating experience in consumer, business and high technology companies.

A related series of moves was announced Aug. 9:

John Berndt, president of Business Services, became president, New Business Development in the Multimedia Products and Services Group.

Bob Ranalli, president of Consumer Services, became president of AT&T Multimedia Services.

Merrill Tutton, president of Consumer Communications Services, became senior vice president, Global Strategy.

Joe Nacchio, president of Business Communications Services, succeeded Tutton as president of Consumer Communications Services.

John Petrillo, vice president of strategic planning for the Communications Services Group, succeeded Nacchio.

Bill Ketchum, corporate vice president, Labor Relations, became vice president for Human Resources in the Communications Services Group, in addition to retaining his labor relations responsibilities.

Nacchio, Petrillo and Ketchum also became part of a newly formed office of the CEO for Communications Services, headed by Alex Mandl.



Peter Marinone

QUALITY

CZECH US OUT

LECIVA representatives pose with their nation's new flag.

LECIVA, the Czech Republic's largest pharmaceutical company, and AT&T's Business Collections Center (BCC) in Mesa, Ariz., were worlds apart—until Richard Bowman, BCC branch manager, went camping.

"Maybe I should camp more often," Bowman says with a chuckle. That's how he met the head of a Mesa consulting firm who's helping some Czech firms introduce quality principles.

What began as a casual conversation between Bowman and another camper ended with an international testimonial to the success of AT&T's total quality management program.

Since the Czech people rejected communism for democracy, many companies, including LECIVA, have had to find their own way in a free market that revolves around quality and customer satisfaction. Hoping to make LECIVA the supplier of choice in an economy that never before offered choices, that company's representatives recently spent 10 days on a benchmarking tour of

U.S. firms, including AT&T, that demonstrate world-class quality management techniques.

"They never worried about customers," Bowman says, "They produced what they were told and shipped it where they were told. Their interest in quality is a total change in mindset."

At the BCC, which handles collections for most outbound business long-distance services, the Czech visitors had a simple request: They wanted to know everything.

"They'd gone through quality training, but they'd never seen it in action," says Teresa Becker, team leader. "We decided to show them how things work."

Presentations covered everything from understanding customer requirements to recognizing and empowering employees, a new concept for the visitors.

"We used to be where they are now," Bowman says. "I think that they're learning from us now, but in the future we may be learning from them."

—Greg McCormick

IRON CITY INNOVATION

END OF

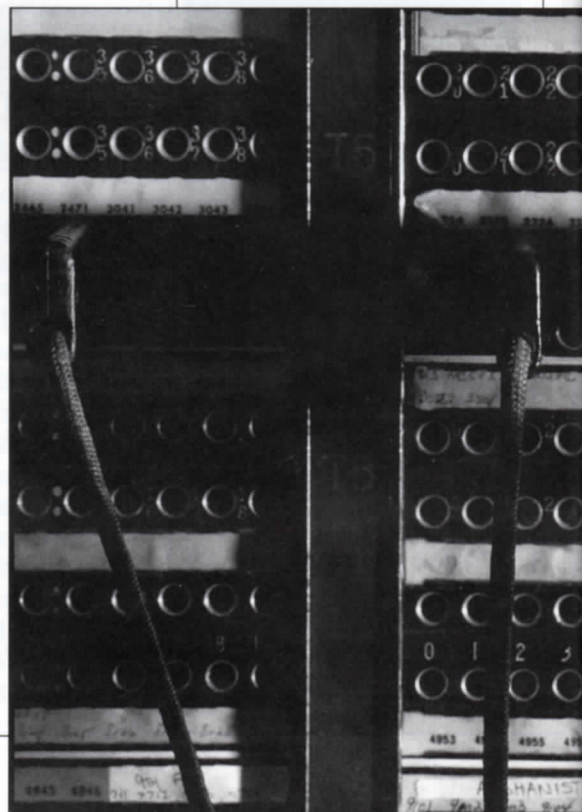
The 62 residents of Pitcairn Island will be pleased with the following item.

The last cordboard used by AT&T operators started being replaced with all-new technology in August 1993. By April 1994, sticking a plug in a socket to connect a call will be something AT&T operators tell their grandchildren about, not something they actually do.

The last AT&T cordboard resides in the Pittsburgh International Operating Center. The cherrywood/tip-ring/cord-pair relic, installed in 1968, will be put to pasture gradually as the IOC phases in its new Special International Services Position System.

Operators used the cordboard's positions (supplemented by a 1980-vintage CRT and key-

Pulling the plug on the last cordboard.



A (LONG) LINE

board set-up called the International Service Position System) to complete calls to areas without International Direct Distance Dialing. The cordboard also served as a highly flexible arrangement for testing new and different service concepts.

Pittsburgh IOC operators processed 175,000-185,000 calls per week via the cordboard's manual ring-down circuits to the few as-yet unautomated points in the world, such as Poland and India, along with calls to such hard-to-reach places as the Commonwealth of Independent States (the former Soviet Union) and Afganistan. The cordboard also connected locations that have one telephone for the entire village, like science stations in Antarctica and

Pitcairn Is., home to 62 descendants of the mutiny on the H.M.S. Bounty.

Calls placed through the cordboard took longer to connect than IDDD, with average cord-

board call processing time around 200 seconds, according to LuAnn McDermott, assistant force admin-

istrator for the Pittsburgh IOC. The upside to the longish wait is the personal service cordboard operators provide, she says. Call quality is equal, assuming the local circuits in the foreign terminus are up to snuff.

McDermott expects that one cordboard "position," or operator workstation, will be placed on display in the lobby of the Pittsburgh IOC.

—Dennis McGrath

Tip and Ring
No More



TRANSITION

RANDY TOBIAS RETIRES

On June 25, AT&T Vice Chairman Randy Tobias retired to accept an offer from Eli Lilly and Company, the multinational pharmaceutical company based in Indianapolis, Ind., to become its chairman, president and chief executive officer. Tobias, who has deep personal roots in Indiana, has been an outside director of Lilly since 1986.

When he was named vice president of consumer marketing in 1981 at age 39, Tobias became one of the youngest senior executives in AT&T's history.

During the critical years just before and after the breakup of the Bell System in 1984, Tobias headed several major operating units, including AT&T Consumer Products, AT&T Communications and AT&T Information Systems. After divestiture, he launched the highly publicized drive to make AT&T "easy to do business with."

As vice chairman, Tobias played a key role in reshaping AT&T into its current business-unit-based structure. Two years ago, to stimulate global growth,

AT&T Chairman Bob Allen gave Tobias responsibility for AT&T's planning, development and operations outside the United States.

Tobias quickly raised AT&T's global profile and heightened international consciousness inside the company. He also proved himself a tireless traveler, logging more than

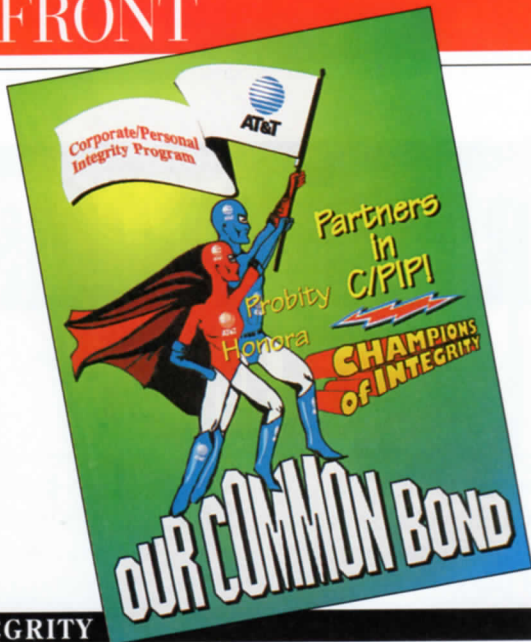
600,000 air miles in two years to meet with customers, joint venture partners, government officials and AT&T people in more than 30 countries.

Perhaps

Tobias' most conspicuous achievement was the historic Memorandum of Understanding he signed on AT&T's behalf with the State Planning Commission of China last February after personally negotiating the final details. Estimates of its potential value run into the billions of dollars.

Bob Allen, who was Tobias' first boss when Tobias joined Indiana Bell in 1964, said, "I am sorry to see Randy leave, since he has been both a personal friend and a key contributor to AT&T's success. But I know what a wonderful opportunity it is for him to return home to Indiana and take the reins of Lilly."

Tobias quickly raised
AT&T's global profile
and heightened inter-
national consciousness
inside the company.



INTEGRITY

BUDDAZOOM!!!

Once a year, AT&T employees who do business with the federal government gather to review their roles in the Corporate/Personal Integrity Program (C/PIP). Launched in 1986, C/PIP ensures that employees understand the statutory and regulatory requirements of dealing with the federal government.

"We've been exploring a variety of ways to revitalize the C/PIP program," says Steve Talkovsky, senior attorney at Federal Systems headquarters in Silver Spring, Md. "We need to make sure that we are catching employees' attention, and that they understand that C/PIP is more than just a once-a-year training session—it encompasses the work they do every day."

Then, BUDDAZOOM! America's newest superheroes were born.

Honora and Probity—as Champions of Integrity—undo the unethical and conquer the corrupt in a series of cartoons distributed desk-to-desk to Federal Systems people.

"Honora and Probity represent a change to our traditional approach to this important pro-

gram," says Dick Lombardi, vice president, Business Communications Services-Federal Systems. "Just as you associate Smokey Bear with preventing forest fires, I want you to associate Honora and Probity with the highest standards of integrity and ethics in business."

Randall Meadows, a paralegal and part-time artist, brought Honora and Probity to life.

"We wanted something that would get the message across," Meadows says, "but we were coming up with things like fuzzy little animals. Then we came up with Champions of Integrity—superheroes for our cause. The comic strip is just one of the ways we get the subject out to employees on an ongoing basis."

In the series premiere, Honora and Probity join Lombardi as his "Partners in C/PIP" before visiting AT&T Chairman Bob Allen in a dream. Just who are Honora and Probity?

"They are any AT&T employee, who, when faced with a breach of integrity, transforms into a superhero," Meadows says. "Anyone can become a champion of integrity."

—Greg McCormick

BEING CARIN

How would it feel to know you were personally responsible for helping a child with leukemia or an adult with cancer to live another day?

What if you had helped more than 150 such people?

Ask Frank Wicker, test set maker for Federal Systems Advanced Technologies' Falcon facility in North Carolina, and he'll tell you it feels great.

For almost 11 years, Frank Wicker has been a pheresis donor, giving his blood platelets to patients with cancer, leukemia and aplastic anemia. Patients need the platelets to control bleeding and infection, which can be life-threatening for them.

In a pheresis donation, blood is drawn from one arm into a sterile separating machine that collects platelets or white cells. The remaining blood components are then returned to the donor's other arm.

The process takes about two hours, a fact which has not deterred Wicker from giving frequently. Every two weeks he takes a half vacation day and makes the 50-mile drive from his job site in Whitsett to the American Red Cross pheresis center in Durham. The American Red Cross is sponsored by United Way.

Since 1983, the drive to and from the center has added up to over 14,000 miles.

Each time Wicker travels to the pheresis center, he knows someone is depending on him,

though he doesn't know who that person is. Pheresis donors are matched to a specific patient who receives the platelets within 24 hours.

"I know that there have been 149 people I have helped to live another day," he said one day in June.

By now it's 150—and counting.

CARING GLOBALLY

"I felt one of the benefits of being with an American company is that American companies tend to help the community more. It's good to be part of that," says Jin Ishimoto, a markets manager for Consumer Communications

AT&T employees are
making a difference
in communities
throughout the
United States.

Services (CCS) in Morristown, N.J.

Ishimoto, a native of Tokyo, had been in the United States barely a month last October when he was asked to help a community in New Jersey.

As part of its annual "Day of Caring" project, the United Way of Morris County, N.J., was looking for volunteers to help give a much needed face lift to a neighborhood community center.

Because of limited funding, the center—called the Neighborhood House—could not afford a new coat of paint for the classrooms where it offers day care, recreation and educational services to the community.

So, armed with paint and supplies donated by CCS, Ishimoto joined 11 other employees from CCS and Business Communications

G PARTNERS

Services (BCS) to redecorate the classrooms and hallways.

"It was good to see people giving not just money, but also their time," he says.

The project provided another dimension to Ishimoto's past community service experience. In Japan, Ishimoto helped organize fund-raising efforts to house Cambodian and Laotian refugees in that country.

Once in the United States, his plan was to find out what community projects AT&T supported in America. As he puts it, the United Way was an opportunity that "fell into my lap."

The experience also helped change Ishimoto's view of United Way. "I had only known the negative side of United Way because of

the scandal last year. I came out positive about United Way after this experience."

GIVING ALTERNATIVES TO INNER CITY YOUTH

"You can't eliminate gangs, but you can redirect them," says Chris Collins, an indirect channel manager who handles new business devel-



Photo: Robert Schaefer

opment for Global Business Communications Systems (GBCS) in Basking Ridge, N.J.

Redirecting gangs is exactly what Collins helped do in Chicago as first vice president on the board of directors for BUILD (Broader Urban Involvement and Leadership Development Inc.).

BUILD, which is partially funded by United Way, is a 20-year-old, non-profit organization dedicated to channeling "at risk" youth away from gangs, drugs and crime and into more productive activities such as education, sports and career planning.

For five years, while working as a national account executive and later as a contract manager for GBCS, Collins volunteered his time and energy to develop long-range plans and programs for BUILD.

BUILD goes into Chicago schools with a 12-week, gang-and-drug prevention program. It also goes to the street corners where field coordinators, sometimes for-

mer gang members themselves, help young people find a way out of the gangs.

Through BUILD programs, many young people have seen a life beyond gangs. Some, says Collins, have gone on to receive master's degrees and one even pursued an acting career.

Collins' involvement with BUILD ended when he transferred to his current job assignment in New Jersey. However, he still feels a sense of fulfillment in having been part of something so important.

"It comes down to trying to help even one person resist gangs and give him an alternative."

AT&T EMPLOYEES MAKING A DIFFERENCE

In 1992, AT&T employees throughout the United States gave \$22.7 million to United Way via payroll deductions and cash contributions. In addition, the AT&T Foundation donated \$6.6 million to 136 local United Way agencies.

AT&T employees in the United States will hear more about United Way in the upcoming months. AT&T organizations throughout the United States will soon be asking employees to be "caring partners" by participating in individual United Way campaigns.

And many of you will. Because by donating your time or money you can save a life like Frank Wicker, or change a life like Chris Collins or make lives brighter like Jin Ishimoto.

—Ollie Hartsfield

Above, Frank Wicker, in North Carolina, makes his 150th pheresis donation. At left, Chris Collins, helps "at-risk" youth in Chicago. Below, Jin Ishimoto, helps paint a New Jersey community center.



Photo: Wicker

TRANSITION

WARWICK TO HEAD NEW CHINA UNIT

Reinforcing its commitment to one of the world's largest and fastest-growing markets, AT&T recently created a new business unit in China and appointed Bill Warwick chairman and chief executive officer.

Effective July 1, Warwick assumed overall responsibility for AT&T's business operations in China and for planning activities in Taiwan and Hong Kong. He also assumed the title of senior vice president of the corporation. The new unit, AT&T China, is based in Beijing.

One major role of AT&T China will be to implement a memorandum of understanding reached by AT&T and China's state planning commission in February. The memorandum is designed to expand and enhance the country's telecommunications infrastructure. China is one of the fastest-growing telecommunications markets in the world, with plans to add as many as 12 million lines a year through the year 2020. Warwick has had extensive experience in establishing manufacturing

operations and developing customer, supplier and partner relationships in the Asia/Pacific region, both in his position as president of AT&T Microelectronics and, before that, as president of AT&T Consumer Products.

Curtis Crawford, formerly a vice president of AT&T Microelectronics, succeeded Warwick on July 1. Crawford had shared responsibilities with Warwick and directly supported the company's connector, interconnect, lightwave and power business units and the global sales force.

Prior to joining AT&T Microelectronics in August 1991, Crawford was vice president—Sales, Service and Support at AT&T Computer Systems, where he played a key role on the transition team that merged Computer Systems with NCR Corp.

Crawford joined AT&T in 1988 after holding a variety of sales, marketing and executive management positions at IBM.

—Dick Muldoon

Curtis Crawford succeeds Bill Warwick as president of AT&T Microelectronics.



HELPING OUT

HOLDING BACK, HELPING

Anyone who opened a newspaper or flipped on the television in the United States during July could not miss the devastation across the Midwest.

The media were filled with scenes of people desperately sandbagging their homes and businesses to prevent the flooding of the Mississippi and other rivers from washing away their lives.

AT&T facilities weathered the record rainfall in Illinois, Iowa, Minnesota and Missouri better than many other businesses. Some of those who weren't lucky relied on local AT&T people to help bail them out.

Around 8 a.m., Sunday, July 11, Jeff Barnes received a phone call from his client, Principal Financial Group in Des Moines, Iowa—one of the worst-hit cities in the Midwest. The

power had gone out at 2 o'clock that morning and wasn't going to be on for at least 36 hours. The battery on one of Principal's fiber optic access arrangements could last only six hours.

Barnes, a national account manager for Business Network Sales—who also happens to be a farmer—took matters into his own hands. He loaded his own 4,000 watt generator and a reel of copper wire onto his pickup truck and headed into town. "That's the kind of stuff farmers have," Barnes says. "John Pudans, one of our communications technicians, got the generator hooked up and recharged the batteries on Principal's generator before they expired."

Barnes helped Principal Financial Group again when their buildings were in danger of running out of diesel fuel for their generator. Being a farmer, Barnes knew where to get diesel fuel. He got his client in touch with a sup-



At left: Bill Gray (second from left) helps Norwest's Elaine Stangl, Brian Porter (seated) and Lou Wellinghoff move their mortgage center's facilities. Below: Technician Joe Robinson installs wire for the city of Davenport during the flood.



when it usually takes 45," Gray says. "They must have changed their minds half a dozen times during that weekend and each time we were flexible, reacted to their change and met their timeframe."

Gray attributes this to his group's positive, upbeat attitude and their desire to help customers and their fellow workers. "One technician, Dave Paulson, lives 20-30 miles outside of Des Moines. He wasn't sure he could make it back to work on Sunday morning so he slept in his car on Saturday night. We joked about him staying at the Hotel Taurus," Gray says. "We have a heck of a lot of dedication from our people."

The dedication also came from employees in Davenport, Iowa. Joe Robinson and Dale West, customer systems engineers at the GBCS facility, had kept in close contact with their branch headquarters in Minneapolis, Minn. Since the headwaters for the Mississippi River are in Minneapolis, Robinson and West knew when Davenport would get

heavy flooding and stepped into action.

At the end of June, they contacted their five major clients near the Mississippi River

and set up backup service or moved switches even before the flood hit. When the clients' power went out, calls were automatically rerouted and backup tapes were made. Because precautions were taken, no disruption of service occurred.

The desire to help also was

exemplified by Paul Bernholtz, whose house in Des Moines was flooded. He had just moved his family into a friend's home on Sunday evening when he got a call at 3 o'clock, Monday morning, to go into work. He did. He helped keep the Network Services Division (NSD) facility—which houses a 4ESS switch and a DACS III running.

Despite having his family displaced and his home underwater, and being weary from helping neighbors sandbag their homes, Bernholtz put in 14 hours of work that day.

Individual AT&T offices also opened their doors to customers. NCR's West Des Moines office made conference rooms available and set up modems within the conference rooms for its clients. "We're trying to work with everybody," says Al Tiseth, district manager for NCR. NCR also helped with the Principal Financial Group move and offered Blue Cross/Blue Shield office facilities during the flood.

AT&T people did not forget their own during this time of need. Andy Newkirk, Network Services Division's on-site supervisor in Des Moines, set up a hotel room where AT&T employees and their families who were without water and power could shower and use the bathroom.

"Hotel rooms were at a premium," Newkirk says. "We had to keep calling every day to find a cancellation for that night. It took us four days to find a hotel where we could stay for awhile."

There are many stories like these coming out of the Midwest. By doing everything from donating phones and fax machines to the Red Cross to sandbagging neighbors' homes, AT&T people have proved once again that they're there to help.

—Elaine Jundos

OUT AND HANGING ON

plier and they were able to run their emergency system.

Other AT&T employees—Bobbie Kennedy, Judy Boatwright, Fred Pendelton and Shelly Carlson—helped Principal on everything from obtaining 10 working cellular phones overnight to reprogramming over 6,000 phones on their AT&T System 85 and provisioning emergency data services.

AT&T employees also worked round-the-clock to help Norwest Bank in Des Moines.

It was Saturday evening, July 10, and flood waters were threatening the Norwest Mortgage Center. AT&T technicians worked from 9 p.m. until 3 o'clock Sunday morning to move the mortgage center's communications systems to Norwest's credit card facility in West Des

Moines—an area that had been virtually unaffected by the flood.

Later that day, Norwest decided to move the mortgage center permanently. "Instead of moving 200 people temporarily, we had to move 800 people permanently by Monday," says Bill Gray, the Global Business Communications Systems project manager heading up the transfer. "We had five dedicated technicians—all working from a service manager's home garage—handling this project. Half the technicians in Des Moines were assigned to this one customer," Gray says.

What impressed Norwest was not that AT&T could provide help but that it could help with such speed and flexibility. "They couldn't believe we could get technicians there within 20 minutes

"We have a heck of a lot of dedication from our people."

INTERNATIONAL

TO RUSSIA WITH LOVE

Direct mail! Received by all, appreciated by few. It's hard to imagine anyone wanting the stuff—let alone looking forward to it.

But that is just the situation AT&T may be creating in the new Russia. In a country where, in the

past, the only mailing lists were maintained by the KGB, and any mail out of the ordinary drew the attention of the government postal authorities, Global Business

Communications Systems is introducing this thoroughly Western concept.

"Russia is a country where the number of single-line telephones on your desk shows your status," says John Hilfinger, GBCS region director for Central and Eastern Europe. Therefore, in selling our *Spirit* Communications System, we have to be innovative. We're learning by doing."

GBCS-International, working through a New York-based, multi-cultural marketing agency with strong ties to Moscow, is using direct mail to whet the Russian business community's appetite for improving its communications system.

According to Jim Crossin, GBCS district manager for international sales, "In Russia, the concept of mail solicitation is virtually unknown. This created some novel situations, one of which was having most of our mailing pieces impounded by

the Russian post office."

The GBCS mailing of 5,000, says Crossin, included a three-page letter, information on AT&T (a relative unknown in Russia) and a color brochure all in Russian—in an oversize envelope with the AT&T logo. "The first few hundred packages went through without problems," Crossin says. "Then, these official-looking envelopes with a foreign logo caught the postal authority's attention, and the rest of our mailing was seized pending investigation."

The New York marketing agency came to the rescue, convincing the Postmaster General of Russia that AT&T was a widely respected firm and was bringing its know-how to Russia. This not only freed the mailing, it impressed the Postmaster General enough, that he had the rest of the envelopes

hand-delivered.

"New markets call for new ways of thinking," says Hilfinger. "Long copy and detailed explanations of things we take for granted—like how to use a reply card—are appreciated. We jumped in and got our feet wet, and surprisingly, we're getting a 1.5 percent response rate, just about in line with Western expectations."

To some, there is an element of wry humor in the nation that gave the world Glasnost, receiving McDonald's, Pizza Hut and direct mail as its reward.

—Jim Lowell

Direct mail is helping Russian business get the Spirit.

"Russia is a country where the number of single-line telephones on your desk shows your status."

Система связи «СПИРИТ» КОМПАНИИ АТ&Т
Беспрограммная комбинация

расширена до 6 внешних аппаратов.

Триумфальным достижением компании АТ&Т в области совершенствования деловой телефонии стали настольные и настенные 6- и 24-линейные аппараты черного и желтого цвета.

Каждый телефонный аппарат системы «СПИРИТ» имеет индивидуальные тематички, передающие состояние вызова, номерной автоматический набор, номер быстрого переключения для доступа к 70 номерам, в системе можно быстро переключиться на другой номер, когда нужно быстро связаться с абонентом.

Такой аппарат снабжен громкоговорителем с полным набором функций для ведения переговоров и удобства при выполнении другой работы на экране настольного дисплея. Две клавиши в системе автоматического ответа позволяют быстро ответить на внутренние звонки, не прикасаясь к телефонному аппарату.

Другая стандартная особенность системы — цифровой вызов — не требует использования дополнительных дисплеев. Оттискивание по телефону сообщения о состоянии абонента до момента его участия в разговоре экономит время и повышает производительность системы, например, дает линии внутреннего звонка.

В духе делового успеха

Если вы ищете надежную и надежную систему деловой телефонии, то обратите внимание на систему «СПИРИТ» компании АТ&Т.

Система «СПИРИТ» компания АТ&Т удобна в эксплуатации, а ее простота позволяет легко интегрировать систему в существующую инфраструктуру предприятия.

Система «СПИРИТ» компания АТ&Т готова к работе сразу же после доставки, но перед тем как приступить к работе, необходимо ознакомиться с вашим спецификацией.

нужданы. Компания АТ&Т, предоставляя систему, берет на себя все расходы по монтажу и обслуживанию системы связи «СПИРИТ».

Беспрограммная комбинация индивидуальных особенностей и преимуществ

Система связи «СПИРИТ» 308/616

Система «СПИРИТ» 308/616 разработана на подключение до 3 внешних линий и 6 телефонных аппаратов и может быть



□ By Tom Savonick

READ YOUR WAY TO SALES SUCCESS ... September's the season to put away trashy summer novels. Now's the time to hone selling skills and catch up on current trends. Here's a short list of books currently available through the AT&T Information Research Center to make you a better, more knowledgeable salesperson. **"PRESENTATIONS PLUS" ...** True or false: When preparing a presentation, the best place to start is the beginning. "False," says author David Peoples. "It is at the close where you either accomplish your objective or you don't." So he recommends that you first develop your closing argument and work backward from there. Then he offers 12 effective approaches to closing a presentation, including such gems as the happy-ending close, the jigsaw-puzzle close and the emotional close. Other chapters cover every aspect of presentations from The Seven Deadly Sins to How To Handle Troublemakers. In all, this is a thorough book that's light and breezy to read. "Presentations Plus," by David Peoples, 1992, John Wiley & Sons.

"PARADIGM SHIFT" ... A paradigm is a broad model that helps you understand how something works. The paradigm for business during the last 30-40 years has been the mainframe computer. Successful companies gained a competitive advantage by filling their mainframe computers with useful information and controlling the flow of that information. Today, the paradigm has shifted to networked personal computers connected both within the company and to other companies. Information is far more accessible and free-flowing, which increases the pace of change. What do the authors predict will result? "With markets and their players constantly changing, the possibility of enterprises establishing a sustainable competitive advantage no longer exists. No organization can afford to rest on its laurels; each must constantly innovate to compete." Here's a book useful for salespeople who want to work out their own paradigm shifts, perhaps shifting from a model based on price to a total-quality model. "Paradigm Shift, The New Promise of Information Technology," by Don Tapscott and Art Caston, 1993, McGraw-Hill. **"THE FIFTH DISCIPLINE" ...**

Speaking of paradigm shifts, here's another. This author's paradigm for companies is the machine. Each person in the company machine has a specific function, including an individual at the top who thinks for the entire machine. Every other component in the machine follows orders from this grand strategist. Following this paradigm, a company has only as much vision, intelligence and adaptability as its leader. The author's paradigm for companies that will succeed in the '90s is the learning organization. "The tools and ideas presented in this book are for destroying the illusion that the world is created of separate, unrelated forces. When we give up this illusion—we can then build 'learning organizations,' organizations where people continually expand their capacity to create the results they truly desire, where new and expansive patterns of thinking are nurtured, where collective aspiration is set free and where people are continually learning how to learn together." The author suggests that managers must "give up the old dogma of planning, organizing and controlling" in favor of "providing the enabling conditions for people to live the most enriching lives they can." This book suggests fundamental changes in the way we approach our jobs and our customers. "The Fifth Discipline, The Art and Practice of the Learning Organization," by Peter Senge, 1990, Currency/Doubleday. **"SAMURAI SELLING" ...** In Japanese, samurai means "one who serves." Despite their aggressive nature and martial-arts skills, samurai achieved respect, wealth and power by faithful service to their communities. These authors suggest that current-day salespeople would do well to take lessons from the samurai. Their premise is that service builds a lifetime commitment that keeps customers coming back, while building a network of referrals. The book at times seems like the old "Kung Fu" television series, except that action is interrupted not with wisdom dispensed from master to "grasshopper," but with "Lessons From the Samurai." These brief lessons sound gimmicky, but they dispense sound advice. One example is in the chapter "The Competitive Samurai." The authors suggest constructing an account control document on which you list everyone involved in a decision, what you must know about them and how you will sell them. This book is an entertaining way to sharpen your focus on customer service. "Samurai Selling," by Chuck Laughlin and Karen Sage with Marc Bockmon, 1993, St. Martin's Press.



Al Girdali, and his fellow research specialists in the Information Research Center in Basking Ridge, N.J., can get you the information you need to close that sale.

SOUND

Have you ever heard a call with sound so true, so natural, that you couldn't hang up?

You will. Maybe you already have.

AT&T *TrueVoice* dramatically improves the sound quality of calls placed within the continental United States and to Canada—and the patented technology behind this significant innovation is exclusive to AT&T.

Consumer Communications Services (CCS) President Merrill Tutton introduced AT&T *TrueVoice* at a July 13 press conference. A major AT&T *TrueVoice* television ad campaign began that evening during baseball's All-Star Game.

Starting this month, callers in some areas will get their first listen to AT&T *TrueVoice* on the AT&T public switched network. "With this enhancement, the AT&T network's already excel-

lent sound quality is clearly the best," Tutton says.

By the end of 1994, the exclusive sound of AT&T *TrueVoice* will be available on virtually every call placed on the AT&T network. The voices you'll hear through your handset or speakerphone will sound closer and clearer than ever before.

AT&T *TrueVoice* will be available automatically to consumers and businesses at no additional charge whenever they place calls on the AT&T public switched network.

HEAR TODAY— THERE TOMORROW

As AT&T *TrueVoice* rolls out nationwide, more and more

*AT&T now
best sounding
of all major
carriers.*

AT&T customers will experience it on virtually every call they make or take. For competitive reasons, the company is not revealing in advance

just where or when AT&T *TrueVoice* will become available.

During the rollout, if you have AT&T *TrueVoice* in your area and call your friend in an area where it hasn't yet become available, you will hear the difference; your friend will not. If your friend in an area waiting for AT&T *TrueVoice* calls you, you will hear the difference; your friend will not.

When both parties are in areas where AT&T *TrueVoice* has been deployed, then both will hear it.

Now, here's the kicker.

"When an AT&T customer calls a non-AT&T customer in an area where AT&T *TrueVoice* has been deployed, the non-AT&T customer will hear the difference between what they normally have and the AT&T network," says Consumer Long Distance Product Development Director Dan Furman. "This will be a competitive advantage to us and dramatically show the difference between AT&T sound quality and the sound of anyone else."

Best of all, AT&T *TrueVoice* will come to our customers automatically, at no additional charge. "There's no need to sign up or subscribe—just use the AT&T network," Tutton says. "It's the sort of innovation that's simply not available from the companies that are focusing on price alone."

Callers in the United States placing or receiving international

CHOICE

calls will experience the difference in AT&T TrueVoice-deployed areas, but people outside the United States and Canada will not. AT&T is studying the possibility of providing AT&T TrueVoice internationally on a country-by-country basis and will announce its findings when the study is completed.

CONSUMERS SAY IT'S THE BEST

"It was like he was right next to you!"

"Overall, it was easier to understand."

"It sounded like we were in the same room!"

"The voice was more crisp."

"It has a deeper, bolder sound!"

—actual comments about AT&T TrueVoice from consumers around the country

Before AT&T TrueVoice, the major telecom networks were

"at parity," that is, virtually indistinguishable in sound quality.

Now, AT&T has the data to show that consumers prefer the sound of AT&T TrueVoice. Early this year, more than 2,500 consumers tested AT&T TrueVoice without knowing whose service it was. No matter if they were Sprint, MCI or AT&T customers, eight out of 10 tested agreed that they preferred the sound of

AT&T TrueVoice.

"We conducted a rigorous, thorough study. It simply isn't in our interests to do anything less," Tutton says.

These results support an unequivocal statement of superior network sound quality.

INNOVATION AND TEAMWORK

AT&T TrueVoice is the service

mark of U.S. Patent #5,195,132—Telephone Network Speech Signal Enhancement, granted March 16, 1993, to a team of AT&T Bell Laboratories researchers associated with the Network Services Division. The patent-holders are Duane Bowker of the Bell Labs Voice Quality Assessment Lab; Jim James, 800 Service Performance Group; and John Ganley, Domestic Consumer Long Distance Service Development.

AT&T TrueVoice exists through the efforts of "many people and many organizations," comments Peter Tu of Network Systems' Transmission Systems Signal Processing Systems Development Department. "It's a typical example of what AT&T is all about. There was a lot of dedication and teamwork across business-unit lines."

The effort to bring AT&T TrueVoice to market was supported by CCS management from



its beginning three years ago. A cross-business-unit team with an unusually large span across AT&T will take the project through to completion. The team includes CCS Consumer Long Distance Product Development, Consumer Market Management, and Service Development organizations; and the Bell Labs Network Performance Characterization Department, the Consumer Laboratory, Consumer Services Network and Technology Planning, and the Cross Services Data Performance Group.

Network Services Division contributors include Network Engineering Services, Network Services Provisioning, Network Services Management and the many employees of Network Operations who will make AT&T TrueVoice a reality nationwide.

Network Systems' Merrimack Valley, Ma., plant provides the hardware needed to effect the change to the network, and its Transmission Systems Signal Processing Systems Development Department also contributed its talents.

"AT&T TrueVoice is a very real example of the innovation plank in Our Common Bond platform," says Al Calabrese, acting Call Servicing vice president, Consumer Long Distance.

SO HOW GOOD DOES IT SOUND?

AT&T TrueVoice makes calls sound clearer, closer and more natural—it boosts the lower end of the sound spectrum while gently raising the overall volume of the call.

In a word, AT&T TrueVoice sounds great!

To illustrate the magnitude

of the change, CCS marketers describe the improvement in sound quality as comparable to that of digital compact discs over vinyl LP records. Just as compact discs changed the musical landscape, AT&T TrueVoice will become the new standard for telephone conversations.

"Like the digital compact disc, AT&T TrueVoice fundamentally changes the listening experience. If you have a CD player, it's difficult to go back to cassette tapes or LPs. Similarly, once you hear AT&T TrueVoice, you'll never want to go back to ordinary long-distance calling," Tutton says.

BUT WHY GIVE IT AWAY?

AT&T TrueVoice is exactly the sort of edge AT&T has sought in staking its claim as the high-quality provider of voice communications. It is a patented, proprietary technology that will remain exclusive to AT&T for 17 years.

There's no extra charge for AT&T TrueVoice. The improvement will pay for itself through increased customer loyalty and by winning back customers who want the best sound available. AT&T TrueVoice is the most recent addition to *The i Plan*, AT&T's approach to providing consumers with customized combinations of products, services and savings options ... and now, ground-breaking technology. AT&T TrueVoice brings a new dimension to each person's i Plan.

AT&T TrueVoice does present something of a marketing challenge. It's hard enough to describe—it almost defies visual depiction. You must hear it to

appreciate it. Print and TV ads feature an 800 number that customers can call to hear a demonstration.

And, selected customers across the United States will be invited to make a live AT&T TrueVoice call. They will receive a letter encouraging them to call a special 800 number. Together, the customer and his or her friend will have up to 15 minutes to chat as the call automatically switches back and forth between AT&T TrueVoice and current long-distance sound.

HOW DO WE DO IT?

Because of the proprietary nature of the technology, CCS won't go into any detail about what it is that makes AT&T TrueVoice sound so good.

What they do say is this: AT&T TrueVoice involves selective boosting of speech carried in the network, which brings call volume closer to a customer's preferred volume level. This boosting includes amplification of low-frequency sounds (the bass range) compared to the rest of the telephony bandwidth. This produces a call with more volume, depth and definition. Data transmission is not affected.

"AT&T is committed to delighting its customers by addressing areas, such as call quality, they told us are important to them," Tutton says. "We're in a ferociously competitive business where innovation is not a luxury—it's a requirement. We believe AT&T TrueVoice will create a fundamentally improved calling experience for consumers and businesses."

—Dennis McGrath

How big does AT&T TrueVoice sound? Senior Records Clerk Charlotte Jennings checks out AT&T TrueVoice, using a Big Phone during the introduction celebration at Basking Ridge, N.J.



"IT WAS LIKE HE WAS RIGHT NEXT TO YOU!" ■ "OVERALL, IT WAS EASIER TO UNDERSTAND." ■ "IT SOUNDED LIKE WE WERE IN THE SAME ROOM!" ■ "THE VOICE WAS MORE CRISP." ■ "IT HAS A DEEPER, BOLDER SOUND!"



Bruce Woodie

Nomads

DIGITAL

Some people think it looks like a child's Etch-A-Sketch with ears. Others say it's the information-age equivalent of the Swiss Army Knife.

And it is.

The AT&T EO 440 Personal Communicator sends and receives faxes. It sends and receives electronic mail—even handwritten notes. It connects with computers and printers. It's wireless for cellular calls. And it plugs into a phone jack. It's a computer, too.

It can't cut or slice, and it won't pop the top off a bottle ... at least not yet. The AT&T EO Personal Communicator is a tool for anytime, anywhere communications. And when this highly capable device is connected with a powerful, new AT&T network service designed to match it step for step, the communications revolution will sizzle—in the palm of your hand.

AT&T, industry analysts, computer firms, consumer electronics companies, and communications and entertainment companies believe that personal communicators and similar devices will provide messaging and information-handling capabilities that go far beyond today's fax and electronic mail. Industry leaders predict that as the products evolve, their impact on person-to-person communications will rival that of the mass introduction of the first telephones in the early 1900s.

THE REVOLUTION BEGINS

At this year's Consumer Electronics Show in Chicago, Gordon Bridge, president of AT&T EasyLink Services, called 1993 "the year of the personal communicator." He may be right.

Companies large and small; companies like AT&T, Apple, Sony and Motorola; and companies in California's Silicon Valley with names like General Magic, GO and EO are designing and developing the software and hardware that could put millions of personal communicators in people's hands within the next few years.

Today, there are pocket organizers such as those made by Sharp and Casio that help people organize telephone numbers, to-do lists and calendars. Some are pretty good. They are personal, but they are not communicators.

If people want more than an intelligent paperweight, if they want to realize the potential of their communicator, they need a network. "What people want most is the ability to communicate with somebody else," says Dan Rosen, EasyLink Services vice president for Consumer Messaging, Parsippany, N.J.

Merging intelligent devices with an intelligent

network where both are easy to use is the vision fueling today's emerging market for personal communicators and personal communications services.

It's a risky business. High costs and a need for standards that will enable these devices not only to "talk" with each other, but to complete "smart messaging" tasks on their own already has companies scrambling for partners.

AT&T is one of them.

"We want the personal communicator revolution to follow the same path as the telephone revolution," says Rosen. "With the computer revolution, we ended up with islands of people isolated by machines that couldn't communicate easily, if at all. But you can take a telephone made by almost anyone and plug it into the telephone network and have dial tone. You can call any other phone here or around the globe."

The same ease of access and use created for telephones is a necessity for personal communicators, according to Rosen. If personal communicators are going to gain wide



WITH OR WITHOUT WIRES, THESE DEVICES ARE ABOUT TO CHANGE THE MEANING OF THE WORDS "MOBILE COMMUNICATIONS." COUPLED WITH A NEW GENERATION OF AT&T NETWORK SERVICES, THEY MAY EVEN CHANGE YOUR LIFE.

public acceptance, a person should be able to scribble a note on his or her communicator, send it into a network and have it find its destination at another device.

The experience also will be much richer, combining voice, text, handwriting, images and eventually, video.

Cooperation, even among competitors, is essential to create a mass market for personal communicators. Instead of fighting over a small developing market, competitors can concentrate on innovation and marketing savvy in a continually expanding market. And customers? They reap benefits instead of waiting on the sidelines watching a technological slugfest.

AT&T already has forged a series of alliances—internally and externally—to move the technology and benefits out of laboratories and factories and into the hands of people.

In early June, AT&T and EO Inc., a Mountain View, Calif., technology company, agreed to market a single line of personal communicators—the AT&T EO 440 and 880.

“With EO as our personal communicator company, AT&T gains direct access to the expertise of one of Silicon Valley’s most innovative and creative companies,” says Bob Kavner, CEO of Multimedia Products and Services.

AT&T also became the majority shareholder in EO—building on a

long relationship of working together. AT&T was one of the initial investors in EO when it was founded two years ago. The new agreement gives EO access to AT&T’s technology, services and sales channels, including AT&T Phone Centers.

Other EO investors include Matsushita Electrical Industrial Co. and Marubeni Corp. of Japan, and Italian computer maker Ing C. Olivetti. Matsushita, best known for its Quasar, Panasonic and Technics brands, manufactures the communicators in Illinois.

“People have been talking about personal communicators for a long time,” says AT&T Consumer Products Director Harriet Donnelly. “Now, they can hold an AT&T EO in

their hands and use it. It’s the ultimate user-friendly machine. The AT&T EO makes faxing and electronic mail so easy, you just use it.”

The AT&T EO will help people stay in touch, anywhere, anytime. In a business environment, it will boost productivity almost immediately—people can send faxes or read e-mail while at a meeting. And instead of totting around several devices on the road—pagers, fax machines, cellular phones—people can carry just one communicator that does it all.

When you turn the communicator on, it displays a table of contents—a feature of the machine’s *PenPoint* operating system developed by GO Corp. The pen-based operating system works with a



Dan Rosen's group at EasyLink Services is developing a new network service that will link communicators and become the access road "to just about any service you can imagine."

RING SIDE

Although the uncertain potential of personal communicators has some firms sitting at ring side, others already are scrambling to field contenders in the emerging market. Here are a few:

■ The AT&T EO Personal Communicator provides fax, electronic mail, cellular phone and personal computing capabilities. Introduced last fall, it was the first personal communicator on the market.

■ Apple Computer's "Newton Message Pad"—designated as a "personal digital assistant"—is about the size of a steno pad. It can send but not yet receive faxes. The Newton also doubles as a pocket organizer with calendar and to-do list functions.

■ IBM has developed a prototype personal communicator that can be used for electronic mail and cellular calls.

■ Motorola has said it will launch its first personal communicator later this year.

■ Sony Corp. and Matsushita Electric Industrial Co., both Japanese consumer electronics companies, and Philips N.V. of the Netherlands also plan to sell communicators in 1994.

"THIS PERSONAL COMMUNICATOR IS GOING TO REVOLUTIONIZE COMMUNICATIONS. WE HAVE A PRODUCT. WE HAVE A NETWORK. IF THIS TECHNOLOGY TAKES OFF, IT'S GOING TO COME BACK TO AT&T IN A BIG WAY IN TERMS OF ALL THOSE TRANSACTIONS MOVING ACROSS OUR NETWORK."

special electronic pen instead of a keyboard that is used to access various programs—fax, e-mail, calculator, to-do list and others. Users can use the pen to write handwritten messages, which can be translated into text by the GO software. To send the message, handwritten or in text, the user simply taps the pen on a person's name from the communicator's address book.

The AT&T EO machine is the first to incorporate AT&T's revolutionary Hobbit microprocessor, designed by AT&T Microelectronics specifically for the personal communicator market. In fact, NEC Corp. and rival Toshiba Corp., both Japanese high-technology companies, have stated they will use the Hobbit in their own hand-held devices.

"This personal communicator is going to revolutionize communications," says Donnelly. "We have a product. We have a network. If this technology takes off, it's going to come back to AT&T in a big way in terms of all those transactions moving across our network. We've put together a tremendous team—AT&T, EO and GO. That team has pulled together all the piece-parts to make this visionary product something we can put in people's hands today."

Although bulk shipments of the AT&T EO Personal Communicator started in April, mobile executives and sales and service people remain the primary market targets. "We're evaluating a variety of distribution strategies," says Donnelly. "We aren't looking for a quick hit in this market. We know it will take three to four years for this market to emerge."

One comforting fact: An estimated 43 million workers, from truck drivers to corporate executives, spend the majority of their time trav-

eling or at locations away from their office.

According to Pam Miller, EO's marketing vice president, the personal communicator has been tested and evaluated by more than 70 companies—from retail specialists to apparel companies. Twenty-five of the companies served as major test sites. "Hacker business types" and ordinary consumers also have tried out the device.

The results? Amazement. And there's more to come.

More than 100 developers, third-party companies that write software applications, are now developing applications that will run under the communicator's PenPoint operating system. "That means buyers can be assured of an expanding library of applications that they can use to customize their communicators," says Miller.

Even though the AT&T EO can provide real benefits today through its cornucopia of technologies, it's nothing compared to what the future may hold.

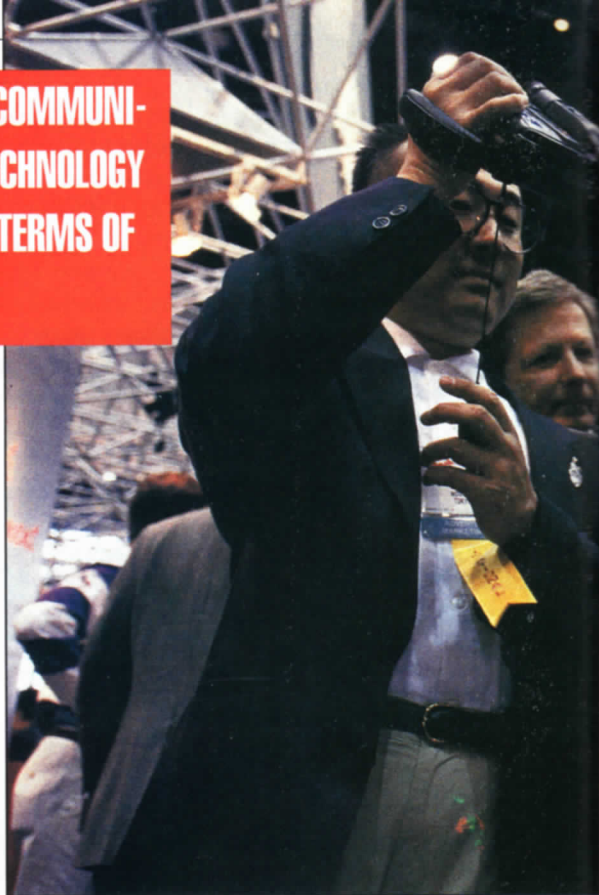
A LITTLE MAGIC

AT&T also has forged an alliance with General Magic, another Silicon Valley technology company.

During the past two years, Apple Computer Inc., Sony Corp., Motorola, Matsushita Electric Industrial, Philips Consumer Electronics Co. and AT&T have become equity partners in General Magic, which has spent several years cooking up two innovations—Telescript and Magic Cap—that could transform personal communicators into ubiquitous consumer products.

Telescript is a programming language and software that will allow all hand-held devices to communicate with each other. Magic Cap is an operating system similar to PenPoint. AT&T and Apple will use Telescript,

Curious consumers look on as Jennifer Winters demonstrates the capabilities of the AT&T EO Personal Communicator at this year's Consumer Electronics Show in Chicago.



but not Magic Cap, in their devices.

This alliance is significant because all have agreed to use Telescript in their own line of personal communicators—even though some of the companies are highly competitive with each other. Telescript also can run on personal computers and other information devices.

Even though Telescript won't be available until 1994 at the earliest, this corporate cooperation will support the growth of the emerging personal communicator market.

Although Telescript is a wonder in itself, it still requires a network service—and AT&T EasyLink Services is developing one.

"What Telescript really offers is the ability for every one of the personal communicators by every one of these companies to intercommunicate flawlessly," says Rosen. "With Telescript, we're eliminating the Tower of Babel that plagued the computer industry for years."

Communications capabilities that are a dream today can be tomorrow's reality simply by adding a short piece of Telescript programming. All those snippets of programming are instructions to the network on what needs to happen, when and to whom.

"We're learning from General Magic and they're learning from us as well," adds Rosen. "This offering of personal communicators and personal communications services is a combination of equipment and network service. The alliance represents a concerted effort on the part of AT&T and these other companies to create a global market where none exists today. The value of the network service that we're developing will be evident to our customers. It's the link between devices and the access road to just about any service or form of communications you can imagine."

For example, people will have greater ability to control and personalize the ways they receive messages by giving instructions to the enhanced network—such as "Delete messages from Sally. Forward messages about my old job to Tom Smith. Forward messages from my wife directly to me by wireless."

With the network's "smart messaging" capability, people will be able to make their personal communicators take actions on their behalf while they're on the move. For example, "Deliver this message to Bill's fax machine in his car if he doesn't pick

CURTAIN UP!

"SPOTLIGHT ON BENEFITS" OPENS IN SEPTEMBER

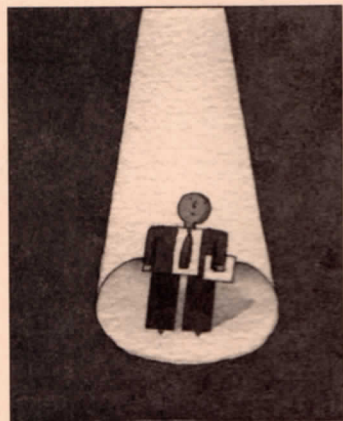
In mid-September, you'll receive an envelope marked "Spotlight on Benefits." Inside will be your Spotlight on Benefits kit. This is all part of a new approach AT&T's Health and Insurance Benefits Organization is introducing this year to improve the benefits decision-making process and simplify enrollment.

The period from mid-September to mid-October has been designated as a special time for focusing on benefits. It's a time to read, reflect and get your questions answered—before the actual enrollment period begins in mid-October.

There are several good reasons for taking this new two-step approach to making your benefits decisions and enrolling.

MORE TIME TO MAKE YOUR DECISIONS

Your Spotlight on Benefits kit includes easy-to-use information that can guide you through the health care, insurance and other benefits available to you through



your AT&T benefits program. These materials have been designed to help you take full advantage of the one-month window you have until the enrollment period begins so you can "think and link."

- Familiarize yourself with all the benefits options available to you.

- Think about your personal situation, and anticipate how your benefits needs might be changing in the upcoming year and beyond.

- Consider how the various benefits available to you are

linked—how a benefit choice in one area can affect your choice in another area.

- Select the combination of coverage that will best meet the needs of you and your family.

By the time the enrollment period begins in mid-October, you'll be ready to assess the dollar cost of your choices, finalize your decisions and enroll.

EASIER ENROLLMENT

If you had trouble getting through to the Benefit Directions Enrollment Center (BDEC) to enroll last year, you were not alone.

Analysis of the "traffic patterns" on the enrollment phone lines shows that only half the calls during the enrollment period were to enroll. Many calls were made to ask questions or obtain materials. In addition, employees waited until the last minute to enroll. The result: Many of you were frustrated, having to redial over and over again to get through to enroll.

By getting most of your

questions answered during the Spotlight on Benefits campaign, you'll be easing up the phone congestion during the enrollment period—making enrollment simpler and more trouble-free for you and your fellow employees.

Following is some preliminary information on your benefits, which should help you make your enrollment decisions.

TARGETED ENROLLMENT WEEKS

In previous years, many employees put off enrolling until the last minute. The result was clogged phone lines and considerable frustration for everyone trying to get through, especially the great number of employees who were forced to hang up. This year, targeted enrollment weeks have been scheduled to help spread out the calls and make it easier for you to get through and enroll:

If your last name starts with ...	Enroll the week beginning ...
A - G	October 18
H - O	October 25
P - Z	November 1

Of course, if there's a reason that you can't call during the period targeted to your last name, you can call the BDEC any time during the enrollment period. But remember, the earlier in the enrollment period, the better. In any event, be sure to enroll before the November 12 deadline.

Also, you can avoid heavy traffic on the phone lines by calling to enroll at off-times:

- Later in the week, rather than on Monday or Tuesday.

- Late afternoons (or evenings if you can enroll using the *Conversant* voice system).





CHECKING OUT HMOs JUST GOT EASIER

While many people still feel that traditional medical plans best suit their personal needs, increasing numbers are now choosing HMOs (Health Maintenance Organizations) for their medical coverage. In fact, more than 38 million American workers receive care for themselves and their families through HMOs—more than twice the number in 1985. At AT&T, 42,000 active employees are currently enrolled in HMOs, and the number is growing every year.

Many find HMOs to be a convenient way to get all the medical assistance they need, as well as a good way of helping to keep down the cost of medical care.

THE AT&T MEDICAL PLAN AND HMO COMPARISON GUIDE

Even if you think that an HMO may be the way to go, there's still the question: Which one? In most AT&T locations, employees are offered a number of different HMOs to choose from.

Each year *The AT&T Medical Plan and HMO*

Comparison Guide are published for each area around the country where HMOs are available to AT&T employees. The Comparison Guide provides a handy way for comparing one HMO with another—and with AT&T's medical plan as well.

IT'S NEW AND IMPROVED

This year, the 1994 *AT&T Medical Plan and HMO Comparison Guide* presents your options in a new, simplified format that gives you a clear overview of each of the HMO alternatives in your area. Each overview includes a complete rundown of your personal costs for everything from a regular office visit to special services such as physical therapy.

The new, briefer, easier-to-use format will help you quickly find all the information you need about the choices being offered. It will also permit you to compare, at a glance, the features of one HMO with those of another you might be considering.

PROTECTING YOUR FAMILY'S FUTURE NOW THROUGH LONG-TERM CARE

We all like to think about a future with good health for ourselves and our families, but it doesn't always turn out that way. What if you were seriously injured in a traffic accident or began experiencing the effects of a disease like Alzheimer's? You could need special care over a long period of time that traditional medical benefits do not cover.

That's why AT&T offers you the opportunity to purchase long-

term-care insurance at group rates. It covers the kind of nursing care, physical therapy and support services that you might need due to a long-lasting or chronic physical disability, or because you're getting older. It pays for care in a nursing home. And you can purchase coverage that also pays for covered services provided in an adult day care center or right in your own home.

How important is long-term-care coverage? When you think that the cost of a nursing home stay averages \$80 a day around the nation—that's about \$29,000 a year—you realize just how significant this protection is for you and your family. And the cost can be as high as \$50,000 per year in

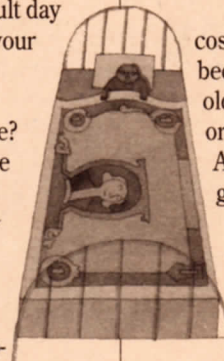
some parts of the country.

If you believe you're too young to start thinking about long-term care, you're not.

■ The younger you are when you sign up for this coverage the better, because the premiums are lower. So it makes good sense to apply while you're still young and healthy.

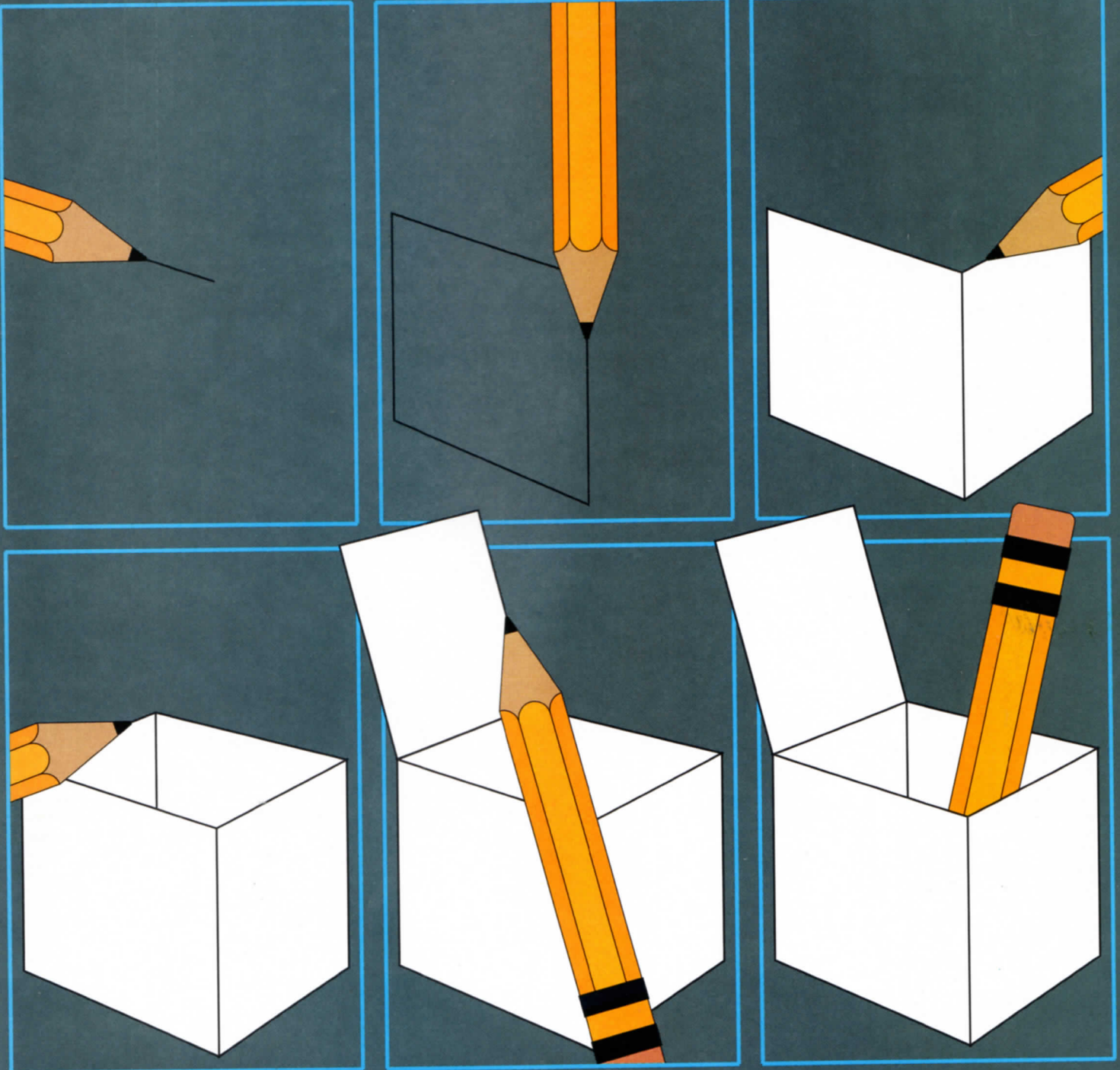
■ Once you enroll, costs won't increase because you're getting older or using the benefits, or even if you leave AT&T. And, ongoing coverage is guaranteed renewable.

This coverage is not only available to you, but to your family members as well. Your spouse, parents, grandparents, parents-in-law and grandparents-in-law can also apply.



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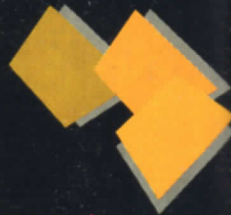
FOCUS



INNOVATION ANNUAL REPORT



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LIQUID TELEPHONE



1879
TELEPHONE
NUMBERS



1897
COMMON BATTERY
SWITCHBOARD

1906
YELLOW PAGES

1968
SOLID-STATE TD-3 RADIO RELAY
SYSTEM; CALL-A-MATIC TELEPHONE;
911 SERVICE

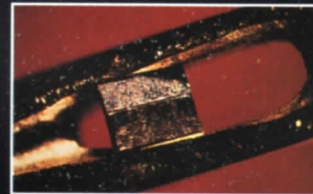
1976
4 ESS SWITCH; DATAPHONE
SWITCHED-DIGITAL SERVICE

1974
DESIGN LINE PHONES

1979
CENTREX
ELECTRONIC
TANDEM
SWITCHING

900

1991
BUCKYBALL
SUPER-
CONDUCTIVITY



1980
BRAILLE PANEL FOR VISUALLY-IMPAIRED OPERATORS;
DIAL-IT SPORTS INFORMATION, FIRST 900 SERVICE

1983
CLEAVED, COUPLED-CAVITY LASER

1991
SAFARI NSX/20
NOTEBOOK COMPUTER



1991
PUBLIC PHONE 2000



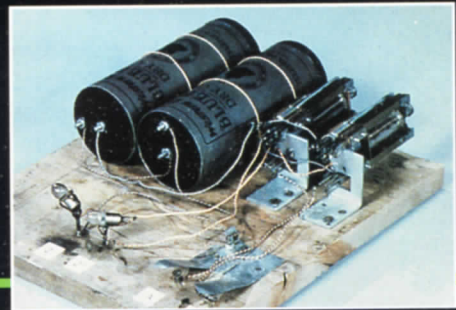
UCTION



1917
RADIOTELEPHONE SERVICE



1922
AUDIOMETER TO AID
HEARING-IMPAIRED PEOPLE

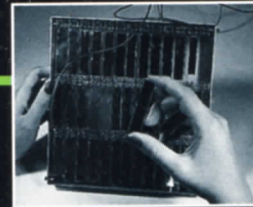


1937
BINARY ADDER, A PRECURSOR
TO COMPUTER

1947
TRANSISTOR



1954
SOLAR BATTERY



1967

FIRST 800 SERVICE



800



1962
TELSTAR COMMUNICATIONS SATELLITE



People are talking about AT&T, and you may be surprised at what they're saying. Here's Forbes magazine on AT&T's position in the merger of communications and computing: "For years the futurists have told us these businesses were going to come together. Now that the merging is under way, American Telephone & Telegraph Co. is uniquely positioned to profit from it."

The Wall Street Journal talks about the rising wave of multimedia products combining communications, computing and video: "A host of companies large and small are striving furiously to catch this wave. Few may be in a better position to do so than AT&T."

There's a trend here, culminating in the title of a Fortune article on the convergence of computers and telecommunications: "Could AT&T Rule The World?"

INNOVATION ANNUAL REPORT



A decade ago, people wondered whether AT&T could survive the rigors of competition. Now, influential people are asking whether AT&T may be the eventual winner in a global contest of communications and computing as it pursues its strategy as the world's networking leader. What's going on here?

In a word: innovation.

Newspaper, magazine and brokerage analysts look at AT&T and see a company, long familiar with innovation, that has reinvented itself specifically for global competition. But AT&T's reputation for innovation began a long time ago with the telephone.

Before the telephone, if you wanted to talk to Clyde in Cleveland, you went to Cleveland. Oh sure, you could send a letter or a telegram, but actual conversation required travel. Then came the telephone, and everyone who called Clyde saved the time and effort of a trip to Cleveland. That first AT&T innovation defined all the others that followed. An innovation was something new that saved time and effort and enabled people to do something they never could do before.

AT&T has come a long way since those early days, but we're still known as an innovative company. In fact, innovation is part of our official credo. Last year, AT&T Chairman Bob Allen introduced five AT&T values in Our Common Bond. These values guide every one of us in how we do business. We respect fellow employees. We uphold the highest standards of integrity. We keep customer requirements foremost in our thoughts and actions. We work as a team, making individual goals subordinate to team goals. And, we innovate. We innovate to improve the way AT&T works internally. We innovate to help our customers in their enterprises. And, we innovate to stay ahead, constantly striving to bring a fresh stream of products and services to market ahead of our competitors.

Here are some of the products and services that carry forward AT&T's history of innovation. To make the list, each product or service had to be:

- easy to use,
- the first of its kind to reach the market,
- announced since January 1992, and
- allowing customers to do something new or helping them simplify or increase control over their business or personal lives.

Here are the winners, the stars of the AT&T show.



VideoPhone 2500

INNOVATORS
Consumer Products,
Bell Labs

When grandpa can't make it for Caitlyn's birthday, don't make him wait another year to watch her blow out the candles. The *VideoPhone 2500*, the first full-color, motion videophone, delivers both the "thank you" and the smile that says she means it. Underlying technology for the *VideoPhone 2500* is video compression/decompression that squeezes motion video down to a small enough package to be transmitted over plain old telephone lines.



800 Speech Recognition

INNOVATORS
Business
Communications
Services,
Microelectronics,
Bell Labs

Have you ever called an 800 number from a rotary phone? It can be a frustrating experience waiting for a "live" attendant to take your call. Now, 800 Speech Recognition can route calls based on spoken commands. A recorded message asks you which department you need and then routes your call according to your response. The system automatically recognizes the numbers one through nine and can be customized to recognize almost any key word. Field tests show 800 Speech Recognition is more than 97 percent accurate in recognizing speech patterns, including dialects and accents. It's an innovation that makes toll-free service more effective and efficient for subscribers and their customers.

World Connect Service

INNOVATORS
Consumer
Communications
Services

Globe-hoppers sometimes face language and currency barriers when they try to place a call. But now travelers can be sure of familiar service in 58 countries around the world. AT&T *World Connect Service* is an innovation that



Andrea Baruffi

OF THE YEAR



Mary Ann Hooper

Carrierless Amplitude Phase (CAP) Modulation

INNOVATORS
Paradyne, Bell Labs

Sexy new services—video, multimedia and digital audio—are becoming available to residential- and business-telephone customers. Key to availability of the services is an underlying technology capable of transmitting a high volume of voice, data and video at high speeds. CAP technology enables service providers to transmit up to three million bits of data per second over copper wires, fast enough for TV-quality video. CAP extends the reach of new services to 500 million copper subscribers worldwide.

enables travelers to place calls with the assistance of an English-speaking operator. Customers access the service by dialing the AT&T *USADirect* Service number from countries where *World Connect* is available. They give the AT&T operator the country codes, city codes and

local numbers of the people they want to reach, followed by the numbers of their AT&T Calling Cards, Universal Cards or local-exchange-company cards. The operators then complete the calls. World Connect Service marks the first time AT&T has helped place calls that neither originate nor end in the United States.

Fax Mailbox

INNOVATORS
EasyLink
Services, Business
Communications
Services

AT&T Fax Mailbox is an innovation that makes business travel easier and more convenient. Facsimile was one of the major innovations of the '80s, but it didn't travel well until now. Fax Mailbox enables you to give associates a single number to which messages can be faxed. Then you can retrieve messages from any fax machine in the United States and the more than 120 countries with AT&T *USADirect* Service. Fax Mailbox lets you retrieve messages immediately, send faxes ahead to your next stop or store them for up to eight days. Fax Mailbox greets callers in your own voice and can even page you when a message is in your mailbox.



Nancy Donziger



James Yang

Digital Compression

INNOVATORS
Network Systems,
Bell Labs

Imagine holding a five-pound bag and removing the contents. When you've unloaded five pounds you look inside expecting to see an empty bag. But wait, there's more. This innovative bag can easily hold 20 pounds and sometimes holds as much as 90 pounds. Digital compression performs a similar feat on television channels sent over satellite transponders or standard cable-television lines. Without compression, only one channel can be transmitted at a time. Compression techniques developed at Bell Labs enable broadcasters to squeeze four to 18 television channels onto a single satellite transponder or three to 13 channels onto a cable-television line. This innovation opens the door to a host of new entertainment and interactive services including movies on demand, live-action sports, home shopping and in-home education services. Some day, digital compression will be the key to turning today's ordinary television sets into telephones that are also giant videophones.

Teleticket Services

INNOVATORS
Consumer
Communications
Services

An innovation in hospitality best describes AT&T *Teleticket* Service, which allows visitors to the United States to pre-pay for telephone calls and a variety of information delivered in their native languages. Customers conveniently access Teleticket Services by dialing one of nine toll-free 800 numbers, one for each language currently offered: Dutch, English, French, German, Italian, Japanese, Korean, Portuguese and Spanish. Recorded messages guide customers through selecting a service or placing a call. Native speakers are available for customers who need more information. Available services include on-line interpretation, international news, local weather updates and currency-exchange rates.





Smart Card

INNOVATORS
Smart Card,
Bell Labs

Dwayne doesn't miss old-fashioned toll booths. He remembers the time he tried to drop in his quarter without stopping and darn near yanked his arm off. Now his Smart Card keeps track of how much he owes for each trip on the toll road and automatically arranges for funds to be transferred to the toll-collection agency. Smart Cards look just like a credit card, but inside they contain a microprocessor "brain" and enough electronic memory to keep track of all Duane's finances. His Smart Card can even contain a complete medical history in case Duane needs emergency care. Pretty smart cards these Smart Cards.

Navigator Service

INNOVATORS
Consumer
Communications
Services, Bell Labs

Bonnie picks up the pay-phone and dials "O" and her home phone number. A voice comes on and asks Bonnie: "collect, third-number, person-to-person or calling card?" Bonnie says "collect," and the voice asks for her name. When Bonnie's husband picks up the phone, the voice asks: "I have a collect call from Bonnie. Do you accept the call?" He says "yes," and another operator-assisted call is completed. Except that the operator involved was a computer that recognizes and responds to the human voice. A technique called word spotting, developed at Bell Labs, enables the computer to recognize key words and respond appropriately. If the computer doesn't recognize any key words, it automatically signals a live operator to take the call. Ever since 1951, when AT&T introduced direct-dialed long distance, the percentage of calls requiring operator assistance has dropped steadily. Navigator Service handles the routine calls and helps ensure customers always get the assistance they need.



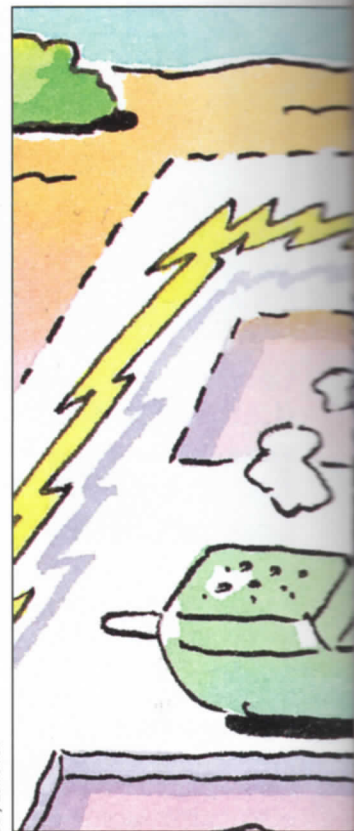
Richard Orshak

Fast Automatic Routing (FASTAR)

INNOVATORS
Network Services
Division,
Network Systems,
Bell Labs

Think about the road you take to work. Now imagine a tractor-trailer jackknifing in your path and closing the highway. Wouldn't it be great if the highway automatically sensed the problem and shifted your car to another road? That's what FASTAR does for calls on the AT&T Worldwide Intelligent Network. FASTAR monitors network cable and, if it senses a break, reports the break to a central computer. The system confirms the failure, looks for other routes that have capacity available and then reroutes calls around the break. FASTAR can restore 67,200 circuits in just minutes—a process that previously took hours.

Gary Zamchick

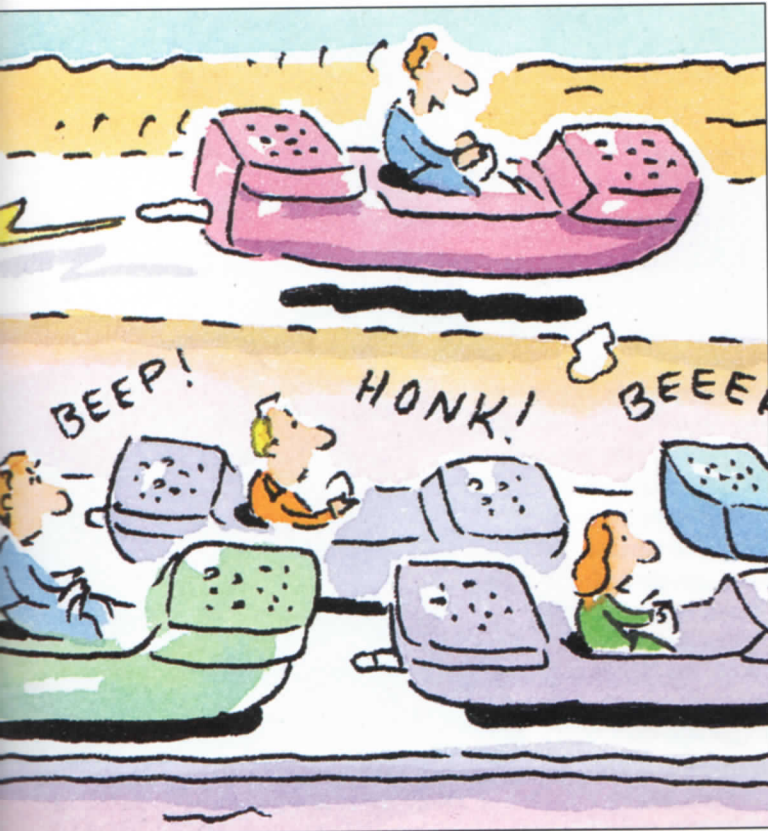


SL2000 Underwater Fiber-Optic Cable System

INNOVATORS
Submarine
Systems, Bell Labs,
Microelectronics

SL2000 is a complete system of underwater fiber-optic cable for high-capacity applications spanning up to 5,400 miles. Total capacity of the system can be as high as one million voice channels. Two innovations are featured. First are optically amplified repeaters that reduce the number of parts, increase reliability and allow easy upgrade to higher capacity. Second is turnkey delivery of the cable system. AT&T Submarine Systems provides design, installation, testing, maintenance and support.

OF THE YEAR

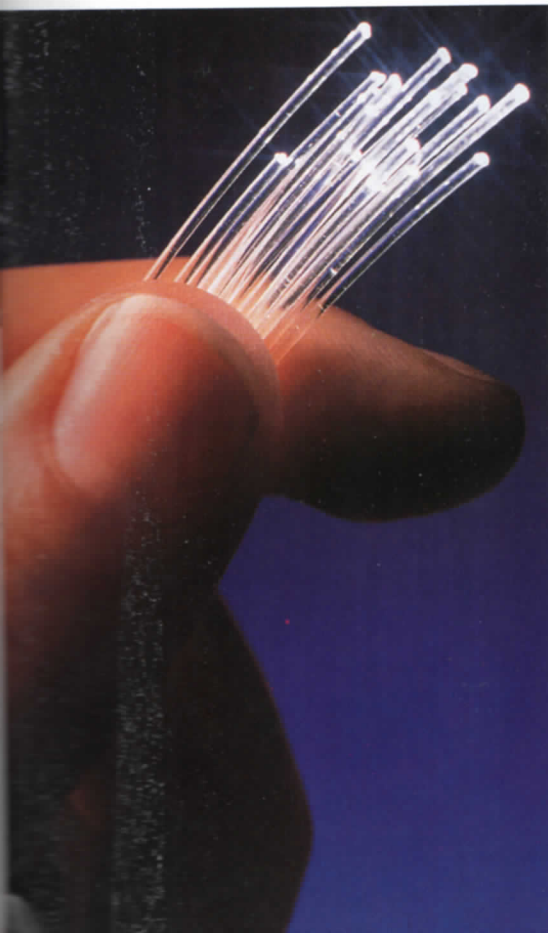


Conversant Systems Speech Recognition

INNOVATORS
Global Business
Communications
Systems,
Microelectronics,
Bell Labs

Reservation centers, catalog retailers and customer-service providers appreciate the innovation behind *Conversant Systems* Speech Recognition. When customers call, the system listens for key

words, such as whether the customer wants "sales" or "service," while disregarding unneeded words and the usual "umm" and "er" of conversation. The system's standard vocabulary includes the numbers zero through nine and the words "yes," "no" and "oh." Optional software enables users to customize the system to recognize words required for their applications.



Two-way ATM With Smart Card Voiceprint

INNOVATORS
NCR, Bell Labs,
Smart Card

It's already hard to remember the days before automated teller machines made banking so much easier and more convenient, though ATMs have been around scarcely a decade. Now an innovative new generation of ATMs is raising convenience and security to new levels. For convenience, NCR added two-way video to a bank office. If you need personal attention that the ATM cannot provide, such as talking to a loan officer, the ATM will connect you on a video call to a person who can help. For security, NCR added a smart-card reader. Your ATM card contains your voiceprint, so that only you can access your account. Fraudulent withdrawals using counterfeit ATM cards cost banks millions of dollars a year. Voiceprints put a stop to that nonsense.



Mark Tomally/Masterfile



Robert Neubecker

Universal Fiber Microcell System

INNOVATORS
Network Systems,
Bell Labs

You're standing on a platform waiting for a train that's already 20 minutes late. You have to call your client to say you'll be late. No problem, you've got a portable phone. Oh no, standard cellular networks can't reach down inside the train station. Still no problem, this train station is equipped with the innovative Universal Fiber Microcell System. Microcells use low-powered wireless technology to divide standard cells into several smaller units. Benefits include extended wireless service into hard-to-reach areas and a large increase in the number of customers served within a cell. The Universal Fiber Microcell System allows the benefits of microcell technology to be used with a wide variety of worldwide wireless systems.

AT&T Extended Range Cordless Telephone 9530

INNOVATORS
Consumer
Products, Bell Labs

Cordless phones are great for calling from the deck, but what use are they when you're taking a walk around the block? You can call from up to a mile away with AT&T's 9530 cordless phone. That's four times the range of conventional cordless phones. The innovations are 900 MHz operation and a technique called frequency hopping to ensure interference-free, private conversations. Because it operates at a higher frequency than other cordless phones, the AT&T 9530 is unaffected by interference from garage-door openers, baby monitors and radio intercoms. It even works well in high-rise apartments and multi-story buildings.



KeepInTouch (KIT) Credit-Card Modem

INNOVATORS
Paradyne,
Microelectronics

People who use notebook computers frequently want access to information stored in remote locations. A typical case is an on-the-road salesperson who needs to get a lengthy customer profile from company headquarters. What's required is a modem that's handy to carry and that doesn't take all day to send and receive messages. And if it could handle faxes too, all the better. The innovation that fits the bill is the KIT modem, scarcely bigger than a credit card, but fast enough to communicate at 14.4 kilobits per second, six times faster than the current standard for notebook-computer modems. Yes, it does faxes too.



Dave Cutler

OF THE YEAR



Elliott Bergman

AT&T Billing Edge

INNOVATORS
Business
Communications
Services

Customer focus is the name of the game, and here's an innovation that makes it easy for long-distance customers to monitor costs. In the past, if customers with more than one AT&T long-distance service wanted their bills on personal-computer diskette, they ended up learning several different software packages. AT&T Billing Edge puts all the bills under control of a single software program. Customers can receive their bills on either diskette or CD-ROM and customize their calling reports just by clicking a computer's mouse. The Billing Edge has easy-to-use menus that allow customers to set up individual text descriptions of business calls. They can print reports sorted by department or region, national or location account numbers and AT&T Calling Card numbers. In short, AT&T Billing Edge makes it easy for customers to monitor and control long-distance costs.

Personal Communicator 440

INNOVATORS
Consumer
Products, EasyLink
Services,
Microelectronics,
Bell Labs, EO

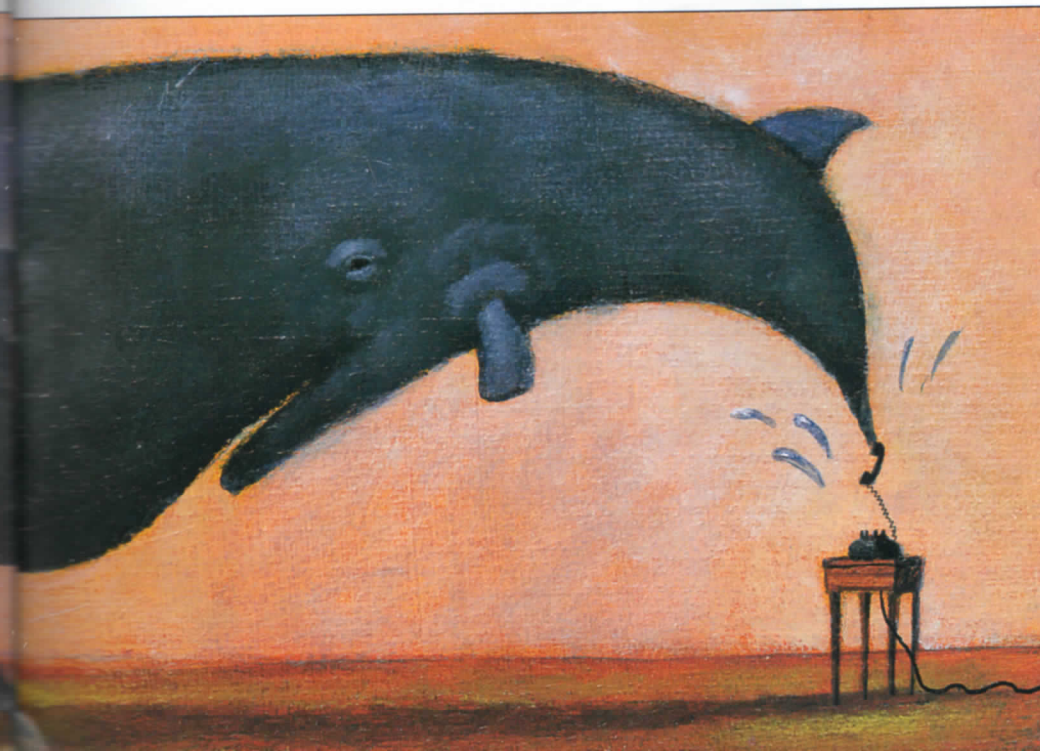
Room-size to closet-size to desktop to portable to laptop to notebook and now to the latest innovation in computer shrinkage, the AT&T Personal Communicator 440. Weighing as little as 2.2 pounds, the PC440 packs a wallop for both computing and telecommunications. As a computer, the PC440 handles note-taking, calculating, scheduling and address-book management. As a communicator, the PC440 does faxes, electronic mail, paging and even offers an optional cellular phone. Mobile executives are targeted as initial customers. As specialized application programs are developed, other field personnel, such as those in sales and service, will begin using the PC440. When you see the power the PC440 puts in your palm, you have to ask: "Can 'Beam me up, Scotty' be far behind?"



GCNS-2000 Switch

INNOVATORS
Network Systems,
Bell Labs

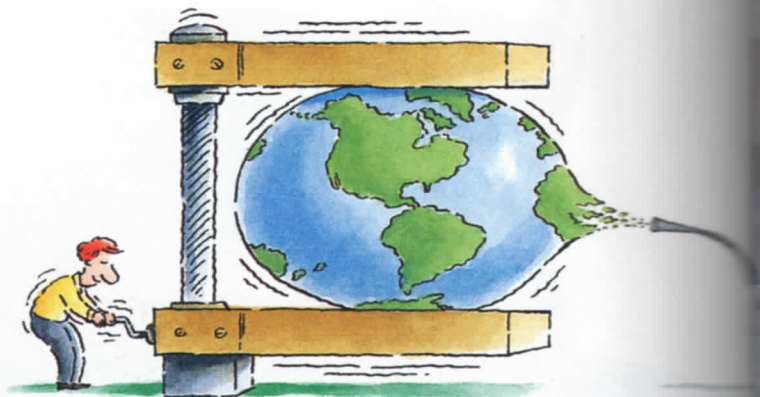
The GCNS-2000 is an innovative, new switch that enables the public telephone network to use a technique called Asynchronous Transfer Mode (ATM). Using the GCNS-2000 and ATM, the public network readily adapts to handling voice, data and video transmission and does it at billion-bit-per-second speeds. That's fast enough to transmit 1,600 copies of the novel "Moby Dick" in one second, although most people are quite satisfied with one copy. Applications for the technology include multimedia videoconferencing and transmitting medical images, interactive educational services and movies-on-demand.



NCR 5991 Paperless Signature Capture System

INNOVATORS
NCR

Who needs paper? It wastes trees and it's hard to store. That's the rationale behind the innovative NCR 5991. Most any business that accepts credit cards can use the NCR 5991. When customers present their cards at the register, they use a special pen-like stylus to sign directly onto a screen displaying an image of a receipt. The NCR 5991 digitizes the signature, prints a receipt for the customer and saves an electronic copy for the merchant. Efficient and green.



AVP 4000 Video-Codec Chip Set

INNOVATORS
Microelectronics,
Bell Labs

Codec stands for "Compression-DECompression," which is how this innovation makes it easier to transmit and receive video over telephone lines. The chip set takes standard video, such as from a

EasyReach 700 Service

INNOVATORS
Business
Communications
Services, Consumer
Communications
Services, Bell Labs

Look in your address book and see how many of your friends have kept the same phone

numbers since you started the book. Chances are, not many. Some numbers probably needed erasing, some needed white-out, and you may have even resorted to paste-in labels for your fast-track friends. AT&T *EasyReach 700* Service is an innovation to accommodate an increasingly mobile lifestyle. Your *EasyReach* number never changes no matter how many times you move. The same 700 number lets you forward calls to and from virtually any touch-tone phone. Your family and friends won't need to reprogram their phones or change their address books to keep up with you. Your *EasyReach 700* number is the only number you'll ever need.



Hobbit Chip Set

INNOVATORS
Microelectronics,
Bell Labs

If you look inside a Personal Communicator 440, you'll find it powered by an ATT92010 microprocessor, the "brain" in an innovative family of chips designed especially for personal communicators. Hobbit chips feature high performance and low-power consumption, the critical factors in producing a powerful, yet lightweight communicator. In addition to the ATT92010, the Hobbit family also includes chips for managing power, memory, input and output devices and the display screen. Companies announcing Hobbit-based personal communicators include EO, NEC and Toshiba.



OF THE YEAR



camcorder, converts it to digital form, removes redundant information to compress the video image and then transmits the image, all in compliance with international standards. A similar chip set at the receiving end then decompresses the picture and sends it to a display screen. Applications include video telephones, two-way automated teller machines at banks and videoconferencing using your desktop computer.

Larry Rouse

Personal Video System Model 70

INNOVATORS
Global Business Communications Systems, NCR, Microelectronics, Bell Labs

"But the 15-year adjustable makes more sense if rates stay down," says the homebuyer. "Of course," says the loan officer,

"but look what happens if rates return to 1990 levels." It seems like a normal face-to-face business conversation, but the participants are 2,000 miles apart. They're communicating over an innovative technology called Business Desktop Video that brings videoconferencing to your personal computer. With the Personal Video System Model 70, you and the loan officer—or any subject-matter expert—can talk and even work on computer files together. When you're looking for solutions and trying to make decisions, there's just no substitute for face-to-face communication. The technology combines a video-compression chip set from Microelectronics with TeleMedia boards and software from NCR. The system communicates via either a *Definity* G3 PBX from GBCS or a digital-telephone connection to a 5ESS switch from Network Systems. Completing the product is a video camera that sits on top of the personal computer.



Global Communications Centers

INNOVATORS
Consumer Communications Services

Most people think long-distance calling is easy, and

it is if you speak English, own a telephone or have a credit card. But imagine yourself a recent immigrant to the United States longing to hear a familiar voice back home.

Until last year, you might have had a tough time placing your call. But an AT&T innovation—Global Communications Centers in Flushing, N.Y., and Los Angeles—makes it easy to cure homesickness. Multilingual staffs at the centers offer personal assistance to customers making interstate or international long-distance calls. Center locations were selected to serve communities with large concentrations of customers whose primary language is not English. Customers get privacy, comfort and the lowest direct-dialed rates, paid in cash. AT&T gets an opportunity to make a positive, first impression on customers who will soon select a long-distance carrier. The centers also provide facsimile and photocopying services, plus conference facilities for non-profit organizations and public-service programs.



AT&T TrueVoice

INNOVATORS

Consumer Communications Services, Bell Labs, Network Services Division, Network Systems

"Leon, is that you? You sound so close. Did you get a new phone? No? Then how come your squeaky voice sounds so good? Leon, don't tell me you changed phone companies. No? You're right, Leon, I'd never leave AT&T either. But how come all of a sudden this call sounds so good?"

Leon's call sounds that way because it's enhanced by AT&T's latest innovation in network sound quality, *AT&T TrueVoice*. AT&T TrueVoice makes long-distance calls sound clearer, closer and more natural. It works by raising the volume and boosting the bass end of the sound spectrum to make even voices like Leon's seem fuller and more resonant. And the best thing about AT&T TrueVoice is, it's free. To try AT&T TrueVoice for yourself, call 1-800-932-2000. A Spanish language version is available on 1-800-792-9100.



AT&T Mobile Cellular Telephone 3050 and Transportable Cellular Telephone 3450

INNOVATORS

Consumer Products, Microelectronics, Bell Labs

Her car phone rings, maybe the deal is on. Antoinette tells the phone, "I'll answer it," and the phone puts the call on the speakerphone. That's because Antoinette has an AT&T Mobile Cellular Telephone 3050, which features voice recognition. Besides hands-free answering, the phone also features voice-activated dialing, a voice memo pad and an integrated, digital answering machine. The phone also features programmable, soft keys that allow users to scroll through and access the phone's features. The 3050 allows up to 60 numbers programmed in memory and offers dual-NAM selection. The Transportable 3450 offers the same features as the 3050, except packaged in a lightweight, hard pack with a battery providing about 60 minutes of talk time. In addition to innovative features, these phones are our first cellular products to fully incorporate AT&T's own designing, engineering and manufacturing.



O F T H E Y E A R

AT&T EO 880 Personal Communicator

INNOVATORS
Consumer Products,
EasyLink Services,
Microelectronics,
Bell Labs, EO

It does everything the AT&T EO 440 Personal Communicator does: note-taking, calculating, scheduling, address-book management, faxing, electronic mail and paging. It even offers the optional cellular phone. But compared to the 440, the 880 is 50 percent faster, can save more than three times as much information and has a brighter, easier-to-read screen. The trade-offs are size and weight. The 880 is 20 percent larger and 1.8 pounds heavier than the 440. You decide which is right for you. Either personal communicator enables you to do real work without being tied to a desk or telephone.



Our Common Bond

- 1. RESPECT FOR INDIVIDUALS**
- 2. DEDICATION TO HELPING CUSTOMERS**
- 3. HIGHEST STANDARDS OF INTEGRITY**
- 4. INNOVATION**
- 5. TEAMWORK**

"Hey," you may be asking, "what's this doing here? Our Common Bond isn't a product or service." You're right, but it may be AT&T's single most important innovation. "Values don't stand alone," says Bob Allen. "They have to augment strategy, enhance structure and reflect a company's very idea of itself—not only what it is, but also what it wants to be. To me, the most important issue is that with Our Common Bond we can ensure, not a rampant conformity of viewpoint, but the ability to at least recognize an ethical problem when we see one." *Fortune* magazine describes how seriously AT&T's senior management takes Our Common Bond: "Perhaps [AT&T CEO] Allen's highest priority today is defining and disseminating AT&T's core values: respect for individuals, dedication to helping customers, adhering to the highest standards of integrity, innovation and teamwork. Senior managers say that in some top-level meetings 80% of the time is spent discussing these values and how they apply. Says [Executive Vice President - AT&T Robert] Kavner: 'There's an incredible emphasis at the top of this business on our values—orders of magnitude more than I've ever experienced—and in penetrating emotional depth, not intellectual. Right now we are one of the most depoliticized corporations around, and it's because we share a vision.'"

INNOVATION ANNUAL REPORT

PEOPLE MAKE INNOVATION HAPPEN

Every innovation in this report has a family: people who create, design, manufacture, market, sell and support. For their nurturing, every family member—and that probably includes you—deserves recognition. But we'd waste a lot of trees trying to recognize everyone. So we selected four people who represent the spirit of innovation at AT&T. They're really a reminder that innovation is more than chips, wires and software. Innovation is an intensely human activity requiring a mind to create, hands to build and a courageous heart to get a product to market. Here's a sample of the hearts and minds that make innovation happen at AT&T.



Chris Coxwell

THINKING OF A BETTER WAY

"I've wanted to invent things for as long as I can remember," says Joan Landry, AT&T Paradyne engineer in Largo, Fla. "I even look at products in my home and try to think of ways they could be changed to make life easier." Joan's 12-year career in software design is satisfying her desire to make things better. She's part of a team that creates the brainpower for AT&T's

dial-up modems, desktop boxes that link computers over telephone lines.

"Trying to make software work with hardware stretches my mind," Joan says. "So many things can happen during data transmission, and it's necessary to plan for them all. It's a real challenge to come up with a solution that works right the first time. I try to get all the bugs out before I send the program to our test group. And I keep trying to do things better and faster."

Joan and fellow Paradyne engineers are building better, faster modems. "Paradyne only came into the dial-modem market two years ago," she says. "We didn't have a head start and yet our 3800 Comsphere Series Modems won Editor's Choice in *PC Magazine*. That shows what we're capable of doing."

Away from the job, Joan takes mental breaks by playing tennis, swimming, traveling and hiking in the mountains. But her engineer's mind never rests, even when doing laundry. "I look at clothes tumbling around in the dryer and think how nice it would be if the appliance also folded them."

GOING THE DISTANCE

Gobind Daryanani, department head at Bell Laboratories in Murray Hill, N.J., is in the home stretch of the race to develop High Definition Television (HDTV). Gobind's group is responsible for the technology that compresses an HDTV signal so that it can be managed by real-world transmission facilities.

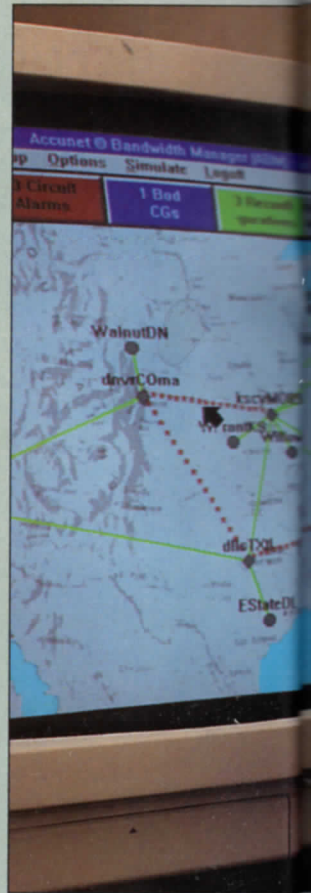
Gobind sums up the race pace to date: "Everybody's lives outside the project were put on hold. Most people worked from about 10 a.m. until 2 or 3 a.m. the next morning. Sometimes they stayed in a motel because they were too exhausted to drive home. A year into the project, out of a team of some 40 people, only one vacation day had been taken."

Through it all the team held together. "I've never seen people work so closely together. When we saw the first black-and-white picture go through the system, grown people hugged each other. That hug became a tradition whenever there was a breakthrough."

As a marathon runner who's still a member of the AT&T corporate running team, Gobind sees a parallel between racing and the HDTV project. "It's a little like running a marathon. When you think about running another one, the answer is always, 'Never again.' That's a once-in-a-lifetime experience ... but then you get caught up again."



Bill Ballenborg



Bruce Woodder

LISTENING HARD

For Yvonne Hodge, AT&T Data Communications Services district manager in Bedminster, N.J., innovation depends on listening closely to customers and co-workers and then thinking "out of the box" to see the big picture. Yvonne and her group are responsible for developing innovative features for AT&T Accunet private-line services. "We've learned to pay close attention to customers," Yvonne says. "It's our job to satisfy them, to deal with problems and come up with solutions



quickly. And it's our job to keep our minds open to each other's ideas. Somebody just might have a better way to do things." Yvonne's group is trying to give customers just what they're asking for: more control, reliability and flexibility. "We want to demonstrate to our customers that AT&T is innovative and flexible and cares about their needs."

Yvonne's approach is a natural, considering her background. Her training as a mathematician taught her to "think theoretically in a disciplined way." Being the youngest of 12 children gave

ample opportunity "to be patient and to listen." In recent years, she has seen more willingness within AT&T to listen, and she believes this openness has paid dividends. "In my area, the development cycle for new offerings is now six to nine months, less than half the time it took a few years ago," she says. "We bring together people from Bell Labs, product management, network operations, even customers. We listen to each other, especially about customer needs."

Sometimes this approach leads down blind alleys.

But, Yvonne says, "it's important to give people room to fail. You need failures to get to the right answer."

Yvonne also encourages youngsters in her community to go out and try for a career in math, science or engineering. "I want to show younger people that there's a place for them in the technical community. A lot of them ask, 'What's the point in taking math, why do you need to understand all that theory?' I tell them that even if they never use the actual mathematics, the mental discipline will help them in their day-to-day work."

RESEARCH AND DEVELOPMENT

"We're in a constant race," says Arun Netravali, executive director of communications sciences research at AT&T's Bell Laboratories in Holmdel, N.J., "and the race is to be first with a working product, not just an invention. In some races—HDTV, for example—the public visibility is enormous. That's scary, but exciting. There's a great sense of rushing against time."

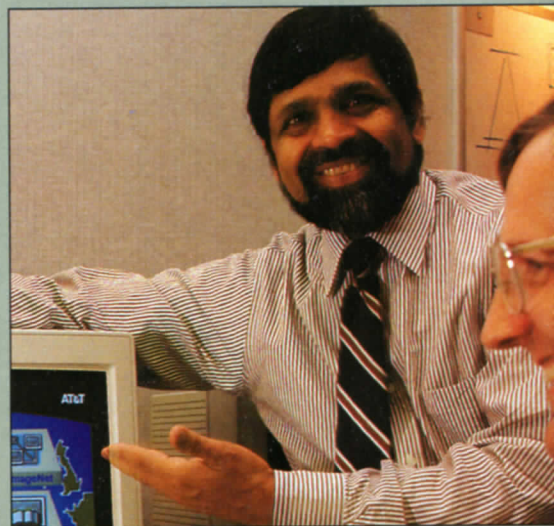
As both overseer of a major research area and hands-on researcher, Arun finds the pressure exhilarating. "The one thing that gives the greatest pleasure to people in research is seeing their ideas get to someone, touch the business and make things different. Now, we take pleasure not only in being first with a discovery, but also in being first to exploit it."

He describes two major pursuits: "First, we're looking at communications systems that customize themselves to customer needs. In the future, you'll tell your 'telephone' what you want—voice, video call or interactive TV—and the set will find the resources needed to oblige. Second, we're working on ways of merging computers, telecommunications and entertainment. One early example is our interactive-TV system, which Network Systems is about to trial."

But research is not the only goal for Arun. He also sees to it that research projects develop products. "We try to create joint projects that win for both research and the rest of the company." He points out that "our bigger successes have involved people from different organizations. Like the HDTV team, which included people from research, development, product management, manufacturing and other areas."

Many people in research and development prefer the mental activity of research to the dirty-hands work of development. But the Bell Labs director who hired Arun had a simple procedure for identifying people who could handle both activities. "He just asked me two questions," Arun says. "Do you like to invent? Do you change the oil in your car?" I said yes to both. He said, 'You start tomorrow.'"

Arun still likes to invent and "change the oil." In addition to his managerial duties, he's an active researcher, exploring image processing, computer graphics and data networking. "I keep my hand in because I enjoy it. But I also think it makes the job of management easier. People in my area see me struggling just as hard as they are to solve problems. And it helps me to know what people are going through and not to put unusual pressures on them." Arun seems to like helping people—and projects—to grow and develop.



Pete Byron

TEAMING ACROSS

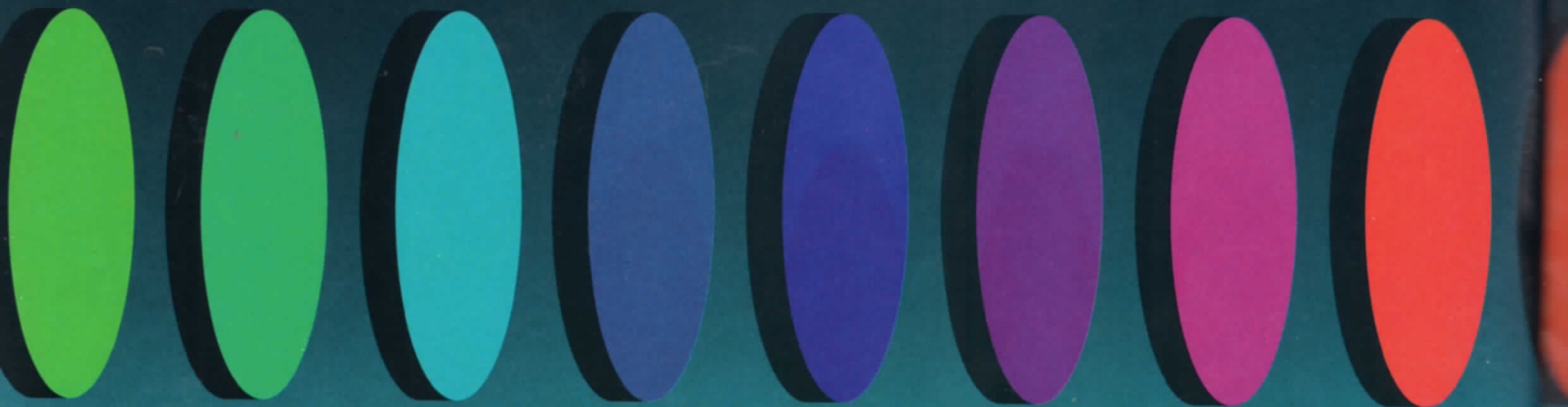


“On Wall Street and in the business press,” says *Information Week*, “AT&T can seemingly do no wrong. The reality is much more complex. AT&T’s 20-plus business units are already working together, but their synchronization remains very much a work in progress ... To make progress, AT&T is trying to connect the dots that would enable it to capture the synergies among its business units.”

Exactly. AT&T already has the right pieces to put together the success puzzle. It has the network in place to keep up with customers’ insatiable demand for information. It has the computing power to add intelligence to network services. And it has the research, development, manufacturing, sales, service and support customers need. But these pieces are

spread out over more than 20 business units, each with its own special focus. Achieving success will often require a broader view of AT&T’s overall corporate strategy. If AT&T can get that broad view, says *Information Week*, “Synergy between business units should let AT&T offer important new services.”

Right again. Synergy between business units is already producing growth from new services and products. Like desktop video. AT&T has a new product—Personal Video System Model 70—that enables customers to use their personal computers for videoconferencing over digital telephone lines. They get face-to-face interaction, without the expense of business travel. It’s a great product that was made possible by cooperation among Global Business Commu-



BUSINESS BORDERS

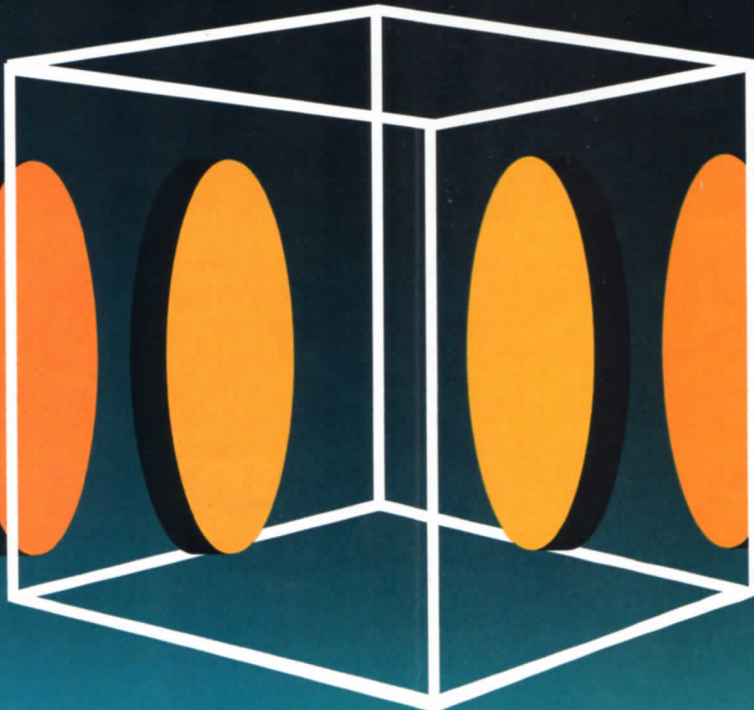
nications Systems (GBCS), NCR and Microelectronics.

"This particular project was launched about 18 months ago," says Dean Harvey, GBCS visual communications market manager in Middletown, N.J. "We were trying to play on NCR's strength in computing and GBCS' strength in communications." The team also decided to use the AVP 4000 Video-Codec Chip Set from AT&T Microelectronics to handle compression and decompression, a critical function that allows a picture to be quickly transmitted.

The Personal Video System Model 70 is currently being tested by a select group of customers. When it becomes generally available later this year, it will be sold by both GBCS and NCR. "A common objective of customer satisfaction has really helped

drive the team to do what's right for the customer, rather than what's right for one business unit," says Taya Harmon, GBCS visual communications manager in Bridgewater, N.J. The focus on customer satisfaction doesn't end when the customer buys the product. It also applies to service and support. "Regardless of whether customers call NCR or another AT&T business unit," Harmon says, "we work together to answer their questions and resolve any problems. That way, customers don't get bounced around."

Innovation requires teamwork among business units. Here's what AT&T is doing to coordinate efforts, bring its best to market and produce greater growth for AT&T.



WIRELESS

MAIN BUS INVOLVED: Consumer Products, Global Business Communications Systems, NCR, Federal Systems, EasyLink, Network Wireless Systems, Communications Services, Microelectronics, Personal Communications Services, Consumer Communications Services, Business Communications Services

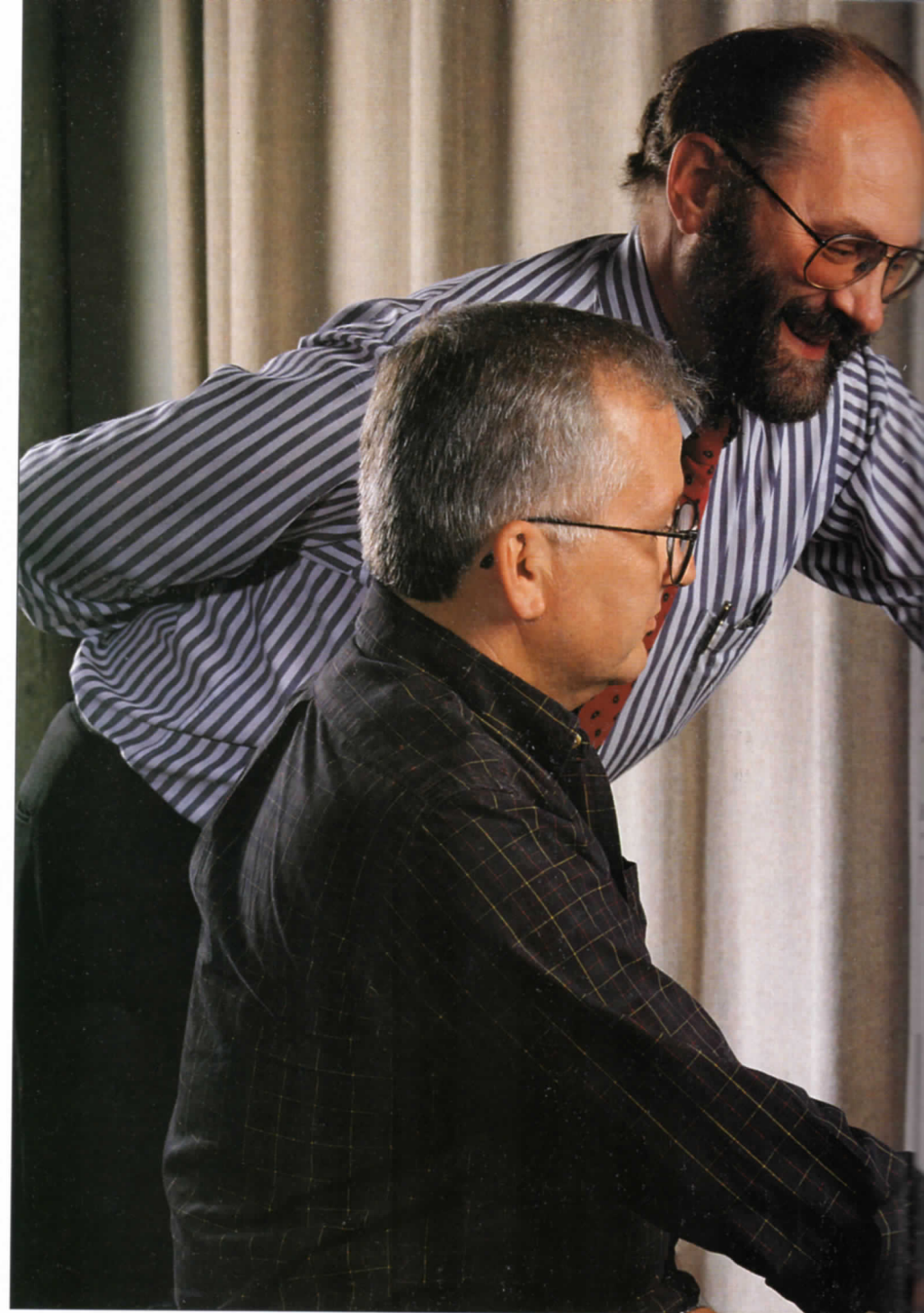
CURRENT FOCUS: Personal Communications Services

PRINCIPAL COMPETITORS: Motorola, Ericsson, MCI, Sprint, Northern Telecom

NOTABLE QUOTE: "We see the global market for wireless products and services in 1993 being \$57 billion, and growing to \$217 billion in 10 years," says George Maddaloni, Wireless Strategy vice president. "A major portion of future communications and computing business is going to be wireless. Some people claim that in 10 years as much as half of communications and computing will be mobile- or wireless-related."

The Strategy Is Customer-Focused Teamwork

Customer focus is all-important for delivering innovative products and services. In AT&T's business-unit structure, each business unit focuses on a particular group of customers. For example, Microelectronics is intimately familiar with customers who buy computer chips. That is its area of expertise. Microelectronics is expected to identify its customers' needs, translate those needs into innovative products and deliver them on time, at reasonable cost. But some customer needs fall in a seam between AT&T business units. Desktop video is a perfect example. Near the end of 1991, a group in Corporate Strategy reported to AT&T's Management Executive Committee that market trends indicated there would soon be opportunities in visual multimedia communications, such as desktop video. The cost of technology was moving downward, while consumer demand was rising. So a customer need was identified, but which business unit could translate need into innovation? The answer was that no single business unit could have met that need. AT&T needed to coordinate its business units in devel-



oping innovative products for visual multimedia communications. "We had efforts in various business units directed toward both the consumer and business markets," says Bob Kavner, Executive Vice President-AT&T and CEO-Multimedia Products and Services Group. "We thought that if we brought our people together and began to collaborate, not only would we be more efficient and better at getting products to market faster, but we'd also be more clever and creative in bringing out products." The solution Kavner mentions is a new way of coordinating business activities, so new that AT&T hasn't yet settled on a name.

The strategy was first known as cross-business-unit initiatives. Besides not being catchy, that name is also internally focused, stressing work between business units, rather than stressing customers. Regardless of what you call them, it's important to understand what areas of opportunity are covered and what the initiatives are.

There are six initiatives (see box, Page 19), covering opportunities in visual multimedia communications, wireless communications, networked computing, data communications, voice and audio processing, and messaging. Other areas of technology offered opportuni-

Jim Stang, seated, PVS district manager, and Bill Schwartz, department head, NCR Multimedia Workstation business unit.



ties, but failed AT&T's litmus test of enhancing corporate strategy. Because AT&T's core business is network communications, each initiative must add value to the AT&T network. For example, desktop video passes the test, because videoconferences increase network usage.

But don't think of the initiatives as new business units. They aren't, at least not yet. Rather, they're strategy-development teams consisting of representatives from AT&T business units and AT&T Corporate Strategy, all newly supported by Kavner. He sees the initiatives as a way for AT&T to remain flexible while becoming

AT&T'S SIX INITIATIVES

- Visual and Multimedia Communications
- Wireless
- Data Communications
- Networked Computing
- Voice and Audio Processing
- Messaging

VISUAL AND MULTIMEDIA COMMUNICATIONS

MAIN BUS INVOLVED: NCR, Global Business Communications Systems, Microelectronics, Consumer Products, Business Communications Services, Network Systems, Consumer Video Services

CURRENT FOCUS: Business collaboration, local exchange company and cable television company infrastructure, communications services

PRINCIPAL COMPETITORS: MCI, Sprint, Northern Telecom, Japanese consumer-electronics companies, Microsoft, IBM, Intel, video-conference equipment vendors

NOTABLE QUOTE: "What we're doing for the business world is a continued focus on solutions that help people collaborate," says Sandy Teger, Corporate Strategy division manager. "Even if you and I are in different parts of the world, we want working together to be as natural as possible, as if we were across the table. That's a challenge. AT&T's video technology has already advanced our ability to send pictures over today's telephone network and between different vendors' equipment. Some of the technical challenges remaining are to improve eye contact, audio delays and lip synch."

ing a serious player in high-growth markets. "In the foreseeable future, markets are going to change constantly. That presents a certain amount of risk to a company with a rigid, business-unit structure. By the time a business cycle burns out, the company finds itself organized more for the past than the future. It's important for the people of AT&T to always be pushing the envelope toward excellence, and be looking for opportunities in the seams between business units."

What's In It For Me?

Remember, the initiatives aren't business units. So there aren't yet any new jobs—except a few high-level strategy positions—linked directly to the initiatives. That doesn't mean new jobs won't be created. Success of the initiatives will result in new jobs within the business units as the business grows.

"There will be a large number of

VOICE AND AUDIO PROCESSING

MAIN BUS INVOLVED: Network Systems, Global Business Communications Systems, Consumer Communications Services, NCR, Consumer Products

CURRENT FOCUS: Speech recognition, language translation, standard voice user interface, audio compression

PRINCIPAL COMPETITORS: Octel, Dragon, Apple, Northern Telecom, Texas Instruments, Microsoft

NOTABLE QUOTE: "Our goal is not to create products, but to support and accelerate the development and delivery of voice and audio technologies products and services offered across AT&T's businesses," says Pat Russo, GBCS president. "One focus, for example, is human factors research, looking for a natural human interface that would be distinctively AT&T's—an audio signature, if you will—that can be integrated into existing products and applied to whole new markets—voice command controls for automobiles and appliances, for instance."

DATA COMMUNICATIONS

MAIN BUS INVOLVED: NCR, Communications Services, Communications Products, Network Systems

CURRENT FOCUS: Broadband multimedia networking

PRINCIPAL COMPETITORS: IBM, Hewlett-Packard, British Telecom/MCI, Sprint

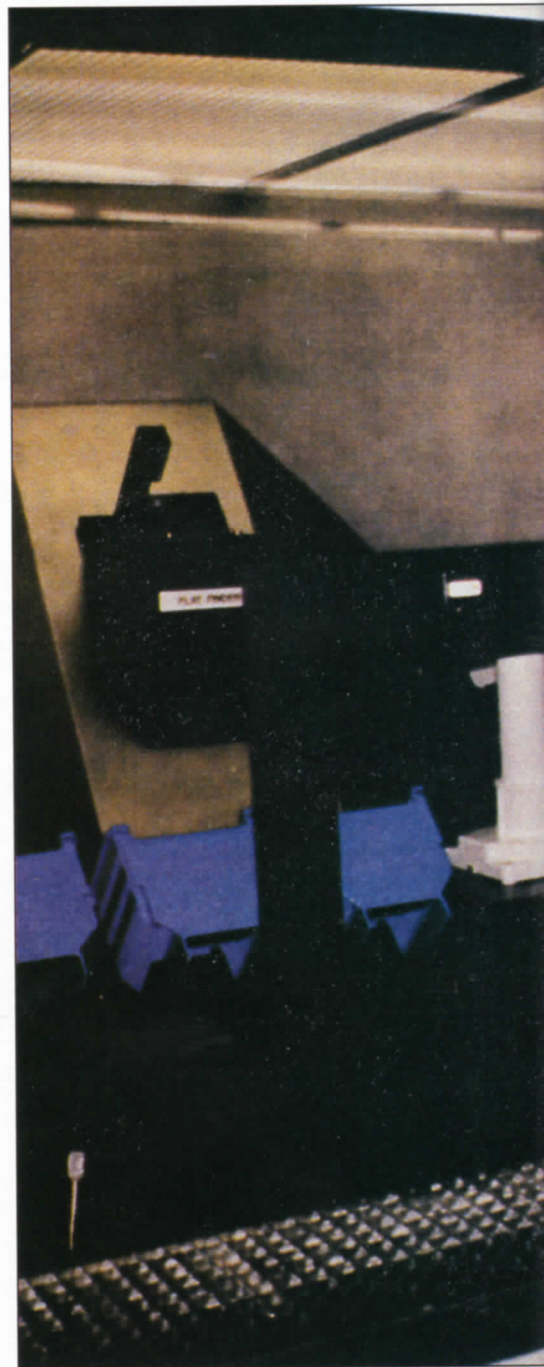
NOTABLE QUOTE: "We're headed in the direction customers want to head," says Matt Balkovic, NCR assistant vice president of technology planning in Lincroft, N.J. "AT&T's network isn't just a voice network or just a video network or just a data network. It's a convergence of all those things."

employees who benefit greatly from the way we meet our customers' needs for mobility with our wireless technology," says George Maddaloni, Wireless Strategy vice president in Whippany, N.J. "Four years ago, it was difficult to find people in this corporation outside the Network Wireless Systems business unit who were working on wireless. Today, almost all the business units have a plan for wireless. It's personally exciting and rewarding to know that we're helping create new jobs. We need radio-frequency engineers, there's a worldwide shortage of them. We need people who are entrepreneurial, who can attack opportunities and figure out how to get into new businesses. And we need business people who can figure out how we're going to make money from our opportunities."

Many employees will benefit from new products developed as a result of the initiatives. "We'd like to get each salesperson carrying around a mobile office," Maddaloni says. "And it would be nice if we could get an inexpensive cellular phone in the hands of all our employees on the move, that they could use for telecommuting or other ways to make their jobs more productive."

Employees may find job opportunities created by the initiatives in a new type of organization outside the business-unit structure. "The initiatives have all identified Centers of Excellence," Kavner says, "in which we could place technical and marketing people and have them support more than one business unit. These people would be experts in a particular area, such as voice processing or voice recognition. Engineers in these Centers of Excellence would build platforms that could be built on by more than one business unit. This gets everyone to a higher level of integration much more quickly, as opposed to each business unit reinventing what others have already done."

Kavner sees a possible obstacle ahead of the initiatives, one that requires changing AT&T's current reward-and-recognition system to encourage teamwork. "Our Common Bond has a great emphasis on collaboration, teamwork, innovation and respect for individuals without regard to rank or business unit," Kavner says. "That's having a positive effect on the initiatives. But our reward system is so highly focused on meeting business-unit obligations that, for some



people, finding time for the initiatives has been difficult. We had an example recently where the leader of an initiative called for a meeting with five people representing various AT&T groups. Four of the five people were unable to attend because of business-unit commitments, and they sent substitutes. One of the substitutes couldn't attend and sent a substitute substitute. So the people at the meeting primarily were reporters, rather than decision makers who can advance the course of our business. We've decided that these initiatives are important to AT&T's future, so we're establishing well-defined line responsibilities, clarifying the leadership role and building



Implant Operator Geroline Tillie in clean room at the Orlando (Fla.) Plant. Geroline is standing in front of a six-inch wafer implanter.

MESSAGING

MAIN BUS INVOLVED: Business Communications Services, Consumer Communications Services, EasyLink, Global Business Communications Systems, Universal Card, NCR, Intel, Gens, Microelectronics, Consumer Products

CURRENT FOCUS: Personal communicators, universal messaging or universal mailbox, and standard user interfaces for messaging products

PRINCIPAL COMPETITORS: MCI, Sprint, British Telecom, IBM, Apple, Prodigy, America On-Line, Minitel, regional Bell operating companies, Japanese consumer-electronics companies such as Panasonic and Sony

NOTABLE QUOTE: "The network portion of messaging is a high-growth-rate business, in the range of 20 percent annually," says Gordon Bridge, EasyLink president. "What we do at EasyLink is purchase network services from Business Communications Services at the normal market price and then add value with messaging and information services. In a mathematical sense, it's extracting margins on margins. When an initiative gets several business units adding value, you get the highest value for both the customer and AT&T."

NETWORKED COMPUTING

MAIN BUS INVOLVED: NCR, Communications Services, Communications Products, Network Systems

CURRENT FOCUS: Corporate information management systems, on-line transaction processing, real-time communications control systems and network-service platforms.

PRINCIPAL COMPETITORS: IBM, Hewlett-Packard, Sun, DEC, Microsoft

NOTABLE QUOTE: "The initiatives aren't all independent," says Glenda Norton, NCR assistant vice president in Lincroft N.J. "For example, networked computing and data communications serve as enabling foundations for other initiatives. I'm serving as a catalyst making sure that all the initiatives share information."

teams around those leaders. I expect the next phase is to create full-time centers of excellence and new businesses to develop our technical competence.

Gordon Bridge, EasyLink president, knows exactly why the initiatives are of paramount importance to AT&T: "The initiatives get right to the core of one of our values: Teamwork. One potential problem of the business-unit structure is barriers between organizations. These initiatives are going to reveal what the power of teamwork really is, because none of these efforts can be executed without collaboration across the business units. I think the initiatives are going to send a real strong signal about teamwork and

INNOVATION ANNUAL REPORT

Every year, AT&T germinates millions of ideas. Some of those ideas garner enough support to sprout into projects. A select few projects grow into product innovations. Here's a look inside the growing shed at some current projects that appear nearly ready to blossom into tomorrow's products.

Soliton Lightwave Transmission

Earlier you read about movies on demand. But what if you demand movies from India and you live in Indiana? It's one thing to have a movie transmitted from a local cable company; it's quite another to order a movie from halfway around the globe. That will require undersea cables capable of extraordinarily high transmission speeds. Since the early '70s, Bell Labs researchers have been working with an innovative technology—soliton lightwave transmission—that may deliver the speed required for global distribution of video services. Solitons make up a type of lightwave that can maintain its shape over long distances. Think of solitons as ocean waves that hold a perfect curl from Malibu to Maui. Solitons may be capable of traveling thousands of miles without repeaters. Bell Labs researchers already have extracted speeds of 20 billion bits per second over a distance of 7,800 miles using soliton waves. Another use for solitons currently under research is for memory in optical computers.



Digital Broadcast Audio Chips

You're planning a party and want to play all types of dance music from Louis Jordan to Wilson Pickett to Arrested Development. Your guests appreciate good music, so you want the best possible sound quality, preferably CDs. But your budget won't allow you to splurge on enough CDs to fill four hours of party time, and you don't want to be cueing up songs all night. So what's the answer? Digital broadcast audio chips, currently under development at Bell Labs, will enable you to easily get the music you want, when you want it. Like the video codec chip on this year's innovation list, digital broadcast audio chips compress and decompress digital audio signals with such quality that the listener is unaware of distortion or noise. Initial uses for the chip set will likely be in voice transmission using a personal communicator and in digital televisions to carry the audio portion of a broadcast. As the innovation becomes more commonplace, music-on-demand services should appear, and your guests will be ready to party hearty.



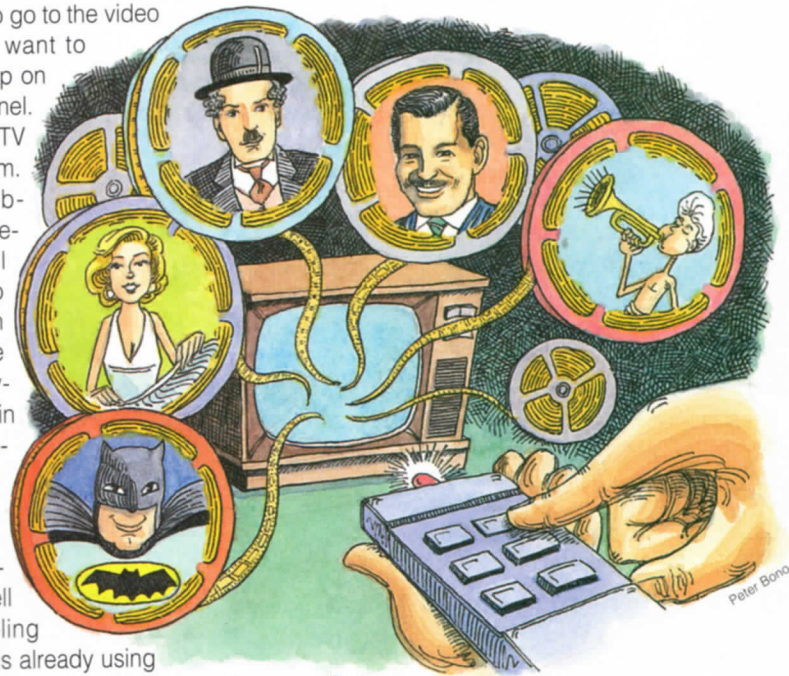
S P R O D U C T S



Paul Cozzolino

Viewer-Controlled Cable Television (VCTV)

Say you're a "Gunga Din" fan and want to watch Sam Jaffe warn the troops one more time. You don't want to go to the video store and you don't want to wait for Din to show up on some old-movie channel. You want it on your TV right now. No problem. VCTV enables subscribers to use a special remote control and cable box to order from more than 2,000 titles and have their selections delivered to their sets within five minutes. The innovation comes from an AT&T fiber-optic network and special hardware and software designed by Bell Labs. A small sampling of viewers in Denver is already using VCTV while you're still stuck with "F-Troop" reruns. But stay tuned. Within five years or so, you'll probably be able to "channel-surf" among dozens of viewing options. If you think channel-flippers drive their spouses crazy today, wait until they have 500 or more channels to play with.



Peter Bono

High Definition Television (HDTV)

Mention High Definition Television and most people will think you're talking about a clearer picture on your television set. HDTV will improve picture quality and give you CD-quality sound, but there's far more to it. Imagine improved medical care in the most remote areas of the world. With HDTV, an expert cardiologist can view an operation in another country and guide the surgeon's hand through a life-saving procedure. Medical facilities around the world will be able to transmit all manner of medical images—x-rays, CAT scans, PET scans and who knows what other animal acronyms will emerge—to be interpreted by an imaging expert. Or imagine videoconferencing from your home office. Or, imagine selecting the camera angle you want while watching "La Boheme" or the Phillies.

Research on the technologies underlying HDTV is well under way at Bell Labs. In fact, many of this year's innovations—digital compression and the Video Codec Chip Set, Fiber-Optic Cable, CAP modulation, viewer-controlled cable television, VideoPhone 2500 and the Personal Video System Model 70—relate to HDTV. Future developments depend on the Federal Communications Commission's selection of a standard for HDTV. Toward that end, AT&T is participating in a "Grand Alliance" consisting of AT&T, the David Sarnoff Research Center, General Instruments, Massachusetts Institute of Technology, North American Philips, Thomson Consumer Electronics and Zenith Electronics. The alliance will recommend design aspects that enable HDTV to work with computers, telecommunications and other media and applications.



RACING TO MARKET

The moment someone at AT&T has an idea that could lead to a new product or service, a race begins. Competitors are racing to bring a similar idea to market. The marketplace may be ready to embrace a different approach. And somewhere, someone has an idea forming that will make your product obsolete. Your innovation has a chance to succeed, but timing is everything. That's the reality of today's marketplace. Here are some of the ways AT&T is shortening the time it takes an innovation to reach the market.

Bell Labs Redefinition

Since early '92, Bell Labs has been reshaped, placing many systems engineers and developers in highly focused, customer-driven teams closely aligned with AT&T business units. The goal is to link technical resources to both customers and competitive realities.

Group Technical Officers

"As AT&T positions itself for growth, it becomes increasingly evident that stronger technical coordination is required for our architectures, processes and technology choices," says AT&T Chief Executive Officer Bob Allen. "We have the opportunity for more efficient development by use of more common processes and some reusable core products." The people responsible for coordinating innovation are Group Technical Officers, new senior-management positions at NCR, Network Systems, Communications Services and Communications Products.

Benchmarking

AT&T business units study other business units and other companies to find better ways to accomplish tasks. If one business unit has a process that's worked well, other business units look at how the process works and whether it's applicable to their situations. The prime focus of benchmarking is processes that reduce time-to-market.

Partnering

There was a time when AT&T often rejected the innovations

of others, solely because they were Not Invented Here. That's ancient history. As Bell Labs President John Mayo says, "Cooperation is an essential element of a globalization strategy that recognizes that no company, by itself, will be able to meet the expanding information movement and management needs of ever-greater numbers of global customers." That cooperation is likely to take the form of joint ventures and other forms of partnering with other companies that have technical expertise in a particular area. One example is the joint venture with Marubeni Corp. that led to the Safari notebook computer.

Object-Oriented Programming

Almost every innovation today is computer-controlled. That means that writing computer programs is critical to bringing an innovation to market. One way to simplify matters is a technique—object-oriented programming—that builds programs from smaller, self-contained modules. Each module is written, tested and stored in a library of commonly used routines. Software engineers build new programs by using thoroughly tested routines from the library. If the program requires revision, only the affected module needs to be changed.

Time-Based Competition

This process places project responsibility and technical decision-making in the hands of a development team rather than in management's hands. Team members find out what customers want and then figure out an innovative way to

give it to them. Early reports show reduced development time and improved quality.

Venturing

One way to shorten time to market is to develop an innovation outside normal corporate channels, allowing a tighter focus. AT&T Ventures Corporation identifies new strategic markets and supports new AT&T groups that address those markets. The object is to develop autonomous business groups that can respond quickly to market needs. Successful ventures can become a new AT&T business unit, be sold at market value or be taken public. A typical venture would not compete with an existing AT&T business unit and would have a limited product line based on a significant innovation that could be brought to market in 24 months or less.

Paperless Prototyping

Innovations involving physical products always pass through a prototype stage in which researchers create a working model. Bell Labs' Prototype Realization Center came up with an innovative way to reduce time-to-market by eliminating printed drawings of the prototype. The group's process fabricates prototypes directly from a Computer Aided Design file, which saves time and makes revisions as easy as pressing a few keys. One group used paperless prototyping to shave five or six weeks off the traditional development cycle.



REIMBURSEMENT ACCOUNTS: THEY'RE SMART ... THEY'RE EASY ... THEY SAVE YOU MONEY

Do you have medical expenses that aren't covered by your health-care plans? Do you pay for the care of a child or elderly parent so you and your spouse can go to work?

If so, there's a simple way to set aside money to cover either kind of expense—and save money on taxes at the same time. It's called a "reimbursement account."

THEY'RE SMART

A reimbursement account can put

extra money in your pocket by allowing you to pay for certain expenses with money from your paycheck—free of federal income tax and Social Security tax. There are two accounts: one for health care costs and one for child/elder care costs.

THEY'RE EASY

Both reimbursement accounts are easy to use.

With the Health Care Reimbursement Account, you can have up to \$3,000 automatically withdrawn from your pay and deposited in your account in equal amounts over the year. Then as you make out-of-pocket payments for eligible health-care costs for yourself, your spouse, your children or certain other qualified dependents, you simply fill out and mail a form to Prudential, the Recordkeeper.

Prudential will then reimburse you in about two weeks—up to the amount you've elected to deposit for the year (even if you haven't made all your deposits yet).

You can use your Health Care Reimbursement Account to pay for a wide range of expenses, including:

- Annual deductibles or copayments you make toward medical care.

- Costs that are not covered—or only partly covered—by your health-care benefits, such as for well-baby care, eyeglasses, dental care or a hearing aid.

- Medically related transportation expenses.

With the Child/Elder Care Reimbursement Account, you can have up to \$5,000 automatically withdrawn from your pay and deposited in your account in equal amounts over the year. You can then use this money to pay for eligible dependent-care costs so that you can work, or if you're married, both you and your spouse can work, or your spouse

can attend school full time.

- The account can be used to offset the costs for day care, pre-school and kindergarten, and baby-sitting for a child under the age of 13.

- It can also be used for expenses related to the care of an incapacitated spouse or certain other dependents who rely on you for their support.

The Child/Elder Care Reimbursement Account will reimburse you only up to your current account balance.

THEY CAN SAVE YOU MONEY

Both reimbursement accounts help you put aside money to meet your expenses. And they also save you money on your taxes. How much? You might be surprised.

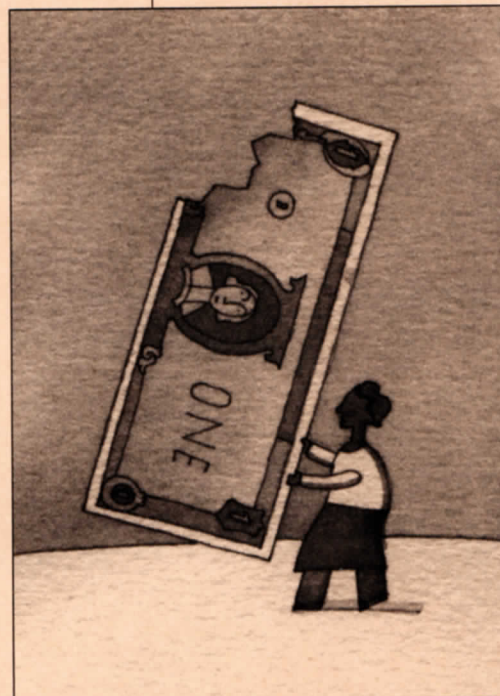
For example, if you deposited a total of \$250 a year in the accounts (that's just \$4.80 a week), you could save up to \$97 on your federal taxes (income and Social Security), depending on your tax bracket. If you deposited a total of \$5,000 a year in the accounts (\$96.15 a week), you could save up to \$1,932 in taxes.

There is one thing you need to be careful about when you use either account: You must conservatively estimate your expenses in determining how much money to deposit—because, under IRS rules, you'll forfeit any money that you don't use by the end of the plan year. And, while you can participate in both accounts, the money in one account cannot be used to pay expenses covered by the other.

NEW FLEX MODELING TOOL AVAILABLE

If you're a full-time management employee, this fall you'll be able to subscribe to a shared folder and automatically receive important messages and reminders about the benefits included in flex. When the enrollment period begins in mid-October, your subscription will enable you to automatically access a software tool that will allow you to model different benefit combinations and immediately see the effect on your pay.

More information about the shared folder, including instructions on how to subscribe and



use this new feature, is included in your "Spotlight on Benefits" kit, which will be mailed to you shortly.

APA

Based on second quarter Economic Value Added (EVA) results, 1993 AT&T Performance Awards (APAs), payable in March 1994, are currently projected at 6.91 percent of individual salaries for those in the management pay plan.* For those in the technical pay plan, the APA payout would be 5.3 percent.

The projections are based on the progress to date in achieving the company's \$2 billion EVA target for 1993.

EVA is a comprehensive measure of the company's financial performance during a business period. It reflects profits in excess of the cost of capital, is the basis for funding the APA and affects Merit Award (MA) and Unit Performance Funding (UPF) levels.

The second quarter EVA results are about the same as the first quarter, or \$354 million. This brings the year-to-date total to \$706 million, which is 93 percent of where we should be in order to meet the target by year end.

The 1993 EVA target, consistent with AT&T's earnings growth target of 10 percent, requires growth in every part of the business in the third and fourth quarters. We are currently behind where we need to be in order to meet or exceed the target by year end.

This is primarily because financial performance in several parts of the business was affected by strong competition and weaker-than-expected European and Japanese economies. Success in international markets is critical to the company's business plans.

While substantial work is necessary to meet the EVA target by year end, there are several bright

spots in the second quarter results, including strong revenue growth in the products and systems, and financial services businesses.

"We're particularly pleased with the 39 percent revenue growth in the financial services group, the 9 percent increase in product and system revenues, and the market successes of Universal Card Services, 'Fresh Look' and the 800 portability campaign," says Rich Miller, chief financial officer.

In addition, the Communications Services Group continues to be the major contributor to EVA performance, exceeding its EVA target for the first half of the year.

"I believe we can still meet the company's EVA target by year end if we continue to control costs and look for innovative ways to satisfy customers and increase revenues," Miller says.

In addition to EVA, which measures how much value the company has created for its shareowners, two other measures of business performance are being put in place for the first time this year. These measures are known by the terms "Customer Satisfaction" (sometimes called CVA, for "customer value added") and "People Satisfaction" (sometimes called PVA, for "people value added").

The Customer Satisfaction measure reflects the fact that for shareowner value to improve, customers must be consistently more satisfied with our products and services than with those of our competitors. This measure is based on the relationship between the score that our customers give us on the

question, "Was the product or service worth what you paid for it?" and the score the customers of our top competitors give to comparable products or services.

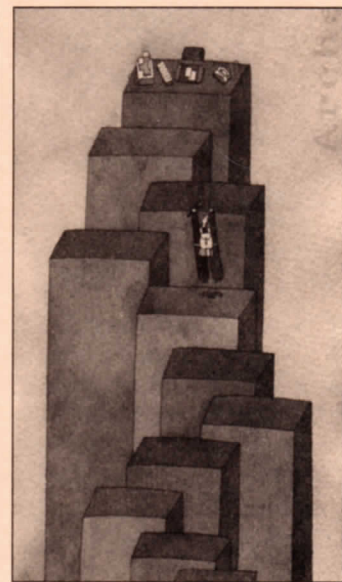
The People Satisfaction measure reflects the idea that for customer satisfaction to improve, our people must feel that they understand the strategies and goals of our business; have the tools they need to perform their jobs; have the authority to respond to customer needs and address quality problems when they encounter them; and work in an environment that recognizes and values diversity. This measure is based on responses to a select number of questions in the AT&T Opinion Survey, which this year becomes an annual survey of employees.

In measuring the creation of value for shareowners, customers and employees, then, AT&T has for the first time a set of diagnostic tools for gauging the health of all of its principal stakeholders over time. These same diagnostic tools also help measure the progress the company is making in creating a work environment that reflects the values of Our Common Bond.

Customer Satisfaction and People Satisfaction will also play a part in the compensation process, although (at least for this year) only for E-level-and-above managers. For these leaders, a part of their 1994 Merit Awards will be determined by organization-specific Customer Satisfaction and People Satisfaction measures.

For additional information, contact your local Human Resources organization.

** As previously announced, in this transition year from salary grades to salary bands, some employees will receive higher payouts than those reflected by these percentages. Please refer to the August '93 issue of Compensation & Benefit Update for more details.*



THE "RIGHT MATCH" NOW AVAILABLE

The fourth volume of *The Right Match: A Magazine of Career Management* is now available from Corporate Human Resources. A few topics included in this new issue are: managing your boss, upward feedback, finding a mentor and writing effective cover letters. Also included are self-assessment quizzes, interviews with AT&T employees and reprints of articles on managing your career.

The cost of the magazine is \$1.50 per copy for funding organizations and \$3 per copy for non-funding organizations. Copies of the current issue and of the previous two issues may be ordered in quantities of 25 or more. Small groups can satisfy this minimum order by ordering a combination of Volumes 2, 3 and 4.

To order, call 1-800-762-6333.



Frank Johnson

it up by 4 p.m.” Or, “Check to see if Jill is available for lunch at noon tomorrow; if so, put the appointment on her calendar and on mine.”

Smart messaging also will give them greater control over their communications and allow people to decide when they wish to be interrupted and by whom.

With AT&T’s enhanced network, the possibilities are endless—from ordering movie tickets to purchasing merchandise to making travel arrangements (plane tickets, hotel rooms, restaurant reservations) to receiving a personal 911 emergency interrupt message from your child or spouse, no matter where you are or what you’re doing.

Although few doubt that information, transaction and software services companies will rush to develop and offer programs, the real beauty of the market will be to watch people customize the network and their communicators to their specific needs.

That will also be the biggest challenge—to motivate consumers.

“Having customers understand that this technology brings value to their lives that is simple and fun ... that’s our biggest challenge,” says Rosen.

“For every person, this technology offers a different perspective of value. In a sense, this whole personal communicator revolution is all about individual wants and needs. I believe this technology will give people control over their time—and that’s a kind of freedom. And it will be so easy to use, that they will control the technology instead of the other way around.”

But at what cost and how soon? Right now, much of the technology—or at least its visionary uses—is still over the horizon. Telescript and AT&T’s personal communicator network service won’t be introduced for at least a year.

But there’s a general consensus (and absolute excitement) on at least several counts. The AT&T EO Personal Communicator is available today ... and it works. In the years ahead, as the market develops, prices will drop for equipment and services.

“I don’t think it will be very long before personal communicators become high school graduation presents,” says Rosen. “The growth potential of this market is unlimited. It’s going to happen. I just can’t tell you what path it’s going to take.”

—John Brooks

WANT ONE?

The AT&T EO 440 Personal Communicator is available in select AT&T Phone Centers—just call 1-800-222-3111 for the one closest to you. Direct orders can be placed via EO’s toll-free number: 1-800-458-0880.

The EO 440 comes in a variety of configurations and ranges in price from \$1,999 to \$3,299. An optional cellular module is priced at \$799 and allows voice and data communications over a wireless network.

The personal communicator’s “ready-to-go” package includes programs for faxing, electronic mail and calculation, and personal information management capabilities, such as note-taking, scheduling, and address book and to-do list management.

The EO 440 comes equipped with a cellular-ready, high-speed modem. A built-in microphone and speaker allow voice annotation of forms, documents, meeting notes and calendar appointments.

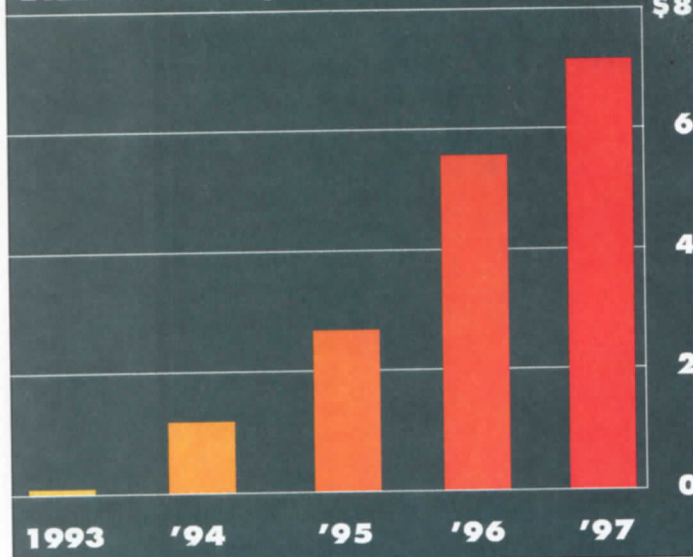
The EO 440 includes 4 MB or 8 MB of RAM, expandable to 12 MB. Other system features include a high-speed serial port and cable, allowing exchange of data with any IBM-compatible personal computer; and a parallel port that connects to popular laser and dot-matrix printers, or an optional 1.44 MB floppy drive.

The device also features a communications port for optional cellular and other wireless modules, and an industry-standard type 2 PCMCIA slot for future expansion.

SMALL WONDERS

The world market for hand-held “personal communicators” is expected to grow dramatically over the next few years.

BILLIONS OF \$



"Are you telling me my employees are deaf?" screams the customer after three AT&T business units tell him they can't find the cause of his service problems. Fortunately, the customer is really an actor in a training videotape for AT&T's new inter-business-unit, trouble resolution process. To many of our maintenance employees who have watched the tape, it is painfully realistic.

If a customer experiences problems with an AT&T system that includes components from several business units, he has to search through a list of more than 40 AT&T trouble-reporting numbers and figure out which one to call. Once he enters the maze of all the units' service centers, all too often he hears "good news" status reports. "Good news, your multiplexer looks fine. Did you call your PBX trouble number?"... "Good news, no problem with the *Definity* G3 PBX. Did you call your private line reporting number?"... "Good news, the T-1 tests clear. Did you call...?"

At the end of the ordeal, the customer could have accumulated thousands of dollars in trouble isolation fees from the different business

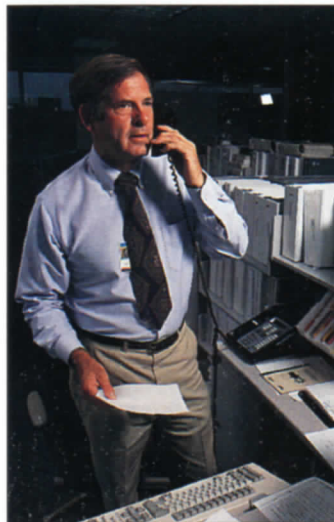
units—and still suffer from the trouble reported initially. The customer could well ask, "You call that good news?"

In mid-1992 AT&T Paradyne, Business Communications Services (BCS), Global Business Communications Systems (GBCS), NCR and Network Systems formed a committee to fix the problem. Jan Colby, BCS service operations director of 800 & Business Applications Services, headed the seven-member, inter-business-unit steering committee. Ron Joaquim, vice president of GBCS Customer Service Operations, also a steering committee member, volunteered GBCS's project management expertise to lead the charge.

Pat Pomponio, a GBCS project manager in Denver, headed a core team of process owners and subject matter experts from each of the units. The members readily agreed that customer satisfaction is paramount to all their units' success. That's all they agreed on. That's why Pomponio's co-workers dubbed it the changing-water-into-wine project.

Every option the committee considered required changes that were painful in some ways to some members, such as modifying what the company as a whole would

Customers want solutions, and that's what inter-business-unit cooperation gives them.



Barry Slaver



Building Bridges





Chris Coxwell

Members of the Inter-Business-Unit Trouble Resolution Core Team, from left, Mario Galvez, AT&T Paradyne, Pat Pomponio, GBCS; Carol Ann Ryan, BCS; George Blankenship, NCR; Jim Mitchell, BCS; and Norm Walsh, Network Systems. Core Team members not pictured, Kim Garrett and Deb Kiger, BCS; Barbara Mak-soud, GBCS; and Jessie Velasquez, GBCS. At far left, Charles Luck, a GBCS maintenance technician in Denver, answers a call on the inter-business-unit 800 number.

implemented nationwide in May 1993. Training for the new process covered 21,000 employees.

Charles Luck, a GBCS maintenance technician in the Technical Service Center in Denver, is one of the techs who answers the 800 trouble resolution number. He predicts that calls to that number will increase. Luck says, "Sometimes now we're getting troubles cleared in a few hours that used to take a few days. I expect more techs will start calling this number once they find out we can handle the problem."

An outside agency conducted a survey of the customers who experienced the new process in May. Nearly three-quarters of those customers rated the new process as good or excellent. One customer, referring to the AT&T technicians who handled her call, commented on the survey form, "They knew it was down before we did, and they stayed on the line with us until it was fixed."

Still, Jan Colby advises caution: "A few months do not a trend make. But we are optimistic. We don't think we've got the problem licked yet, just due to the sheer number of people involved and the complexity. We're looking for continuous improvement."—Jean Pascual

charge when a problem requires multiple testing. Depending on the particular maintenance agreement a customer bought, every unit could charge for a service visit or test. The customers said they didn't want to pay for service on a component that wasn't broken.

"I've been a project manager for eight years, and I've worked on a lot of projects," Pomponio says. "This one wasn't complex from a technical standpoint, but the organizational complexity made it very challenging."

Over a period of five months, the core team members used a variety of quality process tools to develop the new process.

John LeSage, a BCS manager, rounded out the final design by suggesting that a single 800 number be installed for technicians to call for inter-business-unit coordination.

The five business unit presidents enthusiastically endorsed the new process in a joint letter to employees. The letter was unflinch-

ingly candid: "They [customers] say we act like different companies instead of one company and that we occasionally strive to meet our own internal measurements ahead of solving their problems."

The new program is based on a commitment to customers that they will not have to initiate multiple trouble reports to separate business units. If the first unit cannot fix the trouble, the maintenance employee now has a channel through which he or she can hand it off to another unit. We will provide cooperative testing and, where regulatory tariffs allow, will not penalize the customer financially when multiple testing is required to diagnose the problem. The clock will start ticking when the customer reports the trouble and not stop until the customer agrees that AT&T has fixed the problem, regardless of the number of business units involved.

Maintenance employees tried the new procedure in California, Oregon and Washington before it was

THE TREND TOWARD CROSS-BUSINESS-UNIT SOLUTIONS

In April 1992, AT&T's Executive Operations Committee urged all business unit presidents and division heads to develop cross-business-unit initiatives. One year later the same committee, made up of Bob Kavner, Alex Mandl, Bill Marx, Vic Pelson and Jerre Stead, sent a reminder letter.

The message was clear: Start implementing cross-business-unit solutions and stay focused on The Common Bond as you do it. The letter said, "... it is becoming more important for us to work across organizations to serve our customers."

The committee's order guided Jan Colby as she headed the steering committee for developing the inter-business-unit trouble resolution process. As she described the development of the new solution, Jan explained, "We respected each others' established processes and worked with what's there. We maintained the integrity of the business units while serving our collective customers better. We've learned a lot about each others' businesses, and we've built relationships."

The executive letter also said, "Once our actions are fully focused on customers and innovation and our external and internal relationships are based on teamwork, respect, and integrity, we will find it much easier to achieve the level of cooperation that we need. But this will take time."

It has taken time, and it will continue to take time, but it's what our customers want.

SAFETY FIRST

Trends in safety have changed over the years, but pain is just as painful as it's always been. It costs more now, and that's another kind of pain.

Close your eyes and recite the AT&T safety motto. You don't know it by heart? Ten years ago you'd have been the minority of AT&T employees. Chances are, today you're far from alone. But there's little comfort in numbers. You might be at risk.

Time was when every employee was required to take safety training—office and factory workers alike. An AT&T safety practice required every location to post the safety motto: "No job is so important and no service is so urgent, that we cannot take time to perform our work safely."

The safety organization published a list of employee accidents every month. Safety was serious business. Well, employees might have chuckled at reports such as, "Employee, startled by ringing alarm clock, jumped out of bed, stumbled over sleeping dog, and sprained ankle. Lost time: 2 work days."

At least we were talking about safety back then. "At one time, safety was extremely visible at AT&T. It used to be more of a corporate value, but our culture has changed," says John Kazazis, Corporate Safety, Industrial Hygiene & Ergonom-

ics engineering manager in Basking Ridge, N.J.

If the image of a guy stumbling over a yelping dog causes some of us to chuckle, maybe the hard cash figures are sobering. AT&T spent more than \$60 million in direct costs for job-related injuries in 1992, compared with an estimated \$49 million in 1991. [Figures are U.S. only and do not include NCR.] The National Safety Council estimates that actual costs are between three and seven times the direct costs. Actual costs include such things as loss of productivity and the expense of retraining replacement workers.

An even more sobering fact is that accidents cause suffering, disability and even death. Examples of "If I hadn't been wearing safety glasses" and "If I hadn't been wearing steel-toed shoes" are legend at AT&T factories.

While safety may not be as visible now as it once was, it is still important. Using quality tools such as benchmarking and gap analysis, the corporate safety organization has assessed AT&T's safety processes and designed a new accident-prevention program based on its findings. The program, which is

now being pilot-tested in Global Business Communications Systems' (GBCS) Northeast Region, focuses on holding business units and employees accountable for safety results.

In addition, the safety organization has established a corporate goal of having all AT&T domestic manufacturing facilities accepted into the Occupational Safety and Health Administration's Voluntary Protection Program (VPP) by year-end 1995. VPP recognizes locations with excellent safety programs. So far, only 110 plants in the United States have been accepted into this elite program.

The AT&T Oklahoma Works has participated in VPP since 1989 and requalified for STAR status this year, indicating an outstanding safety record, supported by a strong safety program. Microelectronics' Orlando (Fla.) plant, GBCS' Shreveport (La.) Works and Network Cable Systems' Omaha Works are awaiting site visits to determine whether they've passed the stringent requirements and been accepted into the program.

James McClatchey, manager of Corporate International Environ-

mental Health & Safety, is responsible for making sure that AT&T offices and factories outside the United States are safe places to work and that safety programs there get the same level of commitment they get in the United States. Latin America, Asia and Europe all have environment and safety regional managers who take into account each country's laws and culture in determining how to implement AT&T safety programs.

THOSE DANGEROUS DESK JOBS

The largest increase in serious or lost-time injuries at AT&T is not occurring in the factories, but rather in the offices. AT&T safety specialists attribute this increase to the de-emphasis of safety in offices.

Sprains and strains, mostly due to incorrect lifting techniques, used to be the most common type of job-related injuries, but in 1992 a new category surpassed them:

A Near Miss:

Fred Ross, a millwright with AT&T Bell Laboratories, felt grateful that he received only a few bruises when a metal rod ricocheted off a rubbish truck and flew toward his eye last May. The metal rod was one inch wide and eight feet long, and surely would have penetrated his right eye if he hadn't been wearing safety glasses. The impact of the rod was strong enough to knock Ross to the ground. The safety glasses, issued two years ago by the Bell Labs Industrial Hygiene & Safety Organization's safety eye-glass program, suffered a cracked right lens. Ross can clearly see—thankfully, out of both eyes—the damage done to his glasses.

repetitive stress injuries (RSIs). These injuries include carpal tunnel syndrome (a wrist injury frequently associated with extensive keyboard use), tendonitis and some back strains. The average cost of a carpal tunnel syndrome case is about \$30,000, compared with an \$8,600-per-incident average for all other work-related injuries.

One of the most significant efforts aimed at addressing RSIs is the labor-management agreement that requires ergonomic training for all employees who use a visual display terminal four or more hours a day. "Ergonomics is a fancy word for the science of engineering furniture, equipment, tools and work processes to interact efficiently and comfortably with human body movements," explains George Calisto, AT&T corporate ergonomist in Basking Ridge. A lumbar support pillow for a chair, wrist rests and foot rests are examples of ergonomic accessories which can help.

Martha Terrell and Jerry Klimm co-chair the AT&T National Safety Advisory Committee, which for many years has promoted union-company cooperation on health and safety. Terrell believes that the number of RSI injuries hasn't necessarily risen, but that employees are reporting them more often than they used to. "There's more awareness of repetitive stress injuries now," she says. "People have a name for their pain and they know they can get some help. It's a bona fide work-related injury."

The frustrating thing about RSIs, according to Kazazis, is that many easily could be prevented through employee awareness of trouble signs, good workstation design and the performance of on-the-job exercises. "If a work group avoided even one case of carpal tunnel syndrome, it would more than pay for the proper equipment and ergonomic support required to prevent it in the first place," Kazazis says.

THINGS WE DIDN'T USE TO WORRY ABOUT

There are other trends in the safety industry that were virtually unheard of a few years ago. One is the concern about "sick buildings." Sometimes architects design buildings to be so energy efficient, that good ventilation is sacrificed. When employees complain about sick air, the building's smoking policy or its enforcement is frequently responsible. Other culprits include chemical materials, such as paints and adhesives associated with building renovations.

Another recent safety concern is radiation from products such as VDTs and cellular phones. So far, according to Ron Petersen, AT&T Bell Laboratories non-ionizing radiation manager, there is no convincing evidence to suggest that radiation from either product poses any health hazards.

AT&T employees in the United States reported almost 7,000 acci-

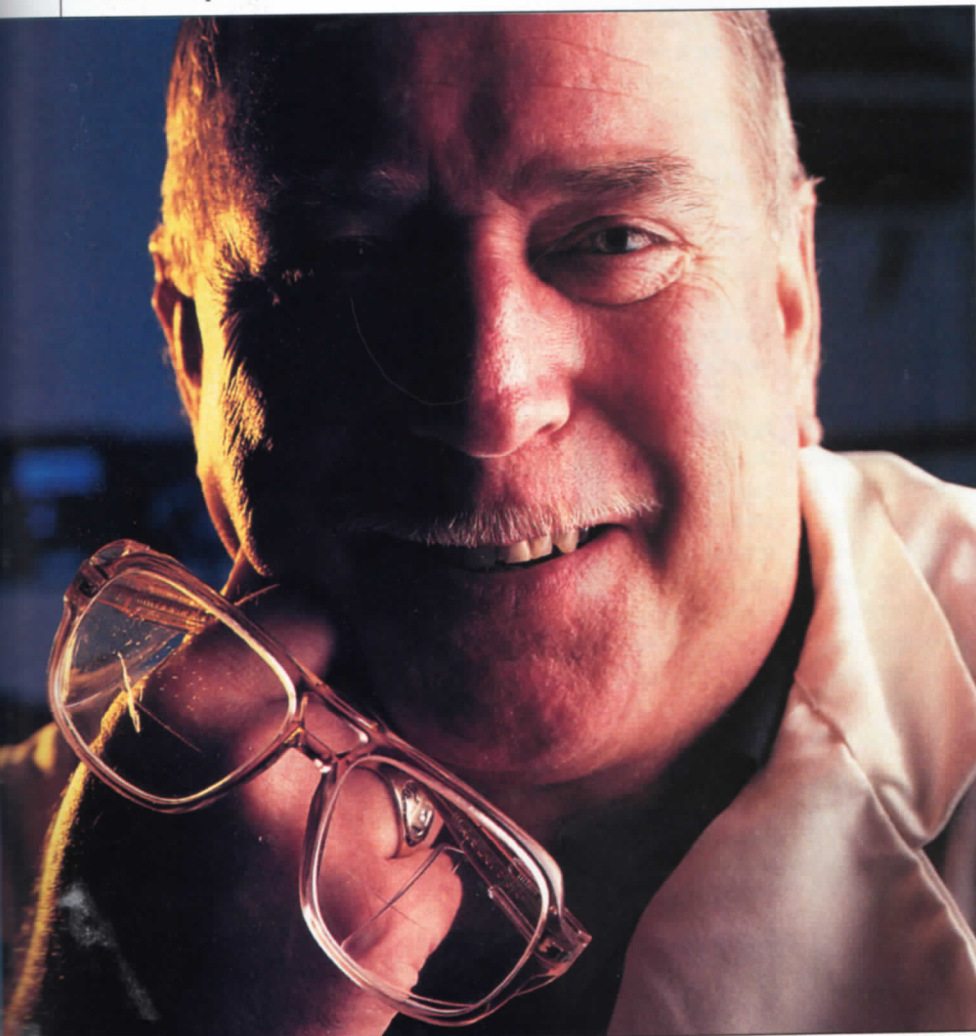
dents in 1992. At that rate, nearly three employees in 100 can expect to experience a job-related accident in 1993—unless they follow simple safety guidelines. "We don't have real dangerous jobs in the company," explains Kazazis. "All our jobs can be done safely if the employees use the correct tools, take training and follow proper safety procedures."

—Jean Pascual

[For safety training materials, contact your local or regional Environment & Safety Organization or call the AT&T Safety Resource Center at 513-629-5857.]



Chris Trayer



Bruce Wodder

In Case of an Accident Waiting to Happen ... Or When One Does ... Call 1-800-44-SAFETY.

Like the Boy Scouts, AT&T is prepared. When you call the new AT&T Environment & Safety Hot-Line number, 1-800-44-SAFETY, three routing options are available:

Option 1 routes emergency calls to professionals for immediate assistance with accidents involving chemicals, such as a chemical spill or overexposure. These professionals also can provide Material Safety Data Sheets with information about specific chemicals.

Option 2 routes non-emergency calls to AT&T regional environment and safety professionals.

Option 3 routes calls to a voice mailbox for recording environment and safety messages or anonymous complaints.

NOTE: MAJOR FACILITIES - CALL LOCAL EMERGENCY CONTACTS FIRST.

Don't worry if you see co-workers doing this. Robbie Smyth, Call Servicing Center, Jacksonville, Fla., practices an ergonomic exercise, at right.



Paul Figura

SEAMLESS

Over a seven-hour time span, on three continents, AT&T announced to the world that it had created a new global partnership, based on a new family of services, to better serve business customers.

The new *WorldSource* services will offer global customers the one-stop shopping for voice and data services they've demanded. *WorldSource* services initially will be available in the Asia/Pacific region and expand to Europe next year, company officials announced in Tokyo, Brussels and Washington, D.C., on May 25.

WorldSource services will be provided to customers through the *WorldPartners Co.*, an organization founded by AT&T and two leading telecommunications providers—KDD of Japan and Singapore Telecom.

As a result, AT&T soon will offer U.S. customers the first voice and data services to span the globe with common features and common standards of performance.

On June 2, a week after AT&T's announcement, two of AT&T's top competitors teamed

up: British Telecommunications PLC (BT) bought a 20-percent stake in Washington-based MCI Communications Corp. for \$4.3 billion. (See story Page 35.)

The lines were clearly drawn in the sand, as AT&T and BT, in what many analysts agreed were two formidable alliances with two very different strategies, squared off in the battle to woo and win the world's business telecommunications customers.

For decades, national regulations and an unwritten understanding kept the world's major telecommunications carriers from directly competing for the other's market. However, the breakup of the Bell System and the privatization of BT's monopoly, both in 1984, opened the door to more aggressive competition worldwide, including partnerships.

The announcement of *WorldPartners* and the BT/MCI alliance ended long speculation over what partners the telecommunications giants would choose. For years, "everybody has been courting everybody else," one major newspaper quoted Bertel Throngren, the head of corporate planning at Televerket, Sweden's PTT as saying.

"But this is the end of the beginning. Now everybody has to make up their mind."

A LUCRATIVE MARKET

At stake is a \$10 billion market in private networks and other services for large corporations with offices around the world that need to link their telephones and computers on different continents. Currently there are an estimated 2,500 multinational corporations, roughly 40 percent of which are headquartered in the United States and 13 percent in the United Kingdom. Analysts predict the market could more than double by the year 2000.

Today multinationals must patch together their own telecommunications networks to transfer voice and data between nations. That's because an international call travels along more than one network and those networks are owned by different carriers. The result: an administrative nightmare forcing multinationals to negotiate different contracts with each carrier and to plow through an avalanche of bills in different languages and currencies.

"In the United States, we're

Customers with offices around the world have demanded faster ways to communicate. AT&T's answer: WorldSource Services delivered through the WorldPartners Co.

■ *WorldPartners Co.*—an association of international carriers that will set standards and offer support services to members who provide AT&T's *WorldSource* services.

■ *WorldSource*—the first voice and data services to span the globe with common features and common standards of performance. Customers are companies with offices and factories in more than one country.

SOLUTIONS



making all that invisible to customers," says George Petty, vice president of global business for Business Communications Services, who led the team that negotiated the partnership deal. "Imagine if U.S. customers had to negotiate every circuit with the regional Bell operating companies. That's what we're talking about."

AT&T's strategy is to deliver service primarily by forging partnerships with carriers throughout the world. There are clear benefits to that strategy,

*AT&T's
strategy: to
deliver service
by forming
partnerships
with other
carriers.*

Petty says. Partnerships sometimes allow carriers to avoid getting entangled in regulatory matters facing new market entrance. Also, by linking into existing networks, AT&T does

not have to build its own in other countries, an expensive operation that pits the company against the in-country carrier, often owned by the government.

BT is widely viewed as adhering to a go-it-alone strategy, one that is not open to others who wish to join. MCI reversed its previously stated position favoring partnerships when it teamed up with the British carrier.

To implement its strategy, AT&T helped found the WorldPartners Co. to deliver a family of WorldSource services to the customers of carriers who join the organization.

WORLDPARTNERS CO.

WorldPartners is the association of telecommunications carriers AT&T founded with Kokusai Denshin Denwa (KDD), Japan's leading telecommunications carrier, and Singapore Telecom. AT&T initially has a 50-percent stake in the partnership; KDD,

30 percent; and Singapore Telecom, 20 percent. The founding members have agreed to spend more than \$100 million over the next few years to bring WorldSource services to customers.

The partnership is open to new members. So far, Unitel, AT&T's new 20-percent-owned Canadian affiliate; Telstra, Australia's government-owned domestic and international carrier; and Korea Telecom have said they'll join.

Simon Krieger, formerly managing director of Communi-

cations Services in Japan, will run the WorldPartners Co. with a staff of about 40 people from headquarters in New York City.

Krieger says his goal is to "bring world-class quality, as defined by our customers, to the places where multinational companies have their offices and factories."

Krieger compares the organization of WorldPartners to that of the VISA card business in which customers obtain their cards from different banks, which all belong to an association that

Simon Krieger will move from Tokyo to head up WorldPartners in New York.



Ellie Mizanawa/BiznetStar

BIG DEAL: BT, MCI TEAM UP

"The BT/MCI deal comes as no real surprise. It is no secret that BT has been trying to expand its position in the U.S. market while using its market power in the United Kingdom to prevent similar competition there."

—Joe Nacchio, president of AT&T Business Communications Services, on a June 3 conference call with 200 BC Services employees worldwide.

Other reactions were less restrained. "AT&T's worst nightmare," said one analyst. "It's the telecommunications deal of the century," exulted an MCI official.

After an on-again, off-again courtship, the staid British Telecommunications PTL (BT) and the entrepreneurial MCI Communications Corp., two of AT&T's strongest competitors, declared their intentions on June 2.

BT pledged to pay a premium \$4.3 billion for a 20-percent stake in the Washington-based MCI. Together, the partners will invest more than \$1 billion in a new company that will provide voice and data services to corporations with offices on different continents. MCI will sell the new company's services in the Americas and the Caribbean; BT will sell in the rest of the world.

The deal stands to rearrange the pecking order of the world's global telecommunications carriers, moving the combined BT/MCI up the charts to become a more serious contender to AT&T, the largest global carrier.

In essence, BT brings financial resources, and MCI delivers marketing prowess to the union. BT gains entree to the United States long-distance market. MCI's pockets bulge with \$4.3 billion, just in time to invest in the growing

U.S. market for information services.

The news came a week after AT&T announced WorldPartners and WorldSource services.

Said Nacchio in the conference call: "We committed to specific dates with specific customers. BT and MCI made no similar announcements as to when or where services would be available, and they haven't announced new customers for those services. That gives us a tremendous lead."

POSSIBLE BENEFITS

Nacchio believes the BT/MCI merger could, in fact, benefit AT&T by forcing the U.S. and U.K. governments to reconsider regulations that restrict AT&T in both countries. "Even the most ardent regulators will recognize that AT&T deserves the same freedom from tariffs and price-cap regulations as MCI," Nacchio was widely quoted in the press as saying.

Nacchio wasn't the only one with this opinion. "Before this deal [BT/MCI] is approved by the FCC [Federal Communications Commission], we must make sure the United Kingdom removes the barriers faced by U.S. companies in the British market," said Rep. Edward Markey (D-Mass.), chairman of the U.S. House of Representatives subcommittee on telecommunications.

That was the latest in a series of moves in recent months in which both BT and AT&T have sought access to each other's markets through regulatory channels. Both companies are former monopolies whose markets have been open to competition for almost a decade. AT&T has 62.2 percent of the U.S. long-distance business; MCI, 15 percent and U.S. Sprint, 9.7 percent, according to 1991 figures. BT controls more than 90 percent of the U.K. market, with the remainder captured by Mercury Communications Ltd., a division of Cable and Wireless.

BT has an "undistinguished record as a North American investor over the past decade," according to the *Financial Times* of London.

Some examples:

■ BT's \$200 million-a-year Atlanta-based Syncordia subsidiary, which offers international voice and data-network-management services to U.S.-based corporations, has been losing money over the last few years. It will be merged into the new company.

■ BT sold back its 22-percent stake in MacCaw Cellular, as the result of terms of AT&T's \$1.8 billion deal to buy MacCaw, the biggest cellular phone company in the United States.

Like Nacchio, AT&T executives were not surprised by the merger, which had been on and off for some months, and may even have been revived by AT&T's WorldPartners/WorldSource announcement the week before.

"It's a formidable alliance," says Simon Krieger, who will head up AT&T's WorldPartners Co. "Both BT and MCI bring strong resources to the table in terms of people and money. However, I think our approach with partners like KDD and Singapore Telecom will be more compelling to customers and other carriers."

"My other reaction," he grins, "is that we're just going to have to move quicker."

THE DEAL

MCI and What It Gets

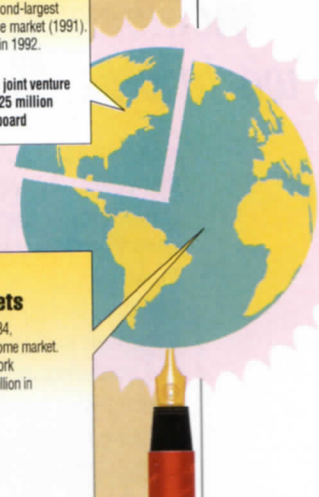
Founded 30 years ago as Microwave Communications Inc. Used legal maneuvers that ended AT&T's monopoly in 1984. Has the world's second-largest network. Has 15% of U.S. long-distance market (1991). Reported \$10.6 billion annual revenue in 1992.

\$4.3 billion in cash
24.9% stake and equal partnership in joint venture
British Telecom North America for \$125 million
Chairman Bert Roberts Jr. to join BT board

BT and What It Gets

Former state monopoly; privatized in 1984, but still controls more than 90% of its home market. Owns Syncordia, an Atlanta-based network management company. Reported \$20 billion in revenue in 1992.

75.1% stake in joint venture
20% of MCI's equity
Three BT executives on MCI board



maintains quality standards.

The founding members of WorldPartners are seeking association members who are "like-minded" and committed to the highest standards of quality, he says. The WorldPartners Co. will offer members global administration services to support WorldSource. They include billing in the currency of choice, ordering, maintenance and customer support.

One of the goals of WorldPartners is to attract members worldwide. A major target is Europe, where the regulatory web that has long kept competing carriers at bay (and prices high for European callers) is beginning to loosen.

AT&T is committed to bringing the same quality of business telecommunications services to Europe as it is doing in the Asia/Pacific region—preferably with partners, but without them, if necessary. AT&T has had ongoing negotiations with potential partners in Europe, including France Telecom and Deutsche Bundespost Telekom of Germany.

However, "If partnerships

are not possible, we won't just leave our customers at the border," says Vic Pelson, then president of AT&T's Communications Services Group.

AT&T has pledged

to spend \$350 million in the next five years, if necessary, to serve customers in Europe by leasing lines from European telecommunications carriers, enhancing existing facilities in the United Kingdom and the Netherlands, and installing new equipment in seven other countries: France, Germany, Spain, Italy, Belgium, Switzerland and Sweden.

AT&T also would build



switching systems in key European commercial centers, develop software platforms and hire about 650 technicians and sales personnel in Europe to provide customer support for WorldSource services.

WORLD SOURCE SERVICES

WorldSource customized voice and data services are intended to simplify global communications and spare multinational customers the hassle of negotiating a myriad of service arrangements with local carriers, as they must do today.

Initial services, available this year in Asia/Pacific and next year in Europe, include virtual network services for voice and data communications, private-line services for data or voice, and frame-relay services for high-speed data transmission.

Customers have already agreed to trial these new services. They include Goodyear,

Honeywell, LSI Logic, Motorola, PaineWebber, Unisys and United Parcel Service.

"Our employees need to be in close contact all the time," says Michael Radcliff, vice president of corporate information systems at Honeywell Inc., which has signed on for the AT&T WorldSource Virtual Network between North America and Asia.

"The new service takes me out of the middle when I'm trying to install a service that involves multiple carriers," he says.

Honeywell provides products and services that increase comfort and safety in homes and buildings. The company employs 55,000 people on six continents.

"We need a single global network, not a patchwork of services," says Radcliff. "AT&T WorldSource services will address these needs in a way that has never been available before."

—Cathy Fee

AT&T's new services help worldwide companies like UPS transmit data.

WorldPartners wants to attract members worldwide.



Photo Courtesy of UPS

REACTIONS

TO WORLDSOURCE/ WORLDPARTNERS

"AT&T put together an impressive group of companies who said they needed the services. If the likes of Unisys, Honeywell, Motorola, and United Parcel Services meant it, the world could truly be AT&T's oyster."—**Financial Times, London**

"This is going to put tremendous pressure on the European PTTs. You can't go head to head with AT&T and win."
—**Jack Grubman, analyst, PaineWebber**

"For AT&T's partners, a link with the telecommunications giant would make them global as well."—**Wall Street Journal, Europe**

"AT&T's deal won't have much impact on our plans."
—**BT spokesman**

"Telecommunications is becoming a global business. AT&T is the only carrier with the wherewithal to go global on its own, along with partners it will enlist."—**Frank J. Governali, analyst, First Boston Corp.**

"AT&T has two strong partners already signed up in Asia and is making a bid to divide and conquer the feuding national telephone companies in Europe."
—**International Herald Tribune**

TO BT/MCI DEAL

"It's nuclear. It's the telecommunications deal of the century."—**Dick Leibharber, MCI**

"When corporate executives describe their deals as

"nuclear," people should ask what is the fallout."—**Financial Times, London**

"BT is not getting its share of MCI cheap ... in the past few months, MCI's share price has risen to US\$52 from US\$30 and BT is offering US\$64."
—**Financial Times, London**

"The alliance with MCI is by far the riskiest move yet in BT's drive to capture a major share of the U.S. and global phone market. BT is bankrolling most of the alliance with MCI."
—**Wall Street Journal**

"BT evidently expects to have a large say in the uses to which MCI devotes its new pot of gold; but with only a minority stake, it will be in no position to impose its will. Given the speed at which the alliance appears to have been negotiated, it is not clear that BT is even sure what it wants the money spent on."
—**Financial Times, London**

"We believe the MCI/BT alliance actually helps AT&T in both regulatory as well as strategic matters without really threatening its position as the global leader of the telecommunications industry."—**Jack Grubman, analyst, Paine Webber**

"Both MCI and AT&T are playing catch-up in announcing intentions to develop a global managed network service. Sprint is already offering this service. In fact, we are the leading global provider of enhanced voice and data services for multinational corporations."—**Sprint spokesman**

SUPER CARRIERS

Telecoms service revenue and major international holdings/alliances of leading players. Figures in billions of dollars.

AT&T: \$39.6

Founder of WorldSource; owner of AT&T Istel (U.K.), AT&T JENS (Japan), Dataid (France); partner in Hutchison AT&T Network Services (Hong Kong); member of Pacific Partners (Asia-Pacific); minority owner of CATV (Venezuela).

BT: \$20

Owner of Syncordia, BT Tymnet. 20% owner of MCI. 75% owner of 'NewCo.'

MCI: \$10.6

25% owner of 'NewCo.'; 25% owner of Infonet; founded Financial Network Association; part owner of Clear Communications (New Zealand); part owner of AAP Telecommunications (Australia).

France Telecom: \$22.2

Principal of Eunetcom; 16% owner of Infonet; partner in FNA; Transpac in Europe; part owner of Telmex, Telecom Argentina.

DBP Telekom: \$33

Principal of Eunetcom; 16% owner of Infonet.

Cable & Wireless: \$4.8*

Owner of Mercury Communications; majority owner of Hong Kong Telecom; owner of U.S. operator; part owner of operators in Japan, Australia, Sweden, the Philippines, Macau and Pacific and Caribbean nations; partner with BCE Inc.

KDD: \$2.2

Partner in WorldSource; 5% owner of Infonet; partner in FNA; member of Pacific Partners.

Singapore Telecom: \$1.4

Partner in WorldSource; 5% owner of Infonet; partner in FNA; member of Pacific Partners.

PTT Telecom Netherlands: \$6, Televerket: \$4.8, Swiss PTE: \$5.1*

Equal owners of Unisource, which has agreement to use Sprint's international data network; each 5% owner of Infonet.

*For 1991 fiscal year
Source: Communications Week International

Getting Personal

When immigrants first set foot on U.S. soil, they're usually greeted by the Statue of Liberty or the Golden Gate Bridge. Then, a barrage of advertisers tries to tell them which soap to buy, which

jeans fit best and which long-distance carrier to choose.

AT&T has broken away from this media blitz by getting personal with recent immigrants and ethnic customers.

"If we want to survive in the ethnic marketing environment, we really have to go to a local level, a face-to-face level," says Steven Wu, a Consumer Communications Services manager in Morristown, N.J. "We can't lock ourselves in an office in New Jersey and hope people will call the 800 number and sign up."

Instead, Wu and his team go to ethnic customers in their own neighborhoods, local supermarkets and cultural centers to talk with them in their own language.

This new grass-roots approach is called Personalized Marketing—AT&T's response to demographic changes in the marketplace.

BACK TO BASICS

AT&T traditionally has set up booths at large ethnic festivals, such as Chinese New Year parades in New York and San Francisco. But Wu says he and his team "don't want to wait for the opportunity to come. We want to create the opportunity."

In 1991, they started setting up AT&T booths at Korean supermarkets, neighborhood Hispanic festivals and at other local gathering spots within ethnic communities. At the booths, neighborhood customers can speak with AT&T

representatives in their own language, face-to-face.

These personalized marketing events sometimes reach as many as 90 percent of the ethnic customers in certain areas, Wu says.

SETTING UP SHOP

But the events weren't enough. In ethnic communities, relationships matter. Customers resent it when a company only comes to their neighborhood to make a quick buck and then leaves. If AT&T had a store in the neighborhood with people from the neighborhood working there, customers could get to know and trust AT&T.

That's where the idea for





AT&T goes to the neighborhoods to meet ethnic customers face-to-face.





Global Communications Centers (GCCs) came from. Located in Flushing, N.Y., Los Angeles' Pico-Union District and San Francisco, GCCs serve as calling centers, information sources and community gathering spots all in one. GCCs have several private phone booths where customers—mostly recent immigrants—can make international and domestic long-distance phone calls and pay for them in cash.

Bilingual customer service representatives—most of them from surrounding communities—help customers place calls, explain AT&T's various calling plans and answer questions about long-distance service.

GCCs are also equipped with an AT&T speakerphone, an AT&T VideoPhone 2500, fax machines and copiers. They also offer meeting rooms and audiovisual aids to local non-profit, charitable organizations at no cost. Local business groups pay only a nominal fee.

GCCs make the transition to life in the United States easier for recent immigrants who often live with relatives and don't have their own phone or credit cards.

UP CLOSE AND PERSONAL

Booths in supermarkets and the GCCs gave AT&T greater recognition in ethnic communities. But they put the onus on customers to come to us. Wu and his group realized AT&T needs to go to

them. "We need something dynamic. We need to go door-to-door and close the sale with the customers one-on-one," Wu says.

The program that does this is called Feet on the Street. Only a few months old, Feet on the Street enlists sales people from inside and outside AT&T who are multilingual and knowledgeable about different cultures.

They travel door-to-door in neighborhoods with high international calling volumes, talking with customers face-to-face—the way most immigrants prefer to do business.

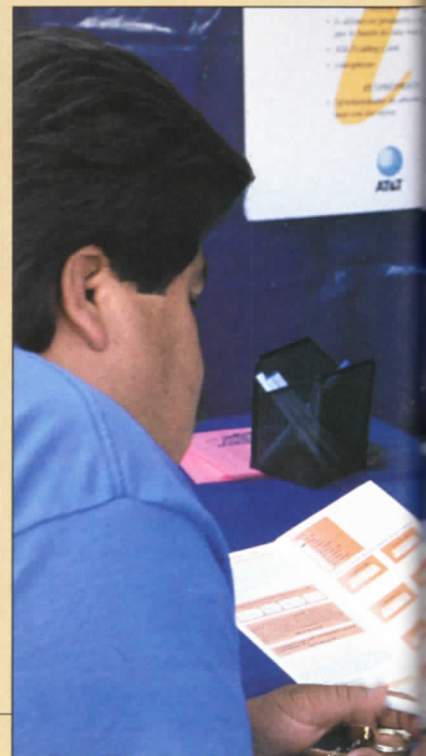
Each sales person receives a set of ZIP codes for neighborhoods they'll target. One ZIP code may have a lot of consumers calling Korea, another may have people calling Japan. Sales people are assigned ZIP codes where they already know the languages and cultures. They are given the data they need to make their sale: where people in the community call, how often and when, says Wu.

Many sales people come from the community they sell to. That way, they're already familiar with the residents, business owners and community leaders. When sales people have, or can develop, a rapport with community leaders, those leaders often refer recent immigrants to them.

All sales people go through a two-week training period that covers the market, new products and



Top left: Filipino immigrants get information before the education seminar begins. Above: A personalized marketing event in Santa Ana, Calif. Right, Manuel Pinintel tells a customer about AT&T long distance.





the United States and get hit with competing messages.

"We believe if you have brand awareness, you will tend to have brand preference, especially if there is no other brand in your mind," says Maria Albarracin, a manager in CCS who works on the Personalized Marketing program with Wu.

The Immigrant Education Program was tried out in the Philippines in November 1992 and expanded to Korea and Taiwan in the spring and summer of 1993. The program teaches migrants about AT&T long-distance service: how to get it, how to use it, how to choose AT&T.

Participants receive a brochure outlining AT&T services and an 800 number that connects them with in-language AT&T representatives.

The Philippines was a natural choice because it already had a mandatory orientation program for Filipinos immigrating to the United States.

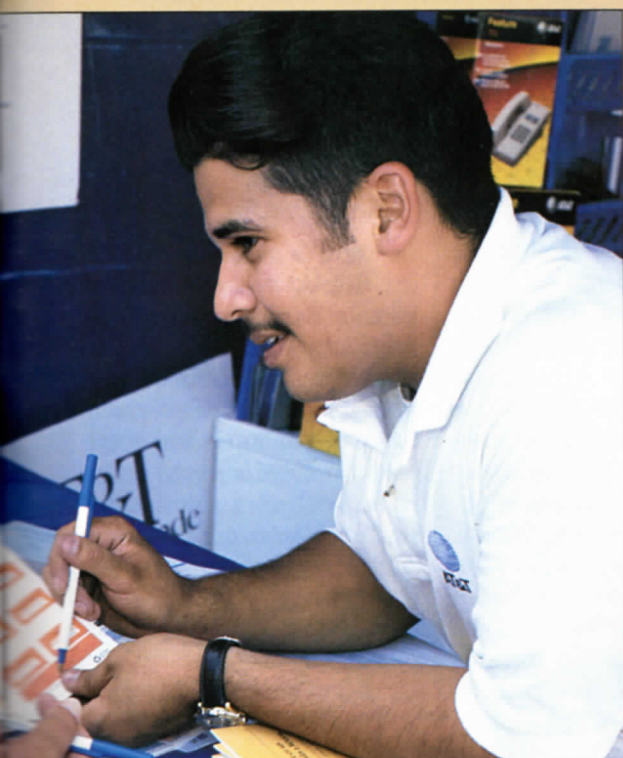
Albarracin's group plans to reach 60,000 Filipino immigrants, 15,000 Taiwanese and 15,000 Koreans by the end of 1993. In Korea and Taiwan, the program also will include students who'll be doing their graduate work in the United States. Albarracin hopes the program will expand to other countries throughout the world.

For some markets, an in-country program and a U.S. program will coordinate to reach more immigrants. Personalized marketing events, GCCs and Feet on the Street programs will be used to retain customers who were introduced to AT&T before they left home.

BRAND NEW TERRITORY
For AT&T, personalized marketing is brand new territory.

By realizing that immigrants don't forget their culture the minute they land in the United States, AT&T can win over a group of people who would have been lost in the marketing shuffle.

—Elaine Jundos



cultural differences. Wu and his Personalized Marketing team are active in determining the recruitment criteria of 150 sales people throughout the United States. This sales force will cover the Asian, Hispanic and the "diversified markets," which include Polish and Russian customers.

"Most immigrants don't know the difference between AT&T, MCI or Sprint. So whoever goes to them and talks to them in their own language will make them feel at home," Wu says.

REACHING THEM BEFORE THEY GET HERE

CCS's Immigrant Education Program takes this a step further, reaching potential customers in-country, before they immigrate to

A Melting Pot In **MERRIMACK**

When a group of employees at the Merrimack Valley Works in Massachusetts organized a small quality team in 1991 to help with overseas sales, they never realized their creation would become a veritable United Nations.

With AT&T's global business expanding, the people in the Transmission Systems business unit (TSBU) needed information about foreign customs, cultures, protocol, etc. But what they found in the plant's Resource Center were a handful of travel guides, and even fewer language tapes, maps and country profiles.

So before this information scarcity could pose any serious threats to the business unit's international sales opportunities, Carole Sarcione, together with other TSBU employees Ellen Scioletti, Sonia Tatarka and Anne Wiggin huddled with Resource Center Librarian Diane Heer to do something about it.

Using quality improvement principles, they formed themselves into the International Customs Team, set goals and timetables and began amassing materials for the Resource Center that would be the envy of any U.S.-based organization with global responsibilities.

"We now have travel guides and country profiles for 45 different nations, dozens of language tapes, even videos, all kinds of books about



foreign lands and information about the many governments our sales and technical people deal with, including their laws, export regulations and telephone systems," Heer offers.

The team also uncovered perhaps the most important resource of all. "It was our people. We discovered over 300 employees here in the plant, many foreign-born, who know the languages and customs of 50 countries throughout the world. They've become the backbone of our mini-United Nations operations," Heer says.

The real payoff for the team, she adds, comes from the stories they hear from sales and technical employees who've prepped themselves in the center for an overseas trip, and the eagerness of the local linguists when they become translators and hosts to visiting former countrymen and customers.

A busy world traveler himself, Merrimack Valley's Transmission Systems Vice President Jack McKinnon says, "This group saw a need and filled it. They put into action the principles of teamwork that will give us a competi-

tive edge in the world's markets."

Heer says, "Our world travelers tell us that knowing something about the culture of a country—the customs of its people, native foods or diets, giving of gifts, religious practices, even facial expressions or 'eye contact'—proved important factors in successfully doing business in that land. Our linguists delight in knowing they make foreign visitors more comfortable because they've erased any language, custom or protocol barriers."

A little understanding of the

CK VALLEY

language and customs of the Netherlands proved helpful recently to Engineer Phil Kasten who had two-days' notice to prepare for an important business trip there. "First of all," says Kasten, "I didn't speak Dutch, so I went to the center and got some audio tapes from Diane and listened to them during my commute to work. I learned enough to feel comfortable talking with the Dutch people. I also picked up a couple of things from the country profile that could have been embarrassing if I

hadn't known about them. For instance, you don't refer to their language as German, even though it's similar ... it's Dutch! Their country is the Netherlands, not

Holland, and it's a 'no no' to put your elbows on the dinner table!"

Slava Kavsan, a Bell Labs technical manager, has proved an important resource for colleagues who need to be briefed about his Russian homeland. He's also represented AT&T on trips to Russia to explore business opportunities. On one such trip Kavsan rescued some confused local interpreters the company had hired to translate at an important international trade show. Kavsan said the translators were laboring over AT&T's technical jargon and

couldn't provide precise translations for the Russian technical officials visiting the AT&T booths. K a v a s a n ' s 11 years at Bell Labs made it easy for him to step in and put AT&T's esoteric tech talk into his native tongue, much to the delight of the visitors, including the Russian Minister of Communications.

Software Engineer Ellen Chao and Technical Manager Cary Zhou both have hosted visitors from their respective homelands of Taiwan and China. "You can see their eyes light up when we talk in their language and about 'home,'" says Zhou, who came to the United States 12 years ago from Shanghai. Chao says, "It's great that we can answer their questions about the United States and our AT&T business and products, and just plain make them feel at home."

Zhou recalls one visiting Chinese group he worked with several years ago who couldn't get accustomed to American food, but were too polite to say so. He said they eventually told him they were starved for home cooking. "I knew just the restaurant where they could get all the real Chinese noodles they'd ever want," he says.

Manager Pete Hall's Global Manufacturing/Engineering unit

"The most important resource of all ... is our people."

travels the world looking for business opportunities. Hall credits Zhou's advice with saving him from embarrassment with some recent visitors from China: "We were planning to give clocks to a group of officials, but Cary cautioned that 'clock' translated into Chinese is similar to their word for 'death'. So, we opted for other gifts." Zhou also told the group that the number 8 is considered lucky by Chinese, and the number 4, unlucky. "Now we try to schedule events, meetings, etc. on dates with 8s instead of 4s," Hall says. "We even make hotel reservations for them on floors with 8s."

Although Software Engineer Iris Sindelar isn't a native of Czechoslovakia, Russia, Poland, France or Germany, she studied all those languages in college and graduate school. "I enjoy translating letters and articles for our Benefits department," she says. "The practice keeps me proficient." Sindelar recently translated a letter that made a fellow employee very happy; the letter said that the employee's lost purse had been found in Germany.

"Here in Benefits, we've really

taken advantage of the linguist," adds Supervisor Lina McLaughlin. "There are a number of employees who have family members living outside the United States, and our language specialists help them understand what entitlements their relatives might have. McLaughlin says Spanish is the most often needed second language in her department, and that's where her very capable employment clerk, Aida Cabrena, comes in. "Aida not only understands the complexities of our Benefits programs, but can explain them to our many Spanish-speaking employees."

Librarian Diane Heer says the 50 languages spoken at the plant run the alphabetic gamut, with few exceptions, from Arabic to Yugoslav, and represent countries on six of the seven continents. Of the 300 linguists at Merrimack Valley, the largest group, 130, speak Spanish, followed by 42, who speak Parisian French and Canadian French. As to the more exotic languages, 18 speak Arabic, 19 Hindi, two Urdu, two Turkish and one Malay. Two are proficient in sign language. Taking the prize for fluency in the most languages is Layout Operator George Batta, whose repertoire covers Yugoslav, French, Danish, Italian and Arabic with several dialects including Lebanese, Egyptian, Saudi and Iraqi.

—Terry Romano

PARTY ON, Y'ALL

For the past 15 years, **Sheila Maness** and her family have held the best parties in Snow Camp, N.C., 10 miles south of Burlington.

Twice a year they open up their 88-acre farm to a four-day, bluegrass festival that attracts over 5,000 people from across the street to across the ocean. Why does Sheila do it? "I enjoy meeting all the people," she says.

Preparation for the festivals is time-consuming and can get a bit tedious, but the fun is well worth it in the end. Sheila, her husband, John, two sons and a daughter-in-law spend weeks mowing lawns, clearing fields, cleaning restrooms, scrubbing

showers and doing anything else that's required to get ready for a crowd. John and his two business partners handle everything from signing the 20 bands that will play to selling tickets. These are no small parties.

The festival had modest beginnings. John and a few friends used to get together and "pick" on guitars, banjos and fiddles. Soon they formed a band. Then other bands were invited to play along. Before long, these gatherings became big events. A permanent stage was built in the Maness' back yard, fields were cleared for parking, and a tradition was born.

What started as a humble "jam session" has turned into an unstoppable four-day party that locals count on and tourists look forward to—a family from Japan even schedules vacation around it.

Bluegrass is what Sheila calls "traditional, old-time mountain music" that's played on acoustic fiddles, guitars, banjos and mandolins. It's so popular because, well, it's just toe-tappin' good music.

—Carrie Calnan

AND HE



John Gabriel drives I'm Busy Too down the home stretch.



Nancy Pearce

Sheila Maness, and her husband John, backing the band at their bluegrass festival.

Account consultant, **John Gabriel** never knew much about harness racing—until he experienced horsepower firsthand.

"It was a blast. I can't wait to go back next year and win the thing," Gabriel says, after having driven I'm Busy Too to a fourth-place finish in this summer's Corporate/Celebrity Driving Challenge in Lexington, Ky.

The Challenge, an annual harness-racing series involving

well-known Kentuckians at Lexington's Red Mile racetrack, helps raise money for the Children's Miracle Network, a national charity.

In thoroughbred racing, jockeys ride on top of the horse in a saddle. In harness racing, jockeys ride behind the horse in a sulky, a two-wheeled contraption similar to a bicycle seat on wheels. Sulkies weigh nearly 60 pounds.

"I kept asking the horse for

S OFF!



Doug Fowley

more but he was barely able to jog down the track," says Gabriel. Things went much more smoothly for the man in the blue and gold silks in his qualifying race, leading I'm Busy Too to a two-length victory and a berth in the final.

"I stayed right behind the number-two horse all the way," says Gabriel. "She started falling back and we just edged her out."

Gabriel practiced at least twice a week for more than a month to get ready for the Challenge. Training covered everything from basic technique to race strategy.

He also brought along his own cheering section. The rest of his sales office and many of his 120 customers made the trip to cheer him on.

"I had a great time," says Gabriel. "I made some new friends and generated some customer interest in AT&T. I can't wait to go back."

—Greg McCormick

Robin Raines gets her M.B.A. in person from Richard Peggnetter, dean of the School of Business, Colorado State University.



AT&T+VCR = M.B.A.

For the last two-and-a-half years, **Robin Raines** has spent much of her spare time in front of the television.

This spring, Colorado State University rewarded the Basking Ridge, N.J., communications manager for her efforts with an M.B.A. degree.

Raines is the 12th student to earn a graduate degree through a unique educational program that combines the rigors of a master's program with the convenience of learning at home.

Founded in 1987, Mind Extension University (MEU) offers both undergraduate and graduate degrees from 25 colleges and universities across the United States., members of its "distance education" network. This year more than 100 other AT&T employees are in the program, and 10 are expected to receive their M.B.A. in the 1993-94 school year.

Students watch a lecture on their local cable system, or receive videotaped lectures in the mail. "It's really appealing to professionals who don't have time to commit to being in class at 6:15 on Tuesday and Friday nights for the rest of their lives," Raines says.

Distance learning let Raines continue working full-time without sacrificing time with her family. AT&T's Tuition Assistance program made it financially possible.

"I never could have done it without AT&T," she says.

Raines followed the regular classroom syllabus, returning assignments either by mail or fax. She completed the oral defense portion of her graduate work during an hour-long conference call. Despite the miles separating Raines and her professors, she could reach them during office hours or leave them a message in an electronic mailbox.

"I remember not knowing what to expect," says Raines, "but I never found the professors to be so far away that they were unreachable."

The unusual learning arrangements did, however, allow her a luxury few graduate students enjoy. If she didn't care for a certain portion of the lecture, she fast-forwarded past it.

"There were some professors who tended to be a little on the dry side," she says.

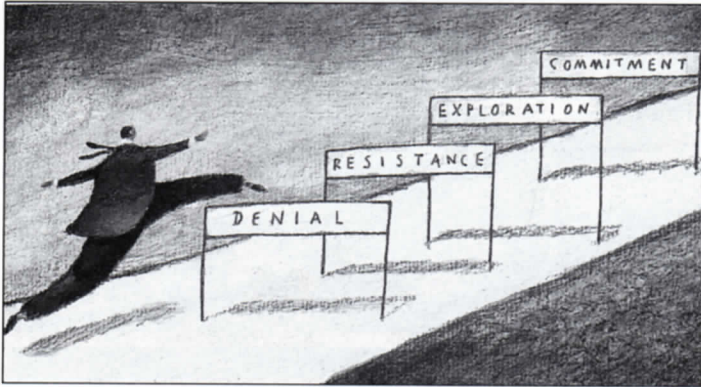
Raines traveled to the Fort Collins, Colo., campus for the first time in May to receive her degree—and introduce herself. "I wanted to personally thank my professors and be a part of my graduating class. I knew who they were, I wanted them to know me."

—Greg McCormick

[For more information on the programs offered by MEU, call 1-800-777-MIND.]

The Winners Are ...

Four project developers in Global Network Design, and the product they created, recently captured a prestigious international award for AT&T. **Anthony Brigandi, Dennis Dargon, Michael Sheehan** and **Thomas Spencer III**, who designed a Call Processing Simulator helpful in designing call centers, won the Franz Edelman Award for Management Science Achievement. The award, sponsored by the Institute of Management Science, recognizes management science projects that have had a positive impact on a client organization.



Coping With Four Phases Of Change

Major changes are rarely taken like a Tarzan swing from one tree to another—smoothly, with a triumphant whoop.

Instead, employees usually feel as if they're on a roller coaster, being carried along on dips and rises at a frightening speed.

Change often scares people at first because it is a threat or a danger.

But, as time passes, they get used to the new state of affairs, and in so doing, begin to see its opportunities.

Understanding this common "down then up" sequence of reactions helps organizations to implement change.

Reaction to change is comparable, say consultants Cynthia Scott and Dennis Jaffe, to stages identified by psychologist Elizabeth Kubler-Ross in her work with the dying. Indeed, many changes may be considered "little deaths."

When your organization must undergo change, watch for these phases:

Denial. Denial can be observed as an initial *lack of reaction* to the change; it doesn't

sink in right away. Although there's a sense of loss among employees, productivity continues for a while, causing managers to believe the transition has been accomplished.

This is especially true if motivational speakers have pushed employees to make the "Tarzan Swing" to the new state of affairs. But a backswing comes in the form of productivity loss as the change becomes real.

At this point management must recognize that employees' resistance is normal, and the organization itself must respond to it.

Resistance. In the resistance phase, strong feelings about the change emerge, such as self-doubt, anger, depression, anxiety, frustration or uncertainty.

Productivity slips, and people are often upset and negative. Some want to leave the organization.

Employees must be allowed to express negativity safely to weather this phase. Group rituals such as award ceremonies and celebration parties help people share their experiences and thus weather the passage.

People will reach low points on the change cycle at different rates, but eventually most will shift to the up curve.

Exploration. During the exploration phase, people draw upon their internal resources and creativity to figure out their

new responsibilities and to visualize their future.

This can be a creative, exciting time when people take on the change as an adventure and form powerful new bonds with their fellow "pioneers."

Commitment. At this point, people are ready to make stable, long-range plans and to act on them. They're willing to recreate their mission, their roles and their expectations. This phase usually lasts until the next cycle of change begins.

Without change, organizations stagnate. At any given time, people in your unit will be in one of these phases of change, and you need to be sensitive to which phase they are experiencing.

You can diagnose phases with these keys:

■ **Denial:** Withdrawal, focus on the past.

■ **Resistance:** Anger, blame, anxiety, depression, apathy.

■ **Exploration:** Concern about details, confusion, energy, ideas, lack of focus.

■ **Commitment:** Cooperation, better focus, anticipation of next challenge.

—Managing Organizational Change

Watch For Early Signs of Burnout

Just as paper eventually spouts a puff of flame when a magnifying glass trains the sun's rays on it, career burnout may flare suddenly, although it has been building for a while, says Shirley Waskel, a professor at the University of Nebraska-Omaha.

Early stages may go unnoticed because many people who burn out are competent, self-reliant individuals who repress their needs.

To check yourself for signs of burnout, ask these questions:

■ Do you tire easily? Feel fatigued instead of energetic? Has your time spent working or your workload increased?

■ Have others remarked, "You don't look so good ...".

■ Are you working harder but accomplishing less?

■ Are you growing cynical? Have you been promised raises and promotions and then produced but been passed over?

■ When people first experience burnout, sadness often overwhelms them without their knowing the cause. Does this apply to you?

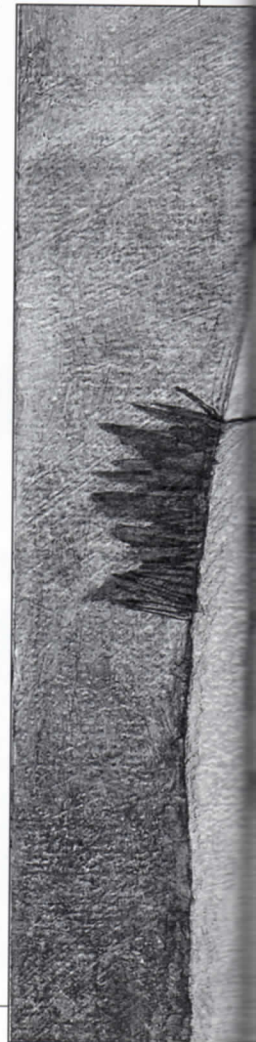
■ Are you forgetting appointments and deadlines? If so, is stress the cause of your preoccupation?

■ Are you disappointed in and short with those around you?

■ Are you seeing less of close friends and family? Are you more comfortable alone?

Burnouts should spend time with others to gain a sense of perspective on themselves.

■ Do you have pains, headaches or lingering colds? Could



be your body is battling stress.

■ Are you unable to laugh at or tell a joke on yourself?

■ Do you find not much to say to people? Burnouts become preoccupied with themselves.

The more you (or someone else) answer these questions affirmatively, the closer burnout is. If you are doing okay, ask these questions of employees who seem apathetic or tense. If they report these burnout symptoms, refer them to mental-health professionals.

When employees have a balanced, healthy sense of self, work challenges make them feel empowered, not burned out. Wise organizations promote employees' well-being.

—Mid-Life Issues and the Workplace of the '90s: A Guide for Human Resource Specialists

Beware of Homonyms and Other Tricky Word Pairs

Similar-sounding words can cause trouble if you're not careful. They're often only a shade apart in meaning, but it's attention to detail that marks a good writer.

Alternately: one after the other
Alternatively: one or the other

Beside: at the side of
Besides: in addition to

Blond: used as a noun for males and as an adjective for all applications

Blonde: used as a noun for females; not an adjective

Complacent: self-satisfied
Complaisant: eager to please; obliging

Discreet: prudent, circumspect (e.g., a discreet silence)

Discrete: detached, separate (e.g., discrete tiles in a mosaic)

Forego: to go before, as in "foregone conclusion"

Forgo: to abstain from

Gourmand: one who likes good food and tends to eat to excess

Gourmet: one who likes fine food and is an excellent judge of food and drink

Noisome: offensive, noxious

Noisy: clamorous

Rebut: to argue to the contrary

Refute: connotes success in argument; almost

always implies a judgment

Sensual: relates to the flesh; a sensualist has voluptuous tastes

Sensuous: relates to the senses; a sensuous person has exceptional sensitivity (e.g., can read Braille or identify wines by smell)

Stanch: a verb meaning to stop or check (e.g., he stanching the flow)

Staunch: an adjective meaning sound or steadfast (e.g., a staunch supporter)

—Corporate Communications

Stay Cool During Crisis; It Pays Off

When a crisis strikes, you should serve as a "mood manager," says consultant Michael Armstrong.

Good crisis managers, in situations when all hell breaks loose, and people and pieces of paper are being thrown about in all directions, and three telephones are ringing at once, will from time to time lean back in their chair, sip a cup of coffee and idly gossip about last night's football game or any other light

subject. Then they resume work with redoubled energy.

Robert Townsend, former president of Avis car rental agency, also advocates changing pace to lift people's spirits. "There is a time for engagement and a time for withdrawal. A time to contemplate it, and a time just to laugh at it."

This approach is exemplified by the airline pilot who speaks over the intercom with a deliberate folksy, reassuring drawl (as the airliner is caught in thunderheads and goes bolting up and down a

thousand feet at a gulp) to remind passengers to check their seat belts because "it might get a little choppy."

Even with inanimate objects, staying cool pays off—as suggested by this notice people across the country are putting over their copy machines:

"WARNING!!! THIS MACHINE IS SUBJECT TO BREAKDOWNS DURING PERIODS OF CRITICAL NEED.

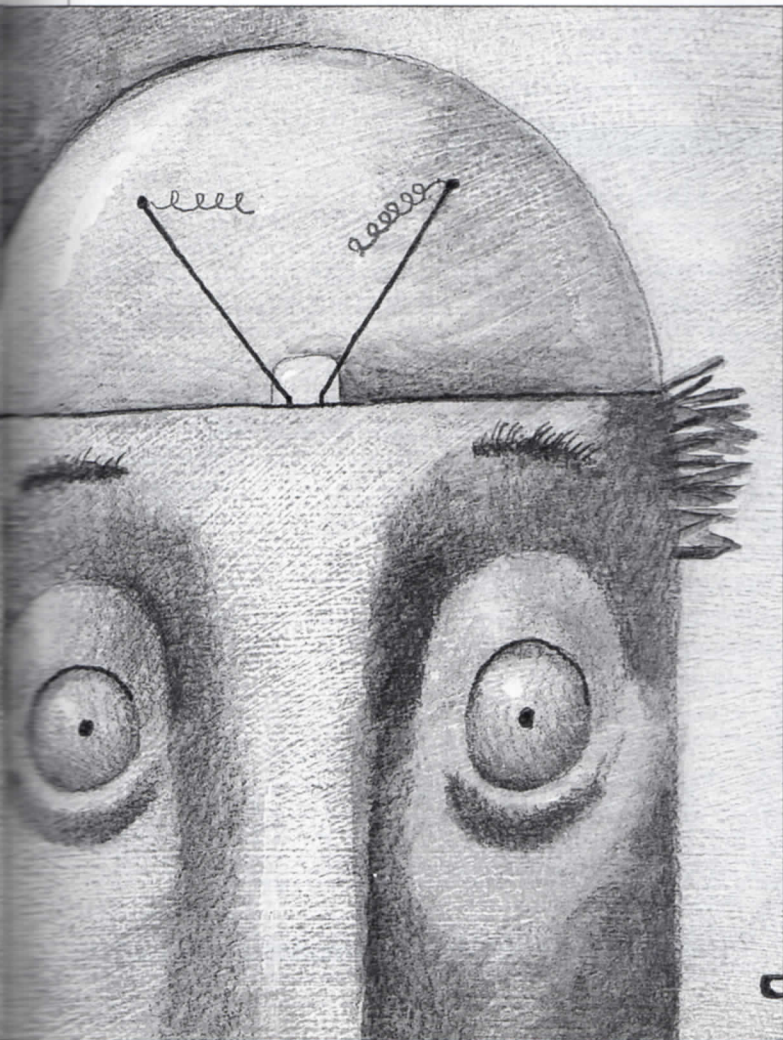
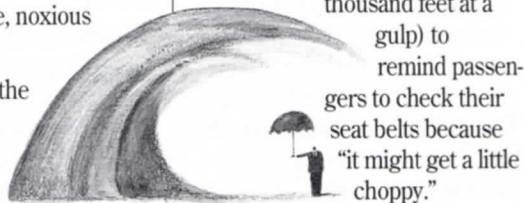
"A special circuit on this machine called a 'crisis detector' senses the user's emotional state in terms of how desperately he or she needs to use the machine. The crisis detector then creates a malfunction proportional to the desperation of the user.

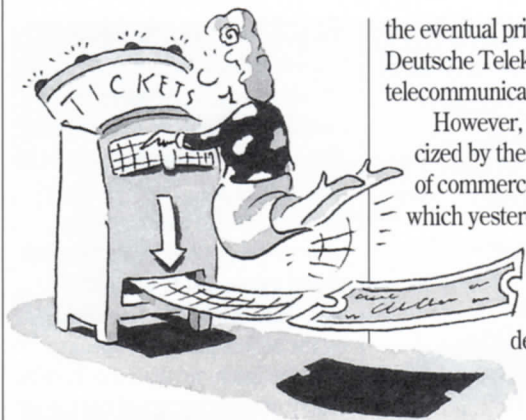
"Threatening the machine with violence or the use of curses and obscenities may soothe the user, but will not fool the crisis detector and will only aggravate the situation.

"Likewise, attempts to use another machine may cause it to malfunction also, because they both belong to the same family.

"Keep cool and say nice things to the machine. Nothing else seems to work."

—How to Be an Even Better Manager: Improve Performance, Profits and Productivity





the eventual privatization of Deutsche Telekom, the state-owned telecommunication monopoly.

However, the plan was criticized by the German chamber of commerce and industry, which yesterday said that creating a state-controlled holding company would hinder the international competitiveness of Deutsche Telekom.

In an internal vote, the parliamentary groups of both the governing parties and the opposition Social Democrats voted for a government plan that will allow Deutsche Telekom to start selling shares on the stock exchanges as early as the middle of 1996.

The holding company would retain a 50 percent stake in Deutsche Telekom as long as the latter has a monopoly in basic telephone services and lines. The majority stake would be relinquished once the European telecom market is opened up in 1998, as recently agreed by the EC.

—Financial Times

Tickets at the Touch of a Button

You can't go to a movie, a baseball game or concert without it, but you don't have to go to the box office to buy it.

What is it? It's a ticket.

You can buy concert tickets at the grocery and [Kansas City] Royals tickets at department stores and banks. Just pull out the plastic and dial if you want to see "Jurassic Park" or "The Firm" or even a movie that won't be released for a couple of weeks.

It's a ticketing revolution, speeding up a job that once required hours of standing in line. But convenience costs.

Ticketmaster, the region's largest ticket service, charges up to \$4 for each ticket it handles. AMC Entertainment's theaters charge 50 cents to buy a movie ticket by phone.*

The system, test-marketed in several theaters in Kansas City and Los Angeles several years ago, has been expanded to include many more markets and more theaters in Kansas City.

—Kansas City Star

Private Stock

Germany's main parliamentary groups have given the go-ahead to the plan which will pave the way for

an ambitious plan announced by BellSouth Corp., the largest of the regional Bell operating companies.

But this powerful new technology, called Advanced Intelligence Network (AIN), is largely meaningless until ways to use it are invented.

To encourage that, Bell South is embarking on another first: opening its long-closed telephone networks in nine states to competitors.

BellSouth has notified the Federal Communications Commission, as legally required, of its intention to offer AIN.

BellSouth is the third telephone company to announce an opening up of its system to competitors. Rochester Telephone Corp., in New York and Ameritech Corp. based in Chicago, both have asked government officials for permission to open up their systems.

—Atlanta Constitution

Theft Control

The next time you use your calling card at a pay phone, take a look around.

Someone may be stealing your number. Thieves have been known to peer over shoulders—or even use binoculars—to obtain unsuspecting callers' phone-card numbers. Telephone-industry officials say the illegal use of telephone systems, including theft of calling-card numbers, costs long-distance carriers and consumers at least \$500 million a year.

The security problem has created a market for a new kind of calling card known as a debit card. Consumers pay in advance for fixed amount of calls. If the debit card is stolen, the consumer only loses the value left on the card.

Several companies have introduced, or are planning to offer, debit cards. They include AT&T, Global Communication Solutions, MCI, Metromedia Communications, Sprint, Western Union Financial Services and World Telecom Group.

—USA Today

1-900-Swindle

The Federal Trade Commission (FTC) imposed tough new advertising restrictions on companies that sell everything from psychic advice to sports scores over 900-number telephone services that charge callers a fee.

Aimed at misleading and even fraudulent promotions, the new rules will force companies that provide 900 services to disclose their prices in unusual detail and will give customers new opportunities to dispute the charges on their phone bills.

The rules were developed in response to a law that Congress passed last October, following widespread complaints about deceptive sales pitches, hidden charges and worthless services sold over pay-per-call numbers.

Among other measures, the new regulations require that calls costing a total of more than \$2 carry a preamble disclosing the price.

—New York Times

Southern Advances

Imagine if you had one telephone number that followed you throughout metro Atlanta, whether at home, in the car or at the office.

Such a system—a first nationwide—would become reality under



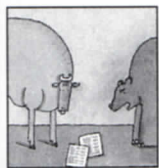
New Reports From the IRC



The following are available from the AT&T Information Research Center (IRC):

- Asia/Pacific Regional Profile.** Order #IRC44201
- Eastern Europe Regional Profile.** Order #IRC44202
- Latin America Regional Profile.** Order #IRC44203
- Western Europe Regional Profile.** Order #IRC44204

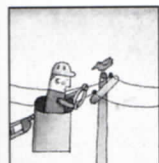
These profiles provide demographics, economic and telecom statistics, network expansion plans of various telecom operators, AT&T competitors for service and equipment, investment requirements needed in the region, political investment risks and five-year economic forecasts. Cost: \$250 each.



Brokerage Industry Analysis 1993.

This report covers such topics as:

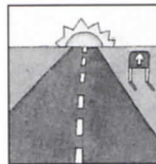
market definition, industry consolidations, banks in brokerage, international issues, discount brokers, telecom/technology trends and disaster recovery. Order #IRC45034. Cost: \$150.



Telephone Network Reliability and Outages Report Revisited.

This report examines such topics as: telephone interruptions

reported to the FCC by communications carriers during 1992, network reliability issues, FCC reportable outages, recommendations of the FCC's Network Reliability Council and pending 1993 legislation. Order #IRC41034. Cost: \$150.



The National Information 'Superhighway': A Debate Over Future National Infrastructure/

Infostructure Initiatives. This report examines why we need a national information infrastructure; who will define that vision, provide leadership and build it; what the role of the federal government should be; and how communications carriers, cable TV operators, information service providers and computer vendors will participate. Order #IRC41033. Cost: \$150.



The Fax Market.

This report provides an overview of the domestic and international facsimile market. For the United States it covers market size, five-year forecasts, pricing, technology and specialized markets. International coverage includes European market size, market share and pricing. Data on Asia also is included. Order #IRC43033. Cost: \$100.



NAFTA: Nightmare or Nirvana?

This offering features perspectives of Canada, Mexico and the United States on the North American Free Trade Agreement (NAFTA), the impact of NAFTA on telecommunications, NAFTA information sources, environmental issues and labor issues. Order #IRC44005. Cost: \$200.



Greece Country Profile.

This new addition to the Country Profile Series offers a comprehensive overview of economic, political, regulatory and telecommunications environments. Profiles on other countries of strategic importance to AT&T are also available. Order #IRC44547. Cost: \$200.



Motorola: Review of Wireless Activity Worldwide.

This report discusses Motorola's cellular activities through first quarter 1993. Profiles of McCaw and Ericsson are also available. Order #IRC47015. Cost: \$100.

To order any of the reports listed here, contact Shirley Nelson at 908-204-1123, (attmail:abcoav@nelson) or fax 908-204-1078. Each order will be billed to your organization's budget.

News from the NCR Micro Center

The NCR Micro Center now has new employee pricing available on its automated Faxline at 1-800-241-1816. Here are other new offerings:

- All products now have a three-year on-site warranty, except the 3150 Notebook (one-year on-site and two-year carry-in).

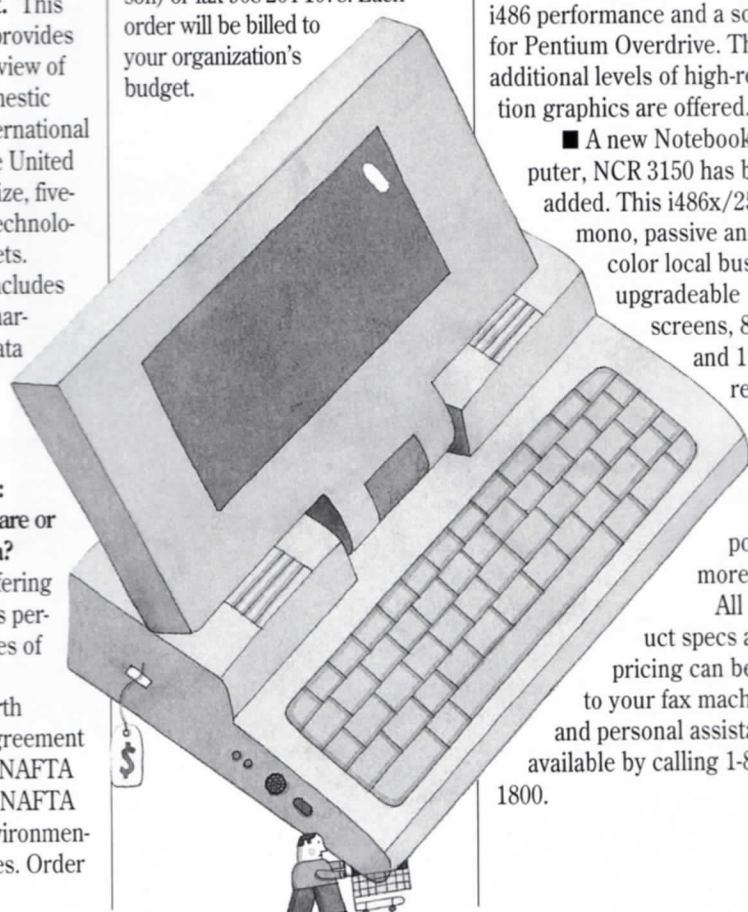
- The 3230 i486 is now offered with local bus VESA graphics, a socket for upgrading to future Pentium Overdrive Processors, Flash BIOS and a three-year on-site warranty.

- A new mini-tower 3333 i486 with four AT-bus slots and two VESA slots, five choices of i486 performance and a socket for Pentium Overdrive. Three additional levels of high-resolution graphics are offered.

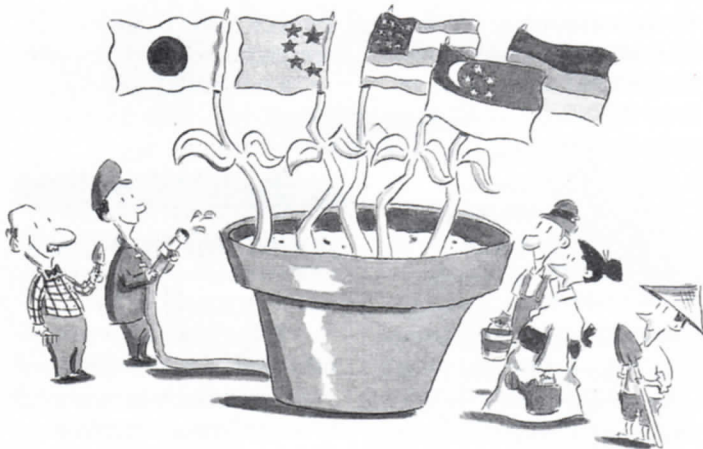
- A new Notebook computer, NCR 3150 has been added. This i486x/25 has mono, passive and active color local bus LCD upgradeable

screens, 80, 120 and 170 MB removable disk, PCMCIA II port and more.

All product specs and pricing can be sent to your fax machine, and personal assistance is available by calling 1-800-843-1800.



AT&T INTERNATIONAL QUIZ



1. AT&T is a company that enjoys about \$70 billion of revenue annually. In 1992, roughly how much of that sum was attributable to the company's international business?

- a) 10 percent
- b) 24 percent
- c) 70 percent
- d) 50 percent

2. AT&T employs 312,000 people. Roughly how many live and work outside the U.S.?

- a) 20,000
- b) 30,000
- c) 40,000
- d) 50,000

3. The fastest growing economy in the world belongs to:

- a) Japan
- b) Germany
- c) United States
- d) People's Republic of China

4. AT&T owns and operates manufacturing facilities in how many countries around the world?

- a) 5
- b) 10
- c) 15
- d) 33

5. The FCC (Federal Communications Commission) is to regulation in the United States as _____ is to regulation in Great Britain.

6. AT&T's international roots go back to the last century, when it opened a plant in Antwerp, Belgium. What year was that?

- a) 1843
- b) 1895
- c) 1832
- d) 1882

7. How many countries around the world does AT&T do business in?

- a) 30
- b) 200
- c) 70
- d) 250

8. AT&T's Communications Services group provides long-distance communications to all countries in the world, except one. Name that country.

- a) Egypt

- b) Indonesia
- c) Nauru
- d) North Korea

9. International sales of network telecommunications products and systems amounted to \$1.9 billion in 1992. What percent increase was that over 1991?

- a) 60 percent
- b) 18 percent
- c) 32 percent
- d) 9 percent

10. AT&T has joint ventures in 21 countries around the world. How many joint ventures are there?

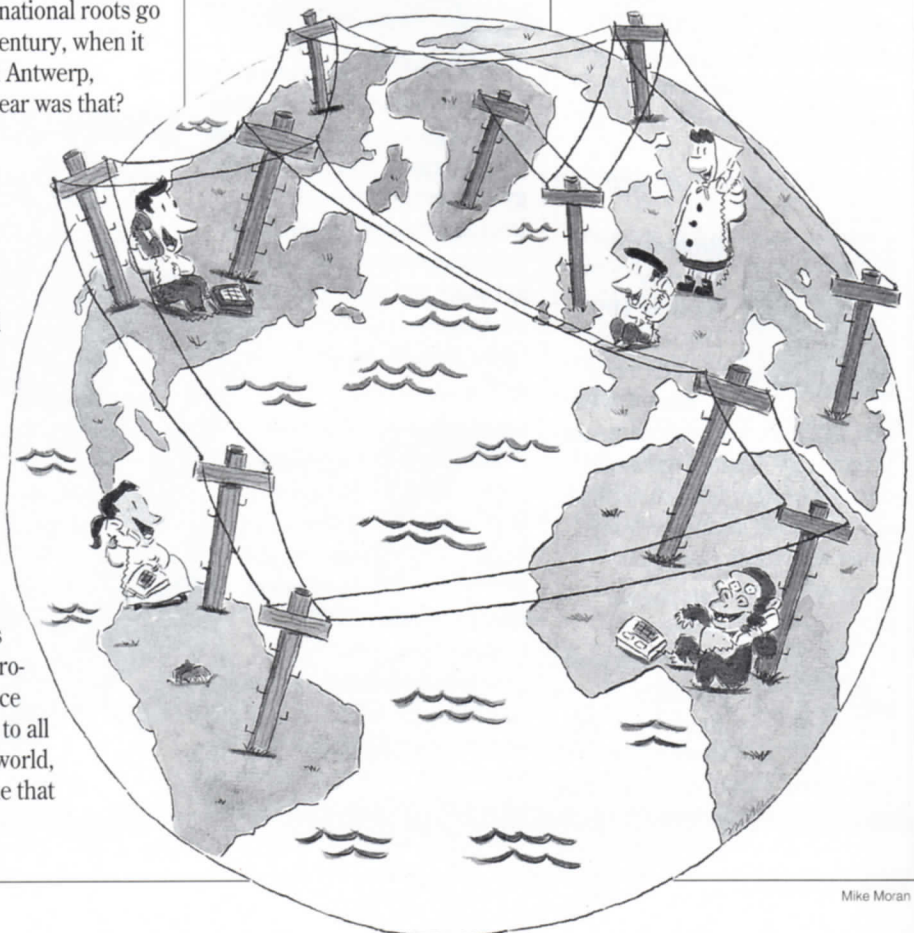
- a) 21
- b) 35
- c) 66
- d) 30

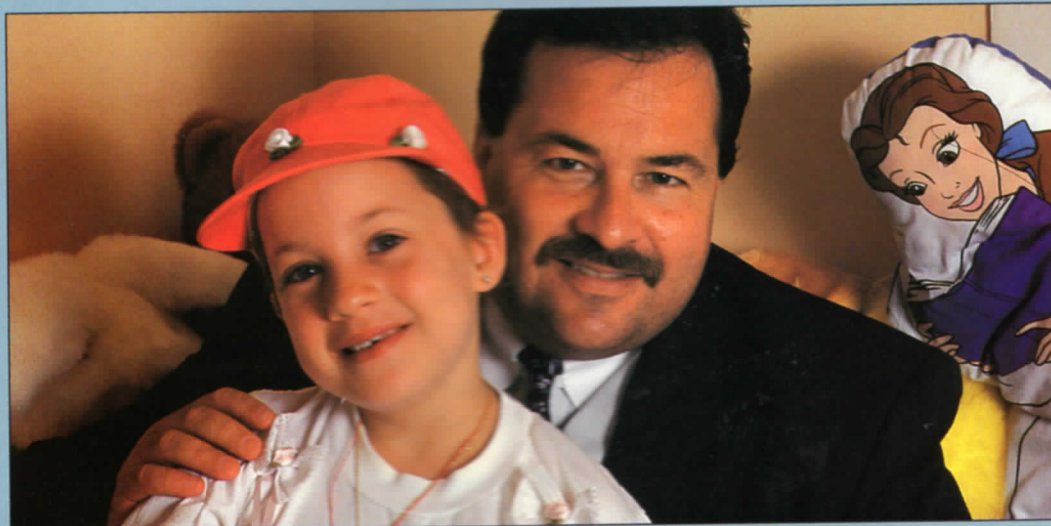


11. During the past year, AT&T has reduced international calling prices an average of:

- a) 10 to 15 percent
- b) 60 to 65 percent
- c) 20 to 25 percent
- d) 35 to 40 percent

WIN A UNIQUE PRIZE! Send your entries with your name and mailing address to: *Focus*, Room 2233H2, 295 N. Maple Ave., Basking Ridge, NJ 07920 by Oct. 7. Five winners will be chosen in a random drawing of correct entries. Names of winners and correct answers will be published in a future issue.





Kristin Connerton and her dad, Pete.

I JUST WANT TO SAY THANKS

This is the story of my daughter. Kristin Connerton is a seven-year-old girl who resides in St. James, N.Y. For the first six-and-a-half years of her life, she had a very healthy, happy and normal childhood. All that changed practically overnight when she was diagnosed with leukemia on October 7, 1992.

The very next day she had surgery. It was very hard explaining to a six-year-old that she was very sick and needed to go to the hospital for treatment that would make her better again.

Kristin stayed in the hospital for nearly three months. She lost 22 pounds, went completely bald and was bedridden due to the side effects of the chemotherapy.

Kristin's second surgery took place November 17, to repair her diaphragm and assist her breathing. During surgery, the doctors found something they hadn't expected, something they'd never even seen before—some sort of foreign tissue suffocating the left lung and blood vessels.

Kristin has a fungal infection called mucormycosis. This fungus spreads through the body, causing strangulation of the nerves and blood vessels. In most known cases of the disease, and there have been only a handful all over the world, it's gone undetected until the autopsy.

Compared to the mucormycosis, the leukemia became a secondary concern. Four hours a day, seven days a week, Kristin receives an anti-fungal medication intravenously. A third operation, this February, showed that the fungus is still active.

Kristin's life now revolves around doctors, nurses, spinal taps, bone marrow tests, transfusions and other treatments.

She can't go to shopping malls, children's birthday parties, movie theaters, family gatherings, swimming pools. The risk of exposure to infection is too great, the drugs have made her immune-suppressed.

So much has been taken away from Kristin, as well as from my wife, Genine, and me. We live day to day with no guarantee that this fungus will go away. The one thing that has kept us going is the strength, comfort, concern and prayers of our families and personal friends.

When my daughter was diagnosed, I told my branch

manager Bill Connor and my manager Jean Hyland. They both expressed deep concern and compassion. Their words were: "Take care of your family. We'll help out any way we can."

I lived at the hospital for three months last fall, not coming home until Kristin was discharged. I tried to shelter Genine from a lot of the stress—the day before Kristin was diagnosed, we learned that Genine was pregnant.

While I was with Kristin at the hospital, people pitched in to handle my accounts. Every time I called the office they said, "Don't worry. Everything's under control." One AE in particular—Terry Richardson—did premises visits for me.

The clerks in our office, Karen Visone and Kathy O'Kobrick took up collections to purchase toys for Kristin to play with at the hospital. Another AE, Tom Smith, gave me his car phone in case my wife needed to get in touch with me. People did lots of little things like that. My friends from work were there for me to talk to, and they came and donated blood when it was required.

Joe Ferrante, a systems consultant in Manhattan, was my sounding board. When things got bad and times got tough, I'd call Joe and just talk. One day he showed up at my house asking what he could do to help.

In January, I got a new branch manager, Gary Dobel. I can't tell you the comfort I felt after speaking to him. He's a parent, too. He knows how important his family is to him, and how important mine is to me.

So many people have helped out—the support staff, the managers, other sales people—it would be impossible to name them all here. But I want all of them to know that I am very thankful that I work for such a great company and that I am especially grateful to them for their thoughtfulness and understanding.

Kristin's leukemia is in remission now. And June 9 we got a blessing—a healthy little baby girl, Amanda. We still have a long road ahead, but today is better than yesterday, and tomorrow will be better than today.

—Pete Connerton
Account Executive
White Plains, N.Y.

HELPING OUT

It's that time of year again. The time when parents everywhere stare longingly at the date circled in red on the calendar—the first day of a new school year.

A group of employees at AT&T's Dranesville, Va., facility is looking forward to that day as well, so they can go back to school—as volunteers in the Partnership in Education program.

During the 1991-92 school year, Dranesville employees started working with students and staff at Sugarland Elementary School in Sterling, Va.

BACK TO SCHOOL

"It was strictly a desire on my part to get at kids early, when they're young," says Jim Richardson, who started the program while an operations manager in Dranesville. Since moving to a new position last year, Richardson has

established a partnership with another area school. "We're trying to teach them there's more out there than Nintendo."

Volunteers spend two hours a week in Sugarland's computer lab helping students with basic computer skills and reading comprehension. That amounted to more than 400 hours last year.

"Everything I've heard tells me this program's been a true model for others like it," says Dr. Edgar Hatrick, superintendent of Loudoun County Public Schools, "especially in the commitment of the people from AT&T."

"It's a super opportunity for the kids," says Sheri

Brown, Sugarland's technology coordinator. "AT&T is showing us that even second graders can learn computer skills."

"We see the results in a number of ways," says Hatrick, "everything from improved self-esteem to improved performance."

In 1992-93, the first full year of the partnership, average reading test scores increased by almost 19 percent. Two students failed the test last year compared to 16 in 1991.

"My friends at AT&T, you are making a difference at Sugarland," Principal Bernice Nicewicz wrote in a letter to employees.

"You see how the kids have progressed, and it's nice to be able to make a difference," says Alicia Wang, a senior reports clerk. "It's a great opportunity to help."

The program has helped boost attendance as well.

"I've had parents whose children said they were sick until they remembered they were going to the computer lab that day," says Brown. "Then the kids would say 'I have AT&T today, I'm fine.' They associate the program with something so positive."

For their efforts, volunteers are invited to school functions and are the guests of honor at a year-end luncheon.

"I was the first to sign up because it was a great idea," says Kevin Flatley, a communications technician. "I'm not there for accolades, I'm there for kids."

—Greg McCormick



Chris Usher

Kevin Flatley, center, helps Mike Jackson and Nicole Flanigan compute at Sugarland Elementary School.