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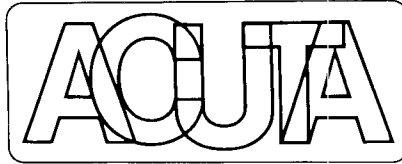
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# NEWS

Association of College & University Telecommunication Administrators  
THE VOICE OF TELECOMMUNICATIONS IN HIGHER EDUCATION

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VOLUME 13, NUMBER 5

JUNE, 1984

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## President's Message

On our May Board of Directors conference call, Membership chairman Del Combs, reported that our membership now totals 580 members. This represents an increase of 300 new members since July, 1982. Although ACUTA has had a reasonably steady membership growth since it was founded in 1971, this is a particular large sudden increase in such a short period of time. Again, it's an indication of how times have changed in the telecommunications industry.

One of the four objectives of ACUTA is to raise the role of the telecommunications administrator to a professional status. We view these current changes in the telecommunications industry as a great opportunity for our profession and for ACUTA. Over the years, the average telecommunications manager has always had difficulty gaining recognition and support from top management. In the past year, I have been fortunate to encounter many different organizations, both in education and in industry, who report that this attitude is now rapidly changing.

The National Association of College and University Business Officers (NACUBO), The Association of Physical Plant Administrators (APPA) and The National Association of College Auxiliaries (NACAS) all view telecommunications on the college campus as a top priority educational program within their respective associations. These organizations are actively developing workshop programs, hosting forums, including telecommunications issues as an important part of their annual conferences and finally, in some cases writing and publishing telecommunications manuals geared to their members' needs. All these organizations realize the need for information on all aspects of communications in order to plan for the future.

Keeping up with the technology is another area often mentioned as one of today's biggest problems for the telecommunications manager. The sudden growth of ACUTA and the large attendance at all our meetings of the past two years bear witness to this. Again this year in Boston, we will address many areas of common concern such as the evolving role of the telecommunications manager, technological updates, the effects of deregulation on the campus telecommunications operation, telecommunications management information systems, financing telecommunications systems, local area networks and many other topics.

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The responses to John Sleasman's questionnaire of future meeting sites are beginning to come back in large number. This information will be a great help to the site selection committee whose assignment it will be to make arrangements for future conference and  
**(Continued on page 2)**

## Party Line

...by Ruth A. Michalecki

Recently I attended a special meeting at Northwestern Bell in Omaha, Nebraska announcing a new offering for CENTREX (CENTRON) users. It was a demonstration of the Electronic Customer Access Program (ECAP). The University of Nebraska-Omaha campus joined NWB in testing the ECAP under actual working conditions and they were credited with making several important suggestions on how to improve the system. Our member from the Omaha campus is Harvey Applegate, a very talented telecom professional.

For those not familiar with ECAP, it is designed to provide CENTREX/CENTRON users "hands-on" control of electronic features and simple moves and changes. They propose to tariff the basic features (call forward, call pick-up, speed call, etc.) in a bulk package as compared to the per-feature tariff of today. This would permit the customer to implement these features on any of their stations as they desired or needed. The system also would let the user reassign existing single-line stations, moving or changing the number assignment as required. It will provide the user with various statistical reports, allow them to view their order file, maintain an inventory and will offer additional features as they are developed. The user actually doesn't access the serving switch, but is interactive with a department that does the actual changes. The participants in the demonstration had many excellent suggestions, and they were accepted by the Bell staff with enthusiasm. One had the feeling they were listening!

The meeting was significant in my perception, because it clearly indicated a determined effort by NWB to keep alive and viable CENTREX/CENTRON service. They have filed a tariff to lower the per-station rate to offset the CALC charges—they are making noises about greatly improved data speeds for their users—and they have indicated they intend to make a concentrated push in the CPE area.

Recently our president Mike Toner, was in Las Vegas, Nevada at the ICA Conference. While there, he attended a CENTREX User's Group. He picked up an information sheet summarizing the status of CENTREX. I am going to share that with you:

### "...Planned Enhanced Features Via New Generic Software On Existing Centrex Systems:"

1.
  - Better customer control (on-premise moves & changes.)
  - Western Electric improved 3B5 processor for customer premise application.
  - The improved 3B20 for Central Office application.

**(Continued on page 2)**

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## President's Message (Continued):

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seminar meetings. We hope to have all the meeting sites selected through 1987 by the time we all meet in Boston so these sites can be presented to the membership at the annual business meeting.

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Shortly all full and associate members will be receiving a questionnaire from John Sleasman seeking information for the ACUTA data base. As mentioned many times in the past, this is one of our biggest projects this year and one we would like to see working well in time for the Boston Conference. Everyone's cooperation is needed to insure the success of this project. The data base, with current information, is something that has the potential to be of great value to all of us. So, please take the time to complete the form and return it back to John promptly.

Sincerely,  
Michael A. Toner  
President




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## Party Line (Continued):

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--Cost to remain minimal.

### 2. Western Electric's "ATOM" Project:

- a comprehensive package consisting of:
- facilities management
- SMDR enhancement
- intelligent message center
- on-line directory services
- improved ACD
- multiline electronic instruments

### 3. The 3B processor will control the network of MAC8 controllers.

**4. Voice Store & Forward (VSP) tied into a message desk.** The technology is available today, but Bell Communication Research, Inc. has to decide how to implement without infringing the Computer II Inquiry Decision.

Some of the possibilities include:

- enhancement versus improvement; FCC waiving the enhanced-service definition of VSP and rule that it is only an improvement.
- interfaces in the C.O. Centrex with the customer purchasing adjunct device for on-premise installation.

**5. Bell Communication Research, Inc.** is analyzing the circuit switching capabilities via CENTREX for facsimile and special applications.

**6. Data:** Addition of packet switches to local selected CENTREX offices allowing high-speed data traffic to move via copper pairs not only within premises (LAN) but also intercompany via an X.25 network.

Data-Over-Voice (DOV'S) services. Used successfully by several CENTREX users.

- voice signals use only a small part of available bandwidth on telephone wire pairs.
- voice signals use lower frequency of bandwidth, leaving high frequencies free.
- DOV'S work like modems

--One DOV is connected to the phone line at the terminal end. A central DOV is interfaced to the same line between the MDF and the PABX.

--A low-pass filtering device in the central unit separates the data carrier frequency from the voice. The voice signal is then routed unaffected into the telephone system and data into the computer system.

--DOV's use single existing telephone wire pairs.

--DOV's cost approximately \$500-\$600 per station.

--Most DOV's utilized today are the "Teltone" product line.

--Limited to ASVDC presently, Teltone plans SYLC capability (9.6) via a Beta test early in May this year.

## 7. LAN (Local Area Network) via CENTREX:

--achieving data-over-voice via CENTREX, plus LADT (local area data transport) at the central office (C.O.) involves multiplexing the data channel above the voice line using the same voice-grade, two wire loop.

--electronics (marketed by manufacturers like Gandalf) placed on both ends can easily allow speeds up to 9.6 KBPS.

--voice remains analog, so, at the central office voice and data are switched separately with the data being sent to a packet switch using X.25 implementation.

IBM is protesting the BOC's offering LADT based on the Computer II decision. GTE claims that the LADT performs protocol conversion, one of the criteria for an enhanced service. Southern Bell states that LADT does NOT perform protocol conversion and that the information that goes into the network is not changed.

### "The #5ESS CENTREX-PREMIUM, Part of a divine plan"

Designed to be a basic building block for public, nationwide and end-to-end digital network.

--**Distributed Architecture**--Computer intelligence and switching mechanism is distributed instead of a CPU.

--**Cost Effective**--Small offices (telcos) will require only enough interface modules to support local customer demand.

--These remote switching partitions will be able to offer all the #5ESS features to smaller communities.

--Will be able to custom design feature packages to meet customers' unique needs.

--It will be able to bridge features. (E.G. call waiting and call forwarding)

--It will allow integration to the ISDN (Integrated Services Digital Network) which will include such services as bulk data, video, etc. Thru an internal packet network and fiber optic links.

Integrated Services Digital Network (ISDN) card that will implement 56 KBPS data won't be available for #5ESS until 1986.

Some planned technologies in specific geographical areas are listed below. These are very brief, but it does clearly indicate the operating companies are very interested in your business---probably more now than ever. If the old "80-20" rule ever applied anywhere, it certainly applies to universities and telecommunication services.

(Continued on page 3)

**PARTY LINE (Continued):****U.S. West:**

Committed heavily to Northern Telecom, with 14 DMS-10 systems installed. Planning extensive fiber-optic growth and an increase in network lines in 1984 of 59.5%. Each of their three regulated telcos will have their own CPE subsidiaries. Interesting to note that Pacific N.W. Bell will provide only CPE associated with CENTREX and network channel termination equipment.

**Pacific Telesis:**

First to establish a CPE subsidiary to sell residence & business telephone systems---do their own installation & maintenance. Operates directory publishing division---PacTel group is 55% digital today with plans to be 93% digital in 1992; 38% of which will be fiber optics. Building a fiber-optic ring in San Francisco (90 megabyte data communications system intended for the call volume for the Olympics). A like network being set-up in the San Francisco Bay area, extending to San Jose (75 miles), through Oakland to Sacramento, Fresno and Bakersfield....Projected to reach San Diego by 1985. PacTel has spent \$80 million in fiber optics during the past two years as compared to New York Telephone's \$38. They have submitted a proposal to Palo Alto for construction of a 422 mile fiber optic network.

Operational budget is concentrated on large new constructions and improvements of service offerings., e.g., ESS CENTREX. I personally know of some exciting things going on at the University of California, Berkeley campus with this company. We are watching this very innovative project and will keep you informed...

**Southwestern Bell:**

Rather low-key and conservative. Highly electronic network, AT&T supporter and not likely to change. 66% of access lines in Houston, Dallas, St. Louis and San Antonio. Texas BOC's face sizeable revenue loss due to mileage between cities creating long-distance environment. They have a substantial long-term debt.

**Bell South:**

Highly technical, part of the LADT network. Contract with Northern Telecom for the installation of six packet switching systems; up to 20 remote access programmable interface devices (RAPID) and a network control system. (The packet switching network moves data units through the SL-10; the SL-10 RAPID is a multiplexor that concentrates the data to make more efficient use of lines). Equipment is scheduled for installation in five southern cities. Charlotte, Athens, Columbia, Georgia; Columbia, South Carolina; and Atlanta. Plans expansion into Videotext---will license some of their own software programs---plans to build a private interstate network for NATA---aggressive promotion of CENTREX---much of their equipment is less than five years old---considering paying a commission to independent vendors for marketing CENTREX.

**Bell Atlantic:**

Expects to stick to it's region, but will respond to national customers on a national basis (i.e., the federal government). Will market business & residence CPE, but not network services. Will handle CENTREX and PBX sales out of the same office. Looking at merging marketing and construction engineering. #5ESS switches will be placed in areas promising the best return on investment. Looking at cabletelevision vendors for interest in Bell Atlantic building & maintaining a cable system for them.

Considering marketing their company's billing expertise to other firms. Probably lower urban costs, increase rural and suburban areas costs; seeking to buy a New Jersey equipment-leasing firm to enable them to have leasing capability of a wide variety of office equipment.

**Bell of Pennsylvania:**

Distributing Intecom, NEC 2400, TIE, Eagle. Implemented message unit service in Scranton area and are offering special features for small business users and residential users on a special one-year experimental basis in Harrisburg.

**Nynex:**

Awkward combination of older plants, but very aggressive technologically. The regulated telco's (NY Tel and New England Tel) will handle follow-up for network services such as CENTREX. Plan to get into Bypass Technology (such as cable). Construction budget is more than two billion dollars needed to enhance older cable plans. 33% of access lines is in New York City and is more subject to competition due to concentrated metropolitan base. Service problems are showing up more intensely in New York City for corporate users. (Backlog of 20,000 orders as of the ICA date).

They plan to market aggressively through their Business Information Systems Company (BISC). Some exciting things in this area right now involving NYNEX and Yale University.

**Ameritech:**

Very aggressive-highly technology oriented. Have announced a joint venture with SBS to market nationwide joint-tenant telecommunications services. Ameritech and Aetna Telecommunications Labs will combine their efforts towards developments of a LADT. Their budget reveals=52% growth; 37% modernization; 11% service. Ford Motor Company has decided to link its 22 Southeastern Michigan Locations with a series of CENTREX facilities versus ATT-IS's proposal for a plan built around digital premise switches. Ameritech was the first RBOC to revitalize CENTREX, installing the first #5ESS switch (Illinois Bell). According to Ameritech's President, "CENTREX will continue to be the 'Flagship' service."

**Illinois Bell has established a three-rate structure for CENTREX (A,B,C, territories).**

**A**=Metropolitan area-lowest cost, downtown and near loop.

**B**=Remaining Chicago area and adjacent suburban communities, increased cost over A.

**C**=Most suburban communities and rural areas-will be the most costly.

Ameritech is considering paying a commission to independent vendors for marketing CENTREX.

My apologies for any mis-information or for slighting anyone. I have used as my information source the data distributed at the ICA Conference CENTREX Users Group (currently served by CENTREX).

For those ACUTA members struggling with trying to determine which direction to go in the future---doing nothing appears to be a viable and workable choice. It has to be good news for some...

**(Continued on page 5)**

## Bell Labs Won't Have To Share Ideas As Much

Bell Telephone Laboratories has been the premiere research and development organization in the world, singly responsible for literally thousands of inventions and discoveries that have changed both the world of telecommunications and the "outside" world in general...with its most often-cited accomplishment being the transistor.

Because of its affiliation with a regulated monopoly and the 1956 consent decree, which required Bell Labs to make available to all others licenses for its patents available at a nominal fee, many of the wonders flowing from the Labs couldn't be fully exploited by the Bell System. As Continental Telecom Chairman Charles Wohlstetter observes: "With all of the technological expertise in thousands of American companies, it was Bell Labs that invented the transistor, and thus made possible the computer. And for its discovery, Bell was compensated by being **prevented** from entering the computer business." So who said life was fair?

But Bell Labs certainly has received its share of praise for the many accomplishments. Among only a few of its pioneering achievements--which could fill a book, and have--are a demonstration of the first high-fidelity sound recording in 1925, origination of sound motion pictures in 1926, the first long distance TV transmission in 1927, the transistor in 1947 (for which its inventors received the 1956 Nobel Prize for physics), the laser in 1958, magnetic bubble devices in 1966...and on and on.

Bell Labs was incorporated in 1925, largely from research activities of Western Electric that dated back to 1907...although actually the lineage could be stretched all the way back to Alexander Graham Bell's laboratory in 1876.

During 1982, more than 25,000 worked for the Labs at 21 major locations, with some 30 percent of them assigned to lab locations at seven Western Electric plants. And what a staff! About 3,300 of them have PhDs and another 6,000 have Master's degrees. Some of them have since left, of course. About 4,000 were transferred to American Bell and another 3,000 are destined for the Central Services Organization serving the regional operating companies.

Reflecting the increasing emphasis on computerization of telecommunications systems and other areas, more and more Bell Labs people are working on software related projects. For some hard numbers on software activities, nearly half of all Bell Labs employees are working in the area of software development or software support, whereas only 15 percent were nine years ago. Bell Labs is also a large **user** of computer systems, with 1.5 computer terminals per technical employee and something like 1,800 host computers scattered around its facilities. According to Vice President Eric Sumner, "We support about 35 million lines of live code in the Bell System. That probably makes us the biggest software enterprise in the world. We are in software in a big way."

The computer industry has high hopes for the Bell Labs-developed UNIX operating system, and AT&T has begun commercial marketing of a new version of UNIX, which is expected to become a major force in newer generation computers.

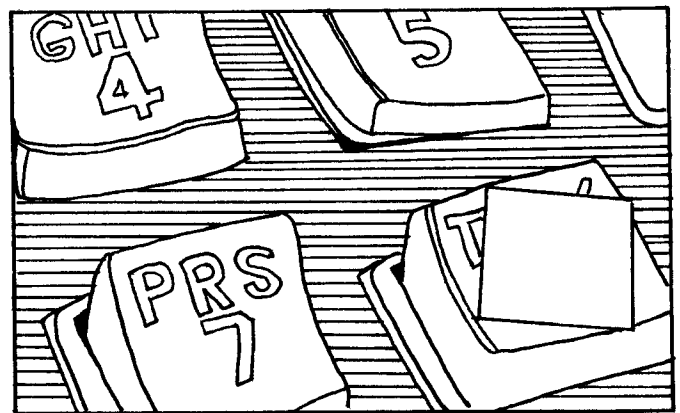
Production of the Bell Labs Bellmac-32 microprocessor began last year. Containing 150,000 transistors on a chip smaller than a dime, it will be popping up in a wide assortment of equipment...including a forthcoming line of small computers, expected to be marketed by AT&T Information Systems.

Today, even **with** a scorecard, it's virtually impossible to keep up with the fast-changing developments in integrated circuits. Even Bell Labs has to be amazed at what's happened to its little device in a little over 35 years. Trying to put it into perspective, Bell Labs President Ian Ross explains, "In each of the last 10 years we have doubled the number of transistors we can squeeze on a chip of silicon. There are over 600,000 components on a 256K random access memory. Compared to the cost of a quality transistor 20 years ago--about \$1 to \$10--the equivalent costs of a transistor in a chip today is something like one-hundredth of a cent--a thousand-fold cheaper. If we had had the same progress in the aircraft industry, you and I could be flying between London and New York in 500,000 passenger planes, and the fare would be only about 25 cents!"

But how much longer can this trend continue? According to Ross, "The progress in microelectronics will continue for some time. One-megabit chips are being designed today. We should see one working in 1983. Four-megabit chips are a possibility by the late 1980s. Metal-oxide-silicon (MOS) circuits, using features of less than a micron in size, have operated 100 times faster than is normal in today's production devices, with logic circuits switching in less than 10 -10 seconds. Gallium arsenide semiconductors and Josephson junctions are other possibilities for ultra-speed devices."

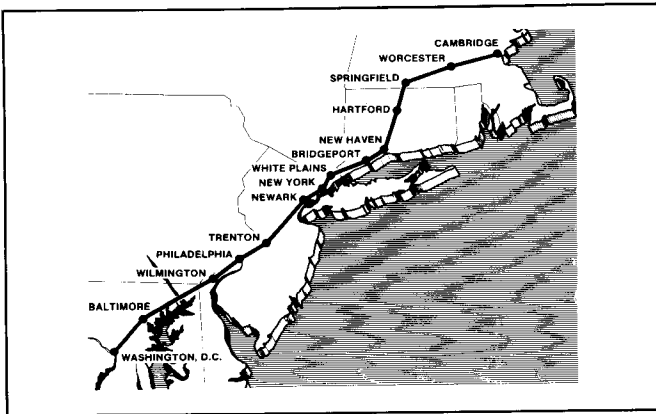
Lightwave technology has been another of Bell Labs' great-achievement areas. Bell Labs and Western Electric great-achievement areas. Bell Labs and Western system that can carry more than 100,000 two-way telephone conversations simultaneously over a glass fiber about a tenth the thickness of a human hair.

Earlier this year, Bell Labs demonstrated the first



**Bell Labs has made startling advances in semiconductor technology since it invented the transistor in 1947. This digital signal processor chip in a Number 5 ESS, for example, is smaller than a Touch-Tone phone button, yet it's packed with 45,000 transistors, able to make a million calculations per second.**

(Continued on page 5)



When completed early next year, AT&T's 776-mile Northeast Corridor lightwave project will stretch from Virginia to Massachusetts, carrying huge volumes of calls.

### BELL LABS (Continued):

practical communications laser whose output can be tuned electronically from one ultra-pure single frequency to another, which Bell Labs sees having dramatic implications for future generations of lightwave communications systems. Called the "cleaved coupled-cavity" (C) laser, the semiconductor device has properties for improvements in lightwave system capacities and longer unboosted transmission distances. It's already been used in a transmission experiment that set a world record. Unboosted signals generated by the laser pulsing 420 million times per second traveled about 75 miles, error-free.

Arno Penzias, vice president of research at Bell Labs, recalling the introduction of the first standard-order short-distance lightwave system in Atlanta in 1980, says, "We now have such systems in over 50 cities. Together they total more miles of lightguide fiber than has been installed in all the rest of the world combined." In February 1983, a major segment of AT&T's Northeast Corridor lightwave system was placed in service, as explained elsewhere in this report.

Some have been concerned that one of the casualties of the divestiture would be the famed "blue-sky" research conducted by Bell Labs, now that its parent is entering a more competitive world without the safety net of the operating companies. AT&T is on record, however, saying it is committed to continuing "an extensive program of basic research."

Next year, meanwhile, Bell Labs will continue to provide the divested companies with technical information they request. And until 1987 it will be giving them assistance in providing the required interconnections to interexchange carriers.

To the outside world's loss, however, Bell Labs will no longer be required to offer licenses to others for non-BOC items. Hopefully, that won't wind up being one of the dearest prices paid for the divestiture.

("Bell Labs Won't Have to Share Ideas as Much," is reprinted from the September 1983 issue of COMMUNICATIONS NEWS.) ☎

### PARTY LINE (Continued):

ACUTA welcomes comments from the operating companies. We are interested in what you are doing and how you view the future of CENTREX. We are interested with the enhanced capabilities, but we are very concerned about the future of CALC and it's interpretation by the FCC for CENTREX users. ☎

## Boston Conference

The Association of College & University Telecommunications Administrators and Boston University will co-sponsor the 13th Annual ACUTA Conference from August 5-9, 1984. The conference will be held at the Boston Marriott-Long Wharf Hotel, which is located on Boston's historic waterfront. This will be the most important post-divestiture conference you will attend this year.

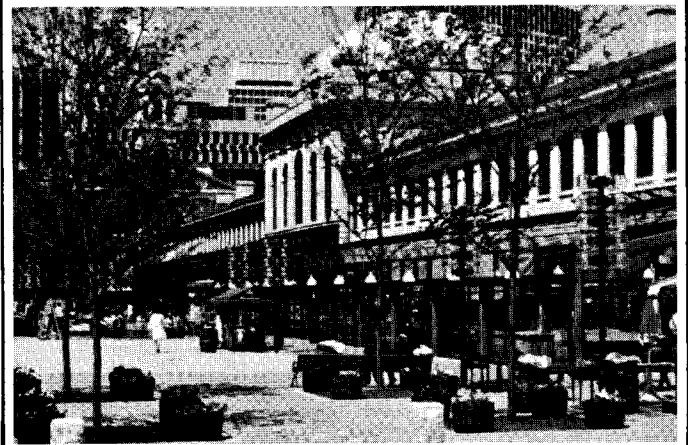
The conference rates will be \$395 for ACUTA members and \$450 for non-members. Registration packets will be mailed in early June. Space will be limited, so please return your registration forms immediately. The conference fee includes; seminar, materials, meals, and entertainment.

There are 225 rooms reserved at the Marriott Hotel. The conference room rate will be \$90.00 for single occupancy and \$110 for double occupancy. (These rates are also good for the weekend before and the weekend after the conference.) If you drive to Boston, the overnight parking rate at the hotel will be \$10.00.

Conference topics will include a one day seminar on college-owned telephone systems, divestiture and regulatory updates with panel discussions, data communications on the campus, automation of the telecommunications office including new software to manage billing, maintenance, inventory, and traffic. There will be case histories presented on the implementation and operation of local fiber optics, and cellular radio. Needless to say, one of the most important opportunities will be to learn from, and share with other telecommunications professionals that you will meet from the United States and Canada.

The Marriott hotel is located a few minutes from Logan International Airport and a short walk from the Fanueil Hall marketplace, the North End, and the hub of Boston. If you have never been to Boston before, you will discover what a great walking city Boston is and how ideal it is for families. Additionally, Boston is in the middle of New England's finest vacation spots. Concurrent with the conference, a simultaneous program for spouses will be run which will include bus tours and other activities for the whole family.

Remember to mark off Sunday, August 5, 1984 through Thursday, August 9, 1984 on your calendar for the 13th ANNUAL ACUTA CONFERENCE, in Boston, Massachusetts. ☎



## Why AT&T Will Lose More Long-Distance Business

Not so long ago, phone companies would never sell their telephones; they would only rent them. Now Allnet Communication Services Inc. is planning to give them away. The discount long-distance carrier hopes to attract new customers with the promise of "a telephone for nothing and long distance for less." Not to be outdone, Satellite Business Systems (SBS) is giving customers a free videocassette recorder if they help sign up 50 new subscribers to its Skyline service.

The giveaways are the latest salvos in the heated fight for the hearts and dollars of the nation's long-distance phone users. The battle should explode in 1984, because, as part of the antitrust settlement breaking up American Telephone & Telegraph Co., local phone companies will have to begin making it as easy for their customers to dial such alternative services as Allnet and SBS as it is to use AT&T. Local phone companies will also have to ask customers to choose which long-distance carrier they prefer to use.

### POOR SHOWING

That could turn out to be an incredible boon for the discount carriers. In the 12 years they have competed with AT&T for the long-distance market, these companies--which include MCI Communications, GTE Sprint, and ITT--managed to capture only about 8% of the \$40 billion market for long-distance services. This relatively poor showing was partly due to phone customers' resistance to dialing the extra digits--up to 13--needed to reach the discount carriers. But when AT&T's competitors get equal connections, they expect to do much better. Just two of them--GTE Sprint Communications Corp. and MCI Communications Corp.--"are going to take upwards of a third of the market from AT&T in the next several years," predicts Lee L. Franklin, marketing vice-president at Sprint.

The battle will unfold neighborhood by neighborhood. Converting local telephone exchanges to the new system is a slow process, requiring vast amounts of new equipment and programming. New York Telephone Co. has estimated that conversion will cost it a minimum of \$80 million between now and 1966, when the job is scheduled to be finished.

As each neighborhood is changed over, customers will be asked to choose a long-distance carrier. Then, all long-distance calls dialed with 1 plus an area code will automatically be routed via that carrier. In addition to that primary carrier, customers will be able to reach other long-distance carriers by dialing 10 plus a three-digit carrier code before dialing the phone number.

The big challenge facing AT&T's competitors is to be picked the first time around as the primary long-distance carrier. "It is a lot easier to get a customer to make the first decision [on a preferred carrier] than it will be to get him to change later on," says Steven G. Christ, a communications analyst at Sanford C. Bernstein & Co. But getting selected will not be easy for the alternative carriers: Many phone customers are not even aware of the change taking place and may not make any selection. Ameritech, the Bell holding company in the Midwest, expects that 90% of its customers will fail to designate a preferred carrier.

Many local phone companies plan to route any unspecified long-distance calls via AT&T. "Our biggest challenge," says Allnet Chairman Michael P. Richer, "is fighting inertia on the part of the consumer."

### HOUSEHOLD WORDS

To gain the attention of phone users, the would-be Davids will be flinging a variety of marketing weapons at Goliath AT&T. The long-distance competitors will be carefully targeting sales efforts at each community as its telephone system is converted. Consumers and businesses alike can expect to be deluged by direct mailings, telephone solicitations, and even door-to-door salesmen. "This marketing effort is going to make electioneering look timid," predicts Harry Newton, a New York telecommunications consultant and president of Telecom Library.

To prepare the public for local marketing blitzes, carriers are launching huge, nationwide ad campaigns aimed at making themselves household words. MCI will spend as much as \$75 million for advertising this year, while Allnet will double its ad budget, to about \$12 million. AT&T is fighting back with a multi-million-dollar campaign of its own, featuring actor Cliff Robertson in heavily aired commercials that remind viewers that only AT&T offers operator services.

The discount carriers are finding some allies, however, in the regional Bell companies. NYNEX Corp. has set up a separate marketing organization just to service the long-distance carriers. Because the increased competition should result in more long-distance traffic--and because the local company gets a cut on each long-distance call--NYNEX "will share in the competitive stimulation of traffic," says Leo J. Berard, its director for carrier services. Pacific Telesis Corp. has gone even further in its quest to work with AT&T competitors. PacTel customers who fail to pick a preferred long-distance company will reach a recording telling them they cannot make long-distance calls without choosing one.

Another big boost for the Davids is the cost advantage they will enjoy over AT&T for at least two or three years. Because alternative carriers have inferior connections to local phone companies, the Federal Communications Commission in January ruled that they will have to pay only 45% of what AT&T pays for each minute they are connected to a local network. "Clearly, the federal government is deciding to

(Continued on page 7)

### HOW THE LONG-DISTANCE PIE WAS SPLIT IN 1983

	Revenues Millions of dollars	Profits	Subscribers (thousands)
<b>AT&amp;T</b> .....	\$35,000	\$1,430	\$85,000
<b>MCI</b> .....	1,520	203	1,550
<b>GTE Sprint</b> ...	750	66	920
<b>Allnet</b> .....	180	8	150
<b>ITT</b> .....	170	8	95
<b>US Telephone</b> ..	140	5	80
<b>SBS</b> .....	70	-145	90

\*Total corporate losses: data communications as well as long-distance services.

DATA: SANFORD C. BERNSTEIN & CO. ESTIMATES

## LONG DISTANCE (Continued):

allocate the market," fumes Morris Tanenbaum, chairman of AT&T Communications. "Our competitors have a tremendous cost advantage, so no matter how good we are, they will do very well." That advantage is expected to end in 1986, when equal access is phased in.

### DOMINANT SHARE

Nobody expects AT&T to lose its dominant share of the market any time soon, however. Says William G. McGowan, MCI chairman: "AT&T will hold on to its dollars and will continue to grow." Although McGowan's company is the largest of the challengers, with 1.55 million customers and \$1.5 billion in annual revenues, it pales in comparison with AT&T, which has 85 million customers and about \$35 billion in revenues. "We can't [invest the] money fast enough to take more of the market," McGowan says.

Much of the expansion under way at the alternative companies is to reduce their continuing dependence on AT&T. None of them cover all of the U.S., so to provide the nationwide access their customers expect, all buy phone lines from AT&T and other carriers at wholesale rates and then resell them to their customers. This interdependence makes some of the smaller players nervous, because AT&T is expected to raise bulk discount rates and lower retail rates as competition stiffens.

The pure resellers, companies that rely solely on the spread between retail and wholesale rates, are the most vulnerable. "You can't purchase your inventory at the same price your customer pays and expect to make a profit," says Neal J. Robinson, president of U.S. Telephone Inc., the sixth-largest long-distance company, which depends on other carriers to route most of its calls.

To erase this disadvantage, alternative carriers are racing to build their own networks. But building transmission capacity demands a huge amount of capital. MCI has already invested \$2 billion in its network over the past 13 years and plans to spend an additional \$2.5 billion by 1986 to achieve national coverage.

Most industry watchers say the intense competition and steep capital requirements will lead to a shakeout, especially among the thousands of resellers. Some may survive by serving niche markets and providing value-added services such as specialized billing and high-performance data communications lines.

### TURNING TIDE

Most of them, however, will either fold or merge with the three or four largest alternative companies, which will end up owning their own transmission capacity. One of the first suppliers to go this route is U.S. Tel, which is negotiating an \$82 million merger with United Telecommunications Inc., an owner of local telephone companies. With United Telecom's backing, U.S. Tel hopes to build its own facilities. And Satelco Inc., a Texas-based regional carrier, agreed on Jan. 30 to merge with Allnet in a stock swap worth \$37.3 million.

The alternative carriers are also gearing up for competition in the next arena: the \$7 billion annual market for intrastate long-distance services. AT&T has a virtual monopoly in this market, because only six

states have specifically authorized intrastate long-distance competition. But the tide is turning. California became the sixth in January, when it approved petitions by 15 carriers to join AT&T in the intrastate battle. They are especially interested in the lucrative market for calls between San Francisco and Los Angeles. And in Florida, where competition has been allowed since mid 1982, things are heating up. One Florida reseller, Microtel Communications Inc., already boasts 17,000 customers.

The new competitive setting clearly has AT&T's Tanenbaum worried. He protests that the FCC still regulates AT&T far more closely than it does competitors. He points out that AT&T must file formal rate requests before changing prices, while its competitors do not have to file at all. In any event, it appears inevitable that AT&T's competitors will increase greatly in size over the next few years. "How rapidly [our competitors] grow is going to depend on their expertise as marketers," Tanenbaum says. "Right now I don't see any end to their growth, unless they're a lot less competent than I think they are."

(Why AT&T Will Lose More Long-Distance Business," was reprinted from the February 13, 1984 issue of BUSINESS WEEK.) ☎

## United Telecom Makes Long Distance Phone Plan

KANSAS CITY, Mo. (AP)—United Telecommunications Inc. announced plans on Tuesday to construct its own nationwide, long distance telephone network before the end of 1987.

Negotiations are under way with several railroads to acquire the right of way for construction of land lines that would be separate from the extensive American Telephone & Telegraph Co. network, United Telecommunications officials said at its annual stockholders' meeting Tuesday.

The proposed telephone network would be competitive with present discount long distance firms, company officials said.

Board chairman Paul H. Henson said the new business would complement the corporation's primary holdings in the United Telephone System, a group of small local telephone companies with annual revenues last year of \$2 billion.

The United Telephone System, which is the third largest telephone service in the country, operates in parts of Kansas, Missouri, Nebraska, Iowa, Arkansas and several other states.

Intercity long distance service will be a \$45 billion market in 1984 and it will grow to a \$100 billion annual market during the next decade, Henson said.

"Given the size of this market which has been opened to competition, and given the resources and skills of this company, we're convinced we have a unique opportunity," Henson said.

(Reprinted from the April 25, 1984 issue of the LINCOLN STAR.) ☎



## AT&T Long Distance Plan Stirs Varied Reactions

...by Victor Block  
Washington Editor

The proposal by American Telephone & Telegraph Co. (AT&T) for a new nationwide interstates long distance pricing plan has elicited a mixed reaction by other parties. A number of investment experts, while praising the proposal as an aggressive marketing tool predict it could be delayed by complaints of competitive companies. And at least one of these firms, MCI Communications Corp., reacted by criticizing the plan as "contradictory" and "confusing."

AT&T asked the Federal Communications Commission (FCC) to reduce the normal 90-day interval for implementation of a tariff filing to 45 days. If this request is granted, the company's "Reach Out America" plan could become effective in early June.

Two variations of the Reach Out America rates would be available. The basic plan calls for customers to pay a monthly \$10 fee for 1 hour of calling time during the night/weekend period (11 p.m.-8 a.m. Sunday through Thursday and 11 p.m. Friday-5 p.m. Sunday). Additional calling during the monthly period would be prorated at \$8.75 per hour.

Under the bonus plan, customers would be charged \$11.50 per month for the same benefits, plus an additional 15% reduction on calls during the evening period (5 p.m.-11 p.m. Sunday-Friday).

Customers would pay a one-time service order charge of \$10 for either plan, which would be waived for those subscribing during the first 90 days of availability. The Reach Out America rates would apply to direct-dialed interstate calls between all points in the continental United States, as well as points in the continental U.S. and in Alaska, Hawaii, Puerto Rico and the U.S. Virgin Islands.

The plan is identical to one of three long distance calling options tested by AT&T last year in three states. The company said that experiment "indicated strong customer preference for pricing options."

Some Wall Street analysts reacted to AT&T's move as an aggressive marketing tool and a positive reply to competition in the long distance market. They saw the pricing proposal as targeted primarily at large long distance customers, those most likely to be interested in discounts offered by competitors of AT&T. At the same time, at least one analyst predicted that this very fact makes likely a strong reaction by competing firms could result in a delay for implementation of the plan. He said regulators might be inclined to pay attention to complaints if AT&T's flat rate plan attracts a large number of its own customers away from the basic network, since smaller users remaining on the system might have to make up the loss by paying higher rates.

An MCI official said AT&T will be able to make money from the new plan only if a large number of customers who pay the basic monthly charge "use substantially less than the hour of calling they have paid for." Eugene Eidenberg, MCI senior vice president for public and regulatory policy, also said his company finds confusing "AT&T's desire to reduce some of its rates while at the same time complaining to the FCC that even with no rate reduction, AT&T's rate of return on

interstate investment is so slow that it is suffering grievous harm."

("AT&T Long Distance Plan Stirs Varied Reactions," is reprinted from the April 30, 1984 issue of TELEPHONY.)



## The Irony Of It All

In the bad old monopoly days of the telephone industry—a time not too far removed from right now—one of the greatest frustrations of anyone seeking to change things was the glacial pace with which their propositions moved. The Hushaphone, Carterfone and MCI controversies of a decade and a half ago—all landmark cases in the march toward competition in telecommunications—took years to be resolved.

The reason the process took so long was that AT&T (then synonymous with "Bell System") fought them every step of the way. In 100 years of threading through the regulatory and judicial maze, the Bell people had become extremely adept at protecting their primary interest, which was to maintain the status quo. But somewhere along the line they mistepped. Or perhaps it was just that the advancing forces of technology, in which they play a principal development role, overwhelmed them.

In any case, monopoly was at long last overthrown.

"Hurray," many shouted. "Let competition reign."

Their calls are different now. Something like: "Competition is fine—up to a point: the point at which it hurts us."

We refer to MCI, GTE Sprint and all the "other common carriers (OCCs)," who protest vigorously at the suggestion that AT&T Communications be permitted to compete with them in the long distance market on the same freewheeling pricing basis that they enjoy. The OCCs' attitude is understandable. They had a tough, seemingly endless battle to get into the market in the first place, and they do not yet have equal access to the long distance network; although that is coming, under federal mandate.

The OCCs say that while they've made small inroads into AT&T's long distance business, the former monopoly carrier still has enough market power to wipe them out if freed from rate regulation. Maybe. But just how long will this argument hold water? With an annual volume of more than \$1 billion, MCI is not a struggling new venture subject to disappearance before the fiery breath of the AT&T dragon.

The irony of it all is that those who shouted for competition a decade ago now want only a sort of controlled competition, while the old champion of the status quo now seeks change—and as quickly as possible.

Which side is right? Hard to say, since they've reversed their roles. As we see it, the only certainty is that radical change, once unleashed, cannot easily be controlled.

("The Irony Of It All," is an editorial by Del Myers, reprinted from the April 30, 1984 issue of TELEPHONY.)

