6-1983

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In the April issue of ACUTA News, we talked to Jim Geist of the Lincoln Telephone Company on the issues surrounding deregulation and divestiture from his position as President of an Independent Telephone Company. This month, we are asking Ron James, General Manager-Sales for Northwestern Bell, to speak to these same issues from the perspective of the Bell Company. ACUTA News wishes to thank Ron James for his time and candor.

Q January 1983 has finally come and gone and I find this new role of regulated and non-regulated companies very confusing. How has all of this affected the Bell Company and how is Northwestern Bell adapting?

A Before I respond, Ruth, let me first take the opportunity to thank ACUTA News for asking me to share my views with you. It is always an honor to speak to such a distinguished group. Now to your question! You're absolutely right. The year 1983 has certainly presented us with some confusing times. However, the atmosphere at Northwestern Bell is one of excitement. The reason for this excitement is because we are in the midst of reshaping the telecommunications industry and there are numerous opportunities and challenges that face us. As a user, in spite of the confusion, we hope you will share in the excitement because ultimately we aim to bring you better technology at competitive prices.

The year 1983 represents two opportunities for us. First, we are in a year of transition. As you are aware, the operating companies are managing products and services that will ultimately transfer to AT&T after divestiture. Our job is to ensure as transparent a transition as possible, so that you, our users, realize little discomfort. Secondly, 1983 represents a year of planning. As you are also aware, 1984 brings divestiture to Northwestern Bell and it is imperative that we detail our plans for success now.

Regardless of whether we are in transition or planning, our goal this year remains the same--"make it easy for you to do business with us."

Q The Justice Department settlement assumes that the local regulated operating company will have a natural monopoly on local exchange and exchange access facilities/services, thus assuring them of a continual rate base. This assumption led to the action that prevents the operating company from engaging in another business that could lead to cross subsidization.

A The incentive is really one of survival. We are in a competitive game be it regulated or non-regulated. Even though we are providing your cable facilities in a regulated environment, there are still other vendors who want to pro-

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vide the same services, and today are free from regulation. To accomplish this, they will bring recent technology to the marketplace. As a result, we are looking closely at our investment in the ground because we have incurred costs in providing that investment and we simply can’t forget those costs. We are attempting to balance that with the need to bring newer or more cost-effective technologies to the marketplace. The future may mean that these services should be deregulated so that we are in a position to bring you this technology without regulatory lag. But the incentive is there.

Q I think sometimes the very unrealistic depreciation schedules that have been forced on you by regulation (through trying to regulate the rate base), are unfair to both sides.

A Your point is well taken. We will have to accelerate the depreciation schedules in order to recover the cost while introducing new technologies, and the more rapid obsolescence of existing technologies.

Q As you know, I attended your meeting the other day on CENTRON. I was impressed! Most of our ACUTA members are responsible for very large and complicated communications systems and a large number are served by CENTREX. We have heard for many years that CENTREX is obsolete and yet, for the most part, it is a Central Office offering. Does it make any sense to you that an operating company would allow the Central Office become obsolete?

A Speaking for Northwestern Bell, it does not. To be perfectly candid with you, we have taken a very aggressive position around development of our Central Office. As you are aware, we have not developed Centrex over the last few years because of our focus on Customer Premise Equipment. Faced with looking for new ways to earn revenues in the future as well as providing you exciting new services, we have refocused on Centrex. It has and will continue to be a positive service. Another incentive for development of Centrex is the amount of capital we currently have invested in our Central Office. The best way to protect that investment is to develop it. Consequently, we see rapid development in this area.

Q Ron, I have always thought that the Central Exchange has capacity that has scarcely been tapped and I am excited to see R&D in this area.

A We share in your excitement about the research and development currently being invested in the Central Office area. We recognize that in order to continue your interest in Central Office services, we must provide you with the latest technological innovations. We are taking steps to do just that. First of all, we have renamed the product. Centrex, of course, will continue to be a generic Central Office product. However, Centron is our first version of our Centrex product line. In addition, Bell Laboratories will have assigned roughly 3,000 employees to support research and development for the operating companies. So, we will have the technological support that we need to be able to bring you a competitive product.

Q I don’t want to put you on the spot with this question, but Jerry Goldstone recently conducted an informal survey of 15 large users concerning the newly formed ABI. The results indicated monumental confusion on the users part and noted an emphasis was placed on large sophisticated systems such as the System 85, but no one was really trying any of the day-to-day needs of the users. What is happening to the SERVICE function of the industry?

A If I could, Ruth, I would like to respond to that question not necessarily looking at ABI, but more importantly, how we at Northwestern Bell feel. First, we at Northwestern Bell are committed to you--our end users. We have built our reputation on offering you services both before and after the sale. Obviously, we are in business to make a reasonable profit. But we recognize that we are not going to make any kind of long term gains unless you, our end users, receive long term satisfaction. Our theme, as I pointed out earlier, in 1983 is "to make it easy to do business with us." We are committed to that not only in 1983, but in the years that follow.

We recognize that in these changing times, things seem awfully confusing. Our job is to walk with you through these confusing times providing you the service and the technology that you need. We have built our business on service, and it is a key to our future success.

Q As a long-time customer of an Independent Telephone Company, we, at the University of Nebraska-Lincoln, have always been impressed with their total dedication and flexibility when it came to serving our needs. The largest single complaint I hear from my fellow ACUTA members served by the Bell Companies, is that they are so rigid and inflexible. Do you see this new game as Bell Operating Companies achieve some flexibility?

A I am very concerned about our flexibility. We feel we are in business because of you and not the other way around. As a result, we know that we must provide you with options. As 1984 emerges, I am sure you will continue to see us become more and more flexible. One of the most positive aspects of divestiture is that we continue to focus on local autonomy of the operating companies. In Northwestern Bell, we view this very positively, and I am sure you will see and benefit from the effect.

Q Do you believe the new rules will ultimately strengthen or weaken the Bell Operating Companies?

A To be candid with you, there really is no choice. The new rules represent the new national telecommunications policy. Part of our role now is the implementation of this policy. In Northwestern Bell, we are blessed with the kind of people that will respond to any situation. Consequently, given the new rules, we will work to insure the delivery of the new technology through a strong and viable company.

In the long term, the local distribution networks will become stronger, and you, the end users, will benefit. In the short term, there will be some confusion but our focus will be to make this transition as transparent as possible for you, the users.

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Q The Wall Street Journal recently told users they could look forward to getting at least three separate bills a month—that using the phone and paying for it is getting a lot more complicated. That you will be dialing extra digits for long distance; local service will double or more; that AT&T is planning a flat rate for residential long distance, etc. Is all of this going to happen?

A Yes, you will see some of those things happening. I cannot deny it will become more complex for the user. The days of "one stop shopping" for telecommunications service are gone. However, I do not believe that it is an unmanageable situation. It will require some adjustments on each of our parts in terms of how we have done business in the past. But the bottom line is that we will each share in the emerging technology in the long run.

Q This could be a hot issue—but where do you envision the local access charge will be applied to CENTREX Systems?

A Obviously I have some bias here. Our position is that the local access charge for Centrex station lines would be applied very much like it will be applied to PBX's. Using some accepted industry standards, we would determine trunk-like configurations for Centrex users and apply the local access charge to that trunk group. It is vitally important that the same treatment applies to both groups.

We are firmly committed to this position and are currently working with the FCC to resolve this matter.

Q What is going to happen to an industry when it is no longer dominated by people long steeped in the telephone culture. As you know, you have one thing in common with the independents, and that is the majority of your employees have many years in this business. At one time, the telephone industry was very labor-intensive and now with electronics, you are doing more and more with fewer and fewer people and those people requiring skills not apparent in some of the long-time employees. What is going to happen to these people?

A I think that is a fair question and one that we are vitally concerned about. We feel fortunate in that we do have people that have excellent expertise in the telecommunications area. In addition, we have focused on bringing people in from other industries or with academic credentials. Our intent has been to heighten the caliber of people we have developing your services.

We have also focused on controlling the size of our work force. With planned attrition and some accelerated outplacements, we have managed to reduce our work force from 33,000 to 25,700 employees in several years. This strategy has positioned us to enter the future with a streamlined organization.

Q And from a very strong management position—I like that kind of thinking. Another item of interest to me and to other universities, is what happens if all costs to provide service was based on the expense to provide that specific service—then what happens to the line I want dropped down a well site on a farm, many miles from no place, but vital to some research at the university. How will I ever be able to afford to provide that service and who is going to provide service to all the little towns? The people living in those little towns couldn't live long enough to pay the actual costs incurred to bring them telephone service.

A In all candor, prices will be going up for local service. As we move toward defining our costs and making sure that our prices cover those costs, we will see some adjustments to the price the end users pay. For example, we currently average the costs of our lines to our users. So that whether you are in a metropolitan area or in a remote location, the prices are similar. As we move into the future, you will see de-averaging of those costs. This will allow us to offer prices based upon what it actually costs us to provide the service. That may mean that ultimately in some locations, people will pay higher prices because the cost to provide them service is more. It would also mean that if our costs to provide service are less in other areas, the prices will be less. Failure to de-average our costs will do nothing more than encourage many of our high volume users to find alternative ways to bypass our local network.

Q And it's only logical to say that if you have to subsidize that cost with service provided to the metropolitan areas, the metropolitan areas will have other choices and may elect to take them, if the price gets too high from Bell.

A Exactly.

Q Ron, do you have any advice or message for our members who are trying to handle a very difficult job during some difficult times?

A Yes, I really do. First of all, we at Northwestern Bell are in a unique position as we move into 1984. We will find ourselves divested from our parent company and are currently restructuring our whole organization in order to focus more on your needs. Now more than any other time in corporate history, is your opportunity to tell us exactly what your needs and wants are and insure our services reflect those needs. My advice is to share those needs with us through your Bell System Representative. We are firmly committed to "making it easy for you to do business with us," but the only way we can accomplish this goal is to hear from you. We empathize with the difficult task that you have in each of your organizations in leading your institutions through this time of change. We firmly commit to work with you to make this a successful transition for both of us.

Good Luck!

“This is Quentin L. Armbruster returning your call.”

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New members to ACUTA and those who are new in their job of telecommunications administrators often ask about the many trade publications and what ones do I read. Recently John Sleasman, ACUTA Secretary, sent me a list of publications and I have added several that I take in addition to his list. Some of these publications are very important to me—they are such a daily help, I can hardly wait until I have time to read them from cover to cover. Our profession is so dynamic, it requires extensive reading to simply maintain your position and it requires even a broader reading base, plus frequent attendance at seminars, workshops, conferences and membership in an organization dedicated to the industry to grow in this profession.

Among the many mailing lists you should be on are the following:

Telecom Library
205 West 19th Street
New York, N.Y., 10011
(This operation, Harry Newton, President), is a seller and publisher of a wide variety of books, reports and even some telecom equipment. Their catalog of specialized material is probably the best in the business).

Center for Communications Management, Inc (CCMI)
P O Box 324
Ramsay, N.J., 07446

Economics & Technology, Inc (ETI)
101 Tremont Street
Boston, MA 02108
(Both of the above organizations publish a variety of reports on regulatory trends, tariff and rate reports, equipment reviews, handbooks, etc.)

There are a wide number of free publications available:

Communication News
124 South First Street
Geneva, IL 60134
(Bruce Howat, the publisher, has been a long-time friend and supporter of ACUTA. His encouragement and advice help us get started and he still offers Communication News to ACUTA members at no charge.

Telecommunications
610 Washington Street
Dodham, MA 02026

Network, Rolm Corporation
4900 Old Ironsides Drive, Mailstop 626
Santa Clara, CA 95050

Bell Telephone Magazine
% Your Bell Representative
Room 416, 195 Broadway
New York, N.Y., 10007
(for Bell customers only)

The Office
Office Publications
P O Box 1231
Stanford, CT 06904

Today's Office
P O Box 619
Garden City, N.Y.11530

Party Line, continued:

free publications on data:

Information System News
111 East Shore Road
Manhasset, NY 11030

Computer Decisions
P O Box 1417
Riverton, NJ 08077

Business Computer
Decisions
P O Box 17452
Denver, CO 80217

Datamation
875 Third Avenue
New York, NY 10022

Mini-Micro Systems
P O Box 5051
Denver, CO 80217

And for a monthly/yearly subscription fee:

Business Communications Review
950 York Road
Hinsdale, Illinois 60521
(Jerry Goldstone is the Editor & Publisher, I personally consider this publication a MUST for persons in this profession. It comes out six times a year and is full of informative articles.)

Telemetry
Telephone Engr & Mgt
50 E Jackson Blvd
Chicago, IL 60604

Both of the above are excellent, tend to be oriented towards telephone companies. However, Telemony has sported a new look in the past year or so and have outstanding editorials.

Office Admin & Automation
P O Box 1129
Dover, N.J., 07801

Many excellent newsletters on the market. Among my favorites is:

Telephone Angles
P O Box 633
W. Hartford, CT 06107
(Bob Frank is the Publisher. I have used many articles and tools found in this newsletter in ACUTA News).

Telephone News
7315 Wisconsin Avenue - Suite 1200N
Bethesda, Maryland 20814
(one of many very good newsletters put out by Phillips Publishing, Inc. Write to them for a complete list of their related newsletters.)

Teleconnect (a fairly new magazine)
205 West 19th Street
New York, N.Y., 10011

In addition, I regularly read Forbes Business Magazine, Fortune, Business Week, Wall Street Journal, Newsweek, Time, Working Woman and others. I have found some outstanding articles on the telecommunications industry in all of those magazines. If we have left out your favorite, please let me know and we will list them next time.

Most of the publishers listed above will send a sample copy of their magazine and/or newsletter upon a written request.

In addition to the publications listed, it is important to keep current by reading the various books available from Telecom Library or Telecommunications. What are we trying to sell you—you must keep current to survive! READ-READ-READ....
The following is a summary of significant agenda items discussed at the Spring, 1983 ACUTA Board of Directors meeting in Lexington, Kentucky:

1. **FINANCIAL REPORT:** A third quarter financial statement, including expenses reported through April 15, 1983, indicated that the association had expended 20.3% of the 1983 fiscal year budget. This level of spending is normal as most expenses are incurred during the fourth quarter.

A preliminary fiscal year 1984 budget was reviewed. Substantial modifications were proposed which would increase the budget requirement in order to make the association totally self-supporting. Presently, significant administrative costs are absorbed by board members and their respective institutions. The revised fiscal year budget will be reviewed in greater detail prior to the 1983 Annual Conference in Boulder in order to determine if the projected budget requirements can be funded from current dues. A final fiscal year 1984 budget will be approved in Boulder.

2. **FUTURE SEMINARS AND CONFERENCES:** ACUTA’s seminar and conference calendar was reviewed. This information is detailed in a brochure recently mailed to all members and prospective members. It was resolved that ACUTA will advise the Communications News "Meeting Desk" Bureau of all changes to this calendar in order to maintain a current schedule in popular trade publications. Mal Reader will coordinate seminar & conference programs for 1984.

A preliminary "Guide for Conference and Seminar Hosts" has been completed. This document will serve as a valuable checklist to assist future ACUTA conference and seminar hosts.

3. **REGION DIRECTORS:** A proposal was entertained to abolish regional representation on the Board of Directors in favor of a similar number of elected at-large representatives. The proposal failed due to a desire to maintain a balance of regional interests. The present policy of appointing regional directors to the Board for one year terms was reaffirmed. Any member who is interested in serving ACUTA in this or some other capacity is encouraged to advise any member of the current board.

4. **MEMBERSHIP:** A membership database containing essential information on current members has been developed on an Apple II computer located at the University of Nebraska at Lincoln. This database will be used to perform basic administrative functions such as printing mailing labels, membership lists, dues invoices, etc. A proposal was reviewed to expand this database in order to incorporate additional information on member institutions. Further evaluation of this matter is required in order to determine the additional storage capabilities of the Apple and the nature of the information to be collected on member institutions.

A membership drive was initiated in April, 1983. Membership information was mailed to approximately 1,000 perspective member institutions.

5. **EXECUTIVE DIRECTOR:** Results of a study initiated in the Fall of 1982 concerning the need for a full/part time paid executive director was reviewed. The study evaluated the administrative responsibilities which could be performed by a paid director, the availability of qualified firms or individuals to assume those responsibilities and the associated cost of such a service. Responses to a request for proposals resulted in interest from a number of national and regional professional management firms and one former ACUTA member. The proposed cost of rendering the suggested services ranged from $8,000.00 to $26,000.00 per year in addition to specific job related expenses.

After considerable discussion focusing on the issue of ACUTA’s current need for an executive director, a motion was entertained to accept in principle, the need for establishing such a position and authorizing the study committee to make further recommendations. This motion was defeated in favor of continuing to provide essential administrative services on a volunteer basis. It was noted that recent volunteer efforts have provided ACUTA with many improved services and that our need for an executive director must continue to be monitored as our membership grows.

Additional topics discussed are detailed in the official minutes of the Board of Directors meeting. These minutes are presently being prepared by ACUTA Secretary John Sleasman. ACUTA members interested in reviewing a copy of these minutes should contact John directly.
U.S. Patent #4,371,752 is going to change your life. This patent entitled "electronics audio communication systems" was issued by the U.S. Patent and Trademark Office to VMX of Richardson, Texas. Mr. Gordon Matthews, Chairman of the Board of ESC Telecommunications and father of the VMX systems will be in Boulder, Colorado to tell the ACUTA members about his electronic mail system. This patent that they have received could be one of the most valuable patents since Mr. A.G. Bell's patent for the telephone.

It is expected that with this patent announcement, there will be numerous patent lawsuits against a number of competitors who are in the voice mail and storage business. VMX has sent a letter out to every vendor in the market notifying that the patent was pending and threatening litigation if they ship any systems. At this time, the only suit that has been brought is against Comterm, Inc. of Burlington, Massachusetts and it is viewed that this is the first "test-case" of the patent. To understand the potential significance of VMX voice mail patent, a look at the development of the telephone is important. Alexander Graham Bell, founder of the telephone, had to engage in numerous lawsuits defending his patent against companies trying to develop competing systems. What isn't widely known is that the defense went down to the wire in one suit with the Supreme Court finding in Bell's favor in a close decision of 5-4. As one source said, a patent, of course, is useless unless enforced and there is certainly no chance that the Rolm's, IBM's, Wang's and others in the marketplace will let VMX keep the patent without a fight. It is expected that whoever loses in the lower courts will appeal and the resulting legal battle will then have to proceed up through the court system. This will put a cloud over the entire industry and will slow the introduction of new ideas and make decision-making on the part of the consumer very difficult.

In summary, the VMX patent is a bombshell in the voice message industry. Competitors are running scared and they will be issuing many disclaimers about the issue. However, it may end up in a long drawn-out battle in the courts or perhaps VMX will settle for some royalties on its patent; however, all of you who are currently investigating this area should be aware of this significant event. I would suggest you show this article to your boss and attend the conference in Boulder in July so that you may personally meet Mr. Matthews and get first-hand information right from the founder's mouth.

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Words of Wisdom:

...."Dig a well before you are thirsty."
-----Chinese Proverb

...."Initiative is doing the right thing without being told."
-----Victor Hugo
What is happening at your school in regards to "Inside Wiring" charges? ...And what are you doing about what is happening??

I have heard many different arrangements being offered to handle "Inside Wiring" charges on a Centrex System.

If you have some type of rate stabilization contract, you will probably avoid getting a wiring charge on each station. Some suggestions I have heard include putting the "Eye Wiring" charge on PBX Systems behind the Centrex and/or on Key Systems. Have any of you been 'hit' with this charge? If so, where....Write or call me and I will share your comments with our fellow members thru ACUTA News....

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There is an interesting article in the November, 1982 issue of WORKING WOMAN. Written by Joanne Tangorra, entitled "Technology/Telecommuting", it discusses the ever-increasing work-force whose jobs are considered 'portable'.... Some 30 to 35 corporate-sponsored telecommuting programs are in existence, with over 10,000 people in the United States involved in the programs. These people perform their job-related duties from their home, using personal computers that are electronically linked to their employer's main computer. Jack Nilles, Director for the Center for Futures Research Information Technology Program at the Uni of Southern California's Business School, coined the phase "Telecommuting". He predicts that by the end of this century, over 20% of the nation's information workers--secre-taries, managers, professionals--could be tele-commuting.

Just think how this could help the working parent, the handicapped and the elderly... Clearly, the cost of communications must be less than the current cost of floor space--the cost of commuting--what about productivity (estimate is that it will increase due to more contented employees).

The article discussed the cost of energy as one big reason for telecommuting. Control Data Corp is a pioneer in this project. They estimated the total savings could amount to $6000 per day. For example: during the 1980 fuel crisis, they set up their Alternate Worksite program. They said that Twin Citians (Minneapolis/St Paul) commuted a total of 18 million miles per day to and from work, consuming one to two million gallons of gas in the process. Reducing this figure by just 1% would save $6000 per day. It's a communication/transportation trade-off. Communications is cheaper now, but not as good--as it improves, the need for transportation will decline. In addition, the total flexibility is super.... If you take this magazine, read the article--a glimpse at tomorrow...

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Have you had the good fortune to see the magazine TELECONNECT? Our good friend Harry Newton is the publisher. That may issue has so many good stories that it is hard to know what to talk about. But, I will pick on an article entitled "The Calculatr" in which Harry tells about the touch-tone pad and the reasoning behind the selection. When Bell was introducing touch tone many years ago, they conducted an experiment to find out which touch-tone pad would work the best. They built four different types of pads. The first type had the number buttons across the top of the phone in a horizontal straight line. The second type had the number buttons arranged in a circle, somewhat like the present rotary dial. The third had the number buttons organized like they are on today's telephone. The fourth had the number buttons arranged identical to a calculator pad (ie., from left to right, 1-2-3, second row is 4-5-6, third row is 1-2-3 and the last or bottom row is 0-**-#.

The experiment was two-fold, one to find out which pad was preferred by the users and the second to determine which pad would work best for Bell in its complex network.

The calculator pad was the unanimous choice from the users point of view--speed, ease of use--convenience-attractiveness, etc. Many people could use the calculator-type pad without looking at the pad.

The second most preferred by the users, was the pad with the numbers arranged in a circle. The third was the pad with the numbers arranged in a horizontal straight line and the least preferred pad was the pad we are using today... Most people disliked this pad.

Harry asks: "If nobody liked the thing, why the P**# are we lumbered with it? Why does every touch-tone phone in the U.S. have this stupid Dial?"

You're not going to believe this. But the fact is that when Bell did the initial consumer touch-tone dialing experiments in Ohio, its central offices were slow and cumbersome. They could NOT handle the high pushbuttoning speed that people could get with these calculator-like dials.

Bell's central offices, in fact, were so slow at that time that the ONLY touch-tone dial they could handle was the present one--the slowest of them all.

Thus in 1983, 20 years later, we are stuck with the dumbest, stupidest touch-tone dial. All because 20 years ago the Bell central offices were so slow...."

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In this same magazine, is an article on Centrex that is well worth reading. We might ask permission to reprint it in next month's ACUTA News.

In the Q&A session (TELECONNECT), is a question concerning local leased line charges, and I will share it with you. The question states that local charges are rising through the roof, killing deals and making Centrex extraordinarily competitive. The answer was interesting: It pointed out that local leased lines are Bell's favorite things for big price hikes. No competition, regulators seldom object since business gets hit. However, they point out that several months ago Harry Newton figured 15 ways to make the calls without leasing lines from the local phone company. Called 'Local Bypass', they now figure there are at least 30 ways of carrying local phone calls without going through the local phone company... The magazine plans on doing an article on "Local Bypass" in a future issue. Good magazine--well worth your reading time...
1983 has been internationally acclaimed as World Communications Year, with three basic objectives:

- to increase the scope and effectiveness of communications as a force for economic, cultural and social development
- to stress the expansion and refinement of communications infrastructures
- to promote the development of a complete worldwide communications network, so that no one will be isolated from the local, national or international community.

Throughout the world official activities will be conducted at regional, national and international levels, and through its own national committee each country will aim to define its own needs, identify obstacles to the balanced development of communications, propose solutions and explore ways of translating decisions into reality.

In honor of the occasion, and in the spirit of its objectives, the 1983 ACUTA conference will look at the impact of the new technologies and changing regulatory trends on one of the most influential environments for economic, cultural, social and political interests--the North American college and university campus.

The beautiful Hilton Harvest House Hotel, set against a magnificent Rocky Mountain backdrop, will be the location, and the program will offer highlight and concurrent sessions on such topics as:

- Communications Preplanning for the Modern University Building
- Baseband and Broadband Local Area Networks
- Electronic Mail and Voice Mail
- Teleconferencing
- Interconnect
- Trends in Digital PBX and Key Systems
- Resale of Long Distance Services
- Cellular Radio and Paging
- Trends in Digital PBX and Key Systems
- Dormitory Telephone Service
- Hospital Communication Services
- Future of Centrex
- The Developing Role of Women in Telecommunications
- Personal Computers on a College Campus
- Computer Controlled Radio Paging and Message System

The keynote speaker for the 1983 ACUTA Conference will be U.S. Congressman Timothy Wirth, from Colorado.

Following the keynote address is a panel discussion "Competition and Its Impact on the University." These panelists, including the president of a BOC, will be top executives of national firms supplying telecommunications services.

A new feature at this year's ACUTA Conference is a short course, offered jointly by ACUTA and ICA. This course, entitled "Basic Telecommunications," is designed by ICA to introduce newcomers to the world of voice and data communications. Those who choose this option will attend a special 19 hour class, yet will still be able to hear all of the major speakers and participate in all of the social activities. Dr. John Fike, Adjunct Professor of Electrical Engineering and Computer Science at Southern Methodist University, will teach the sessions. Space will be limited to the first 50 applicants.

Important! Boulder Conference Information:

The agenda will be provided later, but keep these important dates and times in mind:

Registration: Sunday July 24, 1:30pm-5pm
Reception: Sunday July 24, 6:30pm-8:30pm
Last Scheduled Event: Thursday noon lunch

Air fare to Colorado (at this time) is considerably lower if you stay over on a Saturday night. However, if you plan on doing this, be sure you make your hotel reservations well in advance since this is an exceptionally busy time in Colorado. For additional information, call: Joyce Dodson, 303-492-5621