ACUTA eNews February 1989, Vol. 18, No. 2
PRESIDENT’S MESSAGE
—Bill D. Morris, University of Central Florida

Our seminar in Palm Springs was another exceptional learning experience. For those of you who could not attend, Paula Loendorf will publish a summary in the next newsletter. I hope that everyone had a good safe trip home. I think a few members may still be hiding out and will return about June.

The Board, committees and hosts are planning an equally exciting spring seminar in Memphis. The topic, “Student Services” is what our jobs are all about.

You may have already received the first notice of this session and the brochure. If not, you will receive it in just a few days.

The Peabody Hotel is one of the old, elegant, unique, hotels (renovated in 1981). It is the epitome of Southern Hospitality. Everyone will want to join in the march of the ducks.

The “Understanding Telecommunications Workshop” is currently scheduled to be presented as a concurrent session in Memphis, in Portland, Oregon in early May and in Tulsa, Oklahoma in mid-May. You will receive the brochures of these sessions about two months prior to the event.

If there are other sessions or topics that you want, please call your Regional Director and present your ideas. We will try to accommodate them.

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Several nice door prizes such as a color television and a VCR were given away by ACUTA and the vendors.

Meanwhile, back at the ACUTA office, our computer equipment has arrived and partially installed. Our in-house network should be up and running in a few days. Some of our furniture has arrived---still using my kitchen chairs for guests, though---and the rest should be here by the time you receive the next newsletter. We have added an additional telephone line (automatic roll-over from our main number) to help alleviate the congestion of calls.

I wish to thank many of you for sending in your Palm Springs seminar registration form early as well as making your hotel reservations early. The registration material for the Spring Seminar and Workshop in Memphis, April 2-5, should arrive about the same time as this newsletter. Your early registration will assist us in our logistical planning and, therefore, would be greatly appreciated. The cut-off date for qualifying for an early registration discount (for the seminar only) is March 2, 1989. The cut-off date for hotel rooms is March 17. You don't want to miss out on staying at The Peabody while in Memphis, so don't wait too late---you can always cancel your room reservation in advance without penalty. For vendors who have signed up to sponsor and/or exhibit at Memphis, specific material and information will be mailed to you on February 10th.

Plans are well underway by the Program Committee for another top notch summer conference in Philadelphia in July. In the meantime, if there is anything we can assist you with (other than solving your budget problems) please give us a call. Vendors who did not receive our mailing of the 1989 Industry Planning Guide for the sponsorship and exhibit program and would like to receive one, we want to hear from you also. Give us a call at 606-252-2882 or 800-272-2882. Our FAX number is 606-252-5673.

My sense of timing is certainly out of kilter! All the time I was basking in the sunshine and warmth of Palm Springs, my co-workers in Nebraska were doing the same thing---in fact our temperatures were higher in Lincoln a couple of days than they were in Palm Springs. I lost all advantages of feeling smug about getting away during our "winter cold". Guess what? Murphy's Law came on my doorstep and we are enjoying temperatures ranging from a "high" of 10 below zero to a "low" of 25 below zero, with wind chill of 65 below zero. This is the week I should be in Palm Springs!

It was great to see so many familiar faces in Palm Springs and to have the time to visit with them. I am impressed at how efficiently and smoothly these seminars are being handled now. Del Combs and Kellie Preston really make a difference! Registration is handled in a professional, friendly manner. The exhibit area is opened on time, and hand-out materials for the sessions are ready on time. They make it look easy, and yet (speaking from past experiences), I know it is not. Good job Del and Kellie, you do make a difference.

The next issue of ACUTA News will follow this one in a short week or so. We are working hard to catch up and remain on a set schedule. I don't know how we got off our schedule so bad, but we promise to straighten up our act.

Our next issue has an excellent summary of the Palm Springs Seminar, done by Mal Reader. For those of you not fortunate enough to attend, you will gain a lot of information reading the summary.

We have an outstanding article on the "birth" of the AT&T SESS Central Office Switch, with the proud parents being DUK's University Telephone Department. Jim Brunnfeld, ACUTA's Region 3 Director and Communications Analyst at DUK University, tells me the switch is humming away. Anyway, the article will be in the February issue of ACUTA News.

In discussing the newsletter with several members, they told me they enjoy most of all the articles written by fellow members on what they are doing, some project they have implemented, or planning to implement. If you are concerned about writing the article, give me a call and we can do the story in an "interview" format. We will write the article and send it to you for final approval prior to printing. I am amazed at how many interesting and varied projects our fellow ACUTA members are doing---please share them.

One of the things our President, Bill Morris, reminded the Palm Springs seminar participates of was the need to be more visible to your top management if you ever intend to move from the "back room" perception of your job, to the "front office". He said one excellent way to become visible was to write an article and have it published. Make 1989 a banner year for ACUTA News with articles from our members on what they are doing at their institution.

(Continued Page #3)
In Harry Newton's Inbound/Outbound magazine, he lists the three main causes of customer's dissatisfaction:

1) About 20% is caused by the attitude or performance of employees.

2) About 40% is caused by companies whose structure, rules or operating procedures are not designed for customer satisfaction. (think about who you know that fits this one).

3) Interestingly, 40% is caused by customers who misuse products or fail to read instructions. (Know someone like this????)

I would add at least one from the university environment—the need or demand to provide a service you can’t fully support due to inadequate resources. I would like a dollar for every university telecom manager I have talked to who are trying to be their own telco with inadequate staff (or none) to accomplish the job. Your customers are used to reliable telephone service—no down time is the norm, not the exception. Anything less will be viewed as not acceptable. When you offer a service and can’t fully support the service, your end result is bound to be user dissatisfaction. Therefore, to avoid negative perceptions of your operation, a good rule of thumb is:

a) if you can’t run it, don’t build it.

b) if you build it, put in the resources needed to run it.

A free booklet called International Telecommunications Guide is available from AT&T by writing to:

AT&T
1200 Mount Kemble Ave., P O Box 7600
Basking Ridge, NJ 07920
Phone #: 800-874-4000, ext. 325.

This guide lists Country Codes for about 200 countries and territories, and where they are required, codes for cities in many countries. For example, for Italy it gives the country code of 39 and the city codes for 17 cities including Rome (6), Milan (2), Naples (81), etc. The guide provides information on calling overseas from the United States and on placing calls to U. S. points from other countries, including details about USADIRECT service. Time differences and dialing instructions are also in the guide. This is a free offering from AT&T.

In the November issue of TFT Magazine, there is an article on "Optical Fiber Meets Premises Cabling Needs". The author is Robert Monaco, Marketing Director for Cabletron Systems, Inc., E. Rochester, NH. I found the following excerpts from this article worth sharing with you.

"Like an iceberg, inside wiring is a problem that only seems to be about 10% of its true dimension. "If it ain't broke, don't fix it", is the wrong managerial approach for inside wire. Most buildings house below-the-surface problems that are just waiting to be discovered."

"The following are dangerous seas where wiring icebergs may be looming:

- Dead cable in runs and risers. Leaving unlabeled and unusable cable in runs and risers. One individual discovered that it would cost $200,000 to pull useless riser cable out of a 20,000-square-foot office area.

- Unanticipated application growth.

- Non-spec installation. Vendors are quick to point out that any misuse or nonconformance to their specifications will void support or maintenance agreements. Common problems include non-spec components, or cable, and cable lengths above stated limits.

- Inappropriate system power. Back-up systems that do not conform to building codes, safety measures (such as fire doors, extra ventilation, etc.).

- Central Office Safety. The Hinsdale CO fire proved that telecom managers must question the redundancy, reliability and survivability of their CO’s wiring and service. To be safe, telecom managers must watch out for wiring icebergs like these. Discuss and establish good wiring management procedures.

The points were made by James Carlini, of Carlini & Associates, Inc., and were included in the TFT article by Robert Monaco.

Speaking of wiring, if any of you have any information on planning a fiber-optic cable plant, call Thomas Skow, University of Southern Mississippi, 601-266-4000. I'm sure Tom will appreciate any help or information on the building blocks of planning a cable plant.

Our station-discrete authorization codes for the student long distance operation have been successful beyond belief. The students like receiving individual bills, the Housing Office is happy since they have avoided one potential for roommate squabbles, and my staff told me they handle far less calls questioning the bills.

We actually went through a lot of changes in the student telephone area this summer, and I hope to pull together some information on our student services operation for the next newsletter. A lot of exciting things have been put in place that has enhanced and improved the way we are doing business. We hope to make even bigger improvements next year, especially in the way we enter the student's information in our management information system database. In the meantime, we are almost through the first semester using the new auth code, and have been very pleased with the results.

I was reading in Northern Telecom's Connections Magazine where Indiana Bell has extended the distance limitations for off-premises installations of the digital business sets. Their customer is Inland Steel and they required business sets to be installed at locations that exceeded the loop limitation. One of Bell's transmission engineers found a type

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The second consideration is the willingness of a vendor to let its equipment run over a certain type of cabling, if it is not that vendor's standard offering.

There are currently three mutually exclusive approaches in use for wiring to the B jack:

* four-pair, unshielded, 24 AWG, 100 ohm twisted-pair;
* two-pair, shielded twisted-pair, 22 AWG, 150 ohm twisted-pair; and
* thin coaxial.

The first of these, unshielded twisted-pair, is preferred by AT&T. The second, pair shielded twisted-pair, is the medium of choice for IBM. The last of these, thin Ethernet, is the choice of Digital Equipment Corp.--which also reluctantly embraces unshielded twisted-pair.

Since the EIA committee itself is composed primarily of vendors (including the aforementioned) with their own cabling preferences, it shouldn't have been much of a surprise when the committee announced three standards: unshielded twisted-pair, shielded twisted-pair and thin coax.

The EIA has performed a disservice to all users by adopting not one "universal standard," but by adopting all three approaches as "standards!"

While this clearly absolves the EIA from any accusations of partiality or favoritism, it does nothing to address the needs of user in a multivendor environment, since none of the above "standards" is acceptable to all vendors. IBM does not like 100 ohm impedance; DEC does not like shielding. One cannot help but wonder why, if the EIA was able to agree on a single fiber optic specification (62.5 micron fiber), it couldn't do the same for copper.

When the EIA committee adopted this "menu approach" to standards, it failed completely to address the needs of a user in a multivendor environment. Based on the EIA committee's current approach, multivendor users must still wade on a case-by-case, location-by-location basis or incur the cost of wiring the premises for a given vendor's future sales.

If these are the issues we face now on wire and cable, what lies in store for Open Systems Interconnection, Open Network Architecture and other standards? The EIA committee's failure to establish a multivendor, universal wiring plan affects users and non-aligned vendors everywhere. While I cannot fault the vendors for championing their preferences, I can express my concern with standards that do not standardize. Without a single acceptable multivendor standard, words such as "universal," "flexible" and "manageable" become meaningless.

One Voice

But as Shakespeare wrote, "The fault lies not within our stars, dear Brutus, but within ourselves." Users, consultants and non-aligned vendors have a voice that has not been heard. Non-vendor representation in the EIA is extremely low. User groups and other associations with valuable input, such as the Society of Telecommunications Consultants and...
Users Must Join The Standards Fray, (continued)

The multi-drop video classroom is already making money for Lehigh University, situated in nearby Bethlehem.

Bell’s business partner in the operation is AT&T, which has four plants in the region, and so far is the principal user of the application, called Distance Learning Network. A state-of-the-art fiber optic network connects Lehigh University to the four AT&T locations in Allentown and Reading. The information provider is Lehigh University, which in the year since it innovated the network has drawn interest from similar student dollars.

A far cry from the familiar, canned, one-way lectures broadcast on normal television channels, this technology classroom comes alive. It closely simulates the real classroom, with teacher and students completely interactive.

Technology in the Classroom:

Students in the multiple remote classrooms watch video monitors showing a professor, a blackboard, a lab experiment or whatever is being presented. In turn, video cameras scan students in all classrooms every eight seconds; the cycle is set by the professor. When a student wants to speak, he or she pushes a button to activate a personal microphone at their desk. Simultaneously, a programmed camera pans, tilts, zooms and focuses on the questioner.

"Technology has once again provided a way for Lehigh and industry to improve delivery of the university’s most valued product—education," said Lehigh’s President, Peter Likins.

Said Jeff McDermott, Bell of PA vice president of sales: "This is state-of-the-art technology, but our focus was on this application because of the challenge presented by AT&T and Lehigh University to extend the walls of the classroom." McDermott added that Bell of Pennsylvania is developing other potential applications for industries in its territory.

Steve Kutz, a Bell of PA assistant design consultant who also helps market new service said that several large corporations in the region, which he declined to name, had expressed interest in the technology.

"I have found a rekindling of interest in business videoconferencing," he observed. "That interest seems to be in shorter haul videoconferencing, as opposed to the long distance stuff that sank Picturephone. The typical business executive wants to eliminate taking the long hop to New Orleans or San Francisco personally, for just about any reason."

The Bell-designed network was built to specifications from AT&T and Lehigh University. Recognizing fiber technology as a key to growth, the Bell operating company has, in the last three years, invested more than $4 million in new fiber throughout the state, and will spend $2.5 million more before the end of next year.

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**VIDEO CLASSROOM, CONTINUED:**

**Students Avoid Commuting:**

This fall, 154 students are enrolled in the Distance Learning Network, in eight classes, of whom 48 are from three Bell Labs plants in the region. In January, an AT&T Solid State Technical Center, now under construction, will join the network. AT&T engineers and scientists are required to take at least 40 hours of courses per year, and so far have eliminated the commuting grind by completing courses at their work sites. They have access to the university's broad spectrum of courses, which follow exactly the same lines as those given in the university's regular classrooms.

The same network was extended recently to York, PA. York College does not offer engineering courses, but through the network, students in York can take such courses without having to commute the 100 miles between campuses.

In addition, AT&T Bell Labs will use spare time on the network for general business video conferencing.

A recent conference in California devoted to the distance learning industry, "Telecon VIII" convinced Bell of PA's Kutz that "there are lots of video networks out there, but the Bell of PA application is unique."

Kutz said marketing drives for the technology are planned in traditional business teleconferencing and training, as well as in the health field, where the application would be extended to remote medical diagnoses and to surgery education, where interactive video is helpful.

Kutz said Bell of PA had not established a tariff for the video service, because the network was "a special assembly" job. Admitting that we are putting together rates and prices for other customers, he declined to specify details.

"A videoconference room alone can cost anywhere from $10,000 to $1 million," Kutz explained. He added that the Lehigh University experience had taught him that "you can use just about any room, maybe hang a few curtains to improve acoustics." Of the three Bell Labs locations, he said, two installed the system in existing rooms.

Bell Labs contracted with Pierce Phelps, Philadelphia, to provide hardware for their part of the system, while Lehigh University's Ben Franklin Technical Center bought from Dovetail Systems, Inc.

For transmission, two of the locations nearest to the Allentown CO are served by dedicated fiber optic links and use analog video transmission. For economy, the distant sites use interoffice carrier, using VM45c codecs from Stromsberg-Carlson to compress the video to 45 Mbps.

So as to keep the bandwidth of the video and audio channels intact, signalling is handled by the customer on Bell Labs internal Datakit network, using 56 Kbps trunks.

The entire network is controlled by an AT&T 3B2/400 computer as a front end to the video switch. Bell Labs wrote custom software to give users a simple, dial-up interface to the network, which presents menu-driven features.

As a result, when a professor at the Lehigh University site in Bethlehem broadcasts to three sites simultaneously, for example, he can scan all three on a return link.

If a student asks a question, the professor can lock on the site by pushing a button. Exactly reverses the broadcast, so the student then becomes the broadcast location.

A second monitor is present at all sites, should the lecturer wish to present graphic illustrations.

The development team for Distance Learning Network also included, for Lehigh University, Donald Bolle, Curtis Clump and Mike Bolton; for AT&T, Harold Basseches, Roseann Ryba, George Gelles and Klaus Bowers; and for Bell of Pennsylvania, Lee Clifford, Carol Coringrato, Mike Barth, Lou Wasser and Mark Lang.

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**Notice**

**LATA CHANGES**

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**Words of Wisdom:**

"Advertising may be described as the science of arresting the human intelligence long enough to get money from it...."

---Stephen Leacock
The Conference offered more points of interest than one person could possibly cover in three days. Fortunately, Jim Shea, Director of Telecommunications at Boston University, accompanied me on this trip. In order to catch a little of everything of interest to our University, we split up to attend different seminars.

I'll give you the highlights from my viewpoint of the National Centrex Users Conference. I took a strong interest in the experiences our colleagues had to relate - such as one group's journey through a Class 5 switch installation with ISDN applications and voicemail. The speakers revealed an interesting approach to cost justifying the ISDN switch. Instead of the traditional cost-benefit model, they asked how do we do business now versus how we want to do it in the future, and in that light compared the alternatives. Not that the vendors lacked offerings of interest: A voice mail vendor presented a solution for multiple switch integrations into one voice mail unit. A telemarketing software company showed us that it is possible to break the 50-MAC-a-day transaction limit imposed by the BOCs on customer management. That constraint limits the number of customer-initiated moves, adds and changes to Centrex to some predefined limit, usually less than 100 a day. That hardly strikes us as genuine customer control. Fortunately, at least one enterprise has responded in the form of a personal computer-based Centrex management system. Once the BOC has approved the package, the customer has a more powerful option to access the database in the Centrex, without coping with BOC quantity and time limits. In a similar vein, a consultant offered insights into negotiating contracts with the BOCs. He gave us some valuable background context for dealing with a regulated utility so that the customer gains more partnership and less whim from the contract. The vendors also showed progress in developing disaster recovery provisions. And, of course, the exhibit floor provided its share of Centrex equipment and services demonstrations, such as ACM and network management packages. One universally applaudedboldnik was the free handout from Domino's Pizza.

The user concern, however, clearly set the tone of the conference. The conference planners included a user session dedicated to the exchange of questions, and an operating company forum to provide an overview of developments within individual operating company territories. Many users continued the discussions at restaurants in the Houston area.

From the remarks of my colleagues and from my own impressions, the conference planners at the National Centrex User Group did a thoughtful and creditable job. For this Centrex user, their efforts achieved results which they must consider a successful conference, and exceeded my own expectations.

WORDS OF WISDOM:

"Results? Why, man, I have gotten a lot of results. I know several things that won't work...." ---Thomas Alva Edison
In Bits & Pieces this month, we have a letter from Tom Walsh of Miami University asking about their OHECC organization. Robert Jones, a graduate student from SOSC is asking for help from ACUTA members with his project. I'm sure he will find many helping hands in our association.

In addition, I have listed several new LATA's. If you know of any new ones, please give us a call or drop a note so we can include them in the newsletter.

At a meeting of OHECC (Ohio Higher Education Computing Council), some of us ACUTA types got talking about having a similar meeting for switch technicians. Our thinking was that if there is a value in the management or administrative people having a chance to "network", why not the "hands on workers".

On November 16 & 17, Miami University hosted a Telecommunications Technicians Roundtable at its Marcum Conference Center. Attending were technicians representing: Miami University, University of Toledo, Youngstown State University, bowling Green University, The Ohio State University, Wright State University, Austin Peay State University, and Northern Kentucky University. The purpose of the roundtable was to provide a forum for the "hands on workers" to meet and exchange ideas.

To promote general discussion, the formal agenda carried only four items: a vendor demo of AppleTalk/Phonenet LAN, data applications, a tour of Miami University's telecommunication facilities, and emergency service (911). As most of the attendees were meeting each other for the first time, discussion didn't really open up until the hour before and after Wednesday's dinner. This discussion carried over into Thursday, however, and created many small "breakout" sessions during the break periods. Everyone indicated that they would like to plan another meeting, so I guess that's a successful meeting. While I won't say any earthshaking developments came out of the meeting, the technicians have the beginning of a "network".

Some of the technicians attending were employed by the university they were representing, and some were employed by a vendor and dedicated on-site to the university they represented. There were also some of us "manager" types there as well. Most of the systems represented were NEAX 2400's, but there was also a AT&T System 85 and a Northern Telecom SL100 represented.

I thought I'd pass this on for a couple of reasons. One, we'll probably have another meeting sometime next year. If so we'll let you know ahead of time in case anyone else would be interested in setting up a similar meeting in their section of the country, or for their type of system, or what have you.

Tom Walsh, Manager
Office of Telecommunications
Miami University
Robertson Hall
Oxford, Ohio 45056
(513) 529-3511

I am writing to see if you can assist me in locating colleges and universities who have or are implementing a comprehensive interconnective and interactive telecommunications installation on their campuses. I am especially interested in those institutions which are of comparable size to SOSC and have integrated at least the business, faculty, academic, and library data, voice and possibly video applications of telecommunications.

I am a graduate student at SOSC who comes from a background of telecommunications in the United States Coast Guard. I am seeking my Master's degree in communications/education and have chosen the topic of "smart campus" approach to learning. That is providing student, staff, faculty and library user alike access to as much telecommunications support as possible. To this end, all information on campuses which have or are beginning to implement such programs will be a benefit to me. I intend to query the schools to determine driving force behind projects, funding, needs assessments, services provided to users, and a general overview from the managers perspective as to efficacy of the system.

My target colleges and universities should have an enrollment of between 4,000 and 7,000. To assist me statistically, it would be of great benefit if you could identify those institutions which are publicly and privately funded; those which serve an area as regional schools, that is no other campus of significance in the immediate area.

Any names or points of contact at the schools would be a significant asset to me. As is customary in projects of this nature, I will be more than happy to share my results with you when my paper is completed sometime in early Spring of 1989.

Robert F. Jones
4399 Excelon Rd.
Eureka, CA 95501
(707) 442-8485

PARTY LINE, CONTINUED:

of Tellabs transmission equipment that amplified the eight kilohertz signal. He tested it in the lab, and instead of 24 dB limitation, he was able to make it work with a 33 dB limitation.

They field tested a couple of units and found they worked very well. They purchased enough units to amplify all business sets. The fix cost about $10,000 and, to Indiana Bell's knowledge, it is the first time anyone extended business (digital) sets beyond the copper cable loop length.

Since a lot of universities are faced with the same problem of loop limitations on digital business telephone sets, I thought this little item would be of interest to our members.

The project was Inland Steel's Indiana Harbor Works operation and the telco is Indiana Bell. The Project Manager for Indiana Bell was Bruce Fleck. If you are interested, I am sure Indiana Bell would be happy to answer your questions.