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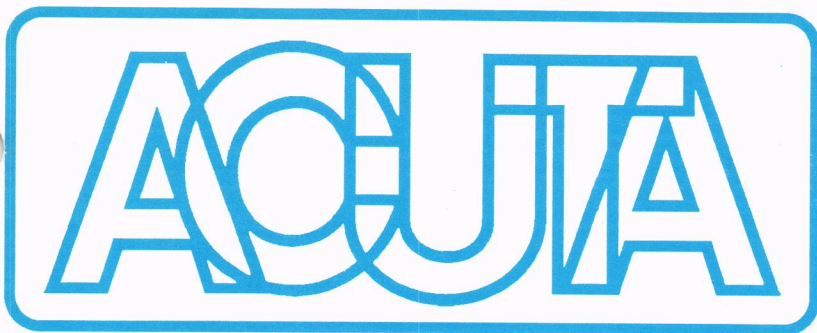
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NEWS

Association of College & University Telecommunications Administrators

THE VOICE OF TELECOMMUNICATIONS IN HIGHER EDUCATION

FEBRUARY 1993

Spring Seminars Set for Vancouver, B.C.



Make plans now to attend the Spring Seminar, April 18-21, 1993, in Vancouver, British Columbia. The dual-track event will cover "Strategic Planning for Telecommunications" and "High Performance Wire/Wireless/Cellular." Choose the former to learn how to develop strategies to fulfill your institution's mission. The latter will cover the latest technologies and campus applications of wire and wireless/cellular.

Both promise opportunities to meet and talk with colleagues and visit the exhibits to see the latest in telecom products/services. Look for the promotional material in about a week or call the ACUTA Office for information. The Hyatt Regency Vancouver is accepting reservations for the \$135 single/\$145 double (Canadian dollars) rate via toll free 800-233-1234. ↙

Van Doren Speaks Up for Voice Processing

By L. Kevin Adkins

ACUTA Telecommunications Resources Manager

Effective usage of voice processing systems was the underlying theme of presentations for the Voice Processing Solutions sessions track at the Winter Seminar in Tampa, FL. "The success of a telecommunications department is often measured by the quality and quantity of information that flows on the campus. Voice processing plays a unique role in communicating this information," said Donald Van Doren, President of Vanguard Telecommunications. "Voice processing is to speech what data processing is to numbers and word processing is to text. They all allow us to capture, store, manipulate, retrieve and present information," he told session attendees.

Van Doren separated voice processing into two broad categories: *voice messaging* defined as "people-to-people communications," and *voice response* defined as "people-to-computer communications." General types of voice messaging applications include mailbox to mailbox, message delivery, telephone answering and caller routing. General types of voice response applications include information providing, information collecting and transaction processing. In both voice messaging and voice response, integration with PBXs, computer databases, e-mail and facsimile systems were cited as greatly enhancing a voice processing system's flexibility and utility.

When contemplating possible usage of voice processing systems, Van Doren advised, "Develop a
(Please turn to page 5)

Meet the Press...

At the age of 12, she published her first newsletter on a manual typewriter with 5 sheets of carbon paper. Meet our new Publications Editor, Pat Scott (*we won't tell you how old she is now!*), on page 7.

Nominations sought for Directors in Regions 1,3,5

By Paula Loendorf

ACUTA Immediate Past President
University of Arizona

As stipulated in the Bylaws, this issue of the *ACUTA News* calls for nominations for the Director positions from Canada and the Northeast and Midwest Regions of the United States.

ACUTA's five Regional Directors are elected by the membership for two-year terms with elections for Region 1-Northeast, Region 3-Midwest and Region 5-Canada taking place in odd numbered years. (Directors from Region 2-Southeast and Region 4-West are elected in even numbered years.)

Nominations should include the

submitter's name and signature as well as the name, title, institution and phone number of the nominee.

Nominations may be faxed to me at (602) 621-9222. Sorry, nominations may not be accepted via Bitnet.

In all cases, receipt of nominations will be formally acknowledged. If acknowledgment of a nomination is not received after a reasonable time, please call me at (602) 621-5100.

Nominations may be mailed to: Paula Loendorf, ACUTA Immediate Past President, Director of Univ. Telecommunications; Center for Computing and Information Technology, Building 73, Room 131, Univ. of Arizona; Tucson, AZ 85721; FAX (602) 621-9222.

The deadline for nominations is the end of the business day on the second Monday in April after the call for nominations. In this case, 5 p.m. CDT, April 12, 1993.

The Immediate Past President (chair of the nominating committee) will then contact each individual nominated to explain the responsibilities and time requirements of a Regional Director. Before a nomination can be certified, the nominee must understand and agree to fulfill the duties of a Regional Director if elected. Nominees must be employed by an institution of higher learning within the region, and the institution should likewise understand and be supportive of the time and effort the nominee will have to devote to ACUTA, if elected.

Please note that this precludes "writing in" names on the official ballots.

In May, the Board will approve a slate of nominees, and ballots will be mailed from the Lexington office no later than May 19 to each voting member of the respective regions.

To be counted, ballots must be returned by mail to: ACUTA Office; 250 W. Main St., Suite 2420; Lexington, KY 40507-1739. Envelopes containing ballots must be postmarked no later than June 11, 1993, and received no later than 5 p.m. EDT, June 18, 1993.

Results of the balloting will be presented to the Board of Directors no later than July 1, 1993. Notification will be made to nominees immediately thereafter.

Remember the deadline for nominations is April 12, 1993.

The **Northeast (Region 1)** consists of Maine, New Hampshire, Vermont, Massachusetts, Connecticut, Rhode Island, New York, Pennsylvania and New Jersey.

The **Midwest (Region 3)** covers Ohio, Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa, Missouri, Arkansas, North Dakota, South Dakota, Nebraska, Kansas, Oklahoma and Texas.

Region 5 covers all of **Canada**. ↵

Proposals sought for datacom 'primer'

The ACUTA Publications Committee has issued a call for outlines or abstracts for a "datacom primer."

The purpose of the monograph would be to give ACUTA telecom professionals an overview of present data communications technologies and what can be expected in the foreseeable future.

It should include information on how these changing technologies affect telephone and cabling systems on and between campuses. The topic

should be of wide interest, since data communications is a broad topic with wide ranging impact for telecommunications.

An honorarium of \$500 is paid to authors of ACUTA monographs.

Proposals should be sent to, and additional information, can be obtained from, ACUTA Publications Editor, Lexington Financial Center, Suite 2420, 250 W. Main, Lexington, KY 40507. Phone (606) 252-5665. Fax (606) 252-5673. ↵

Association of College and University Telecommunications Administrators - ACUTA NEWS, Volume 22, No. 12

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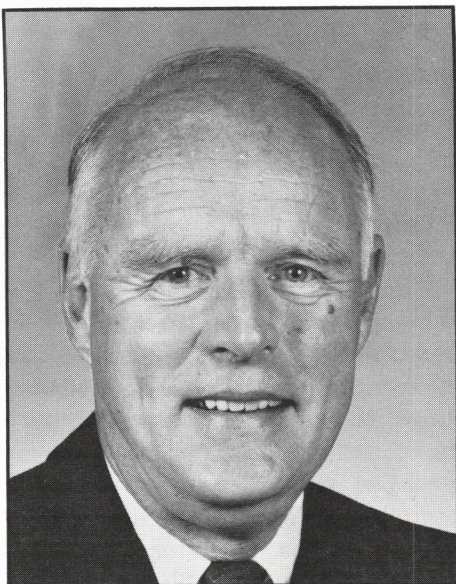
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The opinions expressed in this publication are those of the writers and are not necessarily the opinions of their institution or company. ACUTA as an association does not express an opinion or endorse products or services. *ACUTA News* is published 12 times per year by the Association of College and University Telecommunications Administrators, a nonprofit association for institutions of higher education, represented by telecommunications managers and staff. Subscriptions: \$45 a year, \$4 per issue. Please send material for *ACUTA News* to ACUTA, 250 West Main Street, Suite 2420, Lexington Financial Center, Lexington, KY 40507-1739; telephone (606) 252-2882; fax (606) 252-5673.



MESSAGE FROM THE PRESIDENT

Coley Burton,
University of Missouri

To make a new concept fit into an old statute makes tortured law with tortured results.

Judge Harvey R. Sorkow,
New Jersey Superior Court

It seems as if it has been years since the problems of aggregators and unblocking landed squarely on the ACUTA membership. Indeed, it was August 1990 when I filed reply comments to the FCC's Notice of Proposed Rule Making 90-313 on behalf of the University of Missouri. For those who have forgotten or never knew, NPRM 90-313 was the original proceeding by the FCC to prevent aggregators from blocking user access to the operator service provider of their choice. NPRM 90-313 was subsequently superseded by federal legislation that codified most of the contents of 90-313.

My reply comments to the FCC raised two points. First, that colleges and universities didn't fit the definition of aggregators, as did the

hospitality industry and other locations such as airports. My second point dealt with the potential for fraud if colleges and universities were required to unblock the 10-XXX-0 equal access codes. Part of my argument was that fraud could only be eliminated if there was a single, universal screening data base.

In hindsight, the idea of a single screening data base has a great deal to support it and could eliminate most of the problems of 10-XXX unblocking I have heard about. The idea of a single, universal data base isn't exactly new. 800 portability is being implemented using a single data base. Billed party preference relies on the idea of a single data base. Both of these ideas have been or were attacked on two fronts. First is that post dial delay will be increased and second is cost.

There is no question that post dial delay will increase if a remote data base must be interrogated before completing a call. However, in this day and age of signaling system 7, specialized, fast data base computers and high speed, packet networks, there is no reason why the increase cannot be held to two seconds or less. As new high speed transport systems, such as SONET and ATM come on-line, sub-one second delays will be possible.

Data bases, whether for 800 portability, billed party preference or universal screening are expensive to create, operate and maintain. The real concern needs to be not how much they cost on an absolute basis, but what value they can provide the customer. A personal observation is that many of the organizations arguing against such implementations are shedding crocodile tears about cost without any consideration of the value to the customer. If I were a cynic, I would think that these organizations want their customer base protected through the regulatory process, rather than having to compete in an open and fair market place.

At least as of this writing, I haven't heard of any type 10-XXX screening available to ACUTA members that is foolproof. This includes imbedded

software either in a PBX or Centrex, screening hardware on outbound PBX trunks, and both LEC and IXC screening. A universal screening data base that specified what types of calls a number can and cannot originate and receive can put an end to the Rube Goldberg approaches we have been subjected to. The rules would be simple enough – any organization wanting to offer any service based upon completing a call would have to verify that the originating and receiving numbers are authorized for the particular service being offered. Any customer receiving a bill for a service that violated their screening would not be obligated to pay the bill.

In addition to eliminating the fraud resulting from unblocked 10-XXX access, several other problems ACUTA members have reported can be eliminated with universal screening. The "adult entertainment" services that are reached by an 800 number and result in what appears to be a collect call could be controlled. I have heard of two variations of this particular scam, which is really nothing more than a circumvention of 900 blocking. Variation number one is that upon reaching the service, the customer is instructed to "touch one" if he or she wishes to continue using the service. Charges for using the service will be "discreetly" billed as a collect call. Variation number two requests that the customer enter a telephone number that can be called to provide the service, again being "discreetly billed." I understand that this approach works equally well with private lines and pay telephones, which may get some local exchange carriers interested in the problem!

Another rip-off I heard of just recently does relate to 10-XXX unblocking. A toll reseller obtains a 10-XXX equal access code. The customers of the reseller are instructed to dial 10-XXX-1 to access the reseller and the customer is billed for a conventional sent paid call. So far so good; the problem comes when 10-XXX-0 is dialed and the reseller treats the call not as an

(Please turn to page 4)

Publications Editor Bill Robinson leaves ACUTA

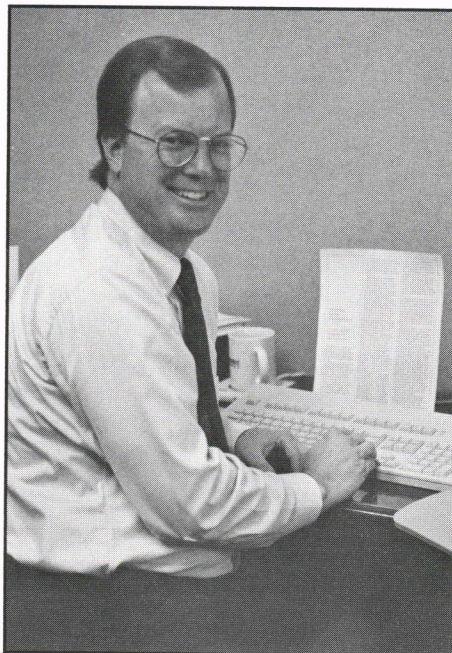
Bill Robinson, ACUTA's Publications Editor for the past three years, left ACUTA at the end of January.

Robinson contributed substantially to the growth of ACUTA publications during the past three years, ACUTA Executive Director Del Combs said.

"ACUTA is indebted to Bill for his professional reporting on ACUTA events and his assistance to members in preparing articles on their campus activities.

"I am especially appreciative of Bill's initiative on keeping the membership informed on legislative and regulatory issues," Combs added.

"His efforts were especially commendable in light of his limited background in telecommunications," Combs continued. "Bill searched for resources and assistance outside of ACUTA, as well as within the organization, to ensure that members had an update in every issue of the ACUTA News. He was also a



Bill Robinson

resourceful member of the Publications and Legislative and Regulatory Affairs committees."

Additionally, Robinson provided excellent coverage of ACUTA seminars and conferences for those members unable to attend.

And, many members will remember Bill as always being available to talk on the phone when they needed assistance or information that he could provide.

"Working for ACUTA was a great opportunity for me," Robinson remarked. "I have gained a wealth of knowledge in telecommunications and the key role it will play in the future of higher education. And I've met many interesting people who became my friends. This experience has been an invaluable boost to my career.

"ACUTA's publications program has grown in the last three years, and the membership can expect it to expand even more rapidly and improve in the coming months and years," he said.

Robinson will combine his knowledge of technology with his journalism background and experience in desktop publishing as he pursues a new opportunity in the publishing industry.

"We wish him well in his new endeavors," Combs concluded. ♪

Award applications for Institutional Excellence in Telecom due March 15

Applications for ACUTA's Institutional Excellence in Telecommunications Award, to be presented at the 22nd Annual Conference in Nashville, Tennessee, July 18-22, must be postmarked by March 15.

The award, to be given for the first time this year, will recognize ACUTA member institutions for telecommunications excellence and professionalism.

Three awards, based on school size, are to be given annually. Winners will be selected for their telecommunications departments' contributions and support for the missions of their institutions.

Applications should describe telecommunications endeavors, products or services which demonstrate excellence and professionalism in supporting the mission of an institution.

"I encourage everyone to apply or make nominations for the 1993 Awards," said Dr. James Cross, Chair of the Awards Committee.

Applications must be postmarked by March 15.

For more information regarding nominations or applications, contact: ACUTA, Institutional Excellence in Telecom Award, Lexington Financial Center, Suite 2420, 250 W. Main St., Lexington, KY 40507. ♪

Message from the President

(Continued from page 3)

operator call but as a normal sent paid call, i.e., 10-XXX-1 and 10-XXX-0 are handled exactly the same way. The result is that even though your lines are blocked from 10-XXX-1 access you end up with sent paid calls on your bill. Again, universal screening can put an end to this situation.

With a little imagination, it is possible to think of many other applications that might be handled through a universal screening data base, such as 900 call sieving. Many of the consumer benefits that a universal screening data base can provide also can be provided through the data base associated with billed party preference.

Unfortunately, as long as some of the current providers of call completion services continue to obstruct the development of these types of consumer oriented services in order to protect their market share from competition, there is little hope that we will see the development of something like a universal screening data base.

ACUTA members will have to continue spending time and money trying to stay a step ahead, or least even with the scam artists making a buck off the loop holes created by applying old regulatory ideas to new technology (see quotation at beginning of column). ♪

Van Doren

(Continued from page 1)

vision of what are the trends in the industry, what are the trends in the technology, what are the capabilities that (voice processing) is going to deliver, then look to your own environment. Ask yourselves, 'On our campus, how can (voice processing) be used most effectively and where does it fit?' Developing that vision is, I think, something that is going to become increasingly important as we see this explosion of functional capabilities continue."

According to Van Doren, voice messaging equipment sales industry-wide in the U.S. totaled \$991 million in 1991, and voice response equipment sales were \$484 million for that same year. A listing of market share leaders in education was provided to session attendees. Development of more effective, better trained distribution channels was cited as one of the principle challenges facing these manufacturers.

In implementing a voice processing system, Van Doren discussed in detail these steps:

- Applications discovery and system design
- Justification
- Sizing
- Selection (product or service)

- System programming (voice response)

- Data gathering, installation, configuration, and testing

- Training

- Ongoing management

In the first step of applications discovery, Van Doren emphasized the involvement of members from different university departments as critical when assessing user needs. Combining these *needs* with the *capabilities* of a selected system or service results in *applications*. The more customized the application, the better its efficiency and usage. For a voice processing system to be successfully implemented, it must always be tailored to the *user's* needs, not the system manager's.

Looking to the future, Van Doren concluded his session by saying, "The challenge in the '90s for all of us is to increasingly get outside of our own organizations (or departments), and really start understanding how applications-based communications solutions are likely to make an impact within our company or university. Voice processing...is the first of a whole wave of products and services forthcoming that are based not on purely technical solutions, but on enabling provision of new kinds of communication services." ☺

Voice mail & e-mail complementary, not competitive

By Bill Beyer

Drew University
Region 1 (Northeast)

(Editor's Note: This article is excerpted from Bill Beyer's presentation at the ACUTA Winter Seminars in Tampa.)

When Drew University in Madison, NJ, installed Octel's Aspen voice mail system, every student (even commuting students), faculty and staff member received a voice mail box.

This was in keeping with the "pervasiveness philosophy" spelled out in Drew's "Knowledge Initiative." For students, the cost of voice mail service was built into tuition just as library or laboratory services are supported through tuition.

With every student owning a voice mail box, distribution lists were based upon year or affiliation with Drew so that a message sent out could be directed to the specific audience (e.g. first year students, faculty or staff) without overloading the other users with unwanted voice mail.

Voice mail was an instant success when the students arrived. They recorded musical welcoming messages, their own unique version of the "Twelve Days of Christmas" (which almost crashed the system due to message space limitations) and messages about important events on campus.

How the Drew community was going to use e-mail and voice mail and whether both were needed was discussed extensively before implementation. Without evidence that e-mail would hurt voice mail usage or vice versa, Drew decided to provide both.

E-mail took a little longer to catch on. Unlike the use of a
(Please turn to page 6)

ACUTA Calendar

• Spring Seminar • Vancouver, BC

April 18-21, 1993

HOTEL: Hyatt Regency

TOPICS: • Strategic Planning for Telecom
• High Performance Wire and Wireless/Cellular

• Fall Seminar • Traverse City, MI

Oct. 17-20, 1993

HOTEL: Grand Traverse Resort

TOPICS: • Telecom Mgmt. Info Systems
• Financial Mgmt. Under Austere Conditions

• 22nd Annual Conference • Nashville, TN

July 18-22, 1993

HOTEL: Opryland Hotel

TOPICS: • Management • Regulatory Issues • Professional Growth • Voice, Data and Video • User Groups
• Regional Meetings

• Winter Seminar • Palm Springs, CA

Jan. 9-12, 1994

HOTEL: The Westin Mission Hills Resort

TOPICS: To be announced

Voice mail and e-mail

(Continued from page 5)

simple telephone device (of which all teenagers have intimate knowledge), e-mail required hooking up a PC, running software from a menu, and once logged in, reviewing a daunting list of menu choices.

We have seen that voice mail can actually complement the use of e-mail. While e-mail is appropriate for longer, detailed text messages, voice mail is best for short, informational messages. For example, a faculty member would send a homework or lab assignment via e-mail with a notification of the assignment sent via voice mail.

The Aspen system has 48 ports with 100 hours of message storage, supporting about 3,000 users.

During the day, usage begins to pick up around 9 a.m., peaks at about 10 a.m. and remains strong until about 1 a.m. This may seem like an unusually long cycle, but the system supports both residential students as well as faculty and administration. Each has its own usage cycle.

The following system configuration (limits) apply to general student voice mailboxes:

- Personal and Extended Absence Greetings allowed
- Greeting limited to 40 seconds
- Messages limited to 45 seconds each
- Message limit, 20 (new, archived, and future delivery)
- New messages kept 14 days
- Home/Guest Mailboxes
- Maximum future deliveries, 5
- Future delivery up to 15 days
- Max number of group lists, 4
- 25 destinations per list
- On-premise outcalling only

These have proven to be more than adequate for student needs. Chain messages, which have been forwarded many times and increase in overall length each time, can consume system resources, however.

Policies

Voice mail is a powerful tool which can be abused. But instead of strict rules and regulations, Drew has issued guidelines and suggestions, including some for voice mail etiquette. Voice mail and e-mail lose some of their impact and utility as the amount of traffic increases. Just as drivers avoid roads congested with traffic, people will avoid reading e-mail if they receive an abundance of irrelevant messages.

The following are some guidelines we provide (mainly aimed at faculty and staff):

- Do not allow yourself or your staff to "hide" behind voice mail. When callers reach your voice mail, does your recorded greeting mention hours when you are available to talk in person? Callers become annoyed if all they ever get is your voice mail, when a busy signal would have saved them money.
 - Evaluate your department's response to phone calls by dialing in like an outside caller. Check the forwarding of calls within your office area. Do calls go unanswered or always answered by voice mail?
 - Some offices, to maintain good customer relations, should never use voice mail to answer their main number.
 - If callers get no reply to their voice mail message, they get the impression voice mail messages are ignored and will be hesitant to use voice mail again.
 - Give callers options, like transferring to the operator by pressing 'O', or transfer to another extension.
 - When recording, provide your full name, title and department. This information can be invaluable to outside callers and streamlines confirmation.
 - Record greetings and voice mail messages in a noise-free, clear and direct manner.
 - Success of a voice mail system is a question of how our "customers" feel they are being treated.
- There were certain restrictions which had to be put in place to

conserve resources or protect users. Some examples include:

- Access to system distribution lists have been curtailed. Only the system administrators can send out broadcast messages. Messages sent by students to system distribution lists must be pre-approved.
- The Telecom office helps track down abusive/annoying messages but can provide no information or initiate surveillance without the permission of the Public Safety and the Dean of Students offices.
- Chain-mail messages which abuse the system are closely monitored. Students caught sending chain mail are contacted by the Dean of Students and asked to delete the messages or face losing their voice mail account.

Applications

Beyond sending and receiving messages, we have developed other applications for voice mail.

- The voice FORMS mailbox can be used for ordering computers and related equipment
- Babysitting service
- Operator coverage for offices
- Jobs Hotline
- For reporting troubles
- Snow closing and other university closing information
- Information mailboxes (office hours, weekend events)

Points To Consider

- One top-level person in charge of both voice and data resources can achieve more toward advancing the institution's technology goals than several persons competing for institutional resources and perhaps the same user base.
- Avoid the "us versus them" and "users are abusers" mentality. Do not prejudge users based on lack of technical know-how. Keep jargon to a minimum.
- Involve campus offices (e.g. Dean of Students) with the development and enforcement of policies regarding use and access to information resources. In many cases these departments have dealt with and have solutions to the same types of problems you may be facing. ☺

Pat Scott Named ACUTA Publications Editor

ACUTA introduces Pat Scott, who has assumed the responsibilities of Publications Editor at the Lexington office. Pat replaces Bill Robinson, who left the position in January (see related article on page 4).

According to Del Combs, ACUTA Executive Director, "We needed someone with writing and editing ability who had experience in the business world and also had the level of Macintosh skills required to step in and take over immediately." A creative person with multiple talents, Pat emerged from a large number of qualified applicants as the best suited to fill this important post.

Immediately upon graduation from Southwestern University in Georgetown, Texas, Pat taught high school English. "But writing was always my avocation," Pat says, "from the time I wrote and typed that first class newsletter when I was in the 7th grade. One of my greatest moments was seeing my byline on an article in a magazine for the first time. For me, that was a real thrill." Over the years, she acquired extensive experience in writing, editing and publishing, including contributing freelance articles to several publications, editing two books, and designing advertising materials for a variety of clients.

With the introduction of the Macintosh and the advent of desktop publishing, Pat saw an opportunity to combine writing with design and organization, which "kind of came naturally." Prior to her most recent position as Advertising Copy Editor at Current, Inc., in Colorado Springs, Pat was Publications Coordinator at RCET, a non-profit, educational consortium dedicated to helping St. Louis area teachers integrate technology into their classrooms.

"Putting together attractive, effective newsletters, catalogs,



Even when she's not working, Pat uses her "mini-Mac" at home.

brochures and flyers is the ultimate exercise in good communications," says Pat. "Serving the needs of my audience—in this case, ACUTA members—means I must create publications that provide information in a clear and concise manner on topics of general and specific interest. The writer and the English teacher in me enjoy that challenge. My artistic side finds real pleasure in perfecting an attractive design with an appealing layout and comfortable mix of photos and graphic elements. A publication is worthless if no one wants to read it."

A strong work ethic and commitment to excellence are important to Pat. "My responsibility to ACUTA members is to produce high quality publications in a timely manner that will help them do their jobs better. Every publication that comes from a group dedicated to the communication of information should meet the highest standards."

In addition to a high level of

technical expertise which will help her accomplish her goals as Publications Editor, Pat has a charming personality and, according to references, unreproachable character. Away from the office, she enjoys old movies and the luxuriant Kentucky countryside, and is eager to pursue her new work as a CASA (child advocate) volunteer.

Pat describes herself as a native Kentuckian who's "glad to be back in Lexington after far too many years away!" She and her daughter are looking forward to moving to a home in the country with a big front porch.

Pat says she's very approachable and would love to hear from members regarding how well the newsletter and other publications are meeting their needs. If you have ideas or requests for subjects you'd like to see covered, or if you would like to contribute an article, you're encouraged to contact Pat anytime. Call her at (606) 252-2882 or fax your ideas to (606) 252-5673. 🐾

Voice mail popular with students at Miami Univ.

By Tom Walsh

Miami University of Ohio
Region 3 (Midwest)

To provide a campus "voice bulletin board," Miami University purchased and installed a Centigram Voicemail II system in June, 1989. With 16 ports and 10 hours of storage, the system was used to test voice mail services. In the fall of 1990, a software upgrade allowed Miami to integrate its two NEAX 2400 PBXs and expanded the Centigram to 52 ports and 85 hours of storage. With the beginning of the next semester in January, 1991, the university began offering voice mail services to faculty and staff.

Subscription forms for student voice mail were sent to all residence hall students in April, 1991 and were provided to incoming first-year and transfer students in their orientation packets. Service was offered at \$12 per student per semester.

To be eligible, all students residing in the room or suite were required to subscribe to the service. Service included a mailbox for each student, capable of holding a maximum of 10 messages, with a maximum message length of 2 minutes. The maximum length of personal greetings for each mailbox was 30 seconds.

"Call forward, busy" and "call forward, no answer" were provided for each student telephone subscribed to voice mail. An alternative service was offered for rooms in which some students were unwilling to subscribe. A "joint user" mailbox with storage capability for 15 messages at \$18 per semester was available. To subscribe, one student was required to take payment responsibility, and the other students had to agree to allow the use of voice mail service on their telephone.

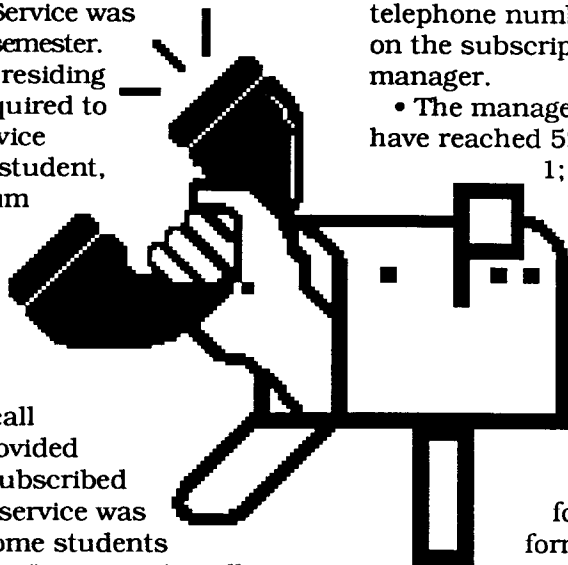
This meant that everyone in the room was sharing one voice mailbox with one passcode. If more than one student resided in a room, the Telecom Office set up one "tree" or "menu" mailbox for the room. The greeting was similar to this example: "You have reached 529-XXXX, if you are calling Bill, touch 1, if you are calling Tom, touch 2." Upon touching the number associated with the student's name, the caller received a personal greeting from the student's mailbox. Telecom also set all of the call-forwarding features of the appropriate telephones, forwarding these lines to the voice mail system.

Miami is just completing installation of message-waiting lights on each telephone. Since we are using more than one mailbox per line, the lights aren't a perfect answer to knowing when messages are in

your mailbox, but they help. When a message is left in any mailbox, the light is activated. If a mailbox is accessed by any of its "owners," the light is turned off. While that's great for single rooms, it's only of limited help in doubles, triples, or quads.

The workflow (on good days) went like this:

- Students returned signed applications to the Telecom Office and were provided with the voice mail instructional booklet.
- Once applications were received for all students in a room, the students were advised of when the service would be available (usually 5 p.m. of the following business day), and the "tree" mailbox and student mailboxes were entered into the voice mail system by the order-processing clerk. Temporary passcodes were assigned for each student mailbox.
- The cable pair feed and lens (port location of the telephone number in the NEAX 2400 PBX) was noted on the subscription form, and a copy given to the manager.
- The manager recorded the "tree" mailbox. (You have reached 529-XXXX, if you are calling Bill, touch 1; if you are calling Tom, touch 2.)
- The manager or technician – using a single-line telephone equipped with speed-dial capability and a "cheater plug" – plugged into the 66 block on the appropriate cable feed pair, drew dial tone and verified that the correct telephone number was in use by calling a display phone. Then "speed dial" was pressed to set "call forward, busy" and "call forward, no answer." The subscription forms were noted as being completed and returned to the order-processing clerk for



filling.

(For those of you who have never heard or used a "cheater plug," this is a plug that has an RJ11 on one side to allow a regular modular bane cord to plug in, and the other side has slots which fit over the prongs on a 66 block.)

What are we doing different for next year?

- We redesigned the subscription "fern." We now ask students what name or nickname they want used on the "tree." My staff is also instructed to make sure we know how to pronounce the name or nickname to be used on the "tree." We also put some checkoff boxes for various tasks that we perform, to assure that all necessary tasks are completed. We include a space for the cable feed, lens, etc.
- We are redoing the instruction manual. The biggest difficulty seems to be that, with PBX/Voice mail integration, when the students dial the voice mail access number, the voice mail system recognizes the extension number they are calling from as belonging to the "tree" mailbox and asks them for

their passcode. Students must touch '*' to reach the generic entrance recording to voice mail, dial their mailbox number followed by the '*' to indicate ownership of the mailbox, and then enter their passcode. While we detail these instructions, the students keep trying to get into the tree mailbox.

• We have made the code to establish call forwarding on student telephones unique and lengthy (6##0). We were amazed at the number of "repairs" generated by students either misdialing and hitting the call-forward code or finding out the call-forward code and playing games with it on their friends' telephones.

At present, we still plan to record all the "tree" mailboxes and set all call forwarding, rather than have the students do this. This is a lot of work, but things get done correctly.

When we were planning student voice mail, we were concerned about our system capacity. Would 85 hours allow us to function with an anticipated 1,000 student users? Due to this concern, we established the service as "answering machine replacement." Callers could leave messages, and owner could retrieve messages. With 884 student users, we never exceeded 25 percent capacity. Obviously we have room for additional users (884 subscribers is approximately 15 percent of residence hall students), and we are now looking at additional services that may be offered (send messages, distribution lists, etc.).

Problems that never happened:

We were concerned that the use of "tree" mailboxes to access the student mailboxes would cause complaints from outside callers who had only rotary-dial

telephones. To my knowledge, this has never been cause for complaint.

The students really liked:

• That calls went to voice mail when their line was busy; that messages were private, and their roommates couldn't erase their messages and "forget" to tell them.

• The price, \$12 per student for a semester.

• The idea that the university was attempting to make residence halls more attractive to students (see the editorial below from The Miami Student).

The students didn't like:

• That "call forward, no answer" took four to seven rings before the voice mail greeting answered. Our system is set for 12 seconds. This is approximately 3-4 rings. The interface between the PBX and voice mail required another one to three rings to pass data (depending upon how busy both the PBX and voice mail systems were). Four to five rings was acceptable, but six to seven rings was cause for a complaint. We don't have an answer for this yet.

The worst part for students was:

• "What do I do with the answering machine I bought last year?"

(If you have any comments or would like to know more about Miami University's student voice mail service, give me a call at 513-529-3511. I would like to thank Catherine Franco of Yale University for sharing her ideas with me during our planning. Being able to confer with a fellow professional at another institution is one of the greatest things about ACUTA membership.)

"So, when do we get cable?"

When was the last time your telecom department won kudos from the campus newspaper? Student muckrakers like to tweak the nose of the establishment whenever they have an opportunity. So you know you've done something right if you receive praise from student journalists.

When Tom Walsh, Manager of Telecommunications at Miami University, read the year's first issue of The Miami Student, he discovered that the newspaper had pinned a rose on his department. The editorial, "No more unanswered phones ringing into the night," appears below.

At the sound of the tone the university is offering voice mail, and the miracle of touch-tone service allows you to choose which roommate you would like to leave a message for. The bottom line even sounds good: \$12 a semester is equivalent to the cost of a good answering machine and there is no need to fight over it or sell it off at the end of the year. For those of you who have friends who did not sign up for this new service: Sorry, hang up and call back later.

These innovations are clearly designed as ploys to attract students back to campus. In light of the recent exodus off campus by upperclass students, these new programs are a step in the right direction to reaffirm Miami University as a residential school.

"So, when do we get cable?"

Two Questions from WMU

Western Michigan University has seen an increase in the amount of 800# outgoing traffic: in October alone over 2800 hours' worth. This is costly because the university has to provide trunks usage, yet it receives no revenue. With the major long distance carriers, we have direct termination agreements that give us revenue from access charges. 800# providers must pay access charges to the LECs for usage; however, as the originator of the 800 call, we receive none of the access charges. Are ACUTA members aware of this, and have any taken action?

Also, for the past two years, WMU has been providing cable TV service to all residence halls and campus apartments. We receive revenue from Auxiliary Enterprises which is incorporating into the residents' room and board the monthly charge for cable TV. Telecom is in the process of expanding/updating cable television service to make it available throughout all academic and administrative buildings on campus. ACUTA members who are responsible for cable TV, do you receive monthly payment from departments for cable service, or are other types of arrangements made?

Respond to Jon Vander Meer at 616-387-0910 or via internet VanderMeer@gw.wmich.edu.

Winter Seminar Exhibits Shine in Florida

By L. Kevin Adkins

ACUTA Telecommunications Resources Manager

The excellent seminar programs in Tampa last month were supplemented by an outstanding industry exposition of telecommunications products and services. The exhibitor group was diverse, representing many industry segments and featured several first-time participants with ACUTA. Seminar attendees took full advantage of the exhibit periods, establishing key industry contacts and exchanging ideas with equipment and services experts.

The seminar kicked off Sunday evening with a two hour food and drink reception in the exhibit hall. The festive affair was very well attended, such that it required some significant effort to move about in visiting all the exhibitor booths. As usual, several attendee/exhibitor discussions continued well past the reception's closing. This practice is continuing evidence of the value attendees place upon these interaction opportunities.

The exhibit period coffee breaks on Monday and Tuesday were busy, as attendees continued their efforts to meet with all exhibitors, and held in-depth discussions on topics of immediate need. These exhibit periods were highlighted with door prize drawings for ACUTA merchandise and exhibitor-sponsored prizes, including a clock/radio, dual cassette deck, old-fashioned wall telephone, leather portfolios and portable TV/Stereo.

AT&T, **MCI** and **Sprint** were all on hand to discuss their extensive student resale and operator services commission programs. Also relative to student resale, first-time exhibitor **Cooperative Communications** debuted a prepaid student calling card program. Telemanagement information systems from **Bitek**, **Sunbelt Computers** and **Telco Research** were displayed with features ranging from cable management to call accounting to toll fraud detection.

Representing the ever-growing secondary reseller market was **Telephone Support Services**, a provider of major manufacturer CPE, PBX and key system equipment refurbished and reconditioned to factory specifications. Another newcomer to ACUTA

exhibits was the **Teledex Corporation**. They displayed a family of 1 and 2 line analog telephones with customized dataplates, modem ports, and a FSK (Frequency Shift Keyed) decoder compatible with the AT&T #5ESS central office switch.

Relative to the LAN seminar track, **ADC Telecommunications** and **Ortronics** displayed data network components such as connectors, jackfields, outlets, jumpers and modular cords supporting Category 5 data applications up to 100MHz.


For the voice processing track, **Applied Voice Technology**, **T1 Systems** and **VMX** featured systems which efficiently handle voice messaging, automated attendant for voice/fax and interactive voice response applications. All of the LAN and voice processing vendors were kept particularly busy with spirited, in-depth discussions kindled by the seminar program sessions.

Discussions with exhibitors during and after the exhibit portion of the seminar resulted in positive feedback for ACUTA. All exhibitors noted the professionalism of attendees and the insight they brought

into product/service discussions. The exhibitors also stressed the value of the user feedback that attendees provide, allowing them to modify and improve their products and services to meet the needs of higher education telecommunications.

Seminar and conference attendees are always encouraged to take advantage of interaction opportunities with ACUTA exhibitors. They are an invaluable source for information on the latest developments in their respective fields, and can provide insight into the many ways to make an institution's telecommunications more efficient and provide new or improved services.

Attendees at the upcoming Spring Seminar in Vancouver, British Columbia, April 18-21, 1993 will enjoy the next scheduled opportunity for exhibit hall interaction.

All ACUTA members are encouraged to notify their vendor contacts about the advantages of exhibiting or sponsoring at ACUTA events. Their participation provides valuable interaction with attendees and support for ACUTA in furthering the advancement of telecommunications in higher education. 

...and here's the exhibit hall!





From ACUTA Headquarters

Del Combs
Executive Director

Total Quality Management: Is it a new concept in management, or just another look at management issues with a focus on more

"quality" in the end product? Is the catchy title "TQM" really a new way to market an old product—"Principles of Management"? Is TQM maybe a "style" of portraying management ideas, schemes and concepts?

Maybe TQM comes at a time when we need to take a fresh look at management objectives. Maybe, if managers were really managing, there wouldn't be a need for "TQM." Maybe management, to a huge degree, has been replaced with a "quality control checklist," or managers have diverted too much attention to side issues and/or concerns of small groups and lost sight of the main purpose of management. Maybe we've forgotten that management is a process and not just the meeting of company goals set by some unknown committee or far-removed board. Maybe management has become aimless, a boring routine with little personal satisfaction.

My own limited experience with TQM training was top quality. I attended a half-day session led by Dr. Stephen Covey of the Covey Leadership Institute in Salt Lake

City during last summer's ASAE (American Society of Association Executives) annual conference in Atlanta. What struck me the hardest were the overall emphasis on motivation and commitment and the ability of leadership to project that commitment to the attendees (team members) in order to accomplish management's objectives. The manager was perceived as a "working supervisor" and every employee a team member. Each team member was brought under the umbrella for commitment to excellence and played a viable role providing feedback and assessment to leadership. The process thus became a self-sustaining circle as everyone participated, perpetuating the pursuit of excellence.

It seems that maybe we've come full circle with today's TQM and we're back to the days when automation began and everyone, including owners, had a personal, vested interest in seeing a quality product at the end of the assembly line. Maybe TQM stands for "Teamwork and Quality is Management." ☺

Finding a Handle on LANs and the Internet

By L. Kevin Adkins
ACUTA Telecommunications
Resources Manager

LAN and internetworking technologies can be tremendously complex, with an enormous number of options and alternatives facing a communications manager. Trying to absorb and understand all the issues can result in information overload and investigative gridlock. According to Gary Audin, presenter at Winter seminar in Tampa, one should approach the LAN/Internetworking world with a few general questions. "What do I do with LAN technology, and how do I manage it?" should be your initial questions," Audin, President of the consulting firm Delphi, Inc., told his session.

Audin separated LAN technology into three critical elements:

- **LAN:** The communications

system or "vehicle" information rides upon. Examples include 10 Base T, Ethernet, Token Ring and Arcnet.

- **Server:** The processor system which manipulates and directs information. Examples include Novell, Banyanvines, LAN Manager and Netware.

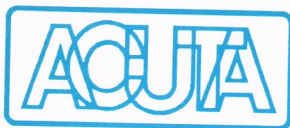
- **Interconnects:** Devices which join networks together. Examples include repeaters, bridges, routers and gateways, each providing different levels of information transfer and compatibility.

Audin stressed the issue of interconnection as the most critical today, emphasizing, "Internetworking is becoming extremely important in the commercial world today, and interestingly enough, they are borrowing technology from your Internet to do it," referring to the National Science Foundation-backed Internet, to which nearly

70% of ACUTA member institutions are connected. He cited two problems internetworking will face in the near future: "Each Internet user should have a unique address and we're now rapidly running out of them; and TCP/IP, the internetworking protocol, was designed to run at Kilobit and low to medium Megabit speeds, not the Gigabit speeds that more and more users now desire."

Audin's presentation and lecture covered the technical basics of LAN operation, including media, topology, multiplexing, protocols and standards. He also covered Ethernet (10 Base T) and Token Ring LAN types (discussing their applications and comparative capabilities), LAN servers and wireless LANs, and led an in-depth discussion of LAN management issues and LAN performance. Audin

(Please turn to back page)



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Seminars Rated 8.1, 8.0

Attendees of the "Practical LANs" track of the ACUTA Winter Seminars rated their track 8.1 of a possible 10 points, while attendees of the "Voice Processing Solutions" track gave their presentations, including four by ACUTA members, an overall rating of 8.0. Hotel Facilities earned an 8.6 rating, Cost of Seminar, 7.9; Social Activities, 7.5; Cost of Hotel Rooms, 7.2, Exhibits, 6.8, and Food, 6.7. The Tampa Bay location was popular, garnering an 8.5 rating.

Comments offered on the Practical LANs seminar included:

"Gary Audin is an excellent speaker. He provides a very good explanation of the various relationships of LAN design and equipment. Most certainly, it is well worth attending one of his seminars."

"Audin is a fountain of knowledge. He takes great pains to gage the pace of the class."

"Good pack of materials handed out; great for future use."

"I really appreciated the pool, hot tub and view. It was nice to have a place to walk or just sit in the fresh air in a 'safe' environment."

Comments on the Voice Processing Solutions seminar included:

"Very professional. It sure whet my appetite for more."

"Very good presentations. Excellent examples, applications and case studies."

Positions Available

Telecom Coordinator

Memphis State Univ.

Responsibilities: All installation, maintenance for voice, data, video services; planning, designing, consulting for telecom related construction, renovation and major office/facilities rearrangement. Will engage in physical installation of voice, data and video services.

Qualifications: Associate degree in telecommunications or electrical engineering, 5 years experience in telecom systems design, installation, maintenance; OR, 8 years experience in telecom systems design, installation, maintenance. Strong background in complex systems with solid foundation in voice, data, video communications. Demonstrated leadership ability, communications skills.

Salary Range: \$31,764 to \$36,528.

Applications Deadline: Feb. 26, 1993.

To Apply: Contact the Office of Personnel, Memphis State University, Memphis, TN 38152. Phone (901) 678-2601.

Manager, Fiscal Operations

George Washington Univ.

Responsibilities: Budget of \$5 million and fiscal functions of telecom department with staff of 45 and 11,000 customers; procurement; accounts payable/receivable; relations with outsourced student resale contractor; billing liaison with outside vendors; monthly budget summaries; supervise two full-time Account Specialists. Campus includes teaching hospital/medical center, more than 90 buildings, including 13 residence halls on 43 acres in downtown Washington, DC.

"Excellent" salary/benefits package.

Qualifications: Bachelor's degree, six years of progressively responsible financial management, preferably in large telecom department. Budget preparation and administration experience required.

To Apply: Send resume to Ken Soper, Assoc. Dir., Telecom Services, George Washington Univ., 801 22nd St., NW, Suite 105, Washington, DC 20052. Fax (202) 994-0458.

LANs and Internet

(Continued from page 10)

finished up with an extensive lecture on internetworking LANs, TCP/IP, the Internet and a panel discussion of LAN operation and management. The handout for the session was a tremendous reference resource of over 450 pages including definitions, checklists, charts, tables, diagrams and discussion outline. Audin's presentation was the highest rated element of the seminar, receiving an 8.7 average score out of a possible 10.

Seminar Tapes Available

Audio tapes of the Voice Processing and the LANs and Internet tracks of the ACUTA Winter Seminars are available separately from the ACUTA Office for \$75 each. Handouts are also available for \$20. Prices include shipping.

ACUTA Welcomes New Members

The following joined ACUTA between Dec. 22, 1992 and Jan. 26, 1993.

INSTITUTIONAL MEMBERS

Region 3 (Midwest)

Prairie View (TX) A&M Univ., Norman B. Hunter
Texas State Tech at Waco, V. Darrell Townsend

ASSOCIATE MEMBERS

Region 1 (Northeast)

Lisa Notarianni, Univ. of Scranton
Mollie Ruffenach, Univ. of Scranton
Ronald Skutnick, Univ. of Scranton

Corporate Affiliates

COPPER

ACC Long Distance Corp.
T1 Systems Inc.