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Loyola College uses technology to create “Classroom of the Future”

John McFadden
Loyola College in Maryland

Competition for high quality students, faculty, and financial support is leading many higher-education institutions to redesign their curricula and even the techniques they use to deliver their instruction. In fact, colleges and universities are taking advantage of the array of new communications and networking technologies to provide radically new methods of teaching and learning.

However, as Patrick Springer, director of communications consulting for Computer Task Group in Boston explains, having the technology in place doesn’t automatically mean these institutions are fully utilizing it. According to ongoing surveys by the Computer Task Group, over half of America’s universities have state-of-the-art technology infrastructures in place, but less than 10% are being used effectively.

These schools risk falling behind not only in competition for students, says Springer, but also in the race for funding from the administration’s proposed National Research and Educational Network. The project, spearheaded by Vice President Al Gore, is based on need and will only subsidize schools which have established network infrastructures that generate significant amounts of use traffic.

One liberal arts college that has become a powerhouse in providing a high tech environment for its students and faculty is Loyola College in Maryland. With about 6,000 students, Loyola was one of the first colleges in the nation to initiate a comprehensive plan to revamp its voice, data, and video infrastructure.

The future has arrived

The plan, called Classroom of the Future, began in 1990 after Loyola received a $3.5 million federal grant to establish the Center for Advanced Information and Resource Management Studies.

Little card brings big changes to campuses

How can students on campuses across the country carry less cash in their pockets than their parents did? Why do some local merchants appreciate student patronage more than ever? How are student loans being processed exponentially faster than ever before? The answer is a newcomer on campus called the debit card that could make cash transactions obsolete.

Florida State’s FSUCard

According to Bill Norwood, Associate Director of University Computing at Florida State University in Tallahassee, the FSUCard is one of the most innovative card systems in the country. The system integrates the automation of “small-value” vending applications, traditional card-access applications, and the financial utility of a bank card all into a single campus card. In addition to its use for long distance calls anywhere in the world, the FSUCard is used by students, faculty, and staff members in more than 100 food and beverage vending machines. Card access is also being implemented for campus photocopiers and laundries.

“FSU was trying to solve certain administrative problems, such as how to streamline financial
“E-mail policy!? What’s an e-mail policy?”

L. Kevin Adkins
Telecom Resources Mgr.

If the above is your answer to a question about campus e-mail policy, you have led a charmed cyberspace life to this point. Often times policies are not created until a crisis arises where one is needed. Here’s a tip; create the policy now, and the crisis may never come (or at least you’ll have a leg to stand on when it does). At a minimum, an e-mail policy should address the following issues:

- control of message content
- user privacy expectations
- access to and disclosure of messages
- legal requirements for message retention

Before tackling these issues, the e-mail users must be defined and categorized. Most campuses have at least three different categories of users: students, faculty, and staff.

Upper administration is a possible fourth group. Should the policies be identical for all these users? Usually not, because each group uses e-mail for different purposes.

All users should be made aware that their access to e-mail is a privilege or benefit, not a “right,” and that their acceptance of and adherence to policy is mandatory. Typically, students are required to sign a form stating they have read and agreed with the e-mail policy prior to their account assignment each year or semester. Faculty and staff usually sign a blanket statement during the hiring process which requires them to adhere to all campus policies. Faculty may have negotiated some privacy under principles of academic freedom, etc. If so, a separate policy may be required.

Staff members should be aware that e-mail is for campus business purposes only. Students and faculty usage purposes should be educational interchange and research. Users should know that all messages are considered campus records and will be treated like shared paper files, with an expectation that anything in them is available for review by authorized institution representatives. Some state laws grant employees privacy rights, unless they are waived. Your policy should state that all users automatically waive their right to privacy and consent to access and disclosure of messages. You should also reserve the right to disclose messages to law enforcement or other third parties without notifying any of the parties to the messages.

Regarding content, messages of an explicit or threatening nature should be expressly forbidden. Monitoring and control of message content is a Herculean challenge if you wish to attempt it. The important point is that improper message content can be clearly defined in the policy. This helps protect your institution in cases where messages are disclosed in the course of criminal proceedings or litigation.

Lastly, your policy should prescribe a maximum time period and/or storage space for retained messages. This will protect your institution from charges of improper destruction of records during an investigation or litigation.

Regarding the legal implications mentioned herein, remember that legal advice is worth what you pay for it and to consider this article free of charge. Always consult your institution’s legal counsel in policy matters. If you have examples of e-mail policies you would be willing to share with other ACUTA members, please send them to my attention at the Lexington office.

Association of College and University Telecommunications Administrators
ACUTA NEWS, Volume 22, No. 10

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President's Message

It's that time of the year again! I'm sure most of us have been recently inundated with events surrounding the beginning of a new academic year. Our staff has been stretched thin trying to meet the onslaught of service requests precipitated by the arrival of faculty and students to our campus. It always seems that no amount of planning is enough. Sanity can only be found by taking a moment to realize how bad things would be if we didn't plan. The fact that you were unable to anticipate every eventuality—and, hence, "plan" for it—is little solace this time of year.

Just like our campuses, the ACUTA Board of Directors is also extremely busy. I just returned from a weekend Board meeting in Lexington. It was the first Board meeting for our two new Board members: Jim Cross (Longwood College), Secretary, and Tony Mordosky (Millersville University), Northeast Region Director. It was also the last Board meeting for Mike Grunder (Yale University), Publications Director. Mike's time is being consumed by a multi-million-dollar cogeneration project on his campus and he is unable to continue fulfilling his ACUTA responsibilities due to the commitments of his "real" job. For those of you who don't know, Mike was kind enough to agree to "temporarily" take over as Publications Director two years ago when Paula Loendorf was trying desperately to get the new Publications Committee up and running. Even in ACUTA time, two years is a long time for a temporary assignment! I'd like to thank Mike for his many, many years of service to ACUTA and for the good counsel he always provided to the Board. We'll miss him, but know he will continue to participate in ACUTA and provide support if needed. Thanks, Mike! Dave O'Neill, ACUTA Vice President, has agreed to chair the committee until the governance issues are resolved later this year.

Several of our Board members had not been to our Lexington office and they spent Friday morning individually meeting with our five staff members, learning what their jobs entailed and asking questions. Both the Board members and the staff really enjoyed this opportunity to get to know one another, face-to-face, observing the actual operation of the ACUTA office.

We spent the rest of Friday, all day Saturday, and Sunday morning pouring over an enormous agenda and, believe it or not, making a lot of progress. I thought I would give you a brief report of the kind of things the Board is working on in response to the needs of you, our members.

- The 1993-94 budget was passed. (Our new fiscal year will begin October 1.) Income and expenses are slightly over one million dollars and the net is essentially zero.
- The governance study work is continuing in an attempt to link the governance of ACUTA more closely to the strategic plan.
- Region meeting policies and procedures were discussed and modified to allow region directors a bit more flexibility, without compromising accountability. Tony Mordosky was authorized to proceed with his proposed event in June, piloting the new meeting procedures. Dave Wirth (Adelphi University) has agreed to be the host.
- The Electronic Access Committee has been formed to proceed with the project to automate our data base and provide electronic communications for the membership. Tony Mordosky has agreed to chair the committee. You will be hearing more in the coming months about the committee's progress. The costs for this fiscal year's efforts will be borne out of reserves; future funding will be determined once we have a product/service for the members to evaluate.
- The membership needs assessment is a bit behind schedule, but we hope to begin polling the membership in the next 30-60 days. This information will give us some direction for more clearly defining and updating our strategic plan.
- Our lease for the Lexington office is up in January. The Board is exploring options and expects to make a decision within a month.
- Robert Aylward will chair the Search Committee which will be responsible for identifying and recommending a person to the Board to fill the position of ACUTA Executive Director.
- Randy Collett, Executive Vice President, will continue working on marketing/public relations issues with a small committee. Several new thoughts and ideas were referred to Randy for future consideration.
- A motion was passed to allow non-members who attend events to apply the differential registration fee to their dues should they decide to become members within 60 days of attending an ACUTA event.

Needless to say, many other things were discussed from the mundane to the intellectually stimulating, but the above list addresses the items I felt were of most interest to the membership. As always, I welcome your thoughts, comments, and suggestions; I hope to see many of you in Traverse City in October for the seminar.
Data Comm Project wins Institutional Excellence Award for Delaware Tech

By Henry James Decker
Delaware Technical & Community College

Delaware Tech realized it had to address its data communication system when an outside service provider refused to certify the operability of the data comm equipment. The College was attempting to address increasing demand and users with an outmoded system based on 25-year old technology. The Delaware Tech Data Comm project was conceived with one primary purpose: to provide reliable data transmissions among the College’s six statewide locations. It quickly became much more when participants realized that a new system could also be a change agent affecting a wide range of functions and processes.

The Delaware Tech Computer Center was in charge of conceptualizing and directing the project. The Center provides database services to the campuses for such applications as admissions, registrations, tuition accounting, financial aid, etc. It soon became evident that communications could become a critical factor for "drawing together" and "providing access" for large numbers of users and organizational units.

The technology selected involved utilizing a TCP/IP protocol for directing communications transmissions. Cisco AGS routers/gateways were selected for their interconnectivity capabilities. 56 Kbps lines interconnecting to state T1 trunks were utilized at each location. Cisco terminal servers were also deployed at each site (ASMs and STS-10Xs) for terminal connectivity. Using ethernet, 10 base T, and fiber optic for various LAN/WAN designs, the possible connections increased from a few hundred to potentially thousands. Various mainframes (Unisys, IBM, Prime), workstations, and micro Vaxes, as well as existing Novell LANs, small Unix platforms, and innumerable PCs were connected; and last but not least, an Internet connection was established. Investments in connectivity continue to be made within the context of operating budgets.

Aside from the immediate impact of providing reliable and highly flexible communication, the new system also had the payoff of an immediate productivity gain. Full terminal screen painting previously took approximately six seconds. This was reduced to two seconds (data speeds increased by a factor of six), and with type-ahead features it was possible to get subsecond response times through the network. When measured by operator task completion (registration, tuition billing, etc.), this translated to approximately 40% improvement in operator efficiency, greatly reducing delay in client-related servicing. This reduced demand for personnel although enrollment increased 54.8% over five years.

The impacts on organizational behavior are more difficult to gauge despite the easily observed physical changes (equipment, speed of data transmissions, etc.). Nevertheless, the system is having an impact. New applications are being designed as a direct result of the network technology (student accounts for Internet, statewide touchtone registration, development of client/server transactions, Internet, FTP procedures, and service to the state’s public libraries). The College has shifted resources internally to take advantage of the network presence by allocating funds for desk units for more of the faculty, extending wiring such as fiber optic cabling throughout building complexes, and acquiring shared management systems.

More importantly, the focus of information systems within the organization has shifted to communications and the synergism that can be created through combinations of new technology, equipment, software, and the College’s intellectual resources. Users are beginning to navigate a galaxy of computing resources employing programs from various sources and creating ad hoc solutions for their own unique requirements. In the final analysis, the project allowed the College to move from data communications that were in critical condition to a system that is a critical enabler.

Editor’s Note: At AUCTA’s annual conference in Nashville this July, Delaware Tech was presented with the first annual Institutional Excellence Award. Selection of Delaware Tech was made by a committee chaired by Dr. James Cross of Longwood College based on the telecommunications department’s contribution to the mission of their institution including services provided, cost effectiveness, and user services. Nominations are evaluated on the basis of the scope and complexity of the particular endeavor, technological leadership, benefit to the institution and key constituents, and demonstration of excellence and professionalism.
From the Publications Committee

What is a monograph?

A monograph is a concise, scholarly treatise of a particular topic. Subjects for ACUTA monographs must be deemed by the Publications Committee to be of interest and usefulness to the membership. Emphasis on explaining how to implement a particular strategy or type of equipment is preferred over emphasis on advocacy of a strategy or type of equipment, although a reasonable balance between the two may be acceptable.

ACUTA monographs vary in length from 5,000 to 15,000 words. More than 25 pages is discouraged. About six are published each year.

Who writes them? (Could I?)

The program is open to all paid ACUTA members, associates, and affiliates who wish to participate. For author’s guidelines, call the Publications Editor at ACUTA at (606) 252-5665. An honorarium of $500 is paid to the author upon publication.

How can I get copies?

A copy is mailed to each member upon publication. Additional copies may be purchased by calling the ACUTA office. The price per copy is $5 for members and $10 for nonmembers.

What monographs has ACUTA published?

- Distance Education: Interactive Video Classroom (Michael Yoakam, Indiana University)
- College & University Telecommunications Marketing (Terry L. Robb, Univ. of Missouri)
- Major Project Management: The Yale Telecommunications Project (Mike Grunder, Yale Univ.)
- Buying a Telecommunications Switch (Sara Knaggs, InteCom, Inc.)
- Telefacsimile Communications in Higher Education (Dr. James S. Cross, Longwood College)
- Digital Video (Coleman H. Burton, University of Missouri)
- ACUTA: A Case for Change (Strategic Planning Comm. 1992). (Dr. James Cross, Longwood College; Coleman Burton, University of Missouri; and Sydney A. Paredes, U S West)

If you have an idea for a monograph subject, the Publications Committee would love to hear from you. Contact any of the following people for more information or to share your ideas:

Dave Barta, Univ. of Oregon; Marianne Landfair, Indiana Univ.; Dave O'Neill, Washington State Univ.; Marv Peck, Emory Univ.; Terry Robb, Univ. of Missouri-Columbia; or Pat Scott, ACUTA Publications Editor.

National Information Infrastructure agenda available

The National Information Infrastructure Agenda document is now available through a variety of sources. It is important to everyone that is dealing in government, communications, computer information, and any type of information dissemination through any type of media.

According to the executive summary, “an advanced information infrastructure will enable U.S. firms to compete and win in the global economy, generating good jobs for the American people and economic growth for the nation. As importantly, the NII can transform the lives of the American people—ameliorating the constraints of geography, disability, and economic status—giving all Americans a fair opportunity to go as far as their talents and ambitions will take them.”

The document further states that technological changes “promise substantial benefits for the American people, but only if government understands fully their implications and begins working with the private sector and other interested parties to shape the evolution of the communications infrastructure.”

The package is available in ASCII format from a variety of electronic sources including:

Internet: The package is available in ASCII format through both FTP and Gopher using the file name niiagenda.asc.

FTP:
Address: ftp.ntia.doc.gov
Login as anonymous. Use your email address or guest as the password. Change directory to pub.
Address: enh.nist.gov
Login as anonymous using guest as the password.
Address: isdres.er.usgs.gov
Login as anonymous. Use your email address or guest as the password. Change directory to npr.
The package also may be present in a self-extracting compressed file named niiagenda.exe. Remember to issue the binary command before getting the compressed file.

Gopher (server/client):
Telnet to: gopher.nist.gov
Login as gopher. Choose the menu item DOC Documents. Choose niiagenda.asc
Gopher to: ace.esusda.gov.port 70
Select:
6. Americans Communicating Electronically
3. National Technology Information
1. National Information Infrastructure Agenda
E-mail
Send a message to nii@ace.esusda.gov.
User Groups Meet at Conference

User Group meetings are held at the annual conference providing a valuable opportunity to exchange information and explore potential solutions to mutual problems. In Nashville, approximately 120 people participated in these User Group meetings. Corinne Hock, Manager, Client Support at Columbia University, served as User Group Coordinator and submitted the following report on their activities.

AT&T: Some 20 AT&T users met with moderator Terri Zabrowski of the University of Wisconsin. Items of discussion included the Global Definity User Group, marketing AUDIX to students, and maintenance concerns. Trouble Tracker and its use in conjunction with maintenance or self-maintenance was discussed, leading to the conclusion that it provides a lot of information but requires some study and expertise. The problem of packaging causing a drain on batteries for 8110s was discussed, as was 911 service and where those calls are routed. Joe Massey's presentation on G2 migration to G3 earlier in the conference brought up many of the differences that users need to be aware of. Massey included a sheet to fax concerns to AT&T in the hope that AT&T would be aware of the most troublesome differences and work to correct them as soon as possible.

Centrex: Ryan Julian, Director of Pricing at Ameritech, and Redgie Chambers, Senior Product Manager, Centrex Services, NTI, addressed the 20 participants in the Centrex User Group. As reported by Robert Bursick of Wayne State University, the meeting began with a discussion of the recent proposals by Ameritech to allow co-location of switched services on the local loop. Julian used examples to illustrate how co-location would work.

The second topic discussed was DMS-100 software, with reports that there is a problem that results in a long delay in releasing BCS #35. Chambers stated that the DMS-100 software has 25 million lines of code. Over the years the integrity of the software layers has been compromised. As a result, in order for a new feature to work, code often has to go through more than one layer. Hence, testing is much more difficult and it often takes close to two years to introduce a new feature. NTI has decided to modify the DMS-100 software to reestablish the integrity of the layers which will take about two years or until BCS #37. Following that, new features should take only 3–6 months to introduce. BCS #35 goes into general release in October, 1993.

The meeting was then opened up to general exchange among users.

NTI: According to Frank Ferrara of Princeton, the 32 attendees at this meeting represented all different types of NTI switches. Since most of those in attendance were SL1 users, they were very interested in NTI marketing personnel's discussion of SL1 products. Among the issues discussed were measuring operator performance, calling name ID, and DID numbers. Those in attendance expressed a preference for having technical representation from NTI so that questions could be addressed immediately.

RLOM: André Jones of Columbia University reports that 17 people were present for the RLOM user group meeting. Topics of discussion included: ADA; CBX and PhoneMail system security; 600 series RolmPhones; Call-Com (an innovative program to track the status of station-to-station calls in use by John Thompson at the Univ. of Tennessee); 9006 software support; and PhoneMail applications. For information about the national RLOM Users Group, call Peter Humanik of Columbia Univ. at (212) 854-4169.

ACUTA Calendar

- **Fall Seminar**
  - Traverse City, MI
  - Oct. 17-20, 1993
  - **HOTEL:** Grand Traverse Resort
  - **TOPICS:** Telecomm Mgmt. Info Systems
  - **TOPICS:** Financial Management Under Austere Conditions

- **Spring Seminar**
  - Baltimore, MD
  - April 24-27, 1994
  - **HOTEL:** Hyatt Regency Hotel
  - **TOPICS:** Hot Management Topics
  - **TOPICS:** Campus Cable TV

- **Winter Seminar**
  - Palm Springs, CA
  - Jan. 9-12, 1994
  - **HOTEL:** The Westin Mission Hills Resort
  - **TOPICS:** Planning the Telecom Infrastructure
  - **TOPICS:** TQM and Organizational Structures

- **ANNUAL CONFERENCE**
  - Anaheim, CA
  - July 31–Aug. 4, 1994
  - **HOTEL:** Anaheim Hilton
  - **TOPICS:** Management; Regulatory Issues; Professional Growth; Voice, Data & Video; more
The Ameritech Foundation has awarded The Ohio State University a $1 million grant to support research in how telecommunications can be used to improve education, health care, and international trade.

The award to the Graduate School will fund the continuance of the Ameritech Fellowship Program established in 1987 to foster research in communications. To be paid over a 5-year period, the grant will allow Ohio State faculty and graduate students to work on education-related projects including distance learning research, i.e., using telecommunications to improve education of teachers and students. Health care projects will include applications involving the Ohio State College of Medicine and the Ohio Medical Education Network.

Researchers will also study how telecommunications links between rural hospital emergency departments and major urban medical centers can be used to improve diagnostic capabilities and reduce administrative costs.

Another component of the project involves international telecommunications. Ohio State faculty and students will pursue the feasibility and effectiveness of international communications links to provide education curricula on democracy and free enterprise systems.

The Ameritech Foundation grant will also fund the Ameritech Excellence Fund at Ohio State, which supports visiting professors and experts from business, government, and other universities who come to Ohio State to work with faculty and conduct outreach programs.

Ameritech presents $1 million grant to Ohio State


campus this fall, they were issued an ID card which included a debit strip. Now they can do laundry or purchase snacks from the vending machines without carrying cash. A special bar code also makes it possible to purchase supplies in the book store, buy food in the snack bar, make photocopies in the library, and gain access to the dining hall.

Hampden-Sydney prefers the one-card approach, usable as a debit or credit card. Their debit card is limited to $60 for the students’ protection.

Considerations

If your campus is considering implementing a debit/credit card system, those who have been there (other campuses include Merrimack College in North Andover, MA; University of North Carolina at Chapel Hill; and the University of South Alabama in Mobile, to name a few) have a few suggestions to consider:

- Planning should include representatives from all departments so that everyone will have an opportunity to voice concerns.
- If the card is used as a long-distance calling card, careful consideration should be given to what department receives the revenue from the calling card. As one telecom manager said, “Billing through an access card takes away from my long distance resale revenue. Another department gets telecom money, and I’ve got to figure out how to make up a budget shortfall.”
- Faculty, staff, and students will benefit from formal instruction in the use of the card and the kiosks if available.

Is “plasticash” the way of the future? Safety, security, and convenience are significant considerations. Adding time- and cost-saving benefits could make implementation of the debit/credit card system attractive to administrators across the country.

Aid processing, speed up tuition refunds, and eliminate the 100+ cash collection points across campus,” says Norwood. “Somewhere along the line, we realized that there were a lot of incentives to be had by tying these financial aspects into the card. That led us to investigate the bank card scenario—how could we merge bank card ability into our ID card to give it more functionality, which is what we eventually did.”

What are some of the administrative benefits of the single card system? Students can pay their tuition with the card, now an entirely electronic transition. Student refunds, which used to take three to four weeks to process—at a cost of about $10, are now accomplished in a day or so at a cost of only 39¢. But perhaps the biggest money saver will be processing of financial aid funds.

Norwood, “Between the temporary staff we usually need to hire and everything else involved, it costs us more than $100,000 to give out that aid…. This one administrative ‘improvement’ will save FSU $100,000 from day one…and free up the six to eight staff people involved in the financial aid process, enabling them to handle other functions.”

Hampden-Sydney

Hampden-Sydney College has taken a conservative approach to the implementation of the debit card on their campus, according to L. D. Phaup, Business Manager.

In December, 1992 they purchased the equipment with the intention of going live in January ‘93. But conversion to a new computing system meant deferring the debit card.

In June the card was introduced to faculty and staff who used their new cards through the summer. When their 946 students arrived on campus in September, they were offered the option to have a debit card.

Continued from page 1...
Loyola...

Continued from page 1

Part of the grant helped to support the integrated system now in place at the Baltimore school. According to industry analysts, Loyola is one of a few schools in the U. S. that has integrated voice, video, and data in every dormitory room and classroom, as well as integrated voice and data in every faculty and administrative office. “In developing our plan,” says Thomas Scheye, provost and academic vice president at Loyola, the major challenge was to provide equal access and connectivity to campus computers and outside networks for both on- and off-campus students.”

Three years after that initial plan, Loyola’s Classroom of the Future is a reality. Students with PCs and modem cards connect with the campus network to send assignments to campus labs or to their professors’ offices, as well as access files from the school’s VAX computer system, the library, or outside sources such as Internet. For students without their own PCs, the college provides access to more than 150 PCs located in the seven computer labs throughout dorms and academic buildings.

In addition to voice and data, students and faculty also have access to video applications. Teachers, for example, can access two college language channels directly into the classroom, transmitted from the college’s two satellite dishes. Students can tune into special language programs assigned by their teachers. An additional channel displays a listing of campus events, with the audio of the student-run radio station.

Choosing a Network Partner

For Loyola, the real challenge was implementing a consistent network design in a very tight time frame. After a rigorous bidding process, Loyola chose the Bell Atlantic team, consisting of Bell Atlantic Network Integration and the Chesapeake and Potomac Telephone Company. “The key issue was data connectivity to campus computers and outside information networks,” says Scheye. From initial bidders’ conference to network completion the process took 13 months.

At the start of the project, Loyola’s information system consisted of several independent LANs based on a variety of protocols and only available to faculty and staff for processing administrative and academic computing. Students had no access to computing services from dorm rooms, but had limited access to Internet and other programs at three computer labs on campus.

Loyola also had a DEC VAX 6000 and a Prime mainframe, which are now used in conjunction with 12 other PC/LAN servers on the network.

To transform the disparate LANs and mainframes into a fully integrated network, the implementation process was structured in 3 phases:

Universal Connectivity

Achieving connectivity throughout the campus required replacing Loyola’s telephone switching system with the ROLM 9751 Model 70 that allows access to computer and information networks such as Internet. To accomplish this, Bell Atlantic proposed a cable plant that connected 31 campus buildings with voice wire for the ROLM 9751 PBX switch, fiber optic, and an assortment of copper cable for the data LAN and coax/single-mode fiber for the cable/educational TV system.

ROLMphone 120D’s also were installed in each student apartment so that instead of connecting each PC to the 10 BASE-T LAN, Loyola could connect students to the network via an RS-232 connection, a dial-in capability on their ROLM data phones. As a result, students have a 9600 bps link to the PBX, which transfers data either to the VAX via a terminal server or to the Ethernet LAN via a communications server. In all, 27 Ethernet premises concentrators were implemented to allow approximately 3,000 PCs to talk to the network. This design also provided multiprotocol support for Loyola’s computers using Apple, TCP/IP, and Novell platforms.

Students now can access the campus VAX for e-mail, scientific computing, and Internet while the Ethernet LAN, which connects all the previous independent LANs, provides software such as WordPerfect and a variety of statistics packages.

Equal Access for Everyone

By the end of 1993 providing off-campus students and faculty equal access to information will be accomplished. Off-campus calls will be directed into the ROLM 9751, just as if they were on-campus calls. However, the off-campus calls will access the system via the public switched telephone network instead of a more expensive private line. Once inside the PBX, callers requesting data access are given the option to go to the VAX, the LAN, the library, or a series of other Unix workstations.

With this structure in place, students can peruse the library’s card catalog and work on a draft of a term paper, then electronically transmit the draft to a professor’s office—and never leave the room. For the video portion of the network, Bell Atlantic installed amplifiers, head-end equipment, and character generator equipment to provide cable TV in the dorms and an instructional TV system via satellite in administrative and academic buildings.

In addition to cable TV, Loyola is experimenting with multimedia, and currently uses three computers to combine video clips, slides, and graphics into a presentation that helps teachers bring abstract concepts alive.

See "Loyola..." on page 9
ACUTA staff gets individual e-mail addresses

Now you can contact ACUTA staff members directly using e-mail. Previously, all messages for ACUTA staff members were addressed to ACUTA@UKCC. Upon receipt, anyone on staff opened new messages and printed them out for distribution to others. With the new addresses given below, you have a choice of sending a message to the office as a whole or directly to the person for whom it is intended:

Kevin Adkins   ladki00@ukcc.uky.edu
Kellie Bowman   kbownm00@ukcc.uky.edu
Lisa Cheshire   lches00@ukcc.uky.edu
Pat Scott       psco00@ukcc.uky.edu
Eleanor Smith   esmit00@ukcc.uky.edu

ACUTA@UKCC is still available for messages of importance to more than one staff member, but members are encouraged to take advantage of the new addresses for individuals.

Come to Palm Springs in January

The ACUTA Winter Seminars will be held at the beautiful Westin Mission Hills Resort from January 9–12. You can explore one of two topics of significance to your role in campus telecommunications:

- **Planning the Telecom Infrastructure:** Planning and construction of campus information transport systems for the evolving PBX and network technologies. Overview of ATM, ISDN, SONET, LAN/WAN technologies.
- **Total Quality Management and Organizational Structures:** How organizational change affects telecom and other departments. Includes service definition; staffing and outsourcing; voice, data, and video functions.

Make plans to join us in Palm Springs. More information will be mailed in October.

Loyola...

Continued from page 8

"By providing an infrastructure that is compatible with Fiber Distributed Data Interface or Asynchronous Transfer Mode support, Bell Atlantic has given us a flexible framework to implement new and future technologies as our multimedia and data needs develop," Scheye added.

**Built-in fault recovery**

The final phase of the project, completing a built-in fault recovery system, was approached by dividing the campus into several hubs and then connecting the hubs to form a backbone. At strategic locations, Bell Atlantic employed Cisco IGS routers to provide dynamic routing in order to offer alternative physical paths for mission critical applications, in the event a main leg of the backbone fails.

Another key element of the network's fault recovery is its management system, according to Mace of Bell Atlantic Network Integration. "Because this is such a large network, a key component to the installation is the Network Management System, a Unix-based Sun SPARCSTATION 2 running SynOptic Communication's LattisNet Network Manage-

The 1993-94 ACUTA Membership Directory will be printed soon. Do we have the correct names and addresses for you and your school? If you're uncertain, call Kellie at (606) 252-2882 today!
Eyegaze System increases productivity and enhances life

The Eyegaze System, developed by LC Technologies, Inc., of Fairfax, VA, enables people with severe motor disabilities to do many things with their eyes that they would otherwise do with their hands. Simply by looking at control keys displayed on a computer screen, the user can perform a broad variety of functions including speech synthesis, environmental control (lights, appliances, televisions, etc.), playing games, typing, operating a telephone, and running DOS-compatible software.

A video camera located below the computer screen continually observes the eye, and specialized image-processing software determines the eye’s orientation and projects the gazepoint on the computer display. Nothing is attached to the head or body.

Eyegaze Systems are enabling people with Lou Gehrig’s disease, multiple sclerosis, strokes, and spinal cord injuries to continue to be productively employed.

Medical book goes electronic

EDUPAGE informs us that the Medical College of Georgia is one of the first medical schools in the country to use an electronic textbook. Designed by 12 members of the physiology faculty, the text uses animation and sound to explain blood flow, heart functions, and more.

Clean Air Act makes telecommuting a reality

The goal of the Clean Air Act is to improve air quality by focusing on transportation. The effect has been implementation of the work-at-home principle behind telecommuting. According to Communications News (Sept. ’93, p. 66) research shows that half of all employees either have a job that lends itself to telecommuting or are interested in telecommuting. Indications are that telecommuting increases productivity, cuts office space, improves morale, and cuts absenteeism.

The Travelers, with a work-at-home program in place since 1989, has cut turnover of its trained workers from 35% per year to 10%. California offers generous tax credits to companies who support telecommuting, and Philadelphia is penalizing offices which do not have 28% of their workers using car pools or public transportation. Nov. 15, 1994, is the deadline for companies to submit a plan, with compliance by 1996.

Fiber-optic cables hit the road

What should be one of the best places to look for fiber-optic cabling? From a manufacturer’s point of view, under the hood of your car where you’ll find nearly 2,000 feet of wiring. Researchers at Chrysler, Ford, and General Motors, working hard to put fiber-optics in place by the mid ’90s, have formed the High Speed Serial Data Communications R&D Partnership. Developing the computer modules and fiber-optic links could someday cut the size and weight of a car’s wiring system by 25% or more.

Canada will build national network

The Canadian government has set aside $26 million to build the first phase of a national backbone network called CANARIE (Canadian Network for the Advancement of Research, Industry, and Education). CANARIE is envisioned as a high-speed network that will link national databases, support electronic mail and access to “virtual libraries,” and handle large volumes of data, text, images, video, and audio simultaneously.

Scientists share data on high-speed network

From Chronicle of Higher Education via EDUPAGE: The National Information Infrastructure Testbed consortium announced its first demonstration last week. The “Earth Data System” will link researchers at Oregon State to colleagues at the University of New Hampshire and the Smithsonian Astrophysical Observatory in Cambridge, Massachusetts, allowing them to share satellite images and other environmental data. The high-speed network will enable the scientists to work with the data simultaneously, something that is now impossible on the Internet.

Georgia makes a commitment to distance learning

From the Atlanta Journal-Constitution via EDUPAGE: The state of Georgia is spending $50 million to create an interactive distance learning and telemedicine network with 102 sites on-line by January. Each site will have four monitors, two cameras and a converter box. Participants will include K-12 institutions, as well as colleges, universities, and special facilities such as Zoo Atlanta.
"Meetings are important;... meetings are where ideas are formed; meetings are where vision is shared..."

These words, spoken by the Honorable Andrew Young, co-chairman of the Atlanta Committee for the Olympic Games, remind me of the "big picture" as I delve through the myriad details that come together in the form of ACUTA meetings.

From room set-ups to speaker requirements to food and beverage selections, my job as ACUTA's meeting planner is to make your events—from arrival to departure—as valuable and pleasant an experience as possible.

Recently I had the opportunity to fulfill one of my staff goals for the year—professional development in meeting management—by attending the 1993 Affordable Meetings Exposition and Conference in Chicago. Basically a meeting for events professionals, Affordable Meetings was packed with practical information on ways to save both time and money in the meeting arena.

"...my job as ACUTA's meeting planner is to make your events—from arrival to departure—as valuable and pleasant an experience as possible."

Sessions I attended included topics on legal issues in the industry, hotel negotiations, on-site management, forms and checklists for meeting administration, and cost-cutting food and beverage ideas. I believe these two days of instruction and networking will translate into beneficial applications for future ACUTA events.

Another valuable aspect of Affordable Meetings was the opportunity for me as a "planner" to be an "attendee." Perhaps because this was a meeting planned for meeting planners, or perhaps because I have been the meeting planner for eight major events, I felt keenly aware of the good, the bad, and the humorous in meetings as I participated in this Chicago event.

For example, my first hurdle as an attendee was completing the registration process—an unavoidable task for all attendees. When I unexpectedly discovered that I was not pre-registered, I knew I would have to stand in a long on-site registration line. I felt an instant connection with those of you I saw in the on-site line at the ACUTA conference in Nashville!

Next, I hurried to my first session, found a seat and settled in by the scheduled starting time. Then I impatiently waited for ten to fifteen minutes while other attendees wandered in slowly, preventing the speaker from starting on time. Once the meeting was underway, the room seemed to turn frigidly cold and I could feel chill bumps rising on my arms. I regretted forgetting a sweater or wearing something with long sleeves—the very things I have often suggested to ACUTA attendees!

I eagerly awaited the arrival of the scheduled break when I could have a hot cup of coffee! After standing in a 15-minute line for the ladies room, however, I arrived at the coffee break area just as they were removing it! Has this ever happened to you at a meeting?

Having the opportunity to be with hundreds of planners whose careers are quite similar to my own was refreshing. Participating in sessions with people who knew the meanings of BEO's, CSM's, pre-con's, rack rates, and block pick-ups (telecom isn't the only field with lots of acronyms and jargon!) reinforced my belief in the existence of a whole group of people to network with. This strong sense of connection is often mentioned as an important part of ACUTA meetings as well! I listened to other planners' ideas and tips that I may have never come up with on my own. In addition, I felt a great sense of pride and positive reinforcement when several cost-cutting techniques suggested closely mirrored existing ACUTA procedures.

I believe each of my experiences as an attendee at Affordable Meetings was valuable because I was reminded of just how important the entire meeting experience is for you. The details, both small and large, that the majority of my job responsibilities consist of provide the opportunity for "visions to be shared" and "ideas formed," when pulled together effectively.

I hope you realize the benefits of ACUTA meetings go far beyond the sessions themselves. If you ever have suggestions on how I, the rest of the staff, or the Board of Directors can enhance your ACUTA meetings, please do not hesitate to contact me.

Lisa Cheshire,
Editor’s Notes...

Please add my name to your mailing list for campus/departmental newsletters!... At CMSU in Warrensburg, MO faculty and staff can now communicate with students in the honors residence hall either through the mainframe-based RMAIL, or through the microcomputer-based WP Office electronic mail program. Forty-eight Macintosh LCII computers, equipped with inkjet printers, have been installed in the dorm.... Eric Backlund, telecom manager at St. Lawrence Univ. is saving $30,000 each year, has reduced his response time during the day to nothing, and has greater control over his inventory. How, you may ask? He dumped his service contract and hired his own in-house technician.... Thanks to Paula Loendt, Director of Telecommunications at Univ. of Arizona, for adding me to her newsletter mailing list. In my first issue, I see a nice article about ICoSy, UA’s computer conferencing system that effectively enhances the exchange of ideas in seminars and small classes.... Excellent reading about the Internet and the coming technological changes in August issue of Scientific American entitled “Domesticating Cyberspace.” Worth a trip to the library!... Don’t forget I’m looking for cartoons as a money-saving alternative to the ones we’ve been running... Send news and notes (and cartoons) to: Pat Scott, ACUTA, 250 W. Main St., Ste. 2420, Lexington, KY 40507. Phone (606) 252-5665 or fax (606) 252-5673.

ACUTA staff now has individual e-mail addresses! See story on page 9.

DIRECTORY UPDATES
August 26–September 27, 1993
Welcome New Members
Region 1 (Northeast)
copper Corporate Affiliate
• PennTech, Reading, PA. Guy Curtis 215/921-5600
Region 2 (Southeast)
• George Mason Univ., Fairfax, VA. Ann Genovese (703) 993-3543
Region 3 (Midwest)
copper Corporate Affiliate
• Telamon Corporation, Indianapolis, IN C. W. Cummings (317) 471-6655

Your photo could be famous!
As we approach a finished product on the telecom book we’ve been promising you, we find ourselves looking for photos appropriate for the cover. Do you have photos of a telecom office or equipment, or photos related to student services in some way? For more details, contact Pat Scott, ACUTA Publications Editor at (606) 252-5665.

December ACUTA News deadline: November 5

Position(s) Available
Asst./Assoc. Professor
Ohio University
The J. Warren McClure School of Communication seeks one, possibly two, asst./assoc. professor(s) (dependent upon qualifications).

Systems Responsibilities: Undergrad program focuses on design & management of voice, data, & image telecom networks. Program, in existence since 1981, prides itself on quality education & professional involvement for faculty & students. Master’s degree program is being planned.

Teaching & research area to include common carrier regulation & policy for one position; new technologies, data communications, or voice systems for the other.

Qualifications: PhD in a pertinent area (public policy, telecommunications, economics, engineering, computer science, management); or Master’s Deg. or other appropriate terminal degree plus significant industry experience.

Salary Range: Minimum Salary for 9-month position $36,000/42,000; summer teaching is possible.

Deadline: 12/1/93. Desired start date: 3/1/94 or 9/1/94

Letters of application, vitae & 3 letters of reference to: Phyllis Bent, Director, J. Warren McClure School of Communication Systems Mgmt., Rm. 197, 9 So. College St., Ohio Univ., Athens, OH 45701

An AA/EO Employer. Women & minorities are encouraged to apply.