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Richmond hosts dual-track seminar

Attendees consider Student Services and Network Planning and Management

A total of 260 people attended the Fall Seminars in Richmond, Virginia in mid-October. In keeping with ACUTA’s pledge to quality programming, participants could attend either Student Services or Network Planning and Management, two topics of vital interest on most campuses today.

Geoff Tritsch and Dave Metz of Compass Consulting opened the Student Services track with a reality check, saying “It’s not your father’s dialtone anymore.” In the largest sense, they continued, the whole college and university system falls under the umbrella of student services, which seeks to improve the quality of life for students while it supports the mission of the academic institution. Student services today includes many complicated aspects: access and security, cable TV, voice and data services, touchtone registration, and more.

With telecom’s responsibilities so diverse, Tritsch and Metz emphasized the necessity of planning, calling planning the single most important aspect of any project—more important even than technology. Planning, they told the audience, starts with goals. The department which says “We may be lost, but we’re making great time” probably needs to spend some time setting goals.

They also reminded participants that “You can’t solve problems with the same mentality it took to create them,” stressing the necessity of stepping back for a fresh look at the big picture. They recommended a creative approach to providing those services students have come to expect. Voice service and simple dialtone frequently become the delivery vehicle for other services. Funding for enhanced services such as touchtone registration, voice mail, CATV, and more may come through the profits from long distance resale. Using profits from one service to subsidize another which may not be self-supporting indicates good management of resources.

Attendees appreciated the information shared by Metz and Tritsch, but also made many favorable comments about additional presentations by ACUTA members such as Anna Hines from the University of Kansas, Rob Robinson of University of Texas, and the touchtone registration round table including Margie Milone of Kent State, Richard Farrell from SUNY Albany, and others.

The Student Services track also examined Toll Fraud and Regulatory Issues, Marketing Long Distance and Voice Mail to Students, Auto Attendants, Calling Cards, Data Services, Network Issues, and more.

Those who attended the Network Planning and Management track expressed a high degree of satisfaction with Gary Audin’s presentation as principal speaker. Audin described network planning and management as “not a thrilling subject, but something you have to learn about, something you have to think about.” Managing the network, Audin told his audience, means managing a variety of resources including people as well as circuits and switches. You must ask yourself, he said, what is most important as you set priorities. An emphasis on technical resources may relegate your customer—the student, faculty, or administrator—to a position.

See “Richmond seminars…” on page 7

Legislative Update in Richmond

Those who attended the Student Services track in Richmond received an update on legislative and regulatory affairs from Randal Collett, ACUTA President. Collett summarized the proposed legislation and regulations currently being monitored by ACUTA (See DC at a Glance on page 8). He also covered recent FCC proposals on 800 pay-per-call services, and ACUTA’s position in opposition to charges for 800 number calls. In addition, he reported that the FCC is considering a requirement for PBX owners to provide Enhanced 911 (E911) service from all PBX extensions, including the identification of extension locations. ACUTA’s Legislative/Regulatory Affairs Committee will continue to monitor these issues and alert the membership as necessary.

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Board Report

ACUTA Board finalizes committee membership

Finalizing committee membership, Board mentors, and Richmond seminar plans were the major topics of discussion during the October Board conference call. The role of the Board mentor/advocate is to provide a structure for committee-Board interaction and communications.

Other items on the agenda included:
- Committee chairs conference call update
- Policy and Procedures Manual revision action plan
- Electronic access project status
- Lexington Office software project
- Computer services position recruitment
- Maui seminar planning
- Regional meeting planning workbook
- FCC regulatory issues

Submitted by
Dr. James Cross, Michigan Tech
ACUTA Secretary/Treasurer

"With no conceivable way to train for the specific job skills we might need tomorrow, we must concentrate on developing the educational and training infrastructure needed to quickly adapt to emerging technologies and changing work systems. Education and training programs at all levels must emphasize enabling skills that focus on developing the individual's capacity to adapt to changing skill demands."

—Billy Harper
Kentucky Education Coalition
Steering Committee

ACUTA to exhibit at international event

On December 5 and 6, World Congress will present Americas Telecommunications Congress in Miami, Florida. As a "supporting association" for this conference, ACUTA plans to participate with a booth staffed by Executive Director Jeri Semer and ACUTA volunteers.

"This event will give ACUTA an opportunity to reach out to institutions of higher education in Mexico, South America, and Caribbean nations," says Ms. Semer. "As the focus of campus telecommunications grows globally, we feel ACUTA has much to offer on an international scale. Expansion of our membership to include these countries will also benefit the existing membership in new and exciting ways."

The Congress will feature three concurrent summits: Minister of Telecommunications and CEO Summit for chief executives of leading telecom companies and ministers of the principal telecom markets in the region; Wireless Telecommunications Summit for industry leaders of wireless technologies, CIOs, and MIS Directors; and Telecommunications Finance Summit, designed as a forum where key institutional investors, pension fund managers, bankers, and venture capitalists can work with CFOs of telecom related companies.

ACUTA has negotiated a $300 discount off the registration fee for ACUTA members. For more information, contact World Congress at (212) 297-6148.

Association of College and University Telecommunications Administrators

ACUTA News, Volume 23, No. 11

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President’s Message

A few thoughts about our most recent seminar in Richmond.

First, it was extremely gratifying to see so many quality presentations by our institutional members. My impression has always been that there are hundreds of stories to be told. The trick is to convince someone to tell them.

On my flight back to Missouri, I was thinking about how the tenor of the student services topic has changed in the last five years. I’ve participated in three ACUTA seminars where the topic was student services: Memphis, 1989; Denver, 1991; and now Richmond.

In Richmond, I was struck by how little time was spent in any discussions about student sharing of long distance services. In just a few short years, we have seen the main focus of these seminars shift from student sharing of long distance services to a complete array of service opportunities.

Just this simple fact speaks volumes about the quality and creativity of our typical ACUTA member. How many of us would have ever been given the opportunity to expand our service levels to data, video, CATV, “one card” programs, or any of the other things we heard about in Richmond if we hadn’t been able to prove our management capabilities in managing long distance services? How much of our success should be attributed to all the things we learned from ACUTA members who have “been there...done that”?

Now, it’s naive to believe that all the applications presented in Richmond fit each and every ACUTA institution the same way. After all, the Office of Telecommunications at Central Missouri State University is only seven people! And frankly, just managing the long distance application stretches our resources. Nevertheless, there is value in hearing what we are going to have to plan for to compete with other institutions.

And after cutting through all the technical jargon, acronyms, fiscal constraints, and political gamesmanship, isn’t that really the issue? We’re all striving to help our institution differentiate itself so that we continue to attract the best and brightest students. As we observe the changes in our enrollments from more traditional students to life-long learners, technology offers us many opportunities for that differentiation. It’s comforting to know that most likely, an ACUTA member has already tried a particular application, and that there is a resource that can be tapped.

I’m always aware that my institution is in competition with nearly all my ACUTA counterparts. But my experience also tells me that at ACUTA we put that aside so that all of us can learn from each other. For me, that’s the real value of my ACUTA membership. Why not join us in Maui or Kansas City and see for yourself?

See ya’ next month.

Winter Seminar

Campus Networks: Beyond the Walls

A tacit assumption: Higher education must expand beyond the traditional campus in order to meet the needs of an ever-changing student population.

How should colleges and universities respond to these competitive pressures? How will technology serve as a tool to expand the campus beyond city, state, and national boundaries?

What are the implications and challenges of an international network—the new infrastructure?

This seminar will explore networks and their strategic role in extending the campus beyond the traditional “halls of ivy.”

Maui, Hawaii

January 17–21, 1995

Inter-Continental Resort

SAVE $50

Early Registration Discount

Register by December 16

Call Hellie Bowman for details

(606) 278-3338
ACUTA salutes Fairfield and Brigham Young, 1994 Institutional Excellence Award winners

Dr. James Cross
CIO & Director of Information Technology
Michigan Technological University

The Institutional Excellence in Telecommunications Award is ACUTA's most prestigious award. This award recognizes campuses that have enhanced productivity, efficiency, excellence, and professionalism by successfully exploiting the potential of telecommunications technologies and services to support teaching, learning, research, and decision making.

The 1994 winners of the award were selected on the basis of innovative and exemplary telecommunications endeavors that are providing significant advantage to the institution, faculty, staff, and students.

Two institutions were recognized in 1994: Fairfield University, Michael D. Cioffi, Director, Communications and Technical Services; and Brigham Young University, Ferrell Mallory, Director, Telecommunications Services.

The award to Fairfield is in recognition of the university's deployment of a fiber optic voice, data, and video campus infrastructure telecommunications project in support of the institution's goals: to initiate a virtual community among its students, faculty, and staff; to automate the library; to install fiber to the desktop, a new phone system, and voice mail; and to increase applicant flow and retention.

The project was initiated over two years ago, at the end of a university-wide long range planning process, when Fairfield's Board of Trustees gave approval to the ambitious plan. The project was no simple matter. In addition to undertaking a high visibility and high risk endeavor, Fairfield was in the position of having to play catch-up with peer institutions when it came to technology. Father Aloysius P. Kelley, Fairfield's President, states, "As an institution, Fairfield University recognizes the incredible role technology will continue to play in the process of research and scholarship, and we are working to ensure that our communications network not only supports that commitment, but serves as a model for others wishing to do the same."

ACUTA salutes Fairfield for its recognition of the value and significance of deploying communications technologies and services at the desktop to support teaching, learning, research, decision making, and delivery of services to the campus community.

The award to Brigham Young is in recognition of the university's deployment of a campus-wide packet-based ethernet network and the installation of a new telephone system including a new wiring plant capable of serving voice and data needs. Objectives of the new 20,000-port capacity PBX with integrated voice mail and data switching were to: implement proven technology, eliminate capacity problems, provide a single transport medium, replace an existing data switch, and implement voice mail and ACD. The key objectives of the data network were to standardize networking on campus and to provide a reliable secure network access port in every office.

Although the full impact of the project on the BYU community is hard to measure, several changes are obvious. The use of the new capabilities such as voice mail and electronic mail have facilitated closer communications between faculty and students. New applications such as the library access system enable faculty and students to access electronic library data bases from the desktop. Brigham Young's Administrative Vice President Dee F. Anderson, states, "Due to the professional ability and dedication of the Telecommunications Services Staff, the project was completed on schedule, within budget, and has saved the university hundreds of thousands of dollars over alternative solutions. The Board of Trustees of the University, along with the campus community, recognizes and appreciates the tremendous effort and insight needed in the success of these projects."

ACUTA salutes Brigham Young for its leadership role in the planning, acquisition, implementation, management, and use of voice and data communications technologies and services.

Editor's Note: Dr. Cross is Chair of the Institutional Excellence Award Committee. To encourage ACUTA members to submit their projects for consideration, next month we will feature an overview of all entries for the 1994 Institutional Excellence Award.
Are you ready for changes in the NANP?

Ferrell Mallory  
Director, Telecommunication Services  
Brigham Young University

On January 7, 1995, the first area code under the new NANP guidelines, with interchangeable NPA code assignments, will begin functioning in Illinois. Before the beginning of February, two other states will be using new NANP area codes. If your PBX or Centrex system is not properly programmed for these changes, you and members of your campus community will not be able to reach phones using new NANP area codes.

In a recent seminar, attended by more than 125 telecommunications managers, the presenter asked for a show of hands of those who knew that NANP software was resident on their PBX system. Less than 30% raised their hands!

On October 1, 1994, three numbers became available for testing NANP capabilities. Those numbers are (630) 204-1204 (Illinois); (360) 532-0023 (Washington State); and (334) 223-0600/0601 (Alabama). System administrators anywhere within the NANP can use those numbers to test their system's capabilities.

We installed NANP software in BYU’s ROLM PBX in May. Since one of the speakers at the seminar was a ROLM product manager, I thought I should test my system’s NANP capabilities. After getting the above numbers, I immediately left the seminar, went to a phone and placed a call to the Illinois number. The call would not go through! I returned to the meeting room and asked why. You know the answer from there. Being in management, I had left adding the new area codes to our PBX to our engineer. He was waiting for me to let him know what numbers to add and when.

The test numbers above were added to our routing configuration and tested. We now know that our campus community will be able to call new campus area codes when they are added to our PBX. However, we also found hidden changes in the NANP software that our equipment provider did not know about, or at least had not told us of. One was serious enough to be passed along to our president.

In case you’ve somehow escaped the ominous warnings signalled by the letters NANP, area codes may soon have a number other than 0 or 1 for a middle digit. A portion of Washington state has been assigned a new 360 area code, effective January 15. At the same time, Alabama’s 205 area code will be split with some numbers in a new 334 zone. In March 1995, Arizona will add a 520 code.

In addition, the five-digit access code for long distance calling cards will expand to seven digits late next year, and phone numbers for international calls will grow from a maximum of 12 to a maximum of 15 digits in ‘96. In many parts of North America, callers have recently been required to dial an area code when placing a long distance call from within the same dialing zone.

By the end of 1995, more than 12 new area codes, all requiring the new NANP software, will be functional throughout the United States. With all that has been said about the changes in NANP, it seems many are still not prepared. Failure to make the necessary changes to our systems could be a career limiting oversight!

Committee membership approved

ACUTA’s Board of Directors has approved the rosters of two important committees:

The Program Committee, chaired by Jan Weller of University of Kansas, will be made up of Anne Apicella, University of New Mexico; Ruth Drozin, Bucknell University; Rich Lehn, University of North Dakota; John Meickle, Yale University; Tony Tanzi, Brown University; Tom Walsh, Miami University of Ohio; and David Wirth, Adelphi University.

The Legislative/Regulatory Affairs Committee, co-chaired by Ferrell Mallory of Brigham Young University and Harry Kyle of Oklahoma University, will include Beth Nolan Beal, Rochester Institute of Technology; Whitney Johnson, retired from Northern Michigan University; Howard Lowell, Colorado State; Dave Gstrom, Washington State; Bill Peck, University of California (San Francisco); and Fred Wood, SUNY Buffalo.

If you have questions, comments, or suggestions for either of these committees, you are encouraged to contact any committee member.

If you would like to be more involved in the work of the Association, contact the ACUTA office at (606) 278-3338. Most committees hold regular meetings via conference calls and some meet formally or informally at ACUTA events. Serving on committees or in other ways participating in the Association is an excellent means of professional development.
Simon Fraser U wins library innovation award

Simon Fraser University Library won the Innovation Showcase award from the Canadian Library Association in June for its SFULIB+ workstations. The system provides integrated access to both the SFULIB online menu and networked CD-ROMs.

Rutgers CWIS goes to WWW

INFO, the Rutgers University campus-wide information system, has been converted from Gopher to World Wide Web. Because of the Web's versatility and accessibility, more and more individuals and organizations are using it to distribute information. Rutgers computing services staff were concerned that INFO users limited to Gopher would become "second class citizens."

St. Olaf students connect to network from dorm rooms

Last year for the first time, residents of one St. Olaf College dorm were able to connect personally owned Macintoshes to the campus network from their rooms. The pilot program was such a success that the service has been expanded to three more residence halls, adding PC-compatible connections.

Maricopa Community Colleges developing information system to serve over 170,000 students

The Maricopa County Community College District, second largest community college district in the U.S., is designing an information system that will dramatically increase student access to MCCD information and services and improve the District's information management. MCCD has chosen Oracle to help develop a template approach to the student systems, creating a flexible model with CASE tools to allow quick reaction to institutional changes. The template for the student processing and information system will be coordinated with a business process reengineering effort performed jointly by Oracle, MCCD, and Axion Management Consultants.

Rochester Institute sends student notifications by e-mail

The registrar's office at Rochester Institute of Technology now sends e-mail directly to students to warn them of impending deadlines to complete their coursework for incomplete grades. The new procedure follows on the success of an innovation last February, when the bursar's office began sending e-mail to students receiving Guaranteed Student Loan checks. Other administrative departments have also expressed interest in contacting students using e-mail.

USC teaching library a "Gateway to Ideas"

The new $27.5-million, 86,000-square-foot Leavy Library at the University of Southern California has been designed from the ground up as a think tank for new modes of teaching and learning. In addition to an initial collection of more than 65,000 volumes and traditional study and reading areas, the "cybrary" offers touch-screen information kiosks, a 50-seat auditorium with multimedia projection capabilities, and an Information Commons which allows users to download material from the Internet and manipulate it with a variety of productivity software and 24-hour expert help. Innovative classes in anthropology, Western civ, fine arts, music, and cinema-television will take advantage of unique multimedia capabilities. USC's James Irvine Foundation Center for Scholarly Technology, Center for Excellence in Teaching, and vice provost for undergraduate studies are all moving their headquarters to the library. Contact: Leavy librarian Chris Ferguson, (213) 740-1228, cferguso@usc.edu.

Cal Poly developing "virtual university"

Anticipating an overwhelming half-million students in the 20-campus California state university system within ten years, California State Polytechnic University is experimenting with providing education in multimedia format to people in homes, offices, and classrooms. Working with IBM's Networking Hardware division, the school has launched a trial in which students can listen to and play back lectures, search multimedia libraries, and leave notes in video mailboxes for professors and classmates.
The Office of Financial Aid at University of Missouri-Columbia recently applied call distribution and voice processing technologies to enhance customer service. In July 1993, Financial Aid call completion via an 800 number was only 18%. Just a year later, the application of telecom technologies helped increase call completion to 93%.

Mizzou Telecom first installed a Uniform Call Distribution (UCD) group. With a UCD, the University's DMS-100 telephone switch automatically routes callers to one of many available operators. The operator who has been idle the longest receives the next call. If there are more callers than operators, the DMS-100 queues the callers. Callers placed in queue hear a message asking them to stay on the line for the next available operator. As operators become available, the DMS-100 switch automatically extends the waiting caller to the next available operator.

Complementing the UCD are “Voice Forms” programmed in the Centigram VoiceMemo II voice mail system. Voice forms “strip off” callers having routine questions/requests by asking them to answer a series of pre-recorded questions. For example, the caller might want Financial Aid to mail a publication or form. Instead of occupying a human operator's time transcribing information during a busy time of the day, the caller deposits the information (name, address, phone number, and so on) into the voice form for later transcription. Financial Aid representatives can therefore concentrate on the more complex calls.

To set up their UCD group, FA incurred an initial cost of $110 with no monthly recurring charges at all. The VoiceMemo application that allows students to make routine requests for information 24 hours a day, seven days a week costs FA $57.55 per month, a small price to pay for the FA staff time it frees up as well as the increased sense of customer satisfaction on the part of MU students and parents.

Reprinted with permission from Mizzou Telecom Connections, Warren Mayer, Editor.

Richmond seminars...

Continued from page 1

of less importance in your plan. But an emphasis on the customer may result in short term goals that prove ineffective over the long term.

Audin discussed the multi-vendor environment, stressing the critical need for standardization. Describing White Knight management—waiting till there’s a problem and then rushing to solve it—as a way to keep your job but not really the best management style.

Audin’s presentation included a wealth of information for those involved in planning and managing networks. Participants also benefited from presentations by Northern Telecom’s Bernard Gutnick and a panel discussion on Constructing and Operating Campus Network Systems.

Special thanks go out to Jan Weller, ACUTA’s new Program Committee Chair, and to Mal Reader, who, as outgoing Program Director, worked closely with Jan, for putting together a superior program in Richmond. Thanks also to John Meickle and other members of the Program Committee who were instrumental in the planning of this event.

Tapes and handouts of sessions from the Richmond seminars are available from the ACUTA office. If you were unable to attend but would like to hear presentations from the experts, call Kellie Bowman at (606) 278-3338.

Pacific Telecommunications Conference follows Maui seminar

The 17th Annual Pacific Telecommunications Conference, “Convergence: Closing the Gap,” will be held at the Sheraton Waikiki January 21–26. Some 1,200 delegates from over 40 countries are expected at this year’s event which will examine converging technologies—the rapid coming together of broadcast and telephony, the deployment of broadband facilities and services, the move to wireless technology, and the movement toward a multimedia environment.

On Saturday, January 21, the USDLA will present the pre-conference event, A Time for Growth: Distance Learning Opportunities in the Mid '90s. From Sunday through Wednesday, January 22–25, attendees will participate in workshops, panels, roundtable discussions, and more, examining such topics as New Directions in Telecommunication Applications; Development and Use of Data Networks—Four Examples; and Distance Education: Cultural and Technological Imperatives. The post-conference event on January 26 will cover The International Information Infrastructure: New and Emerging Communications Technologies.

For ACUTA members attending the Maui seminar, this is an opportunity to attend two events for one transportation cost.

For more information, contact the Pacific Telecommunications Council at (808) 941-3789.
A few months ago I advised everyone to contact the local office of your Senator and/or Representative. If you haven’t done that yet, I hope you’ll make it your first resolution for 1995!

On October 26 I sat down with Michigan Senator Riegle’s local office manager and we had a very informal, friendly discussion about the following House and Senate Bills that have been presented for consideration during the past couple of years. It is very interesting to know what has happened to some of them.

As you will see, in spite of all the press, concern, and lobbying that we have read about, not much got through. In fact, none of the six bills that I asked about will survive this session of Congress. Even though Congress will be in session for a few days at the end of November and early in December, none of these bills are on the agenda for consideration at that time. It is always possible, but very unlikely, that a Senator or Representative may be able to get his pet project tacked on as an amendment to another bill that is on the fast track through. We will not have the final word until they go home and close this session.

Here’s what I learned (the quoted items are direct from the Senator’s office):

- **SB984 The Privacy for Consumer and Workers Act**: “Hearings were held on June 6 in the Senate Labor and Human Resources Committee. There has been no action since, and none is likely.”
- **SB1822 The Communications Act of 1994**: Placed on the Senate Calendar on Sept. 14. No action was taken, none is likely.” There was news coverage on this bill when the Senate voted not to bring it to the floor and that killed it.
- **SB557 A bill to combat telemarketing fraud**: “Passed Senate in June 1993. Sent to House Judiciary Committee. No action was taken.”
- **SB 1838 Telecommunications Facilitations Act of 1994**: “Went to Senate Banking Committee in February. No action was taken. This one is dead in this Congress.”
- **SB3626/HR3626 Antitrust/Communications Reform Act of 1993**: “Passed the House June 28, 1994. Sent to the Senate. Placed on Senate Calendar in July. No action was taken.”
- **HB 3636 National Communications Competition and Information Infrastructure Act of 1993**: “Went to House Banking Committee in March 1994. Never moved from there.”

No bills carry over into 1995. All must be reintroduced and start the process all over in the new Congressional Session. We all must keep our eyes and ears open in 1995 so we understand what is happening that impacts telecommunications on the college campus.

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**Books in review**

**Newton’s Telecom Dictionary**

*Flatiron Publishing, Inc. Copyright 1994 by Harry Newton*

“I wrote this book for all of us who are trying to keep up.”

That modest statement opens a voluminous work now in its seventh edition and growing. Harry Newton describes this 1,177-page collection of terms and their explanations as a “working dictionary.” Not satisfied with mere definitions, he provides the words commonly (and uncommonly) found in the language of telecommunications and then goes further with “what the term is, how it works, how you use it, what its benefits are, what its negatives are, how it fits into the greater scheme of things, and occasionally some warnings or checklists if you’re buying.”

In a nutshell, *Newton’s Telecom Dictionary* is every telecommunications definition you always wanted but were afraid to ask for. From the most basic—Frequency: The rate at which an electrical current alternates, usually measured in Hertz. Hertz is a unit of measure which means ‘cycles per second.’—So, frequency equals the number of complete cycles of current occurring in one second.—to the complex.—the “definition” for ISDN is more than two pages long—each term, acronym, or phrase is treated carefully and thoroughly, with cross references to related topics.

Mr. Newton even makes his work (and the reader’s) fun with a few humorous entries, such as: Friesen, Gerry Mr. Friesen is half the operation which published this dictionary. Call him if you find any mistakes in this dictionary. He didn’t write it. But he should take the blame. He’s good at handling blame...

Every telecom department will find this comprehensive work invaluable. The language is as non-technical as possible for the benefit of those who are new to the field, but the scope is tremendous. Newton surely leaves no term undefined. If you are challenged to keep up with the jargon that changes every day, if you need to communicate effectively with those who are more—or less—technically sophisticated than you, if you have people in your office who must read about and understand telecommunications without any background, *Newton’s Telecom Dictionary* will be an excellent addition to your reference library.

*Editor’s Note: Appreciation is expressed to Telecom Library for a review copy of Newton’s Telecom Dictionary. For purchasing information, call (212) 691-8215.*
Managing 30 years into the future

Paul Kirvan
Editor-at-Large
Communications News

A lot can happen in 30 years. Thirty years ago, Vietnam was in the headlines daily. President Johnson was preparing for his landslide re-election victory. Peace and love were gathering momentum. It was a time of major change.

CN [Communications News, from which this article is reprinted] first appeared in 1964, and most of us who started our careers back then have depended on CN as a key part of our professional educations. We still do.

The seeds of many of the issues in telecommunications today were sown in the early 1960s. Competition. Interconnection. Resale. Divestiture. These and other important trends were just around the corner.

And to use one of our more popular stupid terms, the telecom management paradigm has experienced more significant changes in the past 30 years than in its entire limited history. We have gone from technical caretakers to active policymakers. We no longer take advice from telephone companies; now they listen to us. We are no longer on the back end of the technology; we are at the leading edge.

But what about the future? What might the telecom management profession look like in 2024? Just as the seeds of 1994 were being sown some 30 years ago, signs today suggest the future of telecom management and the industry in general. For instance:

1. Industry Structure Based on Oligopolies: Proposed cellular mergers by the RBOCs are a harbinger of a future dominated by three or four major players. By 2024 we will see the merger of the world’s largest telecom organizations into a handful of megacorporations. Each will provide local, interstate, and international communications. Each will provide some level of manufacturing and be partly owned by telecom organizations in at least two other countries. A range of wireless communications will be included in each firm’s service portfolio. Each firm will be a single source for virtually any information product or service. REGULATION as we know it will vanish; free market competition will set the pace.

2. Universal Global Communications: Universal personal telephone (UPT) numbers will allow individuals to conduct business anywhere in the world via a combination of satellite and wireless networks. It will link to highly complex global terrestrial infrastructures. This will make it easier for managers to keep in touch with vendors and employees—and vice versa.

3. Population Growth Fuels Virtual Business: Considering that the U.S. population will probably top half a billion by 2024, the nation’s highways could be in perpetual gridlock unless something is done to keep people off the roads. Mass transportation in and around major cities will see limited growth, due to excessive costs and political pressure, and homes will emerge as the principal place for conducting business. Another possibility is the emergence of employee clusters, where several people who live in the same vicinity can work in smaller, less expensive office areas.

4. People Will Communicate Visually: With full-motion video technology perfected, people will conduct business “in person” from just about anywhere. In addition to home/office video systems, video kiosks in and around cities will facilitate communications the same as phone booths do today. Mergers of cable TV and telephone companies will provide the principal infrastructure to support these specialized services. From the customer side, telecom professionals can play a key role in identifying the need and assembling the technologies.

5. The Ultimate Human–Machine Interface: With total speech recognition (example: the computer aboard the starship Enterprise) perfected by the year 2024, the ultimate computer interface is finally with us. Voiceprint recognition authenticates users who request services. Interaction with systems is via normal conversation. Visual confirmation is available when requested. With such a universal interface, everyone is more productive. Someone in the organization must manage the deployment of this technology. Telecomm managers should be poised to take advantage of this opportunity.

6. The Emergence of “Fluid Networking”: To make all the above scenarios possible, the world’s communications infrastructures must undergo incredible changes. By 2024 we will see the arrival of “fluid networking.” Just as water occupies every corner of its container—regardless of the container’s shape—the global telecom infrastructure will adapt and adjust dynamically to any demands placed on it.

Networks will be intuitive. They will constantly monitor and respond to local and regional need. See “30 Years...” on page 11

Reprinted with permission from page 64 of the October issue of Communications News.
“Pardon me. Let me get this message off my arm.”

According to Computerworld (9/17/94), Seiko Corp.’s new subsidiary Seiko Communications of America, Inc., is planning a wireless network that will send messages anywhere in the world using FM radio frequency. Seiko products will let individuals receive messages on wristwatches, car stereos, and other devices. The network, to be called Active, already has a receiver—the MessageWatch, priced at $79.95. Basic service fee is $6.95 per month. Seiko’s network is being tested in Seattle as part of the U.S. Department of Transportation’s Intelligent Vehicle Highway System.

Pushing fiber to the limit

From the Wall Street Journal (9/28/94) via Edupage: AT&T’s Bell Labs are searching for ways to expand the limits of fiber optic cable capacity. Even though a single cable can handle 32,000 simultaneous phone calls, or 2.5 billion bits per second, trunk lines in high-traffic corridors, such as the New York-Washington route, are already in danger of overloading. The problem will only worsen when interactive and video services, which consume 1,000 times the space of a regular voice conversation, become a reality. Efforts are focused on making lasers blink faster (providing more “on” and “off” signals per second), and improving fiber itself.

Taking calls at 5 miles high

USA Today (10/4/94) says GTE has upgraded its Airfone telephone service, allowing people on the ground to call passengers in the air. While its competitor, In-Flight Phone, offers to forward a message to a passenger who can then call back, the GTE service will ring the phone at your seat if you’ve registered by dialing *039 from the ground before take-off. A special phone jack in new Airfone equipment allows passengers to plug in their laptops and send files from the plane. GTE is also installing fax machines so you can fax your report from 30,000 feet.

Info tech eases retirement woes

Some analysts predict economic collapse once the Baby Boomers reach age 65. But information technology may be the knight that rescues a generation. Increasing use of information technology in American businesses should boost productivity, and shifting to an information-and-services economy will allow workers to remain productive for much longer than they could in a society dominated by factories and heavy industry. (From Business Week 9/12/94)

Of interest from the Internet

The Montreal Le Devoir (9/28/94) reports that Northern Telecom and New Brunswick Tel have unveiled their “Call Mall” allowing consumers to shop, bank, and get information electronically in their homes through a video-phone that rents for $8 monthly.

But, did they read the new Harris poll, described in the Wall Street Journal (10/5/94) which shows that only 40% of those questioned were interested in ordering movies-on demand or sports events, and only a third wanted interactive shopping? On the other hand, according to the same poll, 63% said they would want health-care information, lists of government services, a phone directory, and product reviews. Almost three fourths wanted a customized news report, and about half wanted e-mail.

Broadcasters Ted Koppel and Robert Losure (from the Wall Street Journal) think polls and focus groups are “Stone Age implements in the brave new world of interactivity,” reports the National Times (11/94). Koppel says that an ongoing electronic plebiscite in which all Americans can express themselves instantaneously on any public issue would have a paralyzing impact on representational government.

Executive women may be more interested in going online for networking possibilities. The Women’s Leadership Connection is a new daily news service offering online information of interest to women. Marketers gauge the potentially interested market of online professional women, homemakers, and mothers at around 10 million. Men may also use the network, but not to solicit dates. The service provider, VentureCom, will monitor usage, and harassers will be unceremoniously kicked off, according to the St. Petersburg Times (10/4/94).

Nynex is hoping the campus will be the birthplace of the Internet habit as it offers its electronic Yellow Pages via the Internet to universities and public libraries. The service is being offered in 7,500 locations, with about 1,400 sites participating in a pilot program.

If you’d like to use the Internet to catch up on your reading, a number of publications are now available online. Thanks to WilTel, Inc., users may browse a collection of telecommunications publications on-line at a World-Wide Web site, including back issues of Long-Distance Digest and TELECOM Digest, analysis from Insight Research Corp., working papers from the Research Institute for Telecommunications and Information Marketing, and a glossary of 700 telecom terms. The site’s universal resource locator is http://www.witel.com/library/library.html. The Wall Street Journal (10/24/94) reports that Time Warner Inc. is also expected to offer its magazines over the internet, including Time, Sports Illustrated, Entertainment Weekly, and more.
College BBSs not protected under First Amendment?

From the Chronicle of Higher Education (9/28/94) via Edupage: College administrators across the country are waiting for the final outcome of the Santa Rosa Community College case, where two female students who'd been insulted on a male-only bulletin board were paid $15,000 each, in addition to the male student who told them about the remarks. The college is negotiating with the U.S. Department of Education's Office for Civil Rights regarding changes in Santa Rosa's computing policies that would penalize conduct contributing to a "hostile, intimidating, or offensive educational environment." OCR rejected claims by the college that the remarks were protected under the First Amendment, saying the computer conference was not a public forum, but rather an "educational program."

...30 Years
Continued from page 9

conditions. They will be linked to global networks that extend services across national borders. They may even need to discuss things with the occasional human. Telecom managers with business management expertise will be in an excellent position to define how this technology will be used in a company and to guide providers as to how the service should operate.

Considering the vast technical changes of the next 30 years, telecom managers could see the profession disappear or evolve into a new activity that combines computing and networking technologies with the concepts of fluid networking and the advanced human-machine interface.

ACUTA Events Calendar

Winter Seminar
Maui, Hawaii
Jan. 17-21, 1995
Inter-Continental Resort

Spring Seminar
Kansas City, Missouri
April 9-12, 1995
Hyatt Regency

24th ANNUAL CONFERENCE
Orlando, Florida
July 16-20, 1995
Stouffer Resort

Fall Seminar
Fort Worth, Texas
Oct. 29-Nov. 1, 1995
The Worthington Hotel

TOPICS
• Strategic Planning & Budgeting for Telecom Infrastructure
• The Telecom Dept: Rx for Change
Editor's Notes...

Thanks to Jim Hadley via Ferrell Mallory (BYU) for the following interesting tidbit: Internet-related intrusions are on the upswing, according to Information Week, averaging almost 200 a month this year. That’s an increase of 77 percent from 1993. The problem partly has to do with business users lacking the awareness of the potential for security breaches of the Internet. What’s on the Internet? The Canadian National Atlas Information Service is pinging maps and geographic information at://www.nais.ccm.emr.ca... Have you heard? ROLM has a new name: Siemens ROLM Communications Inc. And AT&T announced recently it has purchased Harco. ACUTA sent out a broadcast fax regarding MCI’s new 1-800-CALL-INFO international directory assistance service and the potential for charges to campus phones. If you are having problems, contact MCI. They don’t want you to incur fraudulent costs.

On the Move...

Mary Freeman, Telecommunications Manager at the School of the Art Institute of Chicago, will assume a new position as Senior Communications Analyst at Northwestern November 7.

Robert Aylward will be leaving University of Wyoming for a new role as National Account Manager with MCI supporting new products for the higher ed market (such as Internet & Campus MCI Card) effective November 1. Robert says he still plans to attend ACUTA events.

Position Available

Telecommunications Manager
School of the Art Inst. of Chicago

Responsibilities: Directs operation of telecomm functions; provides advisory guidance to SAIC depts & offices for selection & design of telecomm services & resources; prepares SAIC telecomm budgets, & implements internal cost control programs; recommends operational improvements to billing systems; manages telecomm physical facilities; arranges for physical & software changes & modifications, & supervises installations; evaluates telecomm vendors, & recommends selection of new telecomm services & providers; manages telecomm assistant & School operator.

Qualifications: Strong work exp. in the field; B.S. in Telecomm, Comp. Sci., or related; mgmt. exp.; interpersonal & communication skills; telecomm & PC software exp. ROLM & Compco exp. a plus.

To Apply: Submit resume & cover letter to Personnel Dept., The Art Institute of Chicago, 111 So. Michigan Ave., Chicago, IL 60603-6110

More 800 numbers to block...

Buck Bayliff at Wake Forest Univ. sends three more 800 numbers you may want to block: 365-9388, 937-2888, and 945-2661. For a list of numbers reported to ACUTA as resulting in charges to campus phones, call Kevin Adkins at (606) 278-3338.

Can you help?

McGill Univ. stadium manager is unhappy with the system the spotters and coaches use to communicate, but can’t afford the “pro” cordless systems this budget year. Has anyone solved this problem inexpensively? Send ideas to: Gary Bernstein, 840 Doctor Penfield, Montreal, PQ H3A 1A4 or email: gary@telecomm.lan.mcgill.ca

Position Available

Senior ROLM Switch Technician
Univ. of Rochester

Environment: Large multi-node ROLM 9000

Qualifications: ROLM certification and training; "CBX II 9000 Maintenance Stand-Along," INL training (295 Bus), and "Phonemail Installation and Maintenance." Must demonstrate superior organization skills, ability to serve as a role model and technical leader, superior interpersonal skills, resourcefulness, and abilities to be meticulous and diagnose complex problems.

To Apply: Send resume by November 30 to: University of Rochester Employment Services, Box 636PAS, 260 Crittenden Blvd., Rochester, NY 14642. Refer to position number 4871.

Equal opportunity employer

Position Available

Asst/Assoc Professor
McClure Sch. of Comm. Sys. Mgmt.

Responsibilities: Teach & pursue research in management of communication technologies, esp. voice & interactive image/video applications.

Qualifications: Familiar with project mgmt. principles as they relate to telecomm resources, voice technologies & applications, & video technologies such as videoconferencing. Interest in mgmt. & impact of emerging technologies. PhD in relevant field or MS plus appropriate exp. Teaching exp. strongly desired. Minimum salary $36-42,000 /9 mos. plus benefits.

To Apply: Send letter, vitae, & 3 letters of ref by Dec. 15 to: Dr. Phyllis Bernt, Director, McClure School of Comm. Sys. Mgmt., Rm. 197, 9 S. College St., Ohio Univ., Athens, OH 45701

AA/EOE (Women & minorities encouraged to apply)