Technology in Education

TIPS News

Telecommunications Infrastructure Project Statewide

Volume 1 Issue 2 CALIFORNIA COMMUNITY COLLEGES December 1997

A Message From the Chancellor's Office

Lebaron Woodyard, Dean of Technology and Communications, CCCCO

*This is **Part Two** in a three-part series on the expansion of the California Community Colleges Telecommunications and Technology Infrastructure Program.*

The California Community Colleges' (CCC) Telecommunications and Technology Infrastructure Program (TTIP) originally funded in 1996-97, established standards and guidelines for the development and implementation of a comprehensive telecommunications infrastructure, including a collaborative network with the California State University (CSU) system, model applications, and faculty and staff development in the areas of telecommunications and technology.

The infrastructure is divided in two halves: inter-college connectivity and intra-college connectivity.

Inter-College Connectivity

The TTIP must expand in the area of inter-college connectivity to accommodate increased use of the data and video network that has been formed with the CSU system. The existing network is capable of carrying 45 Mbps; the introduction of video over the network in 1998 for the CCC will require the network to be expanded. In 1997-98 the CCC system will evaluate the implementation needs associated with the Student Friendly Services program coordinated by the CSU and the University of California Pathways Project in conjunction with other segments of education in California. These needs are electronic application, student services programs, and information projects. The Student Friendly Services program for the CCC system would be expanded in the budget year 1998-99 for systemwide implementation.

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Chancellor's Office Releases California Community College TTIP Allocation Information

José Michel, Coordinator, Telecommunications Unit, CCCCO

The Chancellor's Office announced the proposed allocation of funds for the 1997-98 Telecommunications Technology Infrastructure Program for the California Community Colleges.

The State Budget Act provides $18 million for the continued build out of the Community Colleges Technology Infrastructure. This year $13,865,000 was allocated for: (1) network services provided by the California State University and California Community Colleges Network (4CNet), including, the acquisition and installation of equipment, lease of communication lines, software, and other costs associated with connecting to the network; (2) video conference connectivity, transport, maintenance, and training; (3) local planning and development for improving library technology, including library automation, connections to college local area networks, library technology plans, and connec-

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•In This Issue•

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•Articles appearing in this newsletter plus other relevant news may also be accessed on the World Wide Web at:
<http://video.4c.net/TIPS>.

California State University and California Community Colleges Satellite Initiative Update

Dave Reese, Director of Networking and Computers
CSU Chancellor's Office

The California State University Satellite Project (CSUSAT) began in January 1996 as part of the California State University (CSU) Integrated Technology Strategy. Its design represents an active and effective method of leveraging the external networking infrastructure to connect CSU campuses to their communities.

The project involves a five-year lease of a percentage of transponder time equivalent to two channels on the Hughes Communications Galaxy V (SBS-5) satellite.

CSUSAT has a five year $2 million lease with funding provided by both the Commission on the Extended University (CEU) and the Commission on Telecommunications Infrastructure (CTI). Funding authorization specified support for both the lease cost of the satellite time and the construction of an uplink facility in Southern California at the CSU Chancellor's Office WestEd facility.

As part of the new CSU and California Community Colleges (CCC) data and video network implementation project (4CNet), a CSU/CCC committee met in the spring of 1997 and agreed to an MPEG-2 standard for future satellite transmission.

During the spring 1996 term, Chico was the only campus that delivered programs via CSUSAT. In the fall 1996 term, five CSU institutions (Chico, Dominguez Hills, Long Beach, Fresno, and Sacramento) provided programming using CSUSAT. Several other campuses submitted proposals but did not actually offer programming.

Network control center (NCC) facilities and services will need to be acquired through this project to provide a means by which CSU technicians may view, adjust, and switch analog audio/video signals designated as input sources to the KU satellite uplink. The purpose of the NCC is to serve as an origination "headend" and electronic hub for routing and monitoring various audio/video baseband signals and input sources to a KU uplink earth station that will be furnished and installed by others.

There are two technical issues that must also be addressed:

1. The current CSUSAT technology is Spectrum Saver which is a proprietary standard and will not be compatible with the MPEG2 standard that has been recently adopted by the CSU and the CCC.

2. Also, the existing CSUSAT and CCC downlinks will be incompatible for the same reason. Management of the downlink sites is the responsibility of the campus delivering the instruction.

The CSU and CCV satellite committees are meeting to resolve these issues.

The CSU Chancellor's Office Division of Information Resources and Technology (CO/IRT) operates and maintains for the CSU system a well-established, entrenched DS-3 digital backbone network supporting data and compressed video services.

Although the CSU maintains a KU mobile satellite uplink which takes advantage of C and KU uplink stations operated by its Chico campus, and has some fiber, cable, and microwave connectivity to other uplink sources, programming and technical demands ne-

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cessitated that a KU analog satellite uplink be placed at the CSU primary data communications center in Los Alamitos.

Product Summary

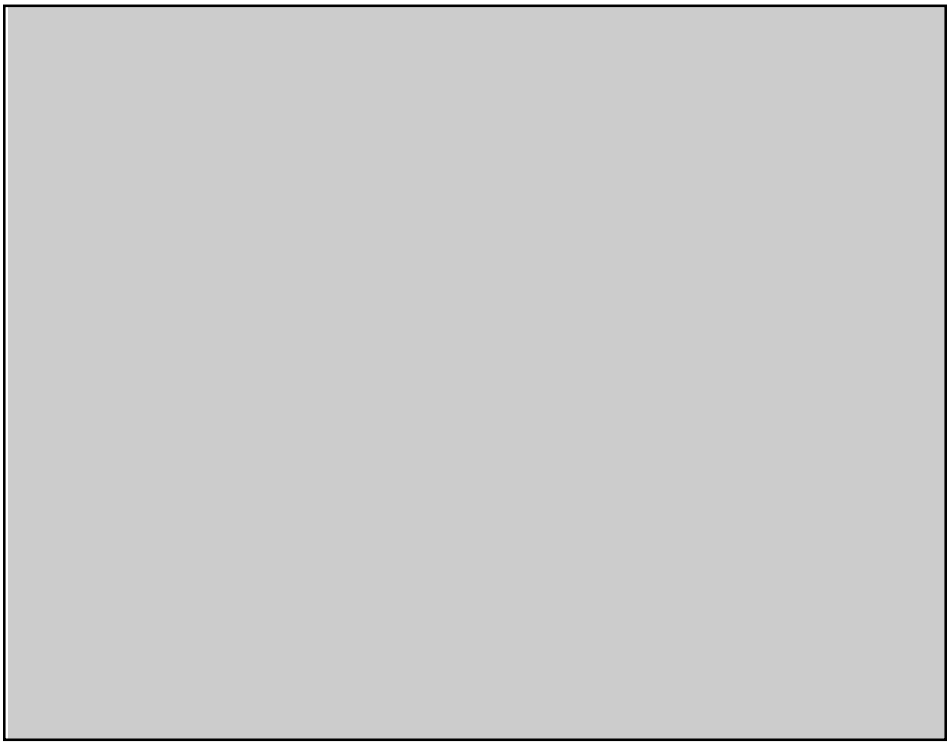
There are a number of satellite compressed digital video products on the market today. The three products that most closely match CSU and CCC requirements and recommended by Skjei Telecom, Inc., the consultant firm retained by CSU, are from NextLevel Systems, Scientific-Atlanta, and Wegener.

• ***Next Level*** - Next Level (formally General Instrument) has an MPEG-2/DVB product called Magnitude. This product was developed by Compression Labs, Inc. (CLI) and recently won the SSPI Industry Innovator's Award for their patented encoder statistical multiplexing (StatMux) capability. The commercial IRD, model SR-3200, is intended for use in business TV and distance learning applications.

• ***Scientific-Atlanta*** - Scientific-Atlanta's (S-A) digital video product line is called PowerVu. PowerVu is an MPEG-2/DVB compliant product line consisting of an encoding system and IRDs. Their commercial IRD, the D9234 Business Satellite Receiver (BSR), targets private and distance learning network markets.

• ***Wegener*** - Wegener and COMSAT joined forces to develop a product. The system was marketed as "compact, rugged, and affordable;" all these attributes are required for the market but are also applicable for most distance learning applications. The product has since evolved into an MPEG-2/DVB compliant system, and has had some success in the private network market.

Project Implementation Schedule



TTIP *(continued from page 1)*

tions to external databases; (4) digital and analog satellite systems and components not funded in fiscal year 1996-97; (5) the development and expansion of local area networks both within and between buildings; (6) development of districtwide area networks for interconnecting multiple campuses and off campus centers within the district; and, (7) implementation of local technology applications that are intended to improve student learning and other services.

Last year, districts were required to certify their 1997-98 TTIP budgets. District offices should anticipate receiving their 1997-98 TTIP Certification documents the week of December 1. Districts will be required to submit the certification documents by Monday, February 2, 1998. Once districts' documents have been received and reviewed by the Chancellor's staff, districts will receive their funds through a special apportionment in March 1998.

A series of point-to-point video workshops will be conducted by the Chancellor's Office staff over the Community College video conferencing network during the first two weeks of December and during the second week on January 1998. For a listing of workshop sites, please refer to the Chancellor's Office web site at www.cccco.edu under "What's New".

Visit the TIPS web site at:

http://video.4c.net/TIPS

Electronic Transcript Exchange Project at College of the Redwoods

Joyce Ksicinski, Planning, Research & Development, College of the Redwoods

College of the Redwoods (CR) was awarded $57,902 by the California Community Colleges, Chancellor's Office for the initial phase of the Telecommunications Model Applications Pilot Projects.

The first step in implementing the electronic transcript exchange program is establishing trading capability with nearby Humboldt State University (HSU). CR and HSU data processing and admissions staff have met this fall to define the parameters and data elements for transmission. When this crosswalk table programming is completed early in 1998, pilot testing of the transmission will be possible.

Project director Cathy Dellabalma and HSU registrar Dennis Geyer recently participated in SPEEDE/EXPRESS training at a national conference for admissions professionals. This has prepared them to design the necessary training for CR personnel. When programming and training are completed in a few months, transmission will be tested for accurate transmittal of information through hard copy verification.

Virtual Counseling at Rancho Santiago Community College District

Lynne Stedman, Ph.D, Dean of Counseling, Santa Ana College

The Rancho Santiago Community College District (RSCCD) is in the process of implementing virtual counseling services.

First, the complete college catalog and a counseling web site will be put on the Internet so that students can access information about the college and counseling online. Second, an e-mail address for the counseling department will be added to the web site so students can ask questions and counselors can respond to their requests. Third, one-on-one counseling sessions via videoconferencing between the two RSCCD colleges (Santa Ana campus and Orange campus) and two continuing education centers will be provided for students making the transition from non-credit programs and classes to college credit classes.

RSCCD has a huge pool of potential college students enrolled at our continuing education centers. Our Continuing Education Division counselors are overburdened with the volume of students they must serve, and cannot provide the kind of counseling students need to focus their educational efforts. With our proposed program we will be able to accommodate one of the most underserved populations in the state: non-credit students. To facilitate successful distance counseling sessions, faculty will have the opportunity to be trained by an expert communications consultant. Those initially trained will train another in an "each one, teach one" format.

As of November, we have successfully added the current college catalog online. Members of the counseling staff are designing the counseling web site , and we are currently receiving e-mail from potential students, some as far away as Japan. Once the counseling web site is ready, our goal is to have links to most frequently asked questions, counselors' individual e-mail pages with their pictures on-line, a marketing link thatpublicizes counseling courses, workshops, film services and seminars, as well as links to information on careers, jobs, and university home pages.

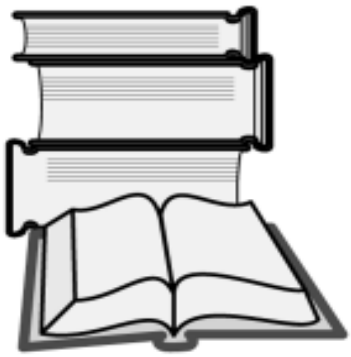
Sierra to Expand Distance Learning to Nevada County Public Library

Brian Haley, Dean, Sierrra College Learning Resource Center

Starting with the spring 1998 semester, Sierra Community College in Rocklin (20 miles east of Sacramento) will offer a full selection of live, interactive distance learning classes to the main branch of the Nevada County Public Library System in Nevada City.

Sierra will broadcast over TCI cable 19 transfer-level courses. Classes will be offered Monday through Saturday from 8 AM to 9:30 PM. For the first semester of this program, students will only be able to take classes offered when the library is open. However, according to Nevada County Librarian Francisco Pinneli, it is hoped that the demand for theses classes and for the online, full-text resources that will also be delivered will allow the public library to expand its hours.

As part of the agreement, Sierra College LRC Dean Brian Haley notes that the library will receive full-text versions of Ebscohost's Masterfile 1500 and UMI's Northern California newspaper bundle. These two products will significantly expand the library's periodical and newspaper access. Ebscohost offers 1500 indexed and full-text journals, most in two or three year backfiles, selected from a popular array of scholarly and mainstream publications. UMI ProQuest Direct provides full-text, online access to the Sacramento Bee, the San Francisco Chronicle and Examiner, the Los Angeles Times, the New York Times, as well as 12 other California newspapers.



Subscription costs for the public library, as well as hardware and technical support, will be covered by Sierra College. In return, Nevada County Public Library will provide security and facilitation for Sierra's distance learning program. The winners are the people of Nevada County who will enjoy the convenience of locally delivered college classes as well as a public library with new and exciting online resources. Librarians Haley and Pinneli see this cooperative venture as a viable model for other public libraries and community colleges, since both institutions are supported by the public and serve the same patrons.

Listserv Established For Library And Learning Resources Programs

Carolyn F. Norman, Coordinator, Library and Learning Resources Programs

The California Community Colleges, Chancellor's Office is pleased to announce the ccc-lib-lrc-list for the college systems Library and Learning Resources Programs. The purpose of the listserv is to:

- disseminate systemwide information
- discuss issues and topics of concern to the college system's library and learning resources community
- facilitate networking and sharing of program information

This list combines three lists (ccc-lib-list, ccc-lrc-list and ccc-tutoring-list) previously established for the community college systems by Douglas Brantley at Cerritos College. In 1993, Brantley established several listservs for the college system because he believes increased communication between the Chancellor's Office and the colleges and between personnel at the individual colleges is a good idea.

This philosophy is shared by the Coordinator, Library and Learning Resources Programs, who believes that communication among the library, media, tutorial and learning assistance programs is essential to systemwide improvement, evaluation, and planning. Currently, no one media or organization enables Library and Learning Resources Programs to communicate between and among themselves and the Chancellor's Office.

Individuals who do not have access to e-mail may request access through the Faculty Access to Computers Program, which is a part of the Telecommunications Infrastructure Act of 1996. Contact Jose Michel at (916) 323- 4278 for additional information on this program.

To subscribe to the list, send a message to:

mailserve@cerritos.edu and include the following command in the text message:

subscribe ccc-lib-lrc-list

Send your messages to:

ccc-lib-lrc-list@cerritos.edu

Contact: Carolyn F. Norman, Coordinator, Library and Learning Resources Programs, California Community Colleges (916) 322-6290.

Message *(continued from page 1)*

In the first two years of the TTIP, the colleges and districts were provided with downlink capability for both analog and digital satellite reception. This allows all CCC sites to receive satellite signals in multiple modes and improves the diversity of methods for interacting with other educational sites. While the system has two uplink sites for analog transmission, there is no digital uplink for the system. We propose to install and operate a digital uplink on behalf of the CCC system.

The uplink site would be selected through the competitive grant process. The project would be for multiple years with a goal of self support in five years. The uplink site would be connected to 4CNet and thus be capable of receiving transmissions from other CCC sites, which will allow the uplink site to distribute the signal virtually anywhere in the world.

Intra-College Connectivity

The CCC Strategic Telecommunications Plan recommends a strategy of developing the inter-college connections of the system first. By the end of 1997-98, the TTIP will have achieved a standard level of connectivity between the 123 CCC sites in the areas of data, video, and satellite downlink reception. The development and implementation of the local technology infrastructure was recommended as the program's focus in its second phase. Local college connections on the campus and to the campus are critical cornerstones to the full deployment and use of technology by faculty, students, and staff.

There are two broad areas contained in the TTIP that address intra-college connectivity: library automation systems and an "other" optional uses area. The later contains three broad program areas that expand the college's local infrastructure.

Funds supporting the intra-college connectivity area are proposed to carry a 50percent match requirement. The match may be federal or state and must be used in the area of the qualifying TTIP funds.

Library Automation Systems

The library standards adopted in 1996 are applicable to this area. The role of the library in the learning experience is critical and the deployment of library resources beyond its physical structure is needed to support the learner. This is applicable to both the student enrolled in a traditionally taught course or a course taught via distance education. The ability of the CCC system to be a significant and effective player in technology related instruction is somewhat based on its information database and how access for its users is achieved.

The purpose of this augmentation is to achieve minimum standards related to library networking technology and to provide the system with access to its information resources from multiple locations.

The implementation of this program will produce savings to the system. The acquisition of standard software/hardware and electronic databases will reduce cost through volume purchases and cooperative purchase agreements with vendors. A coordinated leveraging of the system's size is important in achieving the best prices and producing the savings. The intent is for the TTIP to facilitate the role of the Chancellor's Office in accomplishing that function.

Other Optional Areas

We are looking at three other optional areas. If districts have achieved all components of library automation, they have the option and flexibility to use funds in the areas listed below:

1. *Local telecommunications planning and the development and expansion of local area networks, including satellite systems and components, that facilitate voice, video, and data transmission both within and between buildings.*

This is an area that focuses on the local infrastructure of a college. It also addresses the preliminary area of planning for telecommunications. While not required, it is strongly recommended that if the college does not have an established plan for telecommunications and technology, it should use funds to develop a plan. The emphasis of this area is on buildings, communications within and between them. It can be either wired, wireless, or combination solutions.

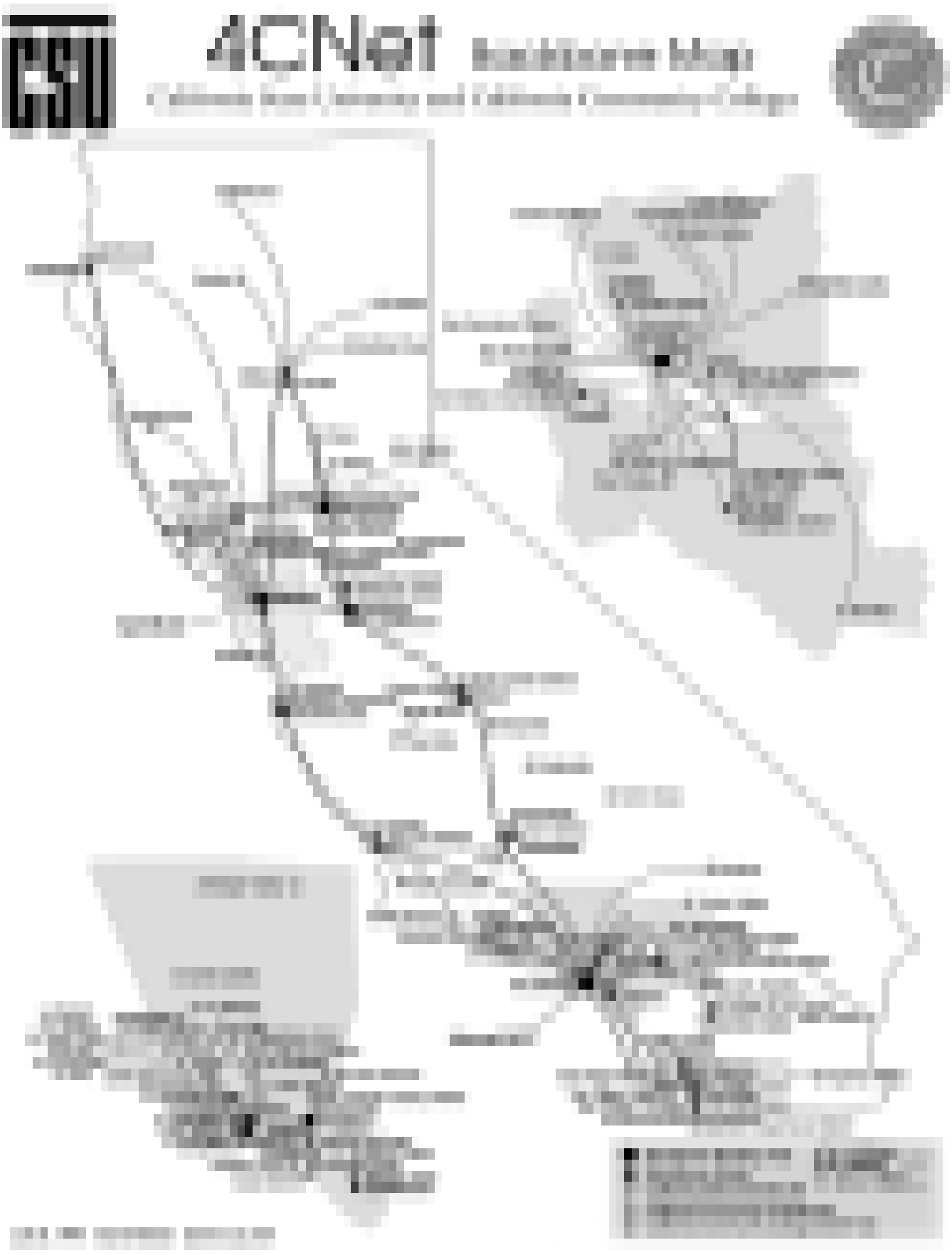
2. *Planning and development of district-wide area networks for interconnecting multiple campuses and off campus centers.*

The TTIP initial infrastructure sites in the system's inter- college connection plan only addressed colleges. Campuses not colleges and/or off-campus centers were not included. This area addresses those sites. The emphasis is on Wide Area Networks (WANs) that extends the links of the 4CNet backbone.

3. *Redevelopment, implementation, and/or evaluation of local technology applications that are intended to improve student learning, instructional services, and administrative services.*

This area addresses what you can do with the technology from a local perspective. Within the TTIP there are applications that are being piloted from a statewide perspective.

Part Three *will address application pilot projects and training needs.*



California Community Colleges to Develop Technology Plan II

Lebaron Woodyard, Dean of Technology and Communications, CCCCO

In his "State of the System" address to the Chief Executive Officers (CEOs) at the Chancellor's annual CEO meeting, Chancellor Tom Nussbaum established a goal to develop Part II of a system-wide technology plan with an emphasis on instructional delivery. The California Community College (CCC) system completed a two-year process in May 1996 to develop a Strategic Telecommunications Plan (STP). The STP presented a series of recommendations in three areas: technical information structure, application development, and human resources training. Plan II will expand on each of these areas with an emphasis on instructional delivery and student access.

Rick Matthews, a biology instructor from Miramar College of the San Diego Community College District, was selected by the Chancellor to coordinate the project. Rick will be on an 18 to 24-month inter-jurisdictional exchange with the Chancellor's Office. He has been assigned to the Educational Services and Economic Development Division, which has administrative responsibility for the Telecommunication and Technology Infrastructure Program (TTIP). The TTIP, under the direction of Lebaron Woodyard, Dean, Instructional Resources and Technology, will provide resources to the project, and work in conjunction to deliver a Technology Plan II by January 1999.

Matthews will work with the Telecommunications and Technology Advisory Committee (TTAC) to develop the plan. The committee will be comprised of:

5	CEOs
5	Faculty
2	CISOA
1	CIO
1	CSSO
1	CBO
2	CO
1	CAISAC
2	Centers: Technical and 4C@O.N.E.
20	members total

The selection of advisory committee members is in progress and will be completed by January 1998. The Technology Plan II will be a regular and ongoing feature of TIPS, so look for future updates.

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