Technology Master Plan

Current Revision Date: January 1, 1999
1. INTRODUCTION’  

2. AMARILLO COLLEGE STRATEGIC PLAN  

2.1 Contents of the Strategic Plan  
2.1.1 Amarillo College Institutional Mission  
2.1.2 Amarillo College Goals  
2.1.3 Amarillo College Philosophy and Comments  
2.1.4 Critical Priorities for 1995-1997 Biennium  
2.1.5 Ongoing Priorities and Underlying Guiding Principles  
2.1.6 Objectives, Standards and Outcomes  

2.2 Summary  

3. INFORMATION TECHNOLOGY SERVICES DIVISION  

3.1 Mission Statement  
3.2 Division Description  

3.3 Standards  
3.3.1 Policies  

4. NETWORK  

4.1 Wide-Area Network (WAN)  
4.1.1 Description  
4.1.2 Internet Services  

4.2 Local Area Networks  
4.2.1 Washington Street Campus  
4.2.2 West Campus  
4.2.3 Business and Industry Center  
4.2.4 Amarillo Technical Center  

5. ADMINISTRATIVE TECHNOLOGY  

5.1 Amarillo College Foundation  

5.2 Administrative Computing Technology  
5.2.1 Network File Servers  
5.2.2 Network Backups  
5.2.3 Email Systems  
5.2.4 World Wide Web Services (WWW)  
5.2.5 Financial/Student Records Computer Equipment  
5.2.6 Telephone Registration System  

5.3 Administrative Software Systems
5.3.1 System Utilities
5.3.2 Financial Systems
5.3.3 Student Records Systems

5.4 Voice Communications
5.4.1 Washington Street Campus
5.4.2 West Campus
5.4.3 Polk Street Campus
5.4.4 ATC CAMPUS

6. ACADEMIC COMPUTING TECHNOLOGY
6.1 Minicomputer Systems
6.2 Network File Servers
6.3 Instructional labs
6.4 Distance Education

7. STAFF TRAINING
7.1 PC / Application Training
7.2 Telephone Training
7.2.1 Basic Telephone Training
7.2.2 Multi-Line Telephone Training
7.2.3 Voice Mail Training
7.2.4 “Train the trainers”
7.3 AV Equipment
7.3.1 Basic User Training

8. TECHNOLOGY REPLACEMENT
8.1 Replacement of Personal Computers
8.1.1 Personal Computer Request Form

9. TECHNOLOGY SURVEY - FALL 1996
9.1 Survey contents
9.2 Survey results
9.2.1 Part I • User Knowledge
9.2.2 Part II • Support of technology and related support issues
9.2.3 Part III • Evaluation of existing technology-related hardware
9.2.4 Part IV • Evaluation of existing application software
9.2.5 Part V • Connectivity
9.3 Summary of the survey results
9.3.1 Areas for Concern
9.3.2 Recommendations

10. RECOMMENDATIONS

10.1 Information Technology Services
  10.1.1 General Recommendations
  10.1.2 Staffing

10.2 Standards

10.3 Policies

10.4 Platforms and software

10.5 Training

10.6 Network
  10.6.1 Wide-Area Network
  10.6.2 Local Area Networks

10.7 Administrative Technology

10.8 Academic Computing Technology
  10.8.1 Instructional Delivery
  10.8.2 Classroom Equipment
  10.8.3 Instructional host systems

10.9 Technology Replacement
  10.9.1 Desktop Computing Technology
  10.9.2 Telecommunications Technology
  10.9.3 Audio Visual Equipment

10.10 Technology Fee

10.11 Distance Learning
  10.11.1 Video Conferencing
  10.11.2 Network Supported Instruction
  10.11.3 Recommendations
Electronic mail is available to facilitate the professional and business work of persons employed at Amarillo College. It provides a way to communicate with individuals and with designated groups. Amarillo College encourages appropriate use of E-mail to enhance productivity through the efficient exchange of information in furtherance of education, public service and the expression of ideas. Use of this resource must be consistent with these concepts. As a responsible member of the college community, employees are expected to act in accordance with the following general guidelines. These guidelines are not meant to be all-inclusive. Generally accepted practices of common sense, decency, civility and legality should be taken in to account when E-mail is utilized.

The Information Technology Service (ITS) staff is charged with maintaining the hardware, software and network for maximum efficiency of the E-mail system. Lack of adherence to these guidelines will adversely impact the capabilities of campus-wide servers. ITS staff will counsel with individuals whose practices impinge on the capabilities of the services and assist them in reducing their drain on resources.

**Guidelines**

Messages sent as electronic mail should meet the same standards for distribution or display as if they were tangible documents. The user should identify himself or herself clearly and accurately in all electronic communications. A user’s concealing or misrepresenting identity or affiliation is not appropriate. Alteration of the source of electronic mail or its message is unethical and possibly illegal.

Electronic mail is the property of the college; however, no attempt to access another’s electronic mail by unauthorized individuals will be allowed. ITS employees may, from time to time, have a need to access a user’s E-mail for routine purposes of repair, upgrades, etc. Concerning the issue of federal law governing privacy, network system administrators will not intentionally access the content of E-mail messages and if content is accidentally accessed, it will be treated as confidential.

The user is asked to be sensitive to the inherent limitations of shared network resources. No computer security system can absolutely prevent unauthorized access to its files. The college will be unable to guarantee absolute privacy and confidentiality of electronic documents. Password security and confidentiality are the responsibility of the user. ITS will provide guidelines for the frequency of change and the nature of passwords, In keeping with good judgement, users should create electronic documents as if they were to be made available to the public.

Abusive, threatening, or harassing E-mail is prohibited. While debate on controversial issues is inevitable and essential at an educational institution, that E-mail of a debate nature should advance the cause of learning and mutual understanding.

Proposed Email Policy December 16, 1998
The user is expected to promote efficient use of network resources consistent with the instructional, research, public service and administrative goals of the college. The user is expected to refrain from any use that would interfere with another’s work or disrupt network resources. The user should avoid wasteful and disruptive practices such as allowing large amounts of E-mail to go unattended, spreading “chain letters”, or sending of other unsolicited material. Restraint in the use of the “Everyone” feature of the E-mail software is expected of the user.

E-mail and other network resources may not be used for commercial purposes or for personal financial gain. This does not preclude the user from investigating the relative advantages or disadvantages of a potential college-purchased product.

Standards of conduct expected of students, faculty and staff in regard to the use of telephones, libraries and other institutional resources apply to E-mail. Users will be held accountable for their actions, as they would be when using other forms of communication.

Examples of Acceptable Uses of E-mail

The distribution of minutes of various committees as well as other notices of general interest to all faculty and staff.

The use of “personal groups” is appropriate in circumstances, such as updating mailing lists, announcing committee assignments, and distributing facts about pending legislation.

Examples of Inappropriate Uses of E-mail

Announcement of the sale of personal property or solicitation of support for a particular political position. However, “point-to-point” communication with governmental representatives is acceptable.

The user is urged to consider before sending recipes, jokes/humor, or requests for placement of a pet etc.

User subscription to “listserves” is an acceptable method of keeping current on many issues. The user is expected to confine subscriptions to a limited number and not “backlog” the E-mail system with large number of unattended items.

The sending of large attachments such as personal photographic images is strongly discouraged.

The user is expected to be honest, legal, ethical and consider what he or she is sending before sending it. Abuse of computing privileges and any violations of these guidelines and policies established by the college will be treated as a serious matter. By using the college’s E-mail system, the user agrees to abide by these policies. These policies are subject to change as technology advances, legal outcomes, or other unforeseen events may occur.

Proposed Email Policy December 16, 1998
Internet Use Policy

This policy applies to all Amarillo College employee computers or networks users. Policies related to instructional labs for student use are addressed in those labs. If you have any questions about the policy, please contact Information Technology Services personnel for more information.

Purpose

To fulfill our mission, Amarillo College provides access to a broad range of information resources, including those available through the Internet. We make this service available as part of our mission to offer a broadly defined program of informational, educational, recreational and cultural enrichment opportunities for the members of the College and community of Amarillo.

The College only assumes responsibility for the information provided on the home page and the supporting web pages resident on this server. Amarillo College does not monitor and has no control over the information accessed through the Internet. The Internet offers access to many valuable local, national, and international sources of information. However, not all sources on the Internet provide accurate, complete, or current information. A good information consumer evaluates the validity of information found.

Responsibilities of Users

The user will engage in no activity which abuses any resource of the Amarillo College network, whereby the network is restricted in use or is damaged in any manner. The Information Technology Services staff constantly monitors the AC network to insure the proper operation of the service. The ITS staff will counsel with individuals whose practices impinge on the capabilities of services and assist those individuals in eliminating any abusive practices.

Choosing and evaluating sources

The Internet is a global entity with a highly diverse user population and information content. College patrons use it at their own risk. The College cannot censor access to materials or protect users from materials they may find offensive. The user alone is responsible for the information accessed through the Internet. The College reserves the right to choose sources to link to our home page. In doing so, the College will provide links only to those sites that conform to the College’s mission and goals. Beyond this, we do not monitor or control information accessible through the Internet and do not accept responsibility for its content. We are not responsible for changes in content of the sources to which we link, nor for the content of sources accessed through secondary links. As with printed information, not all sources on the Internet provide accurate, complete, or current information. Users should evaluate Internet sources just as they do printed publications, questioning the validity of the information provided. The College expressly disclaims any liability or responsibility arising from access to or use of information obtained through its electronic information systems, or any consequences thereof.

Proposed Internet Policy December 16, 1998
From: Cindy Bowling <CindyB@charles.cc.md.us>
To: “Council for Resource Development” <crd@lists.sno...
Date: Tue, Feb 9, 1999 10:28 AM
Subject: [crd] Investment and Gift Acceptance Policies

We are in the process of writing both investment and gift acceptance policies for our foundation. If anyone has sample policies that they could share with us, we would appreciate it.

Thanking you in advance for your help and support.

Cindy Bowling
Development Coordinator
Charles County Community College
PO Box 910
La Plata, MD 20646-0910
cindyb@charles.cc.md.us

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You are currently subscribed in Normal Mail mode to CRD as: [KFHENARD@ipgate.act.edu]
To visit the CRD WEB site just click on this hotlink: http://www.slcc.edu/crd
installation by the ITS division.

**Non-Institutional Applications**

ITS will assist in installation and limited support of non-essential application software by Amarillo College employees. Non-essential is defined as application software not required to perform the job.

The employee is responsible for storage of this software. The employee must provide original source media and proof of purchase prior to installation by the ITS division.

The ITS division has the right to determine if this software is interfering with the operation of the workstation or network and inform the user this application software cannot be used at the college. Examples of the non-essential application programs would be: *AfterDark* screen savers, Mosaic web browser, Pointcase network, etc.
Audiovisual Equipment Use Policy

Equipment Services maintains a large inventory of multimedia equipment for instructional support. Equipment will be delivered for use on a one-time or regularly scheduled basis. Equipment that is in adequate supply can be reserved for semester use. These items will be picked-up for servicing at the end of the semester and will be returned upon request. Items checked-out on a semester basis may be placed into hourly use by Equipment Services in the event of equipment shortage. Operating hours are 7:00 a.m. to 4:00 p.m. Monday through Friday.

Priority for Equipment Check-Out

Equipment will be distributed for use according to the following priorities:

- classroom and official college programs
- miscellaneous administrative use
- faculty use for instructional preparation
- support of student activities
- other campus use

Equipment Services does not provide equipment for non-college sponsored activities.

Equipment Delivery/Sign Out Procedure

On Campus Use: Equipment will be delivered to a secure location, set up before the time requested and retrieved by Equipment Services personnel. Requests must be received 24 hours in advance of the time at which the equipment is needed. If video or computer projection is required, the request must be received 48 hours in advance.

Off Campus Use: A request must be received 72 hours (not including weekends) prior to the time that the equipment is needed. Equipment Services cannot guarantee the availability of the desired equipment. The person making the request will be notified at that time if the equipment is not available. The person making the request must pick up, sign for, and return the equipment to Equipment Services Distribution, Russell Hall-I 21. For College-sponsored activities, Equipment Services personnel can be available for delivery, set-up, and retrieval of the requested equipment.

Equipment Deliveries for Off Campus, College Sponsored Functions: All functions must be scheduled where equipment can be delivered to a secure location and pick-up can be made during normal working hours. The request must be received and approved a minimum of 3 working days in advance of the setup.

Late Requests for Equipment: Equipment Services cannot guarantee availability and/or delivery of equipment requested less than 24 hours in advance of the need. Faculty and
staff making late requests may have to pick up equipment, subject to availability, from Equipment Services in Russell Hall 121. This equipment must be returned by the user unless prior arrangements have been made.

**Eligibility for Equipment Check-Out**

**AC Employees:** College-owned equipment may be reserved for use, subject to availability, by any employee of Amarillo College for use at a College-sponsored activity, provided that proper check-out procedures have been followed. Amarillo College reserves the right to deny use of equipment if deemed not to be in the interest of the College. Equipment may be checked-out for off campus use overnight and over weekends for instructional preparation or presentation and is subject to availability.

**Students:** Students may only check-out equipment for instructional/class projects, not for personal use. A valid student I.D., written authorization from the instructor and the type of equipment requested is required. The student’s instructor assumes responsibility for the use and security of the equipment. Students will follow the same procedures as Instructors/Employees for off campus equipment check-out.

**Equipment Available for Class Use and Check-Out**

**Video**
- 3/4 inch
- *1/2 inch. V.H.S. units
- *laser disc players
- *monitor/TVs-1 9/20" and 26/27"

**Projectors**
- *LCD-Data,Video
- *16mm film
- *opaque
- *film strip
- *video
- *overhead
- *screens
- *35mm slide
- *synchronized 35mm slide/cassette tape
- *synchronized film strip/cassette tape
- *LCD PC panels

**Computer**
- *PC/MS DOS laptops: can be checked out for 24 to 48 hours. Laptops cannot be requested for semester use.

**Audio**
- *microphones/wireless and hand-held
- *amplifiers/mixers
- *speakers

Proposed Equipment Use Policy December 16, 1998
*cassette tape players/recorders
*cd players
**Misc.**
*laser pointers
*easels
*flip charts/portable dry erase boards
*markers

**Equipment Purchase**

Departments should contact Equipment Services to obtain equipment specifications and representative prices for departmental equipment needs. These acquisitions should be discussed and planned during the departmental budgeting process.

Future equipment acquisitions, by Equipment Services on behalf of the institution, are based on the repetitive use of a piece of equipment at one location, the obsolescence of the equipment and/or the serviceability of the equipment.

**Equipment Repair**

Equipment Services maintains qualified personnel and facilities to repair most types of equipment. Call either the HelpDesk or Equipment Services to request assistance with the repair of any malfunctioning equipment. In a request for repair, please specify the type of equipment, the location, when the malfunction occurred, and the nature of the problem.
MEMORANDUM
OFFICE OF THE PRESIDENT

TO: Dave Bulla
Bill Crawford
Paul Haiduk
Tim Hicks
Janet Loper
Patricia Maddox
Neil Moseley
Mike Ryan
Cynthia Urbina

FROM: Bud Joyner
George Mason

DATE: April 15, 1996

SUBJECT: TECHNOLOGY USERS COMMITTEE

We understand that all of you have expressed a willingness to serve on a Technology Users Committee. The purpose of the Committee will be to work with Mr. Mason and his division as a liaison between the users, which is everyone on campus, and the service providers. We hope that through this structure, we can identify both problems and successes and improve communications in this most critical area.

We will meet with the Committee within the next two weeks, and we very much appreciate your willingness to assist in this effort.

Ivn

c Executive Committee
Faculty Senate President
Administrators Association President
Classified Employees Council Chairman
DATE: November 16, 1995

TO: Presidents
Alliance for Community College Innovation

FROM: Terry O'Banion
Executive Director

RE: Results of Survey on Technology

I am most pleased to send you a copy of the results of our recent survey of members of the League's Alliance for Community College Innovation on major issues relating to technology. Key results indicate that:

- Seventy-five percent of community colleges are sharing the costs of technology with students through a technology fee.

- The average planned lifetime for computers and related equipment is between 3 and 4 years. Software is assumed to have a shorter useful life of less than 3 years.

This is the first report of our new presidential survey service for members of the Alliance, and we will be following up in the next several months regarding the next one. As a member of the League's Alliance for Community College Innovation, we hope these surveys on topics which you help identify will prove to be a valuable resource for your institutions.

TO'B:nm
Enclosure
From: Victor Fite
To: Everyone
Date: Tue, Feb 9, 1999 9:32 AM
Subject: Computer Use Policies

The members of the Technology Users Committee have developed policies concerning the use of computers and equipment at Amarillo College. There are four policies: E-mail Use, Internet Use, Supported Applications and Equipment Use. These policies have been reviewed and accepted by the Executive Committee and were designed to help us deliver a more efficient technology environment.

I have attached the policies to this E-mail or you can access them from either a link on our home page or directly on the web server. That URL is: http://roadrunner.actx.edu/policies/

If you have any questions, do not hesitate to contact me.

Victor A. Fite
Dean of Information Technology Services
Amarillo College
(806) 371-5151
vafite@actx.edu
Supported Applications Policy

The purpose of this policy is to define the services provided and responsibilities assumed by the Information Technology Services (ITS) division in the support of operating system software and application software. The standardized application software provided to the college employees will be determined by Administration, Faculty, and Staff with the ITS division’s consultation and recommendation.

For clarification purposes, three categories of software will be used: 1) Server-based Institutional Applications, 2) Non-Server based Institutional Applications, 3) Non-Institutional Applications.

Server-based Institutional Applications

Amarillo College provides server based applications for the benefit of the Institution. All software to be installed on the file server must be owned by Amarillo College.

ITS will install software on the file server that is to be shared by two or more people. All software must be reviewed by Network Services prior to purchase if it is intended for file server access. The license agreement and original source media will be filed and stored in Network Services. A copy of the license agreement and original manuals will be sent to the department purchasing the software if requested.

ITS will install all applications on the file server and give appropriate rights to the end users. Applications that are not intended for all users will be assigned to specific groups, and access will be given only to the users who need rights to these groups.

Application software should not be installed on a user’s personal network drive, departmental shared drive, or college-wide (public) drive. This act seriously affects the size and performance of the network drive that it is installed on. If an application is necessary, ITS will review the application for its’ applicability for file server access.

Non-Server based Institutional Applications

ITS will be responsible for acquisition, licensing, storage, installation, maintenance, and training of the operating systems for the variety of computer equipment owned by the college.

Individual departments will be responsible for acquisition, licensing, storage, and training of application software unique to their division/department. ITS will be responsible for the installation, maintenance, and limited support of application software unique to their division/department.

The division/department must provide original source media and proof of purchase prior to
The processor listed at each level of support represents a threshold at which support will be provided for the various versions of software actively supported by User Support Services. While it is acknowledged that the software at the lowest level of processor will be of marginal performance, it is felt that it is sufficient to serve the needs of some users. It is also recognized that all personal computers that fall into a category may not have the recommended amount of memory installed on the motherboard. User Support Services will make a reasonable effort to increase the memory to that level.

Support of applications other than those specified above will be on a limited basis. It may be restricted to no more than approval for purchase and installation. Beyond that, support will become the user’s responsibility. The amount of effort required to familiarize the support personnel with the use of an application dictates the restriction of that training to only those applications that are in wide use at the institution.

19. Training

The institutional software policy and the standard of PC classification scheme provide the basis for the identification of training in the use of technology for all employees. Employees should be required to acquire the skills necessary to make the best use of the technology that has been provided for their use. It is suggested that the training be mandatory and that the curriculum identified in this document be adopted and adhered to. Instruction should be coordinated by the Workforce Development Division and should employ whatever skilled personnel considered necessary to carry out that instruction.

The requirement should make allowances for an employee who has already obtained an acceptable level of proficiency in the use of the technology covered by a course. An employee may obtain a waiver for a course requirement through the mutual agreement of their supervisor and User Support Services. Their supervisor and the User Support Services Trainer must sign a document that waives the specific course requirement for that employee. At the suggestion of User Support Services or the individual’s supervisor, the employee may be required to participate in training in which they have previously participated or had waived. In addition, if an employee moves from one class of computer workstation to another, they should be required to participate in additional training before receiving access to the new computer. The purpose of this is to alleviate the frustrations associated with having new technology thrust upon the employee and to minimize the person’s needs for support from the HelpDesk operations.

This training is essential to maintain the currency of employees' technology related skills. Training should not be limited to training in the use of computer technology alone. All employees should be required to participate in telephone system training and faculty should be required to participate in the Audio Visual Technology training as well. The curriculum should be adjusted in the future as the list of supported software changes.
20. **NETWORK**

21. **WIDE-AREA NETWORK**

22. **1997/98 FISCAL YEAR**
   - Acquire and implement a "firewall" device to block unauthorized network access and to provide IP address translation. This will help secure the AC network from intentional attacks by external Internet users and will also give AC the flexibility that it needs to permit the changing of Internet Service Providers. Funds have been budgeted for this device in the 1997/98 budget request.
   - Implement remote ("off-campus") access to the network and **email**. This will allow staff and faculty to access their Novell server based files from home or other locations via telephone modems.

23. **FUTURE**

   **Washington Street Campus**
   - Acquire and install the communications lines and equipment to support ATM (Asynchronous Transfer Mode) communications with the other three campuses. This will permit the two-way voice and video communications as well as data communications that is required for two-way distance learning.

   **West Campus**
   - Acquire and install the ATM equipment necessary to connect to the ATM equipment at the Washington Street Campus

   **Amarillo Technical Center**
   - Acquire and install the ATM equipment necessary to connect to the ATM equipment at the Washington Street Campus

   **Business and Industry Center**
   - Acquire and install the ATM equipment necessary to connect to the ATM equipment at the Washington Street Campus

24. **LOCAL AREA NETWORKS**

25. **1997/98 FISCAL YEAR**

   **Washington Street Campus**
   - Complete the installation of the fiber distributed data interface (FDDI) infrastructure. This requires the installation of a minimum of two strand pairs of fiber optic cable between the Computer Center and each building on campus. It also requires the installation of FDDI interfaces in the hub stack in each building. This will lay the wiring groundwork for an asynchronous transfer mode (ATM) network in the future. ATM will enable the delivery of video, voice, and data to each building on the campus.
   - Complete the migration of users to the ADOBE tile server. This will allow for a more stable server environment for the users and will permit Network Services to phase out the old servers (PCAD and SAS).
   - Install any fiber optic cable that required by the above two steps
   - Implement the FAX capabilities available with **GroupWise** and install **GroupWise** version 5 to improve the **email** and calendar services for the users.

   **West Campus**
   - Replace the DELTA and DELTA-LAB file servers. At the same time, the Novell Netware will be upgraded to version 4.11.

   **Amarillo Technical Center**
   - Complete the improvement of the ATC network
- Complete the installation of a new administrative support file server and convert the users to the new server.
- Implement GroupWise email for the employees of ATC. This will greatly improve communication between ATC and the rest of Amarillo College by placing them in the same email system.

26 FUTURE
Washington Street Campus
- Implement ATM protocol for the network backbone. This will permit the transmission of voice, video, and data between the buildings on the campus.
- Incorporate video and voice into network to support distance learning.
West Campus
- Implement ATM technology from Washington Street Campus for interactive video to support distance learning and Workforce Development.
- Implement FDDI backbone technology. This can be accomplished by using the FDDI equipment phased out on the Washington Street Campus by the installation of ATM equipment.
Business and Industry Center
- Implement ATM technology from Washington Street Campus for interactive video to support distance learning and teleconferences.

27. AMARILLO TECHNICAL CENTER
- Complete the improvement of the ATC network

28. ADMINISTRATIVE TECHNOLOGY
- Complete the evaluation of the administrative software and implement the Software Committee recommendation
- Provide student access to personal information such as:
  - course schedules
  - grades and transcripts
The access should be provided through secure world wide web access either via the Internet or the college’s own network.
- Provide world wide web access to college statistics and recruiting materials that are deemed appropriate by the Institutional Research Department and the Registrar’s Office.

29. ACADEMIC COMPUTING TECHNOLOGY

30. INSTRUCTIONAL DELIVERY
The Professional Development Committee should work with the I.T.S. and Workforce Development divisions to provide training for faculty in the use of Microsoft PowerPoint and Internet services. This will prepare the faculty to use the Internet and college network for instructional delivery. The recent funding of a portion of the Panhandle Information Network (PIN) will soon make remote instruction, via the Internet, available to the smaller school districts in our area. It is imperative that AC be prepared to deliver dual credit courses to these districts when needed.

31. CLASSROOM EQUIPMENT
More classrooms should be equipped with minimal computer and display technology to support the use of Windows 3.11, Microsoft Office version 4.3, and Netscape 3.01 Gold. Displays should be capable of displaying computer graphics at a density of 640 by 480. While this is not considered to be state of the art display capabilities, it could be provided at a reasonable price. The cost estimate for doing this is less than...
$5,000 per classroom. This capability is recommended if faculty are going to be encouraged to do electronic presentations during their lectures.

### 32. Instructional Host Systems

The I.T.S. division has been budgeting the support of the Hewlett Packard 9000. This support costs the institution approximately $15,000 each year. The CIS department provides the administrative support for the system. At this time, the operating system is two years out of date. In addition, the use of the system for instruction is not clearly defined. It is the recommendation of this report that the system be replaced with a newer UNIX based server, such as a SUN Microsystems server, and that the system be budgeted and totally supported by the CIS department. This would eliminate any question of responsibility and place the expense in the appropriate budget area.

### 33. Technology Replacement

### 34. Desktop Computing Technology

The replacement of desktop computing equipment can not be resolved quickly based on the information that is currently available. The collection of the PC inventory has been a big step forward simply by identifying the types of equipment, locations, and users. The critical information needed to evaluate the utilization of that equipment is available for some of the computer labs but even that is inadequate in content. To evaluate the effectiveness of the equipment, the data needs to include information about the applications that are being used and the duration of that use. In addition, statistics on the maximum number of concurrent users of a piece of software would be invaluable. It would enable I.T.S. to identify the volume of licenses required to support the needs of the staff and students at the college rather than simply guessing at the number or by employing illegal copies of a piece of software. The goals of this portion of the master plan are to:

- identify the number of visits to each workstation and the duration of those visits
- determine the number of concurrent users of software
- provide the means to decide if a reduction in workstations or labs is advisable

For the time being, the use of all computer labs will be monitored either manually or through the use of a stand-alone login system. The lab supervisors are to submit reports to the I.T.S. division at the close of each month for compilation. The report shall include the date and the entrance and exit time for each visit in the lab by a student. This will be presented as a Microsoft Excel, Lotus 1-2-3, or Quattro spreadsheet. In addition, each supervisor is required to prepare a summary report of lab usage. This information will be merged with instructional usage of each lab/classroom for immediate evaluation of equipment utilization.

For the future, it is recommended that a student server be established on each campus of Amarillo College that will be used for student network and email accounts. Each of these servers and departmental servers will be loaded with session monitoring software that will track login sessions by the students and staff and track the software usage.
applications used by those sessions. The data collected will also identify the workstation used by the student which can then be tied to a specific classroom or lab. The data will allow for more efficient scheduling of the computer labs and permit us to identify the quantity of licenses required for each software application. The cost associated with the software side of this project will be approximately $19,155. This does not take into account the few licenses of On-Technology’s SofTrack metering software already owned by the college. The cost of providing the student email/ account servers will be approximately $20,000 for the Washington Street Campus and $15,000 for the West Campus. The network modifications at the Amarillo Technical Center should free up a system that would be suitable for this purpose at that campus. The total projected expense of this project is $54,155.

It is further recommended that a report be completed by the Technology Strategic Planning Committee that evaluates the usage of those classrooms and labs and makes a recommendation based on that evaluation.

I.T.S. recommends that all instructional classroom and lab equipment be replaced with new technology over a four year cycle. The replaced equipment will then be distributed to offices identified by the budget process and by User Support Services recommendations. The PC inventory has identified approximately 50% of the PCs as classroom and lab workstations. There is an inherent flaw in this approach, the true turnover cycle for equipment on the college campuses will be eight years and not four. At today’s prices a well equipped multi-media Intel based workstation costs approximately $1,500. The total inventory exceeds 1,300 units. The replacement of all of the workstations over a four year period will cost the college approximately $487,500 per fiscal year. This already exceeds the amount currently being invested in desktop equipment each year. The institution can do one of two things: 1) devote more financial resources to the purchase of desktop technology or 2) decrease the number of units that need replacement. Without any supporting documentation, the sheer number of computer labs supported by the college plus the total number of PCs dedicated to classroom use, it is very tempting to draw a conclusion that Amarillo College can realize a substantial economy by reducing the number of academic labs.

It is strongly recommended that the above steps be implemented and that a plan for replacement and consolidation be developed before the start of the budget planning cycle for the 1998/99 fiscal year. The replacement and consolidation plan should have the complete backing of the Executive Committee and the supervisory staff of the institution.

### 35. Telecommunications Technology

#### 36. Washington Street Campus

This campus is using a telephone switch that cannot be updated to the latest version of management software (release 5200). Due to the capacity of the switch it will be upgraded to handle more ports for telephones and trunks. This is scheduled for the first quarter of 1998. The Microlog phonemail system will need to be upgraded within the next two years. The Infortext call accounting system should be adequate for several years with updates to accommodate the North American Dialing Plan.

#### 37. West Campus

The West Campus telephone switch is also using an outdated version of the management software and should be updated to conform with the version in use on the Washington Street Campus. The switch itself is capable of supporting several additional interface cards and should not need to be upgraded for two or
three years. With increased traffic to the switch over the past three years, additional DID trunk lines should be added to supplement the seven that are now in use.

38. **POLK STREET CAMPUS**

Telephone service is being provided from the Washington Street Campus Switch via a leased T1 circuit and a Digital Remote Unit. With the growth of this campus and need for additional single line ports, this campus should be upgraded to a 2000 series NEC switch. All of the trunking, Phonemail and call accounting will still be routed from the Washington Street Campus.

39. **AMARILLO TECHNICAL CENTER**

ATC is currently using a Northern 61C PBX and servicing all telephone sets and trunk lines from piece of equipment that employs outdated technology. This should be upgraded to digital by moving all telephone sets and trunk lines to the new 61C processor and eliminating the old SL1 cabinets. If funded this could be done the first quarter of 1998. There are no recommendations to replace the voice mail system that is now in use on that campus. However, a call accounting system should be in place by the middle of the 1997/98 fiscal year.

40. **AUDIO VISUAL EQUIPMENT**

41. **TECHNOLOGY FEE**

This subject has been the center of controversy on the campus for several years. The reluctance to impose a fee for technology is based in several real concerns:

1. **Student expectations** - Students may expect only the best in technology to be provided for their course related work.
2. **Staff expectations** - This may viewed as supplemental funds above and beyond the normal budget expenditures for equipment, although some may view it as a means to offset the expense of personnel dedicated to the support of technology.
3. **Lab fees vs. technology fees** - Students may consider this to be a double assessment of fees, especially those who are enrolled in computer related courses that assess a lab fee.
4. **Use of the Funds** - Are the revenues generated by the fee to be used to pay for 1) technology support personnel, 2) additional equipment, or 3) a portion of the current equipment budget? There is no clear-cut consensus on this issue.

A survey of community colleges in Texas was conducted by the I.T.S. division in the spring of 1996. Fifty-six colleges were surveyed with 46 of the colleges responding. Seventy-five percent of the schools were charging a technology fee and thirteen percent were considering charging a fee in the near future. Half of those charging a fee used a flat fee per semester and half charged a fee based on credit hours. Flat charges ranged from five to twenty dollars per semester. The average was $9.95 with the majority charging $10 per semester. The average per credit fee was $2.26 per credit hour with eight schools reporting $2 per credit and eight at $3 per credit hour. The survey indicates that Amarillo College is one of the few community colleges in Texas that is not charging a technology fee in one form or another. If the school were to adopt such a fee, there is sufficient documentation of the prevalence of the fee in the state of Texas. Unfortunately, the survey did not request information on the use of the revenues collected at those institutions.

The proposal of this report is for the implementation of a technology fee that would be used to offset the expense of the technology support rather than to permit the acquisition of additional technology-related equipment. If the Administrative Software Committee suggests that the college acquire a vendor developed software system, the fees should be used to offset the expense associated with the ongoing support of the system. The revenues could also be used to offset, the expense associated with the support of...
the equipment already in place on the campus. How the fee is implemented and used ultimately lies with the Executive Committee and the Board of Regents.

The same survey also polled schools for information regarding printing fees in labs. None of the schools charged their students for computer related printing. Only one was considering it. It is recommended that the print fee that is charged in the Washington Street C.A.I. lab be dropped. It has generated a negligible amount of revenue and would be redundant in the presence of a Technology Fee.

42. Distance Learning

43. Video Conferencing

Distance learning has taken many forms over the past two to three years. Amarillo College has been successfully involved in telecourses for several years through the cooperation with the college-affiliated public broadcasting station - KACV TV. The courses are prerecorded and broadcast as non-interactive courses (one way video and audio) with proctored assignments and exams. Recently, through a National Science Foundation grant, the college has acquired the equipment to create a two-way audio/video classroom. The SCATE distance learning classroom is used to share instruction between Amarillo College, Texas Tech University in Lubbock, and other partners. The communications between the sites uses the ISDN protocol supported by South Western Bell Telephone.

There have been several problems associated with the SCATE effort:
1. There appears to be a scheduling / coordination problem within the institutions that are providing the instruction. AC’s Registrar’s office is not always aware of courses scheduled by the project directors. Schedule conflicts and omissions are commonplace.
2. If and when the grant is completed, there is an issue of equipment support. The equipment was customized and integrated originally by the Texas Department of Information Resources. It is now being support by the Texas General Services Agency. If this support is not longer available at the completion of the grant, it is unlikely that Amarillo College will have staff capable of supporting the equipment.

44. Nth-work Supported Instruction

There has been a limited effort to provide instruction through the use of the college’s network and via the Internet. This effort has been in the English department and at this point has been limited to one course. Although the materials have been successfully presented to the students, the overall success of the project is debatable. Part of the problem lies with the Network Services Department being unable to provide the type of technology support required for the effort. Another part of the problem is the unfamiliarity with this style of distance learning on the part of college personnel.
45. RECOMMENDATIONS

1. Future distance learning classrooms should be equipped with audio / visual equipment purchased as “turnkey systems” from a vendor such as V-Tel. By doing this and acquiring maintenance agreements for the systems, support will not be an issue.

2. The AC network should be improved to the point that it is capable of supporting two-way video conferencing between all buildings on the Washington Street Campus and selected classrooms on the West Campus, Polk Street Campus, and the Amarillo Technical Center. This will not be a low cost project. Early estimates suggested a cost of two to five hundred thousand dollars. The result will be the ability to provide core courses to all campuses from one location.

3. Instructors must be encouraged to prepare classroom presentations using Microsoft PowerPoint or WordPerfect Presentations. These presentations as well as other course related materials will be made available to students through the use of the college network and Internet related services (world wide web(WWW), file transfer protocol (FTP), and list services (email).

4. Key personnel be identified to spearhead the efforts to provide instruction via the network. This could become a very important piece of the distance learning effort.
What Do Presidents Want to Know About... Information Technology?

A survey of and for
Alliance for Community College Innovation institutions

The findings summarized below were compiled from the responses to a survey of ACCI presidents conducted in October 1995. Of 460 surveys mailed to ACCI presidents, 282 responses were received by the due date, for a response rate of 63 percent. The figures shown have been rounded to the nearest percent.

Section One: Planning for Information Technology

1. What is your institution's typical replacement cycle for classroom and laboratory technology?

<table>
<thead>
<tr>
<th></th>
<th>1 yr</th>
<th>2 yrs</th>
<th>3 yrs</th>
<th>4 yrs</th>
<th>5+ yrs</th>
<th>No set cycle</th>
</tr>
</thead>
<tbody>
<tr>
<td>Desktop Computers (Avg=3.7 yrs)</td>
<td>25%</td>
<td>1%</td>
<td>2%</td>
<td>14%</td>
<td>16%</td>
<td>6%</td>
</tr>
<tr>
<td>Peripheral Equipment (Avg=3.9 yrs)</td>
<td>12%</td>
<td>2%</td>
<td>14%</td>
<td>17%</td>
<td>15%</td>
<td>51%</td>
</tr>
<tr>
<td>Instructional Software (Avg=2.7 yrs)</td>
<td>6%</td>
<td>16%</td>
<td>16%</td>
<td>6%</td>
<td>41%</td>
<td>53%</td>
</tr>
</tbody>
</table>

2. If you have a technology plan in place, what are the key elements of that plan? (Figures add to more than 100 percent due to the allowance of multiple responses)

<table>
<thead>
<tr>
<th>Element</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Network infrastructure</td>
<td>70%</td>
</tr>
<tr>
<td>Staff development</td>
<td>61%</td>
</tr>
<tr>
<td>Specific equipment/software</td>
<td>57%</td>
</tr>
<tr>
<td>Internet access</td>
<td>55%</td>
</tr>
<tr>
<td>Funding mechanisms</td>
<td>34%</td>
</tr>
<tr>
<td>Defined life cycles of equipment</td>
<td>33%</td>
</tr>
<tr>
<td>Key constituent groups</td>
<td>31%</td>
</tr>
<tr>
<td>Defined life cycles of software</td>
<td>23%</td>
</tr>
<tr>
<td>Incentives</td>
<td>6%</td>
</tr>
<tr>
<td>Other</td>
<td>8%</td>
</tr>
</tbody>
</table>

Section Two: Funding Information Technology

3. Is your college charging students a technology fee? Yes 75% No 25%

If so, how much is your technology fee? Average $17.90 per academic term

Range $1 to $75

4. What percentage of your operating budget do you estimate is allocated annually for:

<table>
<thead>
<tr>
<th>Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>New equipment</td>
<td>0.57%</td>
</tr>
<tr>
<td>Replacements</td>
<td>0.27%</td>
</tr>
<tr>
<td>Upgrades</td>
<td>0.21%</td>
</tr>
<tr>
<td>New software</td>
<td>0.25%</td>
</tr>
<tr>
<td>Replacements</td>
<td>0.14%</td>
</tr>
<tr>
<td>Upgrades</td>
<td>0.27%</td>
</tr>
</tbody>
</table>

(These figures are the averages of 282 responses)

5. Where are funds for new information technology budgeted? (Figures add to more than 100 percent due to the allowance of multiple responses)

<table>
<thead>
<tr>
<th>Budget Item</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Regular operating budget</td>
<td>03%</td>
</tr>
<tr>
<td>Technology fee revenues/interest</td>
<td>13%</td>
</tr>
<tr>
<td>Capital outlay budget</td>
<td>61%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
</tr>
<tr>
<td>Revolving/sinking funds</td>
<td>50%</td>
</tr>
</tbody>
</table>

Please address questions regarding this survey to Larry Johnson, Associate Director, League for Innovation in the Community College, (714) 367-2884.

A Service of the Alliance for Community College Innovation
sending copies of messages  personal greeting
replying to messages  personal operator
remote retrieval of messages  password
recorded name

DURATION:  1 ½ hours

7.2.4 “Train the Trainers”

DESCRIPTION: College employees would be selected from major office areas to assist the Telecommunications Department with initial troubleshooting of desktop equipment, use of features, and voice mail.

CONTENT: advanced training
DURATION:  2 to 3 hours

7.3 AV Equipment

Required training for instructors and employees who wish to take advantage of the AV equipment in use in the renovated lecture halls.

7.3.1 Basic User Training

DESCRIPTION: The course will first involve demonstrations of typical classroom AV equipment. This will then be followed by a session on presentation techniques that can be employed with the equipment to maximize the impact of the equipment on instruction.

CONTENT: Overhead projectors  portable projection systems
wide-angle  VCR input
Dukane  PC input
typical
PC / LCD panels  Lecture hall podiums
mediated classrooms  lavolier microphones
Presentation Techniques

DURATION:  2 to 3 hours
8.1 REPLACEMENT OF PERSONAL COMPUTERS

8.1.1 PERSONAL COMPUTER REQUEST FORM

For the 1996/97 budget year, a form’ was created that allowed staff members to request a new computer in the budget process. The form was designed to allow the Information Technology Services Division to determine the level of technology needed to satisfy the request and to reallocate existing technology to areas where it would do the most good. The process worked well enough but has some shortcomings. For example, only those users requesting a new PC were required to submit a form. This meant that when there was an existing PC that was targeted for replacement, there was no opportunity for the user to provide input for the distribution of the old system.

When the requests were reviewed, the following priorities for the placement of newly acquired PCs were established in the following order:

1. Computer assisted classrooms and labs

A meeting of the division chairs resulted in the prioritization of the requests for equipment replacement. Those labs having the highest perceived need for the latest technology were placed at the top of the list.

1. Faculty in high technology areas

Again, this was decided by a meeting of the Division Chairs.

1. Staff with justified needs for new technology

This was decided by the I.T.S. management staff’s review of the requests. Those staff members who demonstrated a need for the latest technology in the execution of their job-related duties were given preference.

The disposition of equipment displaced by the acquisition of new equipment was decided through a collaboration of the staff of I.T.S., and the Dean of Academic Services and the Division Chairs. Again, the justification supplied by the users was used as a factor in determining the level of technology required to satisfy the users needs.

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*PC Request Form—see Appendix*
9.1 SURVEY CONTENTS
The Technology Strategic Planning Committee developed a survey to evaluate the end users’ perception of technology and its support at Amarillo College. The survey was divided into 5 main parts:

1. User knowledge
The objective of this section was to assess the general level of computing competence of Amarillo College employees.

1. Support of technology and related support issues
Assessment of the support services in place at Amarillo College was the main concern of this section. In addition, there were certain issues that the committee felt were important to monitor from one year to the next. The section addressed the following three areas:
   - Instructional Support
   - Office Support
   - Administrative Support

1. Evaluation of existing technology-related hardware
This section was developed to evaluate the users’ perception of the equipment available for their use. As with the prior section, the survey section addressed the following areas:
   - Instructional Hardware
   - Office Hardware
   - Administrative Hardware

1. Evaluation of existing application software
The adequacy of the application software available to the users was addressed in this section. Again, the following areas were evaluated:
   - Instructional Software
   - Office Software
   - Administrative Software

1. Connectivity
The purpose of this section was to evaluate the users’ abilities to connect to network host/server resources via the college network. The following areas were addressed:
   - Instructional/Classroom Connectivity
   - Office Computing Connectivity
   - Administration Computing Connectivity

9.2 SURVEY RESULTS

9.2.1 PART I - USER KNOWLEDGE
The results of this section are encouraging. Overall, 73.95% of the users felt that they were capable of performing the identified computer related tasks without assistance. An additional 7.15% of the respondents felt that they could perform the tasks with some assistance. The deficiencies pointed out by the survey were in line with expectations. For example, sixty-six percent of those surveyed felt that they were able to log into the mainframe without assistance. This closely parallels the number of respondents who would be accustomed to using the administrative computer on a daily basis: 11% administrative

1 see Appendix B - Computer Technology Survey - Fall 1996
personnel and 42% classified personnel. Proficiencies were low in performing what may be considered advanced operations such as mail merges, linking spreadsheets, and inserting a graph in a document. The results of this section support the feeling of the committee that while training in the general use of software is needed, specific skills need to be targeted for additional training.

9.2.2 Part II - Support of Technology and Related Support Issues

Instructional/Classroom Computing Support:

The instructional area exhibited the least satisfaction with 65% of the respondents indicating dissatisfaction. The response to question #3 (classroom access to network) will require further evaluation. The survey indicated that 61% of the respondents expressed dissatisfaction with this issue. However, all classrooms that require network connectivity have been provided with it. In addition, if they are not networked, any computer labs that are being refitted with new computer equipment are being set up as networked labs.

Questions 5 through 13 all deal with the skills of the personnel who are assigned to supporting the technology equipment on the college campuses. The low satisfaction with the instructional support issues is most likely related to insufficient staffing of the Network and Equipment Services department during the 1995/96 fiscal year. The establishment of the User Support Services Department as a result of the approval of additional positions for the 1996/97 fiscal year should improve the users’ view of the personnel designated to satisfy their requests.

Office Computing:

Questions 14 through 24 deal more with the services provided by the Information Technology Services Division. The response to question 14 indicates a need for the establishment of a policy that states which software applications will be supported by the User Support Services Department.

The response to the questions dealing with Helpnet indicates that while users can conveniently contact Helpnet and request assistance, there is a serious problem with the results of the contact. According to the survey response, more than 50% of the requests take longer than one week to resolve. This has improved over the past six months and should continue to improve in the future. Two thirds of the responses indicated a need for immediate response for software support. Currently, there is no such support provided to the users. Two thirds of the users are unsatisfied with the service results and fifty percent are unhappy with the communications between themselves and the technicians.

Questions 21 through 23 deal with training classes offered through the Alpha Center in the past. The results indicate that the users are permitted to attend classes by their supervisors and that the classes have improved their skills. However, it appears that for one third of the respondents, the subject matter may not be addressing their needs.

Administrative Computing:

The responses to questions 34, 35, and 36 indicates a high satisfaction with the services provided by Institutional Research. One third of the respondents indicate that the Computer Center (Programming Services) has a problem with accuracy and with meeting deadlines. Overall, the Programming Services Department has done well in the support issues section (questions 41 through 49). Satisfaction averages 43.56% on each issue. This coupled with an average of 22.89% in the uncertain category indicates a good overall user satisfaction with the services provided by the department.
The following graph plots the survey responses to the computing support issue questions that appeared on the survey under all three portions of part II. While the three sets of results do not precisely mirror one another, there are several points of correlation that are a concern for the entire division. The decreased positive response to question 3 indicates that there is a common concern about priorities not being established effectively. This question should be reworded. It is unlikely that a user would have knowledge of what other tasks are being prioritized along with their individual requests. Question 8’s response indicates that there is a general lack of communication between the support staff and the users. This must change if the division is to become an effective support group.

**Computing Support Issues**

![Graph representing the user response to computing support issues](image)

Figure 19 - Graph representing the user response to computing support issues

9.2.3 **PART III - EVALUATION OF EXISTING TECHNOLOGY-RELATED HARDWARE**

Local Instructional/Classroom Hardware:

The response to question fifty indicates that forty-six percent of the faculty have altered lesson plans or rescheduled classes at least ten percent of the time due to hardware problems. This correlates directly to the response to the next question. Forty-six percent of the faculty surveyed indicated that they do not have “adequate technology (hardware) to teach” their courses as required.

Forty-eight percent indicate that the computer-generated projections are illegible at the back of the classroom. Again, it would be helpful to learn what type of projection system is being used and under what conditions. The same applies to the question regarding computer-generated audio. Are the instructors using the classrooms that are equipped with appropriate projection/audio systems? Is there a sufficient number of classrooms equipped with the needed video and audio equipment? Are the faculty using the correct techniques in preparing the graphics for display?

Local Office Hardware:

There seems to be a contradiction between the results of questions fifty-four and fifty-five. Thirty-three percent of the people that responded indicated that they have delayed ten percent or more of office projects due to equipment problems. Yet only twenty-two percent of the users indicated that the equipment is unreliable. The responses to the two questions should be within a percentage of one another. Printers were considered to be reliable by eighty-two percent of the users and sixty-eight percent stated that the equipment meets their needs in general.
Local Administrative Hardware:

The results to questions 58 through 61 are also confusing. The questions were attempting to evaluate the users' opinions of the reliability and performance of the Hewlett Packard minicomputer used to support accounting and student records functions. We can document that the system was not available for a maximum of two days per year. This seems to contradict the results of question 58 that showed that clients were not served five percent or more of the time because of hardware problems. Perhaps the respondents had a difficult time separating hardware, software, connectivity, and accessibility issues.

9.2.4 Part IV - Evaluation of Existing Application Software

Instructional/Classroom Computing Software:

The response to the questions on Instructional/Classroom software indicates that there is a problem with the reliability of the software in the classroom as well as in faculty offices. In addition, thirty three percent of the users indicate that the software used for instruction does not work the same in every classroom. This may require further clarification.

It is noteworthy that this section had responses from 53 faculty members. The instructional support questions of part II were responded to by 85 users. For future surveys, it may be advisable to place the questions aimed at each employee group together to avoid confusion. Also, it may be prudent to issue separate surveys.

Office Computing Software:

In may be of interest in the future to expand question 66 into several questions to determine the cause of the software problems. For example, was there a software failure or was the delay a result of unfamiliarity with the software. The response to questions sixty-seven through seventy-four were generally encouraging. The only area that indicates a deficiency is with the spreadsheet software. The twenty-four percent uncertainty was unusually high, but may be attributable to users who do not use spreadsheet software.

Administrative Computing Software:

The response to question seventy-five indicates that forty-one percent of the clients and users are experiencing software problems more than four percent of the time. Moving to the next category indicates that twenty-nine percent of the users are experiencing problems more than nine percent of the time.

Most users agreed that it is convenient to “log on” and that it helps them to do their job properly. However, there is a ten percent drop when the users were asked about the efficiency and convenience of the software. Although the relative satisfaction is rather high (better than 75%), this does indicate that the software’s user interface is somewhat cumbersome to use and inflexible.

9.2.5 Part V - Connectivity

In general, the users returned a favorable evaluation of the connectivity issues. The only area that may be of some concern is the user perception that the connectivity to the Hewlett Packard minicomputer is somewhat unreliable. Again, however, the users may not be able to pinpoint the exact cause when unable to log on to the minicomputer.
9.3 SUMMARY OF THE SURVEY RESULTS

9.3.1 AREAS FOR CONCERN

9.3.2 RECOMMENDATIONS
11. INFORMATION TECHNOLOGY SERVICES

12. GENERAL RECOMMENDATIONS

Although I.T.S. has improved customer relations and communications, there is still some room for improvement. The division’s self-study has emphasized this by pointing out the need for cross-training within the departments, better documentation, and improved internal and external communications. It is important that I.T.S. technicians take whatever measures necessary to notify their clients that a request for help has been acted upon. The division’s Program Review is about to be submitted to an Institutional Program Review Committee for evaluation and recommendations. The division should follow the advice of their program review and, when it is available, they should attempt to satisfy the findings of the Institutional Program Review Committee.

13. STAFFING

14. USER SUPPORT SERVICES

The results of the study conducted by the Resource Management Committee has provided some figures on the ratio of microcomputers to support personnel. Two of the participating schools indicated that the ratio was one full-time support person per one hundred PCs. The average of the six participants is 226 PCs per support technician. Amarillo College while not at the high end, with 248 units per technician, is distanced from the low level of one hundred to one.

User Support Services has made substantial progress in providing adequate support for the desktop computing resources at Amarillo College. The division does need to document its performance each year. The Technology Survey conducted in November of 1996 is a start but needs to be refined to the point where it is a more reasonable device for the people completing it and those who must evaluate the results. However, on the basis of the Program Review, it is apparent that one or more actions need to be taken to improve the level of technology related service:

1. The number of Technicians be increased by two, one for each field service team at an annual salary of fifteen to twenty thousand dollars plus benefits.
2. Contracts should be negotiated with instructional departments that clearly define the I.T.S. division’s responsibilities for the support of the computer labs specific to those departments.
3. An effort be made to consolidate and centralize computer lab facilities in an effort to reduce the number of computers in use at Amarillo College.

Recommendation number one should be adopted with numbers two and three addressed in the 1997/98 fiscal year.

15. NETWORK SUPPORT

The coordinator’s position should be re-evaluated in an effort to determine if the college is offering a competitive salary for the position. The Resource Management Survey indicated that the pay index for the position of Network Administrator is 272 at a peer institution with a similarly sized network. The school that reported this index showed 965 PCs to support compared to 993 (taken from the survey) for Amarillo College. The index, when applied to the I.T.S. Administrative Assistant’s salary as a base, indicates that the Coordinator of Network Services position should be earning approximately forty-eight thousand dollars annually. The coordinator’s position at AC is presently positioned at thirty thousand dollars. The recommendation is that the position be elevated to reflect the responsibilities associated with the position.
and that a more appropriate salary be given to compensate for the responsibilities, required knowledge, and skills. The Network Technician positions should also be reevaluated for possible action.

In addition, it is recommended that an additional technician be added to the staff whose responsibilities would focus upon Internet services and support. At this time, it is estimated that twenty to thirty percent of the coordinator’s time (based on a sixty hour week) is dedicated to the provision of these services. Cost associated with this new position would be approximately twenty-five thousand dollars plus benefits.

16. Standards

17. Policies

The policies developed by the Technology Users Committee was adopted and approved by the Executive Committee in January 1999. The policies include:

- Internet Policy
- Email Policy
- Supported Applications Policy
- Equipment Use Policy

Copies of the policies are contained in section 3.3.1 of this document. In addition, there is a Computer Lab Policy that should be refined and adopted by the college instructional lab supervisors. The policy was developed as a result of several meetings of the lab supervisors during the 1995-1996 fiscal year. The intention of the policy was to provide a set of standard rules that would apply to students regardless of the lab. It is recognized that there may be additional rules or practices that are unique to each lab.

18. Platforms and Software

The following table represents the applications and versions that User Support Services is able to support based on the processor level of the computer. At this time, the Macintosh list addresses only the 68000 class of Motorola Processors.
<table>
<thead>
<tr>
<th>LAB NAME</th>
<th>LOCATION</th>
<th>WORKSTATIONS</th>
<th>NETWORKED</th>
<th>PRIMARY SERVER</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Access Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Access Learning Center</td>
<td>L-310</td>
<td>15</td>
<td>Y</td>
<td>AC-GAMMA</td>
</tr>
<tr>
<td>Access Reading Lab</td>
<td>L-307</td>
<td>27</td>
<td>N</td>
<td>NBYMCA</td>
</tr>
<tr>
<td>North Branch YMCA</td>
<td>1330 NW 18th St</td>
<td>11</td>
<td>Y</td>
<td>NBYMCA</td>
</tr>
<tr>
<td><strong>Business Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Accounting Lab</td>
<td>BB-416</td>
<td>19</td>
<td>Y</td>
<td>AC-OMEGA</td>
</tr>
<tr>
<td>*Business Computer Systems</td>
<td>BB-203</td>
<td>15</td>
<td>Y</td>
<td>BCS</td>
</tr>
<tr>
<td>*Business Computer Systems</td>
<td>BB-212</td>
<td>13</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>*Business and Industry Center</td>
<td>BI</td>
<td>11</td>
<td>Y</td>
<td>BAI</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>BB-216</td>
<td>18</td>
<td>Y</td>
<td>AC-OMEGA</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>BB-218</td>
<td>20</td>
<td>Y</td>
<td>AC-OMEGA</td>
</tr>
<tr>
<td>Computer Information Systems</td>
<td>BB-211</td>
<td>17</td>
<td>Y</td>
<td>AS-400</td>
</tr>
<tr>
<td>Office Occupations Lab</td>
<td>BB-305</td>
<td>15</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Office Occupations Lab</td>
<td>BB-310</td>
<td>19</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Office Occupations Lab</td>
<td>BB-311</td>
<td>14</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Office Occupations Lab</td>
<td>BB-312</td>
<td>24</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td><strong>Science &amp; Engineering Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biology</td>
<td>B-102</td>
<td>10</td>
<td>Y</td>
<td>AC-BETA</td>
</tr>
<tr>
<td>CADD - Electronics</td>
<td>PH-318</td>
<td>10</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Developmental Math</td>
<td>E-104</td>
<td>16</td>
<td>Y</td>
<td>AC-SIGMA</td>
</tr>
<tr>
<td>Electronics</td>
<td>PH-314</td>
<td></td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Mathematics - Calculus Lab</td>
<td>E-102</td>
<td>23</td>
<td>Y</td>
<td>AC-SIGMA</td>
</tr>
<tr>
<td>Physical Science Lab</td>
<td>WH-112</td>
<td>6</td>
<td>Y</td>
<td>AC-BETA</td>
</tr>
<tr>
<td><strong>Industrial Technology Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CADD - West Campus</td>
<td>WCD-11?</td>
<td></td>
<td>Y</td>
<td>DELTA-LAB</td>
</tr>
<tr>
<td><strong>Language, Communications &amp; Fine Arts Division</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>English</td>
<td>O-101</td>
<td>28</td>
<td>Y</td>
<td>AC-BETA</td>
</tr>
<tr>
<td>English</td>
<td>O-104</td>
<td>24</td>
<td>Y</td>
<td>AC-BETA</td>
</tr>
<tr>
<td>Commercial Art</td>
<td>PH-418</td>
<td>23</td>
<td>Y</td>
<td>(MAC network)</td>
</tr>
<tr>
<td>Graphic Arts</td>
<td>PH-416</td>
<td>13</td>
<td>Y</td>
<td>(MAC network)</td>
</tr>
<tr>
<td>Journalism Lab</td>
<td>PH-413</td>
<td>17</td>
<td>Y</td>
<td>SAS</td>
</tr>
<tr>
<td>Modern Languages</td>
<td>PH-416A</td>
<td>6</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Music Lab</td>
<td>MB-201</td>
<td>5</td>
<td>Y</td>
<td>AC-BETA</td>
</tr>
</tbody>
</table>

2/2/99
<table>
<thead>
<tr>
<th>Allied Health Division</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical Data Systems</td>
<td>WCA-107</td>
<td>N</td>
<td></td>
</tr>
<tr>
<td>Nursing Division</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nursing Resource Lab</td>
<td>WCA-209</td>
<td>N</td>
<td>DELTA &amp; DELTA-LAB</td>
</tr>
<tr>
<td>Nursing - Testing Lab</td>
<td>WCD-11?</td>
<td>Y</td>
<td></td>
</tr>
<tr>
<td>Student Services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Placement Lab</td>
<td>L-112</td>
<td>3</td>
<td>PCAD</td>
</tr>
<tr>
<td>Star Center</td>
<td>1615 Roberts St.</td>
<td>N</td>
<td>PCAD</td>
</tr>
<tr>
<td>Testing Lab</td>
<td>L-113D</td>
<td>Y</td>
<td>PCAD</td>
</tr>
<tr>
<td>Multi-purpose Labs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Purpose Student Lab</td>
<td>L-300</td>
<td>40</td>
<td>AC-BETA</td>
</tr>
<tr>
<td>General Purpose Student Lab</td>
<td>WCD-11?</td>
<td>4</td>
<td>DELTA-LAB</td>
</tr>
<tr>
<td>Alpha Center</td>
<td>L-405</td>
<td></td>
<td>PCAD</td>
</tr>
<tr>
<td>Library Reference Lab</td>
<td>L-200</td>
<td>11</td>
<td>BETA</td>
</tr>
</tbody>
</table>

Figure 17 - *Academic lab workstation count and strvtr relationships*
6.4 Distance Education

Amarillo College has been successfully involved in distance education for several years with telecourses offered in conjunction with KACV-TV, and with interactive, two-way classes offered through SCATE (Southwest Consortium for the Advancement of Technology in Education). This program has been very successful with course offerings in Mathematics, Electronics, Physical Therapy and others. Through the TIF (Telecommunications Infrastructure Fund) we were able to receive funding to upgrade the SCATE classroom. This upgrade is scheduled for the summer of 1999. TIF also granted monies for an additional interactive classroom at Amarillo College. This classroom was installed in August of 1998 at the Polk Street Campus. The equipment is connected through the PIN (Panhandle Information Network) system. PIN is a closed network including approximately 18 video sites and approximately 40 data only (Internet) sites. PIN utilizes the ATM protocol connected with T-1 circuits supplied by Southwestern Bell Telephone.

Additional efforts in distance education include classes taught over the Internet. We currently have English and Astronomy classes offered. In the development stages are classes in CIS, Pharmacy and others that are to be offered in the Fall of 1999.
Training in the past has been provided on a limited basis through the services of the Alpha Center located on the fourth floor of the Lynn Library. The Alpha Center was formed a part of the activities under the Title III grant received by the institution between 1990 and 1995. The workshops presented by the Alpha Center personnel were crucial to the infusion of desktop computer technology within the offices of Amarillo College. After the initial deployment of personal computers, class size was limited to five participants or less due to the availability of equipment. The training offered was very well received by the participants and addressed general topics such as Microsoft Windows 3.11 and WordPerfect 6.1.

Unfortunately, participation in the training sessions was not mandatory for any employees and as a result, several of the scheduled sessions were cancelled due to a lack of enrollment. In the winter of 1997, the two full-time positions associated with the Alpha Center were transferred to the User Support Services Department and were redesigned as an Applications Training Specialist and a full-time Help Desk Operator. A plan is being put together to provide training to college personnel on the basis of the type of computer assigned to the employee. This is based on the list of supported applications produced by the Information Technology Services Division. The training sessions are as follows:

### 7.1 PC APPLICATION TRAINING

Training paths are still under development at the time of this report. However, training is anticipated to follow the general form outlined below. The training given employees will be based on the type of computer assigned to them and will cover four basic topics: 1) Operating System Basics, 2) Email Basics, 3) Word processing, and 4) Spreadsheet Operations. The application software presented in the training sessions will be based on the list of supported software associated with the type of computer system that the employee is using.

<table>
<thead>
<tr>
<th>CLASS I</th>
<th>Operating System Basics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Email Basics</td>
</tr>
<tr>
<td></td>
<td>Word Processing</td>
</tr>
<tr>
<td></td>
<td>Spreadsheet Operations</td>
</tr>
<tr>
<td></td>
<td>Technology Policy awareness</td>
</tr>
<tr>
<td></td>
<td>DOS</td>
</tr>
<tr>
<td></td>
<td>File Management</td>
</tr>
<tr>
<td></td>
<td>McAfee anti-virus software</td>
</tr>
<tr>
<td></td>
<td>AdvanceLink terminal emulation</td>
</tr>
<tr>
<td></td>
<td>GroupWise 4.1 a, DOS client</td>
</tr>
<tr>
<td></td>
<td>WordPerfect 5.1 for DOS</td>
</tr>
<tr>
<td></td>
<td>Quattro for DOS, version 5.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLASS II</th>
<th>Operating System Basics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Email Basics</td>
</tr>
<tr>
<td></td>
<td>Word Processing</td>
</tr>
<tr>
<td></td>
<td>Spreadsheet Operations</td>
</tr>
<tr>
<td></td>
<td>Technology Policy awareness</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 3.11</td>
</tr>
<tr>
<td></td>
<td>File Management</td>
</tr>
<tr>
<td></td>
<td>McAfee anti-virus software</td>
</tr>
<tr>
<td></td>
<td>Minisoft terminal emulation</td>
</tr>
<tr>
<td></td>
<td>GroupWise 4.1 a, Windows client</td>
</tr>
<tr>
<td></td>
<td>WordPerfect 6.1 for Windows</td>
</tr>
<tr>
<td></td>
<td>Quattro for Windows, version 5.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CLASS III</th>
<th>Operating System Basics</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Email Basics</td>
</tr>
<tr>
<td></td>
<td>Word Processing</td>
</tr>
<tr>
<td></td>
<td>Spreadsheet Operations</td>
</tr>
<tr>
<td></td>
<td>Technology Policy awareness</td>
</tr>
<tr>
<td></td>
<td>Microsoft Windows 95</td>
</tr>
<tr>
<td></td>
<td>File Management</td>
</tr>
<tr>
<td></td>
<td>McAfee anti-virus software</td>
</tr>
<tr>
<td></td>
<td>Minisoft terminal emulation</td>
</tr>
</tbody>
</table>
Email Basics
Technology Policy awareness
GroupWise 4.1 a, Windows client

Word Processing
WordPerfect 6.1 for Windows
OR
Microsoft Word for Windows 95

Spreadsheet Operations
Quattro for Windows, version 5.0
OR
Microsoft Excel for Windows 95

Figure 18 - Recommended microcomputer applications training

7.2 TELEPHONE TRAINING

7.2.1 BASIC TELEPHONE TRAINING

DESCRIPTION: Employees will be taught the basic features of the telephone system. This will be specifically aimed at those features found on single-line telephone sets.

CONTENT:
- call pickup
- call forwarding
- call transfer
- call hold
- last number redial
- call back
- conference calls
- speed dialing
- security
- outside / inside incoming calls
- "gee whiz" features

DURATION: 1 ½ hours

7.2.2 MULTI-LINE TELEPHONE TRAINING

DESCRIPTION: This would be an add-on to the Basic Telephone Training Course to familiarize people with the additional features of a multi-line telephone instrument. Basic features will be reviewed as related to the advanced featured telephone sets.

CONTENT:
- call pickup
- call forwarding
- call transfer
- call hold
- last number redial
- call back
- conference calls
- speed dialing
- security
- outside / inside incoming calls
- "gee whiz" features

DURATION: 1 ½ hours

7.2.3 VOICE MAIL TRAINING

DESCRIPTION: This course will cover the basics of voicemail as well as the configuration settings that are available to the users of the system. It will also address the remote access of mailboxes and features.

CONTENT:
- call forwarding to voice mail
- sending messages to others
- remote access
- changing features:
6.1 Minicomputer Systems

IBM AS400
The department of CIS has an IBM AS400 installed in a lab to be used for training and educational purposes. This system was recently upgraded in 1998. Attached to the system are 18 older model PC’s used as dumb terminals. In the near future, this lab will be upgraded with newer PC’s and connected to the institution’s network.

Hewlett-Packard 9000
The CIS Department had a HP-9000 for several years that served as an instructional computing environment. This system over the years was phased out and became the device that supported remote dial-in. This minicomputer served as the remote access system and was used primarily for students in special projects. In December of 1997 the system failed and it was deemed that repair was not feasible. Money allocated for maintenance and repair of the HP-9000 was used to purchase a new RAS (Remote Access Server) and was installed in the computer center. This system not only replaced the HP-9000 for student access, but it provides remote access for students, faculty and support staff.

RAS (Remote Access Server)
In March of 1998 a new RAS was purchased from Hayes. This system consists of 32 ports of 33.6K modems. Today, only 24 ports are populated, but current plans are to expand the system to its maximum capacity. With the new expansion, the system will be configured with 16 student access ports, nine faculty access ports, five support staff ports and two ports reserved for registration in the towns of Hereford and Dumas Texas.
6.2 **NETWORK FILE SERVERS**

Software applications required for course work are generally accessed from one of the many discipline specific file servers on the Amarillo College Campuses. On the Washington Street Campus, the AC-BETA server provides student connections for the two computer equipped English labs in Ordway as well as all

**NETWORK FILE SERVERS**

<table>
<thead>
<tr>
<th>Server Name</th>
<th>OS</th>
<th>License Size</th>
<th>Accounts</th>
<th>Use</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>WASHINGTON STREET CAMPUS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>AC-BETA</td>
<td>Novell 3.11</td>
<td>250</td>
<td>249</td>
<td>Student access - Ordway Hall, Biology Building, Warren Hall, Library, Music Building</td>
</tr>
<tr>
<td>AC-GAMMA</td>
<td>Novell 3.11</td>
<td>50</td>
<td>10</td>
<td>ACcess Division - Library, 3rd floor - CCC software support</td>
</tr>
<tr>
<td>AC-LAMBDIA</td>
<td>Novell 3.11</td>
<td>50</td>
<td>16</td>
<td>Library CD-ROM server</td>
</tr>
<tr>
<td>AC-OMEGA</td>
<td>Novell 3.11</td>
<td>100</td>
<td>78</td>
<td>CIS Department</td>
</tr>
<tr>
<td>AC-SIGMA</td>
<td>Novell 3.11</td>
<td>50</td>
<td>82</td>
<td>Mathematics Department</td>
</tr>
<tr>
<td>BCS</td>
<td>Novell 3.12</td>
<td>25</td>
<td>28</td>
<td>Business Computer Systems</td>
</tr>
<tr>
<td><strong>AMARILLO TECHNICAL CENTER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ACCESS</td>
<td>Novell 4.11</td>
<td>10</td>
<td>N/A</td>
<td>Remedial instruction</td>
</tr>
<tr>
<td>AM-ROMEO</td>
<td>Novell 3.11</td>
<td>20</td>
<td>N/A</td>
<td>General services for Resource Center</td>
</tr>
<tr>
<td>AMCST</td>
<td>Novell 3.12</td>
<td>25</td>
<td>N/A</td>
<td>General services for Resource Center</td>
</tr>
<tr>
<td>AMOMEGA</td>
<td>Novell 3.12</td>
<td>25</td>
<td>N/A</td>
<td>Mail server</td>
</tr>
<tr>
<td>AMPLATO</td>
<td>Novell 3.12</td>
<td>25</td>
<td>N/A</td>
<td>Student file server</td>
</tr>
<tr>
<td>AMTCC</td>
<td>Novell 3.11</td>
<td>20</td>
<td>N/A</td>
<td>Student file server</td>
</tr>
<tr>
<td><strong>BUSINESS AND INDUSTRY CENTER</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAI1</td>
<td>Novell 4.10</td>
<td>50</td>
<td>N/A</td>
<td>Admin. &amp; Academic support for Polk Street Campus</td>
</tr>
<tr>
<td><strong>WEST CAMPUS</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DELTA-LAB</td>
<td>Novell 3.11</td>
<td>100</td>
<td>269</td>
<td>Student access</td>
</tr>
<tr>
<td><strong>NORTH BRANCH YMCA</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>NBYMCA</td>
<td>Novell 4.10</td>
<td>25</td>
<td>N/A</td>
<td>Remedial instruction</td>
</tr>
</tbody>
</table>

Figure 14: Academic Novell file servers currently accessed via the Amarillo College network.

network connections in the Lynn Library. The BETA server is targeted for replacement in the future. Present plans call for the server to be replaced with PCAD and/or SAS with some modifications. However, the two servers may be considered to be unreliable as well as outdated when they are available for use. The students needs may very well exceed the capacities of these servers by then. The BCS server continues to be somewhat unstable at this date. The instability may have been eliminated through the recent application of patches and upgrades to the Novell operating system. In order to permit two concurrent classes to access the server, the Novell license must be upgraded to support the additional user accounts. If email and network accounts are to be offered to the students in the future, the servers and operating system licenses are inadequate. More consideration needs to be given to the concept of a main student account network server.
Many of the servers at the Amarillo Technical Center will be phased out when the network has been reorganized to support a central hub. When that is accomplished, a new file server will be set in place to centralize all administrative server and email needs. This will also eliminate the inefficient tree-like structure that the network presently has.

The tile server at the Business and Industry Center is a new unit and is presently serving the needs of both academic and administrative areas. The BAI server may need to be upgraded or replaced in the future depending upon the requirements of the training offered by the Workforce Development Division.

<table>
<thead>
<tr>
<th>Server Name</th>
<th>Processor</th>
<th>Memory</th>
<th>Available Disk Space</th>
<th>Total Disk (GB)</th>
<th>NL/VM</th>
<th>Required Memory (Mb)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC-BETA</td>
<td>486/66</td>
<td>16</td>
<td>32%</td>
<td>1.3</td>
<td>1</td>
<td>28</td>
</tr>
<tr>
<td>AC-GAMMA</td>
<td>486/66</td>
<td>32</td>
<td>41%</td>
<td>8</td>
<td>1</td>
<td>82</td>
</tr>
<tr>
<td>AC-LAMBDIA</td>
<td>486166</td>
<td>24</td>
<td>89%</td>
<td>1</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>AC-OMEGA</td>
<td>386/20</td>
<td>16</td>
<td>33%</td>
<td>1.2</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>AC-SIGMA</td>
<td>486/66</td>
<td>16</td>
<td>49%</td>
<td>0.4</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>ACCESS</td>
<td>32</td>
<td>70%</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>82</td>
</tr>
<tr>
<td>AM-ROMEO</td>
<td>32</td>
<td>22%</td>
<td>0.3</td>
<td>1</td>
<td>1</td>
<td>18</td>
</tr>
<tr>
<td>AMCST</td>
<td>486166</td>
<td>40</td>
<td>75%</td>
<td>1.6</td>
<td>2</td>
<td>31</td>
</tr>
<tr>
<td>AMOMEGA</td>
<td>486/66DX</td>
<td>16</td>
<td>63%</td>
<td>1</td>
<td>1</td>
<td>24</td>
</tr>
<tr>
<td>AMPLATO</td>
<td>16</td>
<td>86%</td>
<td>1.2</td>
<td>0</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>AMTCC</td>
<td>16</td>
<td>80%</td>
<td>0.51</td>
<td>2</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>BAI1</td>
<td>486/66LC</td>
<td>32</td>
<td>77%</td>
<td>3</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>BCS</td>
<td>486/1OOLC</td>
<td>32</td>
<td>74%</td>
<td>3</td>
<td>0</td>
<td>39</td>
</tr>
<tr>
<td>DELTA-LAB</td>
<td>486/66</td>
<td>16</td>
<td>14%</td>
<td>2</td>
<td>1</td>
<td>32</td>
</tr>
<tr>
<td>NBYMCA</td>
<td>pentium/133LC</td>
<td>2</td>
<td>54%</td>
<td>9.5</td>
<td>1</td>
<td>94</td>
</tr>
</tbody>
</table>

Figure 15 - Academic file servers - statistics

For the most part, the academic Novell file servers are in good condition. The AC-BETA and DELTA-LAB servers should be upgraded soon to enable them to handle the load placed on them by instruction. In addition, the AC-OMEGA server should be examined to determine its use and serviceability. At this time, there is no set policy or procedure for targeting servers for replacement. Maintenance is generally provided through Network Services and User Support Services.

6.3 INSTRUCTIONAL LABS

With the acquisition of equipment purchased under the Title III grant between 1990 and 1995, the number of discipline specific labs increased dramatically. Today, there are over 35 instructional labs, the majority of which are considered to be departmental labs. There is one general purpose lab on the Washington Street Campus and one on the West Campus in Building "D". The equipment in those general labs is considered to be mid-generation systems, usually Intel 386 or 486 processor based systems. The following is a list of the instructional labs grouped by instructional division:

<table>
<thead>
<tr>
<th>LAB NAME</th>
<th>LOCATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access Learning Center</td>
<td>L-310</td>
</tr>
<tr>
<td>Access Reading Lab</td>
<td>L-307</td>
</tr>
</tbody>
</table>
As of this date, the labs that require the highest level of technology have not been identified.
User directories are maintained on PCAD. The main administrative servers (PCAD and SAS), located in the Administrative Building, have reached a critical time in their life-cycle. They can presently provide services to a maximum of 250 users simultaneously. The demand for connections to these servers are presently exceeding the maximum, especially at the beginning and end of each semester when faculty and staff are attempting to access the Main administrative computer system. To remedy this situation, a new Novell 4.1 server (ADOBE) has been installed that is presently licensed to service 250 simultaneous connections and is capable of supporting at least twice as many users as the PCAD server. At the present time, only the employees of the T.T.S. division have had their accounts moved to the new server. The following issues are being raised by the movement of user accounts to the new file server:

- The public directory on PCAD will not be available to the users that are moved to ADOBE. These users will have to rely on email attachments or diskette distribution to share data and files with those users on the PCAD server.
- Those workstations that are sharing printers with other users through the use of the LanSpool software product will no longer have that capability. A policy will need to be established that defines the qualifications of a network accessible printer.

The new file server also employs disk storage (RAID) technology that will help prevent down time as a result of a failed disk drive. When this is accomplished, the present PCAD server will be refurbished and enhanced to serve as a student system.

<table>
<thead>
<tr>
<th>Server Name</th>
<th>Date</th>
<th>Processor</th>
<th>Memory</th>
<th>Available</th>
<th>Disk Storage</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADOBE</td>
<td>Jan-96</td>
<td>Pentium/100</td>
<td>98</td>
<td>75% / 5.4 Gb</td>
<td></td>
</tr>
<tr>
<td>AM_ADMIN</td>
<td>N/A</td>
<td>N/A</td>
<td>16</td>
<td>19% / .08 Gb</td>
<td></td>
</tr>
<tr>
<td>BACKUP</td>
<td>Nov-95</td>
<td>N/A</td>
<td>24</td>
<td>86% / .88 Gb</td>
<td></td>
</tr>
<tr>
<td>BAI1</td>
<td>May-06</td>
<td>486/66</td>
<td>32</td>
<td>77% / 2.4 Gb</td>
<td></td>
</tr>
<tr>
<td>DELTA</td>
<td>Od-94</td>
<td>486/66</td>
<td>32</td>
<td>11% / .33 Gb</td>
<td></td>
</tr>
<tr>
<td>PCAD</td>
<td>Dee-92</td>
<td>486/66</td>
<td>48</td>
<td>.04% / .17 Gb</td>
<td></td>
</tr>
<tr>
<td>SAS</td>
<td>May-94</td>
<td>486/66</td>
<td>48</td>
<td>29% / 1.42 Gb</td>
<td></td>
</tr>
</tbody>
</table>

The above chart indicates the urgency for moving Washington Street Campus users to the new file server (ADOBE). The servers (PCAD and SAS) that are presently supporting those users are the oldest of the file servers in use as staff file servers. In addition, PCAD is constantly requiring attention to keep disk space free to support user access to applications.

5.2.2 N E T W O R K B A C K U P S

The Novell file servers are currently being backed up through the use of a Digital Equipment Storage Works automated tape backup device. The device uses high capacity tape cartridges that can be programmed to backup any Novell file server remotely. Currently, the ADOBE, PCAD, BAI1 servers are being backed up nightly with the DELTA, DELTA-LAB, AC-BETA, AC-OMEGA, AC-SIGMA, BCS, and SAS servers being backed up once per week on the weekends. The backup server also has the ability to backup any UNIX based system on the network as well.

5.2.3 E M A I L S Y S T E M S

In the fall of 1995, Novell Groupwise version 4.1 was installed and endorsed as the supported email package for the staff of the college. The groupware application not only provides email services, but
calendar scheduling and task/note maintenance as well. The software has been implemented as DOS based
email clients as well as Windows and Macintosh clients. Despite the package’s strengths, it does have a
few shortcomings: an awkward method of maintaining personal Internet email addresses for individuals,
and a lack of a signature banner attached to the bottom of outgoing mail. A new version of the program has
been released by Novell but at this time there are no plans for the adoption of the upgrade. The revision
may provide some of the enhancements that are desired by the users. T.T.S. has announced that the
shareware software (Pegasus & Mercury) in use prior to the implementation of GroupWise will be phased
out in the future. No firm date has been specified.

At the present time, the package is in use on the West Campus, the Washington Street Campus, and the
Business and Industry Campus. It has not been implemented at the Amarillo Technical Center Campus
because of the design of the campus’s network. Efforts are presently under way to reconfigure the ATC
network and to provide all users there with a common Novell File Server that will then be used to provide
GroupWise services to that campus.

5.2.4 WORLD WIDE WEB SERVICES (WWW)

A Sun Microsystems UNIX system is presently in use as a WWW server. The same system is providing
domain name service (DNS) to provide access to the Internet by the college. It is also serving the domain
names for KACV-FM90 and KACV-TV. The operating system is SUN Solaris 2.5 1 as its operating system
and is using the NCSA (National Center for Supercomputing Activities) version of the web server
software. The URL (Universal Resource Location) address for the college’s web page is
http://www.actx.edu. The web page originally was intended to contain the current semester’s course
schedule as well as the upcoming schedule. Due to insufficient staffing, the time sensitive data could not
be kept up to date. As a result, the page now only contains data that can be easily maintained with a
minimum of effort. A Web Committee has been formed to address the design and future of the official
web page at Amarillo College. The policy concerning web page design and its management is still being
developed by the committee.

The web server also provides web page support for the Amarillo Symphony, KACV radio and TV, the
Harrington Library Consortium, and TECHlinx (a consortium sponsored Perkins project of which AC is a
member).

5.2.5 FINANCIAL/STUDENT RECORDS COMPUTER EQUIPMENT

All of the financial systems and student records applications reside primarily on a Hewlett-Packard model
3000 minicomputer. The computer is equipped with 192 megabytes of primary memory and eight
gigabytes of permanent (disk) storage. Although the system is licensed for unlimited users, it can
realistically accommodate 150 users before the performance is affected. The system uses a proprietary
operating system known as MPE/IX (version 5.0) supplied by Hewlett-Packard.

The original HP system that was placed in service at the college supported only display terminals that were
directly connected to the computer. The present system, purchased in 1991, employs communications
devices to which the terminals and printers are connected. The devices are then connected to the network
and use a packetized (TCP/IP) communications protocol to transmit data to and from the HP system. The
following table shows the location of the communications devices:

<table>
<thead>
<tr>
<th>Location</th>
<th>Terminals/Printers</th>
<th>Terminals/Printers</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lynn Library</td>
<td>16 terminals/printers</td>
<td>5 terminals</td>
</tr>
<tr>
<td>CUB</td>
<td>40 terminals, 8 printers</td>
<td>3 terminals</td>
</tr>
<tr>
<td>West Campus, bldg “A”</td>
<td>24 terminals/printers</td>
<td>10 terminals</td>
</tr>
<tr>
<td>Amarillo Technical Center</td>
<td>24 terminals/printers</td>
<td>10 terminals</td>
</tr>
</tbody>
</table>

2/2/99
Most users are using personal computers to connect to the HP system through the use of a terminal emulation program. There are three applications in use for this purpose: for Intel based PCs - AdvanceLink and Minisoft, for MacIntoshes - Sessions. There is one other application for the communications device located in the CUB. It is used each semester to provide terminal access and printer access to the HP for “arena” registration. This takes place on a regularly scheduled registration day and on the 1” day of classes. To accommodate this process, the I.T.S. division installs 25 to 30 terminals and 3 to 4 printers for each “arena” registration session.

Access to the administrative system is also available remotely through the use of modems. Currently, work is underway to provide remote network access which will in turn provide access to the HP system.

Print services are provided through dedicated line printers in the Computer Center or through the use of Novell network printers. Remote printing needs are satisfied with printers that are directly connected to the HP3000 via HP terminal serving devices indicated in the above table.

The file systems on the HP3000 are backed up daily using a HP Digital Data System (DDS). Daily backups are stored in a fire proof vault adjoining the main computer room on the second floor of the Administrative Building. Three weeks of daily backups are maintained with the oldest being rotated for the current day’s backup. On the last working day of a month, a month-end backup is made that is stored in one of two locations: the Financial Aid office or the Business office. Both location use fireproof vaults to protect the tapes.

5.2.6 Telephone Registration System

The telephone registration system acquired in 1988 from the 1776 Corporation (later bought out by Applied Voice Technology) is integrated with the student registration system on the HP system. It is a PC based system that is currently running on a 10MHz 80286 based computer that is capable of simultaneously servicing twelve callers.

Student access to the system to register for courses each semester is regulated by the Registrar’s office through the use of start and end dates located on the HP system. In addition, the Programming Services Department can set the start and end times for each day of the week through the use of settings on the registration system. New students are not permitted to use the Telephone Registration. Other constraints include tests to determine if

- the student has visited with his advisor prior to attempting to register
- the student has any outstanding fees or tines
- the student is on probation or suspension and is permitted to register
- the student has satisfied the TASP requirements

Security for the system is provided by requiring the students to enter both their social security number and date of birth before they can access the registration menu. The students also have the option of obtaining a personal identification number (PIN) from the registrar’s office that may be used in place of the above combination.

The system is available to the students to access their course grades for the last four terms, to pay for courses by credit card, and to update student home and business telephone numbers.

Programming Services has not been able to implement the software upgrades received in the past four years because of the inadequacies of the hardware serving as the host for the application. To take
advantage of the enhancements and error corrections i, the latest revisions, the college must purchase a new personal computer to host the software.

5.3 Administrative Software Systems

Most of the administrative software has been written in house using the COBOL programming language. The data is maintained in non-relational files using keyed indexes for accessing the data. Some applications such as purchasing, student contact tracking, and microfilm indexing were developed under the Title III grant outside of the scope of the Computer Center. The PC based database language (DataFlex) that was used to develop these applications is incompatible with the applications developed on the HP3000. This has resulted in several support related issues. It should also be noted here, that the internal audit for the 1995/96 fiscal year recommended the sharing of responsibilities among the Programming Services staff as well as the investigation of the need for a integrated commercial software package to serve all aspects of the college’s accounting and student records needs.

5.3.1. System Utilities

Quiz

Quiz is a query language and report writer developed by Cognos as part of the Powerhouse family of products. It permits programmers and end users to develop data dictionaries to identify fields in existing files on the Hewlett Packard system. The dictionary elements can then be used to select records from the existing database and generate sorted reports on the basis of the selected data. This product, while not in wide use at the college, has been used extensively by Institutional Research to develop reports required by state and federal agencies. It has also been used by that department to supply management reports for internal use at Amarillo College. Programming Services estimates that over three thousand reports have been generated through the use of this product.

Terminal Emulation Software

Network users are provided with access to a Telnet application named WinQVTT/Net. This package provides Telnet, ftp (file transfer protocol), news, and email services. At this time only Telnet and ftp services are in use. The Telnet sessions support primarily Digital Equipment VT style terminal emulation. All administrative software (financial and student records applications) developed in-house on the Hewlett Packard 3000 was written to perform display screen formatting that is unique to HP display terminals. For this reason, commercially prepared software had to be purchased to allow HP users to connect to the administrative system via their PCs. Three applications are presently in use: Sessions for Macintosh users and AdvanceLink or Minisoft for PC users.

Printer spooling software

5.3.2 Financial Systems

5.3.2.1. Business Office

Software written for the Business Office allows the staff to prepare budgets, track revenues, generate disbursements, maintain the general ledger, capitalize and track inventory, post cash receipts related to bank account balances, generate audit information, and create required state and federal reports. Incorporated into the applications is the ability to track and determine the residency of students for the purpose of determining tuition charges.
Budget
This function is divided into two categories:

- **Departmental operating expense** - Each department enters their requests for the upcoming year. This system retains the following information for each item budgeted in the current year: current year budget, expenses year to date, previous year’s expenditures, request(s) for new year, and the approved budget amount for the current year.

- **Personnel budget** - A set of applications was developed to enable Personnel Services to use different options to determine the cost of raises and fringe benefits for all AC employees.

Once the new budget is finalized this information is transferred to the new year disbursement system. Personnel budget information is loaded into the payroll and personnel master tiles. A salary worksheet is created for balancing initial payrolls of the new year.

Revenues
Income is recorded in the following forms: academic tuition and fees, continuing education enrollments which **include** tuition, fees, sales & service. Agency accounts are used to receipt and bill appropriate sources of revenue including scholarships, sponsors of courses, foundation donors, and state and local entities. A loan tracking system is in place to determine next payment due, recording repayments, aging and billing of loans past due in the form of letters depending on current status of loan.

A Bank drafting system is in place to allow pledge contributions on a monthly basis to KACV that will be deducted from individuals bank account.

Refunds
Automatic re-calculation of academic and continuing education refunds may be done in batch mode or individually through terminal entry. The tracking of refunds is done as they are issued and include how a course was refunded by student for academic purposes.

Disbursements
Expenditures, for each account budgeted, are controlled by a summary record (Budget Expenditure Control) that contains original budget, amended budget, expended year to date, and encumbrances year to date. This is supported by detailed transactions designating account, vendor, amounts, etc. Entries into this system come in several forms from batches on check runs, posting of refunds from the revenue area and importation of information from the payroll system. Postings to the detail tile is controlled through a monthly parameter record that indicates if the month is open to transactions and ensures all records in the batch have the correct month for which transactions are being posted. Disbursements also enable the maintenance of fund balances for the Amarillo College Foundation and grant accounts.

General Ledger
The general ledger is created through the summarization of the revenue and disbursement areas. These areas are currently summarized on a monthly basis though it could be done on a weekly or daily basis if needed. There are also journal entries that are made directly into the general ledger.

Cash Posting Control (Bank Account Balances)
A system to track the bank account balances is in a separate cash posting tile. Revenues are summarized into this system on a weekly basis; disbursements are posted as entries are processed into the expenditure area.

Inventory
A capital Inventory system exists for the tracking of equipment and software that exceed a set minimum value. Items are categorized with an equipment classification code system to enable the selection of similar
groups out of the inventory system. Each item is given an expected life with depreciation accumulated on a monthly basis until the retirement date is reached.

A microfilm index is maintained to enable staff to easily locate the specific film roll and frame on which a vendor, purchase order, requisition, and/or travel order may be located.

5.3.2 HEALTH, SAFETY & SECURITY

A program system is in place that allows for the entry of student and staff parking permits and citations. Citations may be tied to a permit number or automobile license plate. Notification letters are generated and mailed to individuals through the use of the system. Holds on course registration can be created as necessary for unpaid citations. The system also permits access to student and faculty schedules to permit officers to locate individuals on campus.

5.3.2.3 PAYROLL

The payroll software system allows for the processing of approximately 80 payrolls per year, in the following formats:

- Monthly payrolls are processed on the last working day of each month.
- Hourly payrolls for continuing education instructors are processed on the 10th of each month.
- Student and bi-weekly payrolls are processed every two weeks.
- Supplemental and over-load payrolls are completed at different intervals of each semester depending on which term is being paid.

Electronic time keeping is accomplished by Payroll Department employees through the entry of time record information for employees paid on the bi-weekly payroll. Supervisors of employees using the electronic time record process review and approve the information for payroll processing. This method of recording employee hours electronically has not been made available to all departments at this time. All other bi-weekly and monthly employees time information is generated based on their normal work hours with exceptions made based on manually prepared time sheets.

Distribution of payroll information is accounted for by individual and by account for roll-over into the disbursement system.

Faculty assignment information is used to determine the instructor course load and appropriate pay for a semester. This information is initialized from the course catalog and updated by department heads and division chairs.

The software allows for the maintenance of the information required for State Employee Retirement System for insurance. This is broken down into two areas: 1) participants and 2) dependents information. Participants’ information includes types of insurance, carrier(s) (TexFlex, TRWORP, etc.), and effective dates for any changes related to all mentioned areas. Demographic data is maintained on all dependents that are insured and which insurance options a dependent is being carried on.

Tracking of all contributions that have been made to the Amarillo College Benefit Plan by individual for each payroll processed is also managed by the software. This includes a breakdown of the contributions made by Amarillo College to the employee, disability and survivor funds.

The system provides for the tracking of employees that retire from Amarillo College and status related to individual when the retired.
PERSONNEL

5.3.2.4 Dates of employment, anniversary dates, classification and appropriate pay scale information on all employees is maintained through the use of the personnel system. Update of insurance information for state requirements, including the creation of update tiles sent to Employee Retirement System to update records in Austin, is also maintained by the system.

Job descriptions for each position are maintained to assist with the evaluation of employee performance. The criteria used to evaluate the performance of personnel are maintained electronically and is used to produce the forms used by supervisors to perform the evaluations. Information related to the employee’s assignment at college is also maintained by the system.

The payroll system tracks staff development activities completed by employees. It also accumulates and tracks the usage of vacation and sick leave benefits by employees.

Maximum Exclusion Allowance calculations which takes annual salary uses payroll withholdings that are tax sheltered and determines the legal amount employee may have sheltered from taxes.

5.3.2.5 PHYSICAL PLANT

A program is in use that is used to maintain a log of keys made and checked out to employees.

Software also permits the maintenance of building and room set-up information related to instructional classrooms and areas. This data includes seating capacity, room size, heating/cooling options, etc. This information is incorporated into the classroom scheduling system.

Room scheduling information is used to determine assignments for custodial staff.

The Facilities Management Center also has a NetWare server based application (Main Saver) to track job orders, parts and requests for the Physical Plant.

The use of energy is also tracked by a program that allows the recording of utility billings by building and month (cost, usage, etc.).

5.3.2.6 PURCHASING

A DataFlex application was developed to track purchase orders. Purchase requisitions and the purchase orders are hand typed. There is no direct interaction with the rest of the accounting system that resides on the HP 3000. This is an abbreviated version of the purchasing system that was developed on the HP3000 but was never implemented by the Purchasing Department. The HP version included electronic signatures, translation of purchase requisitions to purchase orders, and batch printing of purchase orders as well as several other desired features.

5.3.3 STUDENT RECORDS SYSTEMS

5.3.3.1 ADVISING & COUNSELING

A tracking system is in place for the recording of student visitations to the Counseling Center and the reason for the visits. This information is reported monthly to the Director of Advising & Counseling by counselor. A similar application exists for the tracking of student contact with the Access Division staff.

Access to student degree plans and current student schedules are provided on-line to the advisors and counselors to assist with the advising of students. In addition, they have the ability to view course work that has been evaluated by the college and how Amarillo College accepted the transferred courses.
Placement test scores are graded and posted through the use of scannable forms for initial entry of students into Amarillo College courses and pre-requisites. Advisors can over-ride course pre-requisite requirements in the system to allow the student to continue with the registration process.

5 3 3 2 Job Placement Services
Job Placement Services tracks employers, what jobs offered by employer, students who apply for position and who received job. This is another application that was developed using DataFlex. Because of this, it does not interact with the student database and results in the duplication of information.

Financial Aid Office
A Master record is maintained for each fiscal year in which a student applies for financial aid. This record contains the information that is required to validate that the student is eligible for the various loans, grants, and scholarships awarded.

An automated awarding system disburses awards to the students when their file is completed based on need and full-time enrollment. If a semester is in-progress, awards are based on the student’s current enrollment for that semester. If processed for awarding once a semester is completed awards for previous semesters within the fiscal year is based on classes completed with a grade of C or higher. Adjustment of awards is based on hours a student is enrolled at the first point payment is made to or for the student.

Tracking of how student awards are used (Tuition, Fees, Book Store, Cash, etc.) is maintained in a separate financial aid transaction data set. These transactions provide a separate balancing mechanism for audit purposes.

Financial aid satisfactory progress tracking is completed on a semester basis for time (Students are allowed up to 150% of hours required for degree). Processing for G.P.A. and hours paid versus completed is done on a yearly basis. ‘Ibis allows students the opportunity to make up hours that may have been dropped.

Reporting of eligibility for loan deferments is completed on a monthly basis. Students required to be enrolled are checked for compliance of at least a half-time status. If a student falls below half-time the appropriate agency is notified to begin the loan grace period.

An application was written for Adult Student and Women Services to track scholarship information related to when students can receive payment for child care, tuition, etc. This application was written using DataFlex and does not interact with the main student database.

5 3.3.4 Registrar’s Office
The registrars application, in general, registers students for courses by semester and transcripts their grades upon completion of the courses. The student’s application is processed through the use of a scannable form that can be reproduced with all relevant information to allow changes to current data versus tilling out forms again.

PAR software obtained from Scantron is used to maintain faculty grade books each semester. The rosters are downloaded from the HP3000 to the faculty’s PCs where the grade books are maintained through the use of the PAR software. At the end of the semester, scannable grade rosters are produced on the HP3000 and distributed to the faculty. The forms are then returned to the registrar’s office with the appropriate grades are marked on the forms. The forms as scanned and the grades are loaded directly into the students’ transcripts.
The software provides for the processing of grades for the calculation of academic standing. In the case of transferred credits, electronic evaluation of received transcripts and the importation of credits as Amarillo College equivalents is provided. The students’ transcripts are also electronically compared to degree plans and functionality is provided for the processing of graduates.

Enrollment verification reporting to clearing house for all student enrollment data.

The system also allows classroom scheduling that determines availability of rooms. During the process, the software checks for possible conflicts in meeting times.

A Prospective Student tracking system is one of the DataFlex applications that was written under the Title III grant. It tracks information sent to students and generates individualized letters by major or area of interest, various reports, and labels. This system should be rewritten on the administrative system to interact with the rest of the student database system.

Programs are provided either through COBOL applications or QUIZ reports that permit the college to remain in compliance with many state and federal reporting requirements. Courses reported to the state are written to a contact hour database for historical reference for both credit and non-credit classes.

5.3.3.5 WORKFORCE DEVELOPMENT
Registration of students for continuing education training, the enrollment in this area occurs in several ways:
- Individual student enrollment;
- company sponsored course for their staff only;
- mixed enrollment with open enrollment and students sponsored by a specific company.

Amounts charged students may vary course to course from no cost to a fixed amount per individual or for companies a flat amount plus fees per student for disposable items.

The application programs enable compliance with the reporting requirements for state contact hour reimbursement on funded courses.

The users have the ability to generate reports in many forms including mailing labels, selected listings, the creation of text files for mail merge documents, name tags, and course transcript maintenance.

The evaluation of courses and instruction has also been automated through the use of scannable forms.

A DataFlex application was written for the division to track information related to D.U.I. offenses including who attended the classes, court requirements for each individual, and the demographic information for the individual. Because this is a DataFlex application, it does not interact with the student database system on the HP3000.

5.4 VOICE COMMUNICATIONS

5.4.1 WASHINGTON STREET CAMPUS
Telephone Equipment
- Telephone switch - NEC 2400 IMG, installed 10/93
  5 11 installed single-line sets
  18 1 installed multi-line sets
1 - **T1** circuit that links to the West Campus telephone switch
2 - **T1** circuit that links to the Polk Street Campus via a Digital Remote Unit (DRU)
3 - 16 port trunk cards with 27 activated **outdial** trunks
4 - 8 port DID (Direct Inward Dialing) trunk cards for incoming trunk lines
5 - 20 vacant slots in switch that can be used for bunk, SL, or ML type cards.

### Voice Mail Service
- **CallStar**, installed 10/93
- 350 installed users, capable of supporting 1,000 automated attendant / voice path boxes are available (menuing system)

### Call Accounting
- IS1 Infortext System, installed 10/93, upgraded 09/94
- Used for call accounting and cable management

### Connectivity to West Campus
- Microwave system - digital 23 GHZ, upgraded 07/95
  - Provides 4 **T1** circuits to the West Campus
    - 1 in use voice and 1 in use for data (network traffic)
    - 2 **T1** s are still available for voice or data

#### 5.4.2 West Campus

**Telephone Equipment**
- Telephone switch - NRC 2400 SIM, installed 10/93
- 80 installed single line sets
- 28 installed multi-line sets
- 8 vacant board slots available for trunk, SL, or ML type cards

**Voice Mail Service**
- **CallStar** - supplied from Washington Street Campus via microwave **T1**

**Call Accounting**
- IS1 Infortext System - supplied from Washington Street Campus via microwave **T1**

#### 5.4.3 Polk Street Campus

**Telephone Equipment**
- Digital Remote Unit (DRU) - slaves to telephone switch at Washington Street Campus via a **T1** circuit leased from SouthWestern Bell Telephone
  - 11 installed multi-line sets
  - 12 multi-line ports available
  - DRU will only support **NEC Dterm** Series telephone sets
  - 7 Plexar lines leased from SWBT for modem and single-line telephone sets

**Voice Mail Service**
- **CallStar** - supplied from Washington Street Campus via SWBT **T1**

**Call Accounting**
- IS1 Infortext System - supplied from Washington Street Campus via SWBT **T1**

#### 5.4.4 ATC Campus

**Telephone Equipment**
- Northern Telecom Switch

**Voice Mail Service**
- Replay Plus

**Call Accounting**
- Not available
Equipment Purchase

Departments should contact Equipment Services to obtain equipment specifications and representative prices for departmental equipment needs. These acquisitions should be discussed and planned during the departmental budgeting process.

Future equipment acquisitions, by Equipment Services on behalf of the institution, are based on the repetitive use of a piece of equipment at one location, the obsolescence of the equipment and/or the serviceability of the equipment.

Equipment Repair

Equipment Services maintains qualified personnel and facilities to repair most types of equipment. Call either the HelpDesk or Equipment Services to request assistance with the repair of any malfunctioning equipment. In a request for repair, please specify the type of equipment, the location, when the malfunction occurred, and the nature of the problem.
4.1 WIDE-AREA NETWORK (WAN)

4.1.1 DESCRIPTION

Four campuses: Washington Street Campus, West Campus, the Business and Industry Center, and the Amarillo Technical Center are currently served by local area networks (LANs) and interconnected through a wide-area network (WAN). Of those sites, the Washington Street Campus LAN is the most complex and largest of the four. This is due in part to the maturity of the network and the number of workstations installed at that campus. The Washington Street, Amarillo Technical Center, and the Business and Industry Center campuses are all interconnected through the use of T1 lines leased from Southwestern Bell. The West Campus is connected by a mult-T1 microwave link that is maintained by the Telecommunications Department of the Information Technology Services Division (ITS). The microwave equipment in use provides sufficient bandwidth to supply four T1 capacity links between the two campuses. At the present, one is in use to connect the campus’s LANs and one is being used to connect a small telephone switch at the West Campus to the main switch on the Washington Street Campus. The Washington Street Campus serves as the central hub for the college WAN. The equipment used to interconnect the campuses is located on the second floor of the Administrative Building.

At this time, negotiations are underway to obtain dedicated optic fibers between the Washington Street Campus, West Campus, and the Business & Industry Center. The fiber will be used in the future to implement a high speed network connection between those sites.

4.1.2 INTERNET SERVICES

Internet service is provided to the college through a contract with the Texas A&M System. During the 1995/96 budget year, the connection was upgraded from a 56 Kb line to a T1 line to improve the flow of data to and from the college. The college presently is using twenty class C ip address licenses to provide connectivity to the Internet for network workstations. Ten of the licenses are in use at the Amarillo Technical Center, one is not in use, and the remainder are in use at the other three campuses. The configuration of the LAN at ATC is responsible for the large number of licenses in use for that campus. Each license should supply Internet connectivity for 255 workstations. ATC has fewer than 200 workstations on the local area network. This leads up to one of the issues associated with the college’s Internet service. Because the licenses were received from our present Internet service provider (ISP), the college may be forced to relinquish its present licenses if it were to contract for connectivity from a new ISP. The main concern regarding this issue is the effort that would be required to change all ip addresses on all computer workstations and network hubs and routers. The Network Services Department is not in a position to assume this task at this time.
An additional improvement to the network was the acquisition of a new Cisco 4500 router. The new router has six Ethernet connections that can be used to segment the college’s network and provide better management of the Internet connection. At the time of this report, only one Ethernet port is in use. That port provides the connection of the college network to the Internet.

During the recent bond-financed renovations to the college, the network infrastructure has been improved by installing additional fiber optic cable where needed and in some cases installing new fiber cable to replace coaxial cable. At the same time, as buildings are being renovated under the Facility Master Plan, the network hubs in the buildings are being replaced with new hubs that can be managed remotely from the computer center. The hubs use the simple network management protocol (SNMP) which allows the Network Services personnel to manage and configure the hubs without leaving their desks. The new hubs are designed to accept different network interfaces that will enable them to be upgraded at a later time. This was an especially important consideration when plans were made to put an FDDI network in place between the buildings.

As buildings are renovated on campus, the internal wiring infrastructure is being upgraded completely. A commitment was made to provide network wiring to every classroom and every office as buildings are being renovated. Existing wiring is being replaced with category 5 copper twisted pair cable and at the same time, category 5 wiring is being installed in every office and classroom. Additional conduit and electrical boxes are being installed in classrooms to support the delivery of video in the future. Where required, coaxial cable is being installed to support the delivery of video to the classroom with the present level of technology that exists on the campus. It is hoped that technology will be in place on campus in the future to deliver video via the computer network.

The total number of network ports on the Washington Street Campus is 1040. Figure 3 shows the location and the distribution of those ports for the Washington Street Campus. This is determined by the number and type of network wiring hubs that are connected to the campus network wiring backbone in each of the buildings. Some buildings are not equipped with their own dedicated network hubs. Instead, the workstations are wired into hubs located in an adjoining building. Durrett Hall is an example of this: the hubs are located in Engineering Hall and the workstations and printers for both Engineering and Durrett are connected to these hubs. Further documentation is available in the Appendix and other portions of this document.

For a detailed list of the personal computers on campus, please refer to the Appendix. Most of these workstations, by being connected to the network, are capable of sending and receiving electronic mail, accessing applications on one or more of the Novell servers on the campus, accessing many of the host computer systems on campus, and accessing the Internet. All administrative staff, support staff, and faculty have these capabilities. Students at this time do not have access to network accounts or internet services.

4.2.2 West Campus
The West Campus is a smaller and simpler network than that of the Washington Street campus. A major issue had been the vulnerability to lightning strikes of the microwave equipment that is in use to connect the campus to the Washington Street Campus. This appears to have been resolved in the spring of 1996 with the installation of new grounding on the transmission tower and equipment. Currently, we are experiencing difficulty with the Hewlett Packard routers that control the flow of network data between the two campuses. This is being resolved by the purchase of Cisco routers to replace the older technology.

Again, through the funds available through the bond issue, we are upgrading the West Campus network as work associated with the Facilities Master Plan continues. The wiring infrastructure is presently fiber-optic cable that has been installed between the buildings within underground PVC conduit. Wherever possible, Cabletron Ethernet hubs are being purchased and installed to conform with the type and functionality of the ones in use on the Washington Street Campus. In some cases, this may not be possible and will require the continued use of the Hewlett Packard hubs that were purchased prior to bond financed renovations and construction. All instructional computer labs have been relocated to Building "D". This includes the computer aided design and drafting lab, the nursing testing lab, the medical systems lab, and the computer aided instruction lab. Please refer to the Appendix for the layout of the labs in Building "D".

Building "D" serves as the focal point for the campus’s network wiring backbone. All fiber optic cables are terminated in the wiring closet within the building and the DELTA and DELTA-LAB files servers are located within the same closet. As buildings were renovated, the wiring infrastructure was improved to conform with the category 5 wiring standards that have been adopted by the Telecommunications Services Department. All new buildings have been equipped with SNMP managed hubs and are provided with category 5 twisted pair wiring to all offices and classrooms. The telecommunications closet on the second floor of Building “A” will continue to be the location for the telephone switch and the microwave equipment that provides the WAN connection to the Washington Street Campus.

4.2.3 BUSINESS AND INDUSTRY CENTER

Equipment that is compatible with that in use on the Washington Street Campus has been installed at the B&I Center. A Hewlett Packard tile server is in service at this site to serve both the administrative and instructional needs of the center. The network operating system is Novell 4.1. Groupwise has been installed as the email package and is connected to the email system on the Washington Street Campus. In addition, Microsoft Office 95 is installed on the server. The staff of the Workforce Development Division uses a contact management application named ACT!. This software is installed on the server and is used by the staff to manage their calendars and client information. A computer lab containing fifteen Gateway Pentium based systems is installed for providing training through the Business and Industry Center. In the offices, there are approximately 6 workstations. The wiring infrastructure is all new category 5 copper wire installed to each office and classroom from a common wiring closet in the building.
4.2.4 AMARILLO TECHNICAL CENTER

Computing and network support at the Amarillo Technical Center is in very bad need of improvement. A remarkably sophisticated network is in place considering the funds that were available to the support staff who installed the network. However, there were certain shortcuts taken that have created some problems with the future expansion and support of the network. Work is underway at the time of this report, to install underground fiber optic cable for the network and twisted pair copper cable for voice communications. This will interconnect the Administrative Building, Building D, and Building 2501 with fiber cable. The improvements will enable the staff at ATC to access a single common file server that also will serve as a Novell Groupwise mail server. This will complete the work required to provide seamless email communications from ATC to the Amarillo College email system. It should be noted that the I.T.S. staff involved with the project feel that the ATC staff are in need significant training before the Groupwise product and the new file server can be implemented.

At this time, we do not have an accurate count or description of the computer equipment that is in place at ATC.
5.1 AMARILLO COLLEGE FOUNDATION

The Amarillo College Foundation purchased a software product named Paradigm from JSI FundRaising Systems to replace a minicomputer-based program that was written by the Programming Services Department. The product is a fully compatible Windows-based product that provides the user-friendly interface needed to manage the Foundation’s information. In the fall of 1996, Paradigm was installed on the college’s main Novell file server, PCAD, and made available to the Foundation staff via the college network. Existing data from the HP3000 was downloaded to the application to form its initial database. The application allows the Foundation to maintain information about donors, prospects, members, volunteers, foundations, and alumni. The information that is maintained within the database is determined by the Foundation staff by defining the data fields. This provides the flexibility needed to maintain donor and prospect demographics as well as the gifts donated by the individuals. The software also includes a criteria based query and reporting system that allows the users to select a group of individuals based on any data fields within the database. Paradigm also permits the export of data that can be merged with form letters for fund raising campaigns.

5.2 ADMINISTRATIVE COMPUTING TECHNOLOGY

The phrase “Administrative Computing Technology” is used to refer to all technology that is in use to assist college personnel with the performance of their duties. This not only refers to the Hewlett Packard 3000 minicomputer but also includes the Novell network file servers, telephone registration system, and the telephone switch. Logically, any equipment that is not used in the delivery of instruction could fall under this grouping of technology.

5.2.1 NETWORK FILE SERVERS

There are at least ten Novell based file servers on the campus to serve the users needs. The majority of those servers are academic departmental file servers. The AC-BETA server, located in Ordway Hall provides student connections for the two computer equipped English labs in Ordway, the Computer NETWORK FILE SERVERS

<table>
<thead>
<tr>
<th>Server Name</th>
<th>Novell Version</th>
<th>Users</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Washington Street Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ADOBE</td>
<td>Novell 4.10</td>
<td>300</td>
<td>new administrative server</td>
</tr>
<tr>
<td>BACKUP</td>
<td>Novell 4.11</td>
<td>1</td>
<td>backup device</td>
</tr>
<tr>
<td>PCAD</td>
<td>Novell 3.11</td>
<td>250</td>
<td>present staff account server</td>
</tr>
<tr>
<td>SAS</td>
<td>Novell 3.12</td>
<td>250</td>
<td>present applications server</td>
</tr>
<tr>
<td>Amarillo Technical Center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>ATC1</td>
<td>Novell 4.11</td>
<td>250</td>
<td>administrative office server</td>
</tr>
<tr>
<td>Business &amp; Industry Center</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>BAI1</td>
<td>Novell 4.10</td>
<td>50</td>
<td>admin./instructional server</td>
</tr>
<tr>
<td>West Campus</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>DELTA</td>
<td>Novell 3.12</td>
<td>250</td>
<td>account server</td>
</tr>
</tbody>
</table>

Figure 11 - Administrative Novell file servers currently accessed via the Amarillo College network.

Assisted Instruction lab on the 3rd floor of the Library, public access PCs in the Lynn Library, Warren Hall computers, Biology Building, and the Music Building. PCAD and SAS serve as the primary servers for employee use at the college. Software applications that are served via the network are installed on SAS.
material. Restraint in the use of the “Everyone” feature of the E-mail software is expected of the user.

E-mail and other network resources may not be used for commercial purposes or for personal financial gain. This does not preclude the user from investigating the relative advantages or disadvantages of a potential college-purchased product.

Standards of conduct expected of students, faculty and staff in regard to the use of telephones, libraries and other institutional resources apply to E-mail. Users will be held accountable for their actions, as they would be when using other forms of communication.

**Examples of Acceptable Uses of E-mail**

The distribution of minutes of various committees as well as other notices of general interest to all faculty and staff.

The use of “personal groups” is appropriate in circumstances, such as updating mailing lists, announcing committee assignments, and distributing facts about pending legislation.

**Examples of Inappropriate Uses of E-mail**

Announcement of the sale of personal property or solicitation of support for a particular political position. However, “point-to-point” communication with governmental representatives is acceptable.

The user is urged to consider before sending, recipes, jokes/humor, or requests for placement of a pet etc.

User subscription to “listserves” is an acceptable method of keeping current on many issues. The user is expected to confine subscriptions to a limited number and not “backlog” the E-mail system with large number of unattended items.

The sending of large attachments such as personal photographic images is strongly discouraged.

The user is expected to be honest, legal, ethical and consider what he or she is sending before sending it. Abuse of computing privileges and any violations of these guidelines and policies established by the college will be treated as a serious matter. By using the college’s E-mail system, the user agrees to abide by these policies. These policies are subject to change as technology advances, legal outcomes, or other unforeseen events may occur.
Internet Use Policy

This policy applies to all Amarillo College employee computer or network users. Policies related to instructional labs for student use are addressed in those labs. If you have any questions about the policy, please contact Information Technology Services personnel for more information.

Purpose

To fulfill our mission, Amarillo College provides access to a broad range of information resources, including those available through the Internet. We make this service available as part of our mission to offer a broadly defined program of informational, educational, recreational and cultural enrichment opportunities for the members of the College and community of Amarillo.

The College only assumes responsibility for the information provided on the home page and the supporting web pages resident on this server. Amarillo College does not monitor and has no control over the information accessed through the Internet. The Internet offers access to many valuable local, national, and international sources of information. However, not all sources on the Internet provide accurate, complete, or current information. A good information consumer evaluates the validity of information found.

Responsibilities of Users

The user will engage in no activity which abuses any resource of the Amarillo College network, whereby the network is restricted in use or is damaged in any manner. The Information Technology Services staff constantly monitors the AC network to insure the proper operation of the service. The ITS staff will counsel with individuals whose practices impinge on the capabilities of services and assist those individuals in eliminating any abusive practices.

Choosing and evaluating sources

The Internet is a global entity with a highly diverse user population and information content. College patrons use it at their own risk. The College cannot censor access to materials or protect users from materials they may find offensive. The user alone is responsible for the information accessed through the Internet. The College reserves the right to choose sources to link to our home page. In doing so, the College will provide links only to those sites that conform to the College's mission and goals. Beyond this, we do not monitor or control information accessible through the Internet and do not accept responsibility for its content. We are not responsible for changes in content of the sources to which we link, nor for the content of sources accessed through secondary links. As with printed information, not all sources on the Internet provide accurate, complete, or current information. Users should evaluate Internet sources just as they do printed publications, questioning the validity of the information provided. The College expressly disclaims any liability or responsibility arising from access to or use of information obtained through its electronic information systems, or any consequences thereof.
Audiovisual Equipment Use Policy

Equipment Services maintains a large inventory of multimedia equipment for instructional support. Equipment will be delivered for use on a one-time or regularly scheduled basis. Equipment that is in adequate supply can be reserved for semester use. These items will be picked-up for servicing at the end of the semester and will be returned upon request. Items checked-out on a semester basis may be placed into hourly use by Equipment Services in the event of equipment shortage. Operating hours are 7:00 a.m. to 4:00 p.m. Monday through Friday.

Priority for Equipment Check-Out

Equipment will be distributed for use according to the following priorities:

- classroom and official college programs
- miscellaneous administrative use
- faculty use for instructional preparation
- support of student activities
- other campus use

Equipment Services does not provide equipment for non-college sponsored activities.

Equipment Delivery/Sign Out Procedure

On Campus Use: Equipment will be delivered to a secure location, set up before the time requested and retrieved by Equipment Services personnel. Requests must be received 24 hours in advance of the time at which the equipment is needed. If video or computer projection is required, the request must be received 48 hours in advance.

Off Campus Use: A request must be received 72 hours (not including weekends) prior to the time that the equipment is needed. Equipment Services cannot guarantee the availability of the desired equipment. The person making the request will be notified at that time if the equipment is not available. The person making the request must pick up, sign for, and return the equipment to Equipment Services Distribution, Russell Hall-121. For College-sponsored activities, Equipment Services personnel can be available for delivery, set-up, and retrieval of the of the requested equipment.

Equipment Deliveries for Off Campus College Sponsored Functions: All functions must be scheduled where equipment can be delivered to a secure location and pick-up can be made during normal working hours. The request must be received and approved a minimum of 3 working days in advance of the setup.

Late Requests for Equipment: Equipment Services cannot guarantee availability and/or delivery of equipment requested less than 24 hours in advance of the need. Faculty and staff making late requests may have to pick up equipment, subject to availability, from Equipment Services in Russell Hall 121. This equipment must be returned by the user unless prior arrangements have been made.
Eligibility for Equipment Check-Out

AC Employees: College-owned equipment may be reserved for use, subject to availability, by any employee of Amarillo College for use at a College-sponsored activity, provided that proper check-out procedures have been followed. Amarillo College reserves the right to deny use of equipment if deemed not to be in the interest of the College. Equipment may be checked-out for off campus use overnight and over weekends for instructional preparation or presentation and is subject to availability.

Students: Students may only check-out equipment for instructional/class projects, not for personal use. A valid student I.D., written authorization from the instructor and the type of equipment requested is required. The student’s instructor assumes responsibility for the use and security of the equipment. Students will follow the same procedures as instructors/Employees for off campus equipment checkout.

Equipment Available for Class Use and Check-Out

Video
- 3/4 inch
- 1/2 inch. V.H.S. units
- ‘laser disc players
- ‘monitor/TV’s—19/20’ and 26/27

Projectors
- LCD-Data, Video
- 16mm film
- opaque
- film strip
- video
- overhead
- screens
- 35mm slide
- synchronized 35mm slide/cassette tape
- synchronized film strip/cassette tape
- LCD PC panels

Computer
- PC/MS DOS laptops: can be checked out for 24 to 48 hours. Laptops cannot be requested for semester use.

Audio
- microphones/wireless and hand-held
- amplifiers/mixers
- speakers
- cassette tape players/recorders
- cd players

Misc.
- laser pointers
- easels
- flip charts/ portable dry erase boards
- markers
3. Telecommunications Services - This department has remained intact and will continue to serve as the support center for the college’s telephone system. In addition, the department will continue to provide assistance to the Network and Equipment Services department through the support of the wiring infrastructure on the college’s campuses and between campuses. Closer cooperation with Network Services may become necessary in the future as emerging network technologies are investigated.

Services Provided by Telecommunications Services

- Maintain telephone switches
- Maintain data communications
- Installation of telephone and data communication
- Maintain wide-area networks
- Maintain microwave equipment- West Campus
- Upgrade cabling infrastructure
- Provide support to Amarillo Technical Center

4. User Support Services - All user requests for support flows through the helpdesk operations of this department. Helpdesk does the initial prioritization of the requests and distributes them to the appropriate department after logging the calls. A recently installed product named Helpstar is allowing User Support to build a history of problem solutions that eventually will be made accessible to the users. The software also allows work requests to be filed into work queues that are accessible by the department’s technicians. A complete set of reports and statistics are available to analyze the performance of the department. When users are provided access to the system, they will be able to view their own requests and to observe any work history connected with them. The users will also have the ability to evaluate the services received from User Support at the request level.

All requests for the support of personal computers, peripheral equipment, and locally installed software are acted upon by this department. The technicians are expected to troubleshoot network connectivity problems and consult with Network Services personnel to resolve any problems associated with connectivity. Any problems that cannot be addressed in a reasonable amount of time should be deferred to Equipment Services for resolution. The future expectations of the department are for the Helpdesk operator and Microcomputer Applications Specialist to serve as a first line of defense in assisting users.
with their problems.

### Services Provided by User Support Services

- **Administrative**
  - work requests
    - 0 evaluation
    - 0 assignment
    - 0 tracking
  - personnel
    - 0 Helpdesk direction
    - 0 monitoring of work
    - 0 training

- **Software**
  - installation
  - upgrade installation
  - configuration
  - diagnosis

- **Hardware**
  - installation
  - diagnosis
  - repair
  - preventative maintenance
  - user training

5. **Network Services** - This department supervises the growth and maintenance of the college’s computer network infrastructure. It provides consultation to the other departments of the division. It also provides the support and development of Internet services for the institution. The department is also responsible for the support of the main Novell file servers being used by the college’s staff. This includes the support of the network operating systems and any application and utility software served to the users from the network.

### Services Provided by Network Support

- **File server support**
  - administrative support
  - Internet services
  - CIS instructional systems

- **Internet services support**
  - maintenance of O-addresses
  - ip routing configuration
  - Domain Name Service maintenance
  - list service, and ftp services

- **Network infrastructure support**
  - hub/router configuration
  - network design
  - network maintenance

- **Applications support**
  - email - Groupwise & Pegasus
  - office automation software
  - internet applications

![Network Support Organizational Chart](image)
3.3 Standards

3.3.1 Policies

The Technology Users Committee developed policies for the general use of computers at Amarillo College. The policies were then approved by the Executive Committee to be included in the Technology Master Plan. The policies include: a Supported Applications Policy, an E-mail use policy, an Internet Use Policy and an Equipment use policy.

Supported Applications Policy

The purpose of this policy is to define the services provided and responsibilities assumed by the information Technology Services (ITS) division in the support of operating system software and application software. The standardized application software provided to the college employees will be determined by Administration, Faculty, and Staff with the ITS division’s consultation and recommendation.

For clarification purposes, three categories of software will be used: 1) Server-based Institutional Applications, 2) Non-Server based Institutional Applications, 3) Non-Institutional Applications.

Server-based Institutional Applications

Amarillo College provides server based applications for the benefit of the Institution. All software to be installed on the file server must be owned by Amarillo College.

ITS will install software on the file server that is to be shared by two or more people. All software must be reviewed by Network Services prior to purchase if it is intended for file server access. The license agreement and original source media will be filed and stored in Network Services. A copy of the license agreement and original manuals will be sent to the department purchasing the software if requested.

ITS will install all applications on the file server and give appropriate rights to the end users. Applications that are not intended for all users will be assigned to specific groups, and access will be given only to the users who need rights to these groups.

Application software should not be installed on a user’s personal network drive, departmental shared drive, or college-wide (public) drive. This act seriously affects the size and performance of the network drive that it is installed on. If an application is necessary, ITS will review the application for its’ applicability for file server access.

Non-Server based Institutional Applications

ITS will be responsible for acquisition, licensing, storage, installation, maintenance, and training of the operating systems for the variety of computer equipment owned by the college.

Individual departments will be responsible for acquisition, licensing, storage, and training of application software unique to their division/department. ITS will be responsible for the installation, maintenance, and limited support of application software unique to their division/department.

The division/department must provide original source media and proof of purchase prior to installation by the ITS division.
Non-Institutional Applications

ITS will assist in installation and limited support of nonessential application software by Amarillo College employees. Nonessential is defined as application software not required to perform the job.

The employee is responsible for storage of this software. The employee must provide original source media and proof of purchase prior to installation by the ITS division.

The ITS division has the right to determine if this software is interfering with the operation of the workstation or network and inform the user this application software cannot be used at the college. Examples of the nonessential application programs would be: AfterDark screen savers, Mosaic web browser, Pointcase network, etc.
E-mail Use Policy

Electronic mail is available to facilitate the professional and business work of persons employed at Amarillo College. It provides a way to communicate with individuals and with designated groups. Amarillo College encourages appropriate use of E-mail to enhance productivity through the efficient exchange of information in furtherance of education, public service and the expression of ideas. Use of this resource must be consistent with these concepts. As a responsible member of the college community, employees are expected to act in accordance with the following general guidelines. These guidelines are not meant to be all-inclusive. Generally accepted practices of common sense, decency, civility and legality should be taken into account when E-mail is utilized.

The Information Technology Service (ITS) staff is charged with maintaining the hardware, software and network for maximum efficiency of the E-mail system. Lack of adherence to these guidelines will adversely impact the capabilities of campus-wide servers. ITS staff will counsel with individuals whose practices impinge on the capabilities of the services and assist them in reducing their drain on resources.

Guidelines

Messages sent as electronic mail should meet the same standards for distribution or display as if they were tangible documents. The user should identify himself or herself clearly and accurately in all electronic communications. A user’s concealing or misrepresenting identity or affiliation is not appropriate. Alteration of the source of electronic mail or its message is unethical and possibly illegal.

Electronic mail is the property of the college; however, no attempt to access another’s electronic mail by unauthorized individuals will be allowed. ITS employees may, from time to time, have a need to access a user’s E-mail for routine purposes of repair, upgrades, etc. Concerning the issue of federal law governing privacy, network system administrators will not intentionally access the content of E-mail messages and if content is accidentally accessed, it will be treated as confidential.

The user is asked to be sensitive to the inherent limitations of shared network resources. No computer security system can absolutely prevent unauthorized access to its files. The college will be unable to guarantee absolute privacy and confidentiality of electronic documents. Password security and confidentiality are the responsibility of the user. ITS will provide guidelines for the frequency of change and the nature of passwords. In keeping with good judgement users should create electronic documents as if they were to be made available to the public.

Abusive, threatening, or harassing E-mail is prohibited. While debate on controversial issues is inevitable and essential at an educational institution, that E-mail of a debate nature should advance the cause of learning and mutual understanding.

The user is expected to promote efficient use of network resources consistent with the instructional, research, public service and administrative goals of the college. The user is expected to refrain from any use that would interfere with another’s work or disrupt network resources. The user should avoid wasteful and disruptive practices such as allowing large amounts of E-mail to go unattended, spreading "chain" letters, or sending of other unsolicited
year period

Develop and implement the Technology Master Plan

Control and manage the network facilities and equipment.

Develop an inventory of equipment to be used in planning replacement and distribution of equipment.

Maximize use of budgeted funds to improve equipment.

Seek grants and other resources to purchase equipment.

Objective IX:  Develop Alternative Resources

Pursue alternative resources to improve technology

Objective X:  Serve as a Cultural Enrichment Center

*did not specify any technology related strategies*

2.2 Summary

The technology-related strategies outlined in the “Objectives, Standards, and Outcomes” section of the Strategic Plan focus around the following directives:

- Development of Internet world-wide web (WWW) services

  I.  Maximize student access
      * to academic and career options
  V.  Guarantee quality technical preparation
      * self-marketing and employer contact

- Access to the Internet

  II.  Guide students toward educational success
        * for research on other colleges, transfer opportunities, advance placement, etc.
        * use technology to improve basic skills
  III. Guarantee quality general education
        * use to research supplemental materials for studies
  IV.  Guarantee quality transfer preparation
        * use to contact peers and other authorities in similar courses
  V.  Guarantee quality technical preparation
        * expand research possibilities, materials available, and contact with peers and subject authorities

- Provision of current technology

  IV. Guarantee quality transfer preparation
        * for effective teaching in each program area
  V.  Guarantee quality technical preparation
        * expose the students to the latest technology
• Appropriate support of technology

VII. Maintain professional growth and equity
    • provide staff development to enhance technical skills

VIII. Manage resources effectively and efficiently
    • control and manage network facilities and equipment
    • develop and maintain an inventory of equipment

• Alternative resources to acquire technology

VIII. Manage resources effectively and efficiently
    • develop or acquire budget trend analysis tools
    • maximize the use of budgeted funds to improve technology
    • seek grants to improve technology

Ix. Develop alternative resources.
    • Pursue alternative resources to improve technology

Most of these strategies are easily attainable with the equipment and technology already in place at Amarillo College. Provision of world-wide web services and Internet access are already available to the staff of the college and on a limited basis to the students. Expansion of the offering of WWW publishing services to the students and staff may require additional personnel to manage the growth and to provide assistance when needed. In addition, there will be a requirement to provide additional disk storage on the tile server and to provide web page authoring tools to the users.

The appropriate support of technology is currently being addressed by the Information Technology Services Division. At the present time, there is a need to provide training for the staff. A plan needs to be developed to provide that training through the use of the Workforce Development Division.
Technology at Amarillo College is supported by the Division of Information Technology Services. The dean directs the activities of the division’s five departments with the aid of an administrative assistant. The assistant has the responsibilities of the division’s clerical operations and will provide managerial assistance to the dean when needed. Instructional labs are supported by the division with the assistance of lab personnel supplied by the Instruction Division.

3.1 Mission Statement

The goal of the Information Technology Services Division is to promote the mission of Amarillo College through the support of existing and emerging technologies that will assist the College community in obtaining its objectives. The division will accomplish this by:

- Promoting usable and appropriate technology;
- Consulting with the faculty and staff to anticipate and promote developing technologies to satisfy their needs;
- Planning and implementing needed technology related services;
- Providing quality support of technology in a timely manner; and
- Supporting quality training and technical development for employees of Amarillo College.

3.2 Division Description

The following is a brief description of the five departments under the direction of the dean. The description not only outlines the mission of each department, but the reasoning behind their formation as well.

1. Programming Services Department - provides assistance to the Programming Services Department college in any request involving systems analysis or programming skills. Their primary responsibility is to provide these services for financial applications and student record management. The applications developed by this group, which reside primarily on the HP3000 minicomputer, are developed with the COBOL 74 programming language. Currently, an Administrative Software Committee is being formed to evaluate the software currently in use at Amarillo College and to make a recommendation of action to the Board of Regents. The recommendation is expected to call for the continued development of software by Programming Services or the acquisition of a specific vendor’s application package. The report is due in August of 1997.
Services Provided by Programming Services

- Administrative services support
  - **programming services**
    - ad-hoc reporting
    - required government reports
  - Client/Server development
  - Microcomputer programming support
    - **DataFlex applications**
    - **Microsoft Access applications**
    - **Visual Basic applications**
  - Telephone registration system
- User support
  - **Registration**
  - Report printing and distribution
  - Student Services
  - Business Office
- Systems support
  - **administrative computer backups and operating system upgrades**
  - **academic computer (HP9000) backups**

2. Equipment Services Department - With the changes brought about by the multimedia aspects of the personal computer it is becoming very difficult to separate the support of computers from audio/visual equipment. The renovations associated with the recent bond issue has resulted in the installation of mediated lecture rooms and auditoriums that incorporate computer technology with audio/visual technology. The distribution of equipment to the classroom when needed remains the primary mission of Equipment Services. However, the importance associated with the repair and maintenance of equipment has expanded to include the repair of computer display monitors and the repair of PC equipment that can not be serviced quickly in the field.

![Equipment Services organizational chart](image)

Figure 3 - Equipment Services organizational chart

Services provided by Equipment Services

- Acquisition of audio-visual equipment
  - develop specifications for bids and budget requests
  - design of A-V applications
  - point of contact for vendors supplying /bidding equipment
- Equipment repair
  - audio-visual equipment
  - computer monitors
  - maintenance & ordering of parts
- Audio-visual distribution
  - to/from classrooms
  - setups for institutional functions
  - setups for non-institutional functions
  - user training for a-v equipment
  - Operation of mediated lecture halls
    - Business & Industry Center
    - West Campus Lecture Hall
    - Russell Hall Lecture Hall
# Technology Master Plan

## Table of Contents

<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I.T.S. organizational chart ........................................... 3-1</td>
</tr>
<tr>
<td>2</td>
<td>Programming Services organizational chart .................................. 3-1</td>
</tr>
<tr>
<td>3</td>
<td>Equipment Services organizational chart .................................. 3-2</td>
</tr>
<tr>
<td>4</td>
<td>Telecommunications Services organizational chart .......................... 3-3</td>
</tr>
<tr>
<td>5</td>
<td>U.S.S. organizational chart .................................................. 3-3</td>
</tr>
<tr>
<td>6</td>
<td>Network Support organizational chart ....................................... 3-4</td>
</tr>
<tr>
<td>7</td>
<td>The Amarillo College wide-area network (WAN) ................................ 4-1</td>
</tr>
<tr>
<td>8</td>
<td>The Washington Street Campus local area network ............................ 4-2</td>
</tr>
<tr>
<td>9</td>
<td>Location and count of total network ports ................................... 4-3</td>
</tr>
<tr>
<td>10</td>
<td>Diagram of West Campus local area network ................................... 4-4</td>
</tr>
<tr>
<td>11</td>
<td>Administrative Novell file servers currently accessed via the Amarillo College network .................................................. 5-1</td>
</tr>
<tr>
<td>12</td>
<td>Network tile servers available to the college staff .......................... 5-2</td>
</tr>
<tr>
<td>13</td>
<td>Location and count of HP3000 terminal ports ................................... 5-2</td>
</tr>
<tr>
<td>14</td>
<td>Academic Novell file servers currently accessed via the Amarillo College network .................................................. 5-4</td>
</tr>
<tr>
<td>15</td>
<td>Academic file servers - statistics .............................................. 6-2</td>
</tr>
<tr>
<td>16</td>
<td>Location of instructional computer labs ...................................... 6-3</td>
</tr>
<tr>
<td>17</td>
<td>Location of instructional computer labs ...................................... 6-4</td>
</tr>
<tr>
<td>18</td>
<td>Academic lab workstation count and server relationships ...................... 6-6</td>
</tr>
<tr>
<td>19</td>
<td>Recommended microcomputer applications training ............................. 7-2</td>
</tr>
<tr>
<td>20</td>
<td>Graph representing the user response to computing support issues ............ 9-3</td>
</tr>
<tr>
<td>21</td>
<td>Classification of Intel based PCs and software supported .................... 7-4</td>
</tr>
</tbody>
</table>
Today, Amarillo College has incorporated the use of technology in one form or another in virtually every phase of instruction and support. From the use of personal computers by Physical Plant to maintain drawings and plans of the college facilities to the delivery of course materials directly to the student’s home via the Internet, technology has become so pervasive that it is difficult to imagine what instruction and management would be like without the use of technology. The infusion of technology at AC primarily took place in a short time period that spanned from 1990 to 1995. Part of the impetus for this rapid change was the Computer Self-Study Report produced in 1989. The data that generated the report was gathered by the Computer Self-Study Committee through a set of college-wide surveys and interviews. At the time that the report was written, there were approximately 350 microcomputers in use and the college was beginning to experiment with network technology. The Self Study identified the following areas of concern and associated goals:

- **meeting student needs**
  academic areas should be provided with state-of-the-art equipment
- remote access be available to students and employees to accommodate home computers
- **organizational structure**
  technology support should be reorganized
  the top supervisor should report to the president of the college
  the Computer Self-Study Committee should act as an advisor to the department
- **user support/development**
  a plan be put in place to monitor and replace computer equipment
  the administrative hardware/software should be evaluated and replaced, if necessary
  a user support center be established to provide staff development
  a “help line” be established to provide assistance to current users
  a users group be formed to exchange information and ideas
  incentives be used to encourage the implementation of the sound use of technology
- **accessibility**
  any faculty or staff member must have access to a PC/terminal if they wish
  the access to administrative data be made more readily available to staff
  all employees should have access to email and calendar scheduling

In addition, the report called for the development of a long range computer plan to address the above issues and to monitor and document efforts made to accomplish the goals of the report.

In October of 1990, the college became the recipient of a five year Title III grant awarded by the U.S. Department of Education. The funds from the grant were targeted to address the issues associated with the self study. At the conclusion of the Title III grant in September of 1995, the number of personal computers had increased to 926. The grant also financed a local area network on the Washington Street Campus, the West Campus, and a wide area network and telecommunications link between the two campuses. In addition, a link to the Internet was established and used primarily for the purpose of email transmission. The network incorporated router technology to manage the data traffic between the West and Washington Street campuses and between the college network and the Internet. Several Novell file servers were acquired and put into service for both the academic and administrative communities.

The Title III grant enabled Amarillo College to address many of the concerns that were identified in the Computer Self Study. Besides, the acquisition of technology, the grant financed the creation of the Alpha Center. The center was designed to:

- Provide training for all Amarillo College employees including scheduled workshops and one-on-one sessions
- Software processing including maintenance of the inventory
- Post-training software support for the users
- Special projects to assist faculty with technology-related instructional materials

The Alpha Center proved to be a valuable resource during this period of transition by providing training for the staff and by providing guidance and direction for the placement of technology around the AC campuses.

In 1992, an additional report was produced titled *A Plan for Implementing New Information Technology*. The report was prepared by James Farmer who was hired as a consultant to the Application for Computer Technology Committee. The report basically supported the findings of the self-study that was done in 1989. In summary, the report recommended that:

- All staff workstations be connected to the network and that all computing resources be accessible to the users.
- PCs and the network should be supported by trained personnel. A Help Desk should be staffed to respond to typical user inquiries and problems.
- The administrative computer system should be converted to an “open” system and the purchase of commercially prepared administrative software should be investigated.

It appears that some of the recommendations were carried out. However, the staffing recommendations contained in the report were not. By 1993, it was apparent that the amount of technology already in place at the college had far outpaced the abilities of the staff assigned to support it. In fact, the number of support staff available to maintain the technology and provide support for it had not increased significantly since before the start of the grant. It was also becoming apparent to the administration that the necessary controls and guidance were not in place to assist the college in the continued use of technology. As part of the grant related activities, the college contracted with a consultant to prepare a report of the status of technology at Amarillo College.

In March of 1994, Michael Wolf delivered his report entitled “An Analysis of Information Resources at Amarillo College” to President Joyner. In his report, Mr. Wolf stated that technology had become pervasive throughout the educational institution and all of its processes. He indicated that the student is the primary beneficiary of the use of technology, not only from a support point of view, but also as the recipient of broadened educational experience. The rapid growth of information that we must deal with daily was credited with the need for technology as a solution. Prudence was recommended as a means to keep the costs of the technology from getting out of control.

In his report, there were several issues outlined involving the support infrastructure required to maintain the technology in place at the college. Many of these issues were addressed in September 1995 by the creation of the Information Technology Services Division. The division was formed from the technology-related personnel and resources from Instructional Services, the Computer Center, and Academic Computing. The division is supervised by the dean who is a member of the Executive Committee and as such, reports directly to the president of the institution. Staffing of the support areas was further addressed in the 1996/97 budget by the funding of additional staff in the User Support Services area.

Today, the number of personal computers in use at AC has risen to 1200 with the wide-area network expanded to include the Polk Street Business and Industry Center and the Amarillo Technical Center (formerly the Amarillo campus of Texas State Technical College). There are 36 computer equipped labs and over 18 tile servers connected to the network. The use of the Internet has increased and the ability to access the college’s network remotely will soon be a reality. Portions of Mr. Wolf's report are perhaps more relevant today than it was in 1994. One of the most critical issues raised in his report was the college’s ability and commitment to provide additional and ongoing financial support for the technology put in place through the Title III funds. He states that “…the investment in technology is part of the budget
solution, not part of the problem”. Several issues are identified that have major budgeting consequences such as staffing, technology acquisition, equipment support, equipment retirement, and infrastructure maintenance. These are the issues that are to be addressed by this report. They raise very serious questions that demand our scrutiny if the college is to continue to be a leader in the use of technology for education. Questions such as:

Can the college continue to support the number of personal computers that spread so rapidly and thoroughly within the campus?

Are there services and conveniences that the college community is willing to give up in order to fund technology? If not, what can be done to make the technology affordable?

Is our current technology being used efficiently and is the newest technology being applied where it is needed?

We do not expect to have all of the answers to the questions raised by the acquisition and deployment of technology, but we do expect this report to be a positive beginning of the control and direction of technology at Amarillo College.
The Amarillo College Institutional Strategic Plan was presented to the Board of Trustees at their fall 1996 retreat. The document is used as a measurement of performance for the entire college. During the process of internal program reviews, divisions are required to compare their missions and goals with those of the Strategic Plan. In a similar fashion, this document should also be measured against the plan for validation. There are several areas of the plan that call for the use of technology. One of the Critical Priorities calls for the formation and maintenance of this document. In addition, there are several technology-related strategies indicated as methods to attain the objectives of the Strategic Plan. The Technology Master Plan should address those strategies.

2.1 CONTENTS OF THE STRATEGIC PLAN

2.1.1 AMARILLO COLLEGE INSTITUTIONAL MISSION

Amarillo College, a public community college, provides educational programs, services, and resources for the residents of Amarillo and its surrounding area. With fundamental principles affirming the value of education, the freedom for teaching and learning, and the worth and dignity of each individual, the College emphasizes innovation, excellence, and leadership in its mission to be an exemplary community college.

2.1.2 AMARILLO COLLEGE GOALS

Amarillo College has seven goals that are designed to fulfill the comprehensive mission of the institution.

- **GOAL I**: Provide programs leading to associate degrees and certification in university parallel and occupational-technical areas
- **GOAL II**: Provide courses and programs to enhance occupational skills and to meet community employment needs
- **GOAL III**: Provide courses and programs to broaden awareness and enrich personal development
- **GOAL IV**: Provide basic skills and other developmental education
- **GOAL V**: Provide student and educational support services
- **GOAL VI**: Be a center for social and cultural interaction
- **GOAL VII**: Participate in community research and economic development

2.1.3 AMARILLO COLLEGE PHILOSOPHY AND COMMENTS

The heart of Amarillo College’s existence is teaching and learning. Teaching is the foundation, the core around which all else at the College revolves. When teaching and learning occur successfully, the College and the community are invigorated and the mission of the College is fulfilled.

Through quality teaching, the vitality of the College is felt in the community. For quality teaching continually stimulates the cultural, intellectual, and technical levels of the community.
Active learning is a consequence of effective teaching. The goal of every dedicated teacher is to kindle that desire for learning which will ultimately translate itself into responsible and fulfilling participation in family, work, society, and the world at large.

Thus, Amarillo College is committed to:

- excellence in teaching and learning
- high academic standards
- life-long learning
- faculty development and research
- total growth of the student
- students’ pursuit of success
- academic freedom and diversity of thought
- an open-door admission
- community awareness of college programs
- minimal tuition and fees
- efficiency and accountability
- staff support and development
- fiscal responsibility
- institutional evaluation and planning
- the value of the associate degree

2.1.4 **CRITICAL PRIORITIES FOR 1995-1997 BIENNIAL**

- *Develop, implement, and maintain a master plan to attract and keep more students.*
  (Specific objectives and strategies will be determined but may include a marketing master plan, etc.).

- *Develop, implement, and maintain a human resources master plan.*
  (Specific objectives and strategies will be determined but may address staffing patterns, salaries and benefits, professional development, etc.).

- *Develop, implement, and maintain a financial resources master plan.*
  (Specific objectives and strategies will be determined but may include the establishment of fiscal priorities, a comprehensive study to identify resources, etc.).

- *Develop, implement, and maintain a technology master plan.*
  (Specific objectives and strategies will be determined but may address distance learning, networking, software, personnel, and a budget related to technology issues, etc.).

- *Develop, implement, and maintain a master plan to meet the training needs of business and industry.*
  (Specific objectives and strategies will be determined).

- *Develop, implement and maintain a master plan to establish the role of Amarillo Technical Center campus in the panhandle region as a division of Amarillo College.*
  (Specific objectives and strategies will be determined.)

2.1.5 **ONGOING PRIORITIES AND UNDERLYING GUIDING PRINCIPLES**
Future Directions from Vision 2000

**Educational Diversity**
Amarillo College will diversify its programs, services, and teaching strategies to meet the evolving educational needs of business, industry, and the community at large.

**Community and Economic Development**
Amarillo College will join with public and private sectors to lead progressive community and economic development.

**Student Access**
Amarillo College will maximize the opportunity for all segments of the community to access its programs and services.

**Directing Students**
Amarillo College will guide students toward educational success.

**Faculty Development**
Amarillo College will attract, retain, support and reward a superior faculty while maintaining a climate in which the faculty will grow and excel.

**Innovation and Change**
Amarillo College will evaluate and incorporate emerging technologies and methodologies that have a positive impact upon teaching and management.

**Institutional Effectiveness**
Amarillo College will ensure institutional effectiveness.

**Resource Development**
Amarillo College will aggressively seek alternative resources to assure financial assistance for its students and a sound financial future for the institution.

**Cultural Enrichment**
Amarillo College will enhance the quality of life for area residents by serving as a center for cultural enrichment.

**Marketing**
Amarillo College will promote its role as a dynamic educational force by vigorously communicating expanding opportunities for the community.

### 2.1.6 Objectives, Standards and Outcomes

The following excerpts are taken from the 1995-1997 Strategic Plan for Amarillo College. Only the strategies that directly relate to the acquisition and implementation of technology, as related to the objectives, have been included:

**Objective I:** Maximize Student Access

- Develop Internet web pages in order to keep students better informed about academic and career options.

**Objective II:** Guide Students Toward Educational Success
Continue to provide computer learning labs at outreach sites and in the Learning Center on the Washington Street campus for skills training.

Use technology in a variety of ways to reinforce learning in reading classes.

Provide student access to Internet which will increase research and information on other colleges, transfer, advance placement, etc.

Objective III: Guarantee Quality General Education

Provide student access to the college's computer network and to the Internet in order to expand research possibilities, materials available, and contact with peers and other authorities in similar courses.

Objective IV: Guarantee Quality Transfer Preparation

Provide and maintain appropriate equipment for effective teaching in each program area.

Provide student access to the college's computer network and to the Internet in order to expand research possibilities, materials available, and contact with peers and other authorities in similar courses.

Objective V: Guarantee Quality Technical Preparation

Maintain state of the art instructional equipment.

Provide student access to the college's computer network and to the Internet in order to expand research possibilities, materials available, and contact with peers and other authorities in similar courses.

Develop an Internet web page service for employers to recruit AC students.

Develop an Internet web page service where students can publish their,resumes,for,employers.

Objective VI: Provide Quality Workforce Development Opportunities

did not specify any technology related strategies

Objective VII: Maintain Professional Growth and Equity

Provide continuing professional development opportunities to enhance technical proficiencies:

  office automation and software usage
  Internet services
  telephone and voice mail usage

Objective VIII: Manage Resources Effectively and Efficiently

Provide data on a budget by budget basis to track trends in expenditures over a five