



*Information Technology
Strategic Plan for
2004 & beyond*

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**Coppin State University
Information Technology Strategic Plan
for 2004 and Beyond**

Executive Summary

This document is Coppin State University Information Technology Strategic Plan for year 2004 and beyond. The plan took into consideration the University System of Maryland Board of Regents (BOR) "Information Technology Minimum Standards" as well as the Maryland Higher Education Commission (MHEC) "The Maryland Plan for Postsecondary Education 2000". The higher education community is aggressively addressing the growing concerns about the potentially profound changes ahead for universities in the area of information technology. Institutions are seeking creative ways to harness technology to achieve overall institutional effectiveness.

Coppin, like its counterparts, is implementing information technology to improve the efficiency and quality of academic and administrative services. The University has formulated a number of questions to be answered by the strategic planning process: What are the relevant information technology issues? What are the essential technology tools that are needed to successfully achieve its mission? How will technology assist in informed decision making? Will productivity increase? And, how much will it cost? Thus, after internal and external assessments of the current information technology environment and a review of the literature, a Strategic Plan was developed.

The Strategic Plan provides a framework for the University's decision making during this period of challenges and opportunities. The revised plan provides a discussion of specific goals, objectives and strategies for technology growth and development for the years 2004 and beyond for the various client groups of the University. It is imperative that the Strategic Plan enables the Office of Information Technology (OIT) to respond positively and rapidly to the needs of its client groups. As a result, the plan will be reviewed and modified periodically to support these needs and to reflect an environment for the University that utilizes the best IT practices.

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Coppin State University Information Technology Strategic Plan for Year 2004 and Beyond

I. Introduction

This document is a strategic plan for information technology improvements at Coppin State University for fiscal year 2004 and beyond. The Office of Information Technology (OIT) has the responsibility for the creation and implementation of the strategic plan. OIT provides academic and administrative computing services to the faculty, staff, students and other members of the University community.

The strategic plan is intended to be an evolving document that describes what the University plans to do to advance the infusion of technology into teaching, administration, research, and outreach.

A. Mission

The Coppin State University mission statement reflects its commitment to provide high quality undergraduate and graduate programs and services for its students and the citizens of the Baltimore metropolitan area, the State of Maryland and the nation. Its philosophy of admission is to assist students with a broad range of academic preparation and abilities to fulfill their potential and to become successful.

The University also has a mission to collaborate with public service agencies; to encourage faculty, staff, and students to participate in public service endeavors involving residents of Baltimore's central city; and to work closely with state and local organizations to develop strategies that address the needs of the community.

Achievement of the University's mission is integrally related to the degree to which the University can acquire and use technology effectively and efficiently in providing programs and services to its constituents. The University's mission for information technology (IT) development is as follows:

"To improve the quality of the University's educational programs, enhance instructional effectiveness, increase productivity, provide better service to students and provide accessible, accurate, and timely information to faculty and staff."

The mission for technology development is supportive of and consonant with the overall mission of the University. In fulfilling the University's IT missions, teamwork, intellectual curiosity, ethical behavior, critical thinking, and active learning in a rapidly growing technological society are emphasized. OIT seeks to provide the highest quality information services to the campus community.

B. Vision

The Coppin State University vision for information technology for fiscal year 2004 and beyond focuses on the development of an environment for students, faculty, staff and administrators that provide state-of-the art technology to enhance teaching and learning and overall institutional effectiveness. Such an environment will:

- provide access to information to advance knowledge,
- provide data for informed decision making,
- increase productivity , and
- improve conditions for work and for teaching and learning.

C. Values¹

Although the success of this plan depends upon the support and cooperation of the entire University, the Office of Information Technology has the primary responsibility for implementing the goals and objectives that have been developed. To this end, OIT is committed to:

- Supporting the mission of the University
- Developing a technological support system for the University and its constituents
- Creating partnerships with IT service users
- Fostering teamwork to promote success in all IT endeavors
- Establishing accountability in the operation of IT
- Developing a spirit of trust, openness and integrity for all IT interactions with the University community
- Developing an environment that facilitates professional development
- Remaining sensitive to the changing needs of the University and of the rapidly changing technology environment

D. Client Groups

The principal client groups served by the Office of Information Technology include: (1) Students, (2) Faculty, (3) Scientific and Other Researchers, (4) Librarians, (5) Administrators, (6) Alumni, and (7) Community- public and private sectors. These client (or user) groups are defined in section V part D.

¹ See appendix V for the Office of Information Technology Tenets

II. Planning Facts

A revolution in computing and telecommunications technology has occurred during the past decade. These changes are having an immense impact on educational institutions and will continue to do so. In anticipation of such continued advancements and rapid growth in the area of information technology, the University considered the following technological facts in the development of its strategic plan:

- Information access is placed closer to the user.
- Software tools are increasingly becoming user friendly.
- Computers are increasingly becoming more powerful.
- Desktop computing is increasing in power.
- Client/Server and Internet Computing technologies permit easier access to centralized technology and the customization of this technology for user-specific needs.
- The Internet computing model is gaining ground and enabling new trends such as Application Service Providing.
- Network designs have improved, thus making response time faster and the network more stable and secure.
- New emerging network technologies, such as wireless access, are becoming mainstream.
- Voice over IP is gaining ground, recognition, and stability.
- Access to the Internet and the World Wide Web (WWW) has an enormous impact on the client groups.
- Information sharing among institutions, organizations, and the community is increasing.
- The duties of various staff positions will require adaptation to reflect changes in technology.
- Leadership will be required for the acquisition, development and dissemination of information technology to client groups.
- Additional funding and staffing will be required to support information technology initiatives.
- Nontraditional sources will be explored to supplement existing funds.
- IT innovations will be periodically assessed.

III. Organization Assessment

The OIT, the FIT Committee, and Peat Marwick completed internal and external assessments of the University's strengths and weaknesses in the area of information technology. In performing these assessments of the organization, the University was able to gain a better understanding of the needs of its client groups.

Peat Marwick developed the Organizational Study for a Centralized Computing Support Office at Coppin State University in May 1996. It assisted in the assessment of the centralization of the computing departments, hardware and software configurations in use at the University, administrative systems description, and data communication components. The study also made recommendations regarding the reorganization of the computing departments, staffing requirements, and position descriptions for the information technology office. These recommendations were considered when the reorganization of the computing departments was done in mid-1996.

The Coppin State University Campus Layout was prepared by the USM Service Center. It focused on the hardware and data communication components of the University. It provided a layout of the campus, identifying the buildings that are connected via a fiber backbone. Additional data captured in an electronic database identified each building with its data communication components. This study was an early assessment of what computer resources were available, who was utilizing these resources, and where some of the deficiencies were located.

The Coppin State University IT Self Assessment contains the details of an internal assessment of the current computing environment at the University prepared by the OIT and the FIT Committee. The self-assessment was crucial to the development of this strategic plan. It provides the IT strengths, weaknesses and challenges that evolved into goals the University seeks to accomplish by the year 2000 and beyond. The next two sections provide a summary of these findings.

IT Strengths.

- The administration, faculty, staff and students are willing to learn new technologies and are active participants in the creation and implementation of a strong IT program.
- Many members of the client groups have IT experience.
- An Information Resource Management (IRM) Committee has been established to oversee the development of policies for IT.
- A Faculty Information Technology (FIT) Committee has been formed to communicate faculty needs.
- The OIT staff is very dedicated, open to change, and has a genuine desire to provide quality service to its client groups.

- The University has been an active participant in the USM Institute for Distance Education and the Continuing Education Council, both of which promote the use of technology to enhance instruction and educational access.
- The library is a member of the USM LIMS project.
- A training program has been initiated for various client groups.
- The University has two T1 lines and there are plans to further expand its capacity.
- The University has a working Interactive Video Network (IVN).
- With one exception, all buildings are connected with fiber optic cable.
- There are 4 computer labs available that also serve as training and testing rooms for the client groups.
- The University secured the services of a consulting firm to provide recommendations for improving the organizational structure for IT.

The following could not be considered weaknesses of the University, but instead will be viewed as challenges the University will face over the next few years. These challenges are grouped into 10 major categories that are addressed later in this plan as goals for improvement.

IT Challenges

- **Challenge 1: Complete the campus-wide Network (BOR 3²).**
 - There are limited public IT access facilities at the University, apart from two classrooms, labs and mini-labs.
 - The campus has not utilized existing fiber optic connections to the fullest extent possible. Improvements are needed in the network service.
 - Electronic communication channels and processes need to be improved across the University
- **Challenge 2: Improve the computing environment (BOR 1,2,4,5,and 9).**
 - The computer systems are outdated and have inadequate performance.
 - There is an insufficient quantity of desktop computers for most client groups.
- FY 2000 accomplishments.
 - The University identified IT as such a high priority and to accordingly acquired an equipment loan to fund the procurement of new PCs. The new and upgraded multimedia, networked computers were rolled out to every faculty and staff at Coppin.

² Board of Regents minimum standards

- **Challenge 3: Centralize access to technology materials.**
 - Most software and data are installed on individual workstations or computer desktops rather than served from a centralized computer.

- **Challenge 4: Update campus-wide IT standards, techniques and processes.**
 - The desktop-computing environment consists of a variety of inadequate platforms.
 - There are multiple software packages with multiple, incompatible versions in use.
 - Policies relative to computer security and information access are minimal.
 - Few maintenance contracts exist for the computing equipment at the University.

- **Challenge 5: Increase the number and efficiency level of the OIT staff (BOR 7).**
 - Users perceive the computer center and its staff as unresponsive to their needs. There is a lack of confidence in in-house IT skills.
 - There are limited personnel to support IT. The OIT lacks several critical staff.
 - Very limited technical expertise exists in certain information technology areas (PC, networking, Operating Systems, UNIX, relational database systems, etc.).
 - There has been a lack of on-going professional development and training for OIT.
 - OIT staff salaries are not competitive
 - There is an over dependence on specific individuals for critical functions.
 - Staff offered limited technical training due to budget constraints.

- **Challenge 6: Provide training for the client groups (BOR 4,6).**
 - There is a lack of adequate training for the client groups.
 - The labs for faculty, staff, students, training, testing, and workshops are insufficient and inadequate.
 - There are limited times for students to access the labs, especially for evening and weekend hours.
 - There are not enough resources, equipment or facilities to provide ample on-going training for the client groups.

- **Challenge 7: Infuse technology into the curriculum and learning environment.**
 - Few classrooms are capable of connecting to the network or the Internet.
 - Classrooms are not equipped to display computer-generated output.
 - Few instructors use information technology-based tools in their courses for instruction and/or for communicating with their students.
 - There are limited software packages available at the University for instructors to use in specific courses.

- **Challenge 8: Migrate to new integrated customer support systems for Students' Information, Financial Management, and Human Resources (BOR 8).**
 - The current systems are not integrated, are obsolete and follow antiquated technologies.
 - The new system will replace the existing Financial Records System (FRS), Human Resource System (HRS), and Students Information System (SIS) and introduce new capabilities, such as electronic procurement and work flow modules. The implementation of the new system requires new software and hardware upgrades.

- The client/server and Internet computing technologies to be used by the new system is new to the University.
- Support systems for SIS use task-oriented principles that limit interactive services to Admissions, Registrar, Counseling, Business and Finance, Institutional Development, and Academic Affairs.
- The same information about students is located in several different offices causing inconsistencies in data, inaccurate flow of data, and reduced productivity.
- The funding for the new system represents a major challenge for Coppin State University.

- **Challenge 9: Increase Financial Resources for IT.**
 - There are limited financial resources to support IT.
 - There is an increased emphasis in funding IT initiatives, although funding is still inadequate.
 - Dedicated or reallocated fiscal resources have not been identified.

- **Challenge 10: Provide a state of the art new telecommunication facilities**
 - The current PBX is obsolete and inadequate to support Coppin State University telecommunication needs.
 - The funding source for the new needed PBX is not identified.
 - New telecommunication policy needs to be developed and implemented.
 - Cost containment measures needs to be implemented.
 - Telecommunication staff is inadequate and needs to be properly trained.

- **Challenge 11: Bridge the Digital Divide (BOR 9)**
 - 85% of Coppin students are on financial aid programs.
 - Competition in the work place requires competency in information technology.
 - Access to information technology should not be contingent upon financial means.

IV. IT Organizational Structure

The organizational structure for IT at Coppin State University can be viewed from two (2) perspectives: (1) how IT policies are developed and (2) the structure for coordinating duties and functions of the OIT. Figure 1, represents the two-fold organizational structure for IT. The policy making structure appears on the left and the operational structure on the right. Both structures report to the President of the University to ensure support for the University's mission as manifested by the needs of the four major divisions: Academic Affairs, Student Services, Business and Finance, and Institutional Advancement. The President of the University has the major responsibility for leading the University in meeting its information technology challenges.

A. President

The President is responsible for developing the University's vision and goals for Information Technology. The IRM and the OIT report to the President.

B. IRM

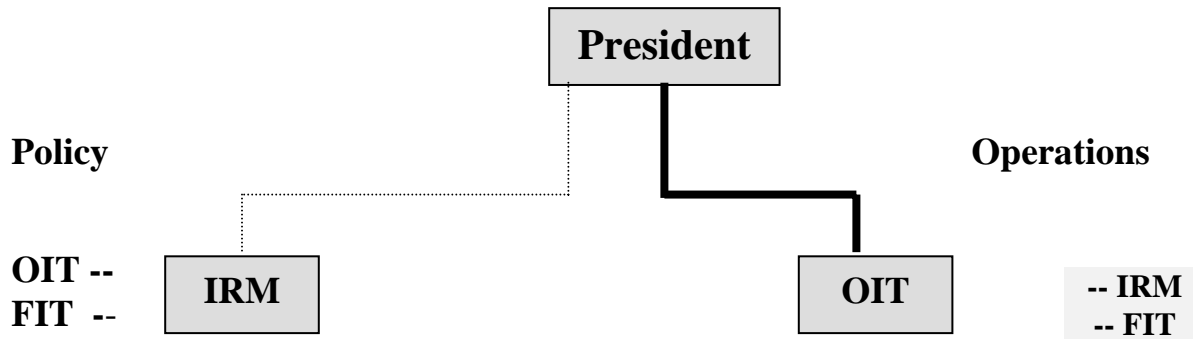
The Information Resource Management (IRM) Committee is responsible for establishing IT policy. The Committee is chaired by the director of OIT and includes the Vice Presidents, the chair of the FIT Committee and key administrators responsible for delivering information technology services. The OIT and the FIT Committees are advisory groups to the IRM.

C. OIT

The IRM committee recommended the merger of the heretofore separate academic and administrative computing departments to form the Office of Information Technology (OIT). This merger took place in June 1996.

The OIT is responsible for providing academic and administrative computing services to all client groups. At the head of the OIT is the director. It is the director's primary and critical function to achieve the University's goals for Information Technology. With the Director of OIT as a the chair of the IRM Committee, there is an assurance that issues pertaining to all client groups and computing areas are discussed, prioritized, and addressed. The director is also responsible for making certain policy and program objectives are met. The IRM and FIT Committee are advisory groups to the OIT.

Figure 1 - Coppin State University's IT Organizational Structure



While the newly formed OIT department is still undergoing restructuring, hiring and reorganization, currently it has 7 major divisions:

- (1) Information Systems Operation and Management
- (2) Client and Internet Computing Support
- (3) Campus Network Support
- (4) Telecommunication and IT infrastructure Support
- (5) IT training management
- (6) Quality Assurance and the Help Desk function
- (7) Coppin Web site support.

D. FIT Committee

The Faculty Information Technology (FIT) Committee was formed by the VP for Academic Affairs. The VP of Academic Affairs has the responsibility for developing the academic information technology vision and goals in consultation with the Deans' Council and the FIT Committee. The FIT Committee consists of faculty members who determine the information technology needs of the academic community. The director of OIT is invited to the FIT Committee meetings. The FIT Committee works with OIT to assess faculty needs, promote the use of information technology among the faculty, participate in the strategic planning process for IT, assess the impact of IT on faculty productivity, identify topics for IT workshops, and design various information technology based solutions. The coordinator of the FIT Committee reports to the VP for Academic Affairs and is also a member of the IRM.

V. Environmental Analysis

Coppin State University, located in Baltimore, Maryland, is comprehensive, urban, liberal arts University offering innovative career-oriented instructional programs designed to serve the needs of the central city, the metropolitan area, the State, and the nation. Coppin currently has a student population over 3,840 with a projected population of 4,487 by the year 2005 and approximately 500 employees.

Coppin State is a member of the University System of Maryland (USM). The USM is comprised of thirteen institutions and research centers, and the System Office (USMO). There are over 115,000 students and 15,000 employees in the USM.

A. Academic Directions

The use of information technology to improve the quality of academic services is of paramount importance to the University as stated in its IT mission. The main thrust is to use IT effectively in instruction, research, and service.

Instruction:

Over the past few years, there has been a paradigm shift in education away from the traditional teacher-oriented education theories and more towards learner-oriented constructivist and collaborative learning theories. There is also an understanding of how IT can be used to increase productivity. Computer-based instructional materials, projection devices and screens have replaced the traditional chalk and board. Many courses blend on-line materials with the textbook. Many reference materials are available in an electronic format. Academic conferences in most areas now have a track/workshop on how to use information technology in classroom instruction. Many new software products specific to the needs of various academic disciplines are now available and are widely used in many institutions.

The traditional notion of a classroom as an isolated teaching environment has been replaced by that of a more proactive and participating environment, which is connected to the rest of the world. Many institutions have created electronic classrooms to encourage technology-based education. Information technology plays a major role in creating such a classroom environment.

Vision III, the USM strategic plan and the University's strategic plan clearly reflect the importance of information technology in the curriculum. Most divisions and departments have held workshops about infusing various information technologies into their courses. New courses that make use and/or provide necessary computing skills like the Computer Literacy course are in place.

Over the years, national student demographics have changed tremendously. An older, more experienced and more aware student body is now in place. This is especially true at Coppin where most of the students are employed while going to school. These students are more aware of developments in information technology and its capabilities. These students are demanding a

more technology-oriented curriculum. They realize the need for computing skills in career development. There is also a disparity in the computing skills of the student body.

Many academic resources are now easily accessible on-line. Libraries are striving to provide easier access to more databases and convert their collections into an electronic format that is more widely available.

Most institutions of higher learning have developed a curriculum that can be offered using distance learning facilities. Modern distance learning can have significant dependence on information technology to convey video, audio, graphics and/or text. Information technology can also play a major role in logistics such as providing for interaction between the students and faculty, conveyance and recovery of course materials, exams, assignments, etc.

Clearly a major trend, both within Coppin and outside, is to develop curricula that make optimal use of information technology. New initiatives towards creating an electronic classroom, infusing technology into the curriculum, creation of a computer literacy course, distance learning plans collaborative efforts with other institutions, and technology-based workshops etc., are all indicators of the recognition by the Coppin community of the importance of the role of information Technology in instruction.

Research:

Information technology provides researchers with access to a vast repository of resource material in an electronic format. Such material was not readily available in the past. Electronic libraries, on-line databases and information repositories all are rich sources of information for researchers. The availability of powerful hardware and software on the desktop has also increased the research potential of faculty in smaller schools. Researchers can perform state-of-the-art scientific computing using relatively inexpensive devices and software. The Internet has allowed faculty from various institutions to collaborate on research projects from remote locations. It also allows the easy sharing of documents, programs and other resources. On-line research conferences are becoming common. The research productivity of faculty is enhanced tremendously by information technology. Multimedia-based computing devices have also provided 'multiple vehicles of expression' for faculty in the liberal arts. The strategic plans of the academic divisions reflect the importance of faculty research; all have set high goals for acquiring grants and producing high quality research over the next five years. There is a need to strengthen the computing infrastructure by providing suitably designed network with adequate bandwidth, high end computing devices, multimedia devices, state-of-the-art software, and access to on-line resources to faculty. This will allow them to do productive research and compete for the scarce and shrinking funds.

Community Service:

Serving the Baltimore community is central to the mission of Coppin State University. To achieve the community outreach goals, a number of initiatives have been planned that require the support of information technology. The new distance learning programs that are being designed are directed toward offering Coppin's educational programs to a broad array of

students and citizens. This is a part of an effort to expand the classroom beyond the physical boundaries of the campus. The IVN, Internet (the World Wide Web), MIDLN, Baltimore Cable Access Corporation (BCAC), Internet II, etc. are examples of information technology-based avenues that allow Coppin to reach the community. Departments are planning to offer workshops to improve awareness of computers and information systems among the residents of the community. All these activities need extended support from the information technology infrastructure.

B. Administrative Directions

The University's IT strategic plan is in concert with the University System of Maryland Information Technology Master Plan (1995). These plans stress the importance and growing use of information technology for administrative computing. Over the next few years, the University will be participating in and taking advantage of the major advances in computing environments, software packages, and information services. These directions include the implementation of new integrated administrative systems.

Computing Environment:

The administrative computing environment of the University System of Maryland (USM) is as diverse as the constituencies it serves. The hardware platforms serving administrative computing range from a large IBM ES9000 mainframe at UMCP to Pentium-based servers at the Center for Environmental and Estuarine Studies. Six of the eleven institutions are standardized on Digital equipment and 4 on Hewlett Packard equipment. Coppin primarily uses Digital equipment but also uses a variety of others (see Appendix 1). The trend is to move towards a more open computing environment while maintaining the necessary security controls for administrative computing functions. In the past, the Digital VAX/VMS provided the most secure computing environment. With modifications and advances to the Server Based and PC operating systems, security procedures are becoming available for administrative computing. Thus, mainframe computing will be transitioned to desktop and server based computing and client/server and Internet computing environments will become more prevalent.

Software Packages:

There is diversity in software packages for administrative support systems. For financial systems, 6 USM institutions utilize software from SCT/IA, 5 utilize a package developed for the HP hardware. Several schools within the USM are involved in a partnership with ORACLE to build and evaluate an integrated suite of software applications to replace the existing Student Information System (SIS), Financial Records System (FRS) and Human Resource System (HRS). The University is actively involved in the evaluation and is transitioning to use of this new software package at all levels by serving on advisory and evaluation committees. The client/server and Internet computing technology that the software will utilize is within the long range plans being developed by the USM. Purchasing decisions will be based on the ability of the hardware and software to support migration to the new system technology. The University pioneered a discussion to evaluate and implement centralized production with a decentralized operation model.

There are 6 different Student Information Systems (SIS) in use. SIS is the largest user of administrative computer resources. Support areas that provide assistance to students have been developed over the years following task-oriented principles. These support services are the most function- and task-oriented structures within an institution. Each Student action has required the interaction with different support offices (i.e., Admissions, Registrar, Counseling, Business and Finance, Institutional Development, Academic Affairs). The same information about students may be in several different offices, each with its own update and editing procedures. This has caused inconsistencies in the data, an inaccurate flow of data, and reduced productivity when forced to do rework. The effects of major reengineering in the student services area will be very dramatic and will impact Coppin. Several institutions need to install new SIS systems immediately. Coppin is actively involved in the planning and evaluation of the requirements for the new SIS in collaboration with other USM schools and in partnership with ORACLE

Information Services:

The University of Maryland Academic Telecommunication System (UMATS) is a statewide backbone providing service to academic computing, libraries, administrative computing, distance learning, and teleconferencing.

USM institutions have been actively pursuing applications and technologies that enhance their ability to provide external services to the community and beyond. Several institutions have implemented Interactive Voice Response (IVR) systems to allow remote access to administrative functions including registration, account inquiry and payment, and grade reporting. In addition, 2 institutions are now in the process of acquiring and implementing Kiosk systems to be placed on campus and at remote sight locations for access to information. Coppin currently has a VT -XXX type Kiosk system that utilizes a dumb terminal as its user interface. There are plans to provide additional capability to this Kiosk system in line with the technology that the other USM institutions are utilizing. A Web registration module is in progress and Phase I of the implementation is scheduled for Fall 2000.

The USM is also a frequent traveler on the information highway. Each USM institution maintains a WWW page on the Internet. This permits everyone access to information about the USM - whether students or not. The University updated its web site and we are in the process of expanding it to provide internal and external web pages for each administrative department. The information highway will thus serve as a vehicle to disseminate information needed by all client groups of the University.

C. Technological Changes

The technological advances and changes that have occurred over the past decade have and will continue to impact the University. This section summarizes a few of the major changes that have influenced the goals the University has set and the strategic approach the University is taking for information technology.

Networking:

Technological changes in network installation and administration have progressed. In order to provide a network capable of providing optimal data communications throughput and reliable performance with the potential for future growth, a new design is being implemented. These designs segment and distribute data traffic in a way to provide optimum throughput and a more stable and secure network. The University built two Main Distribution Frames (MDFs), which have core switches and branching to several Intermediate Distribution Frames (IDFs) to ensure scalable bandwidth and fault tolerance. Coppin State University chose the Asynchronous Transfer Mode (ATM) technology as its core network infrastructure with 100 MB Ethernet switching to the desktop. ATM was the most feasible, scalable, and proper network technology for our applications.

Client/Server Technology:

Client/Server computer technology has progressed. It is the concept of utilizing a series of related databases that contain data and applications (Server). Processing of the data and generation of reports takes place at the user's workstation (Client). The client has the capability of creating user-specific reports and collecting user-specified data from the server for daily reports as well as long range planning. The requirement of waiting for central changes or updates to reports will become a thing of the past. Systems designed with this technology can be changed without major interruptions to the work process.

Internet Computing Technology:

The Internet Computing technology is maturing and providing new opportunities to reduce Total Cost of Ownership (TCO). The Internet Computing model utilizes a server to host the application and a Web browser as a client. This opens the door for servers to play the role of an Application Service Provider (APS) and eliminate the necessary client configurations during new releases.

Computer Hardware, software, and Peripherals:

Computers have continued to increase their power. Increases in processor speeds have continued to outpace the predictions of Moore's law. Software tools have more functionality and are self-contained. Many of the software tools address specific needs of various disciplines. Graphical user interfaces and point and click devices have made it easier to use computers. The availability of relatively inexpensive multimedia hardware and software has had an impact on the usage of IT. Scanners, CD-ROM's, sound cards and speakers, digital cameras, etc., support various forms of expression and have transformed computers from a predominantly text-oriented machine to a media-rich interactive device.

Information Highway:

The Internet and the World Wide Web (WWW) have had an enormous impact on all client groups. They allow for easier communication, sharing of resources, and quick and easy access to media-rich resources located in geographically dispersed areas.

D. Client and User Needs

The plan to improve information technology and processes was preceded by a review of the needs of each of the client groups, analysis of these needs, documentation of processes that will support the needs, and the use of information technology to enforce these defined processes. Each client group, as defined in Chapter I, is listed below with a brief summary of their assessed needs, the following is to identify the needs, but a holistic approach will be used to address those needs as information technology spans over the divisional boundaries:

1. Students. Students are the most important client group. Their major needs include:
 - an information technology-based curriculum that fosters computer literacy
 - skills which enable students to incorporate current and future computer technology into their educational and professional activities
 - assured access to state-of-the-art computing facilities
 - ability to communicate with instructors, fellow students, and others outside the classroom
 - access to electronic resources including Internet-based resources

2. Faculty. The primary need for faculty is an environment that is conducive to the delivery of instruction of the highest quality. Some information technology needs include:
 - access to computers and other resources to create courseware
 - ability to share and collaborate with each others
 - training and support to develop computer-based instructional materials
 - software and facilities to create multimedia and hypermedia materials
 - proper equipment in the classroom to convey material to students
 - access to computers to communicate with students outside the classroom via E-mail
 - facilities to access instructional materials, databases, and other resources that are located on the Internet
 - ability to access and maintain enrollment data for advising and retention purposes
 - training to teach distance education courses
 - curriculum-based software

3. Scientific and Other Researchers. Some information technology needs of researchers include:
 - access to high-speed workstations that can be used to solve computation-intensive problems
 - access to remote databases, data repositories, and electronic journals on the Internet
 - electronic access to library resources
 - availability of and support for specialized software
 - ability to communicate with fellow researchers using electronic mail, audio and video conferencing facilities
 - ability to share and collaborate with fellow researchers

4. Librarians. The librarians are a unique client group in the sense that they are responsible for providing information to the other client groups. Some of their information technology needs include the ability to:
 - provide access to databases via CD-ROMs
 - convert library resources into an electronic format in order to make it available over the network
 - access resources on the Internet and other networks
 - access the CD-ROM-based resources from any computer

5. Administrators. University administrators need effective tools for transforming data into information for management, decision making, and for electronic communication internal and external to the University. Administrators must have the tools and the training necessary to maximize their use of the technology that is available. The information technology needs of the primary administrative units are listed below.

5.1 Division of Academic Affairs. Information technology needs include:

- wiring the offices to the campus network for internal and external electronic communications
- hardware and software to store and retrieve data for faculty and students
- improved workstation technology at the desktop of every staff member
- installation and technical support for specialized software packages and specialized reports to the system administration

5.2 Division of Student Life. Information technology needs include:

- the ability to provide telephone and online registration
- the ability to provide interactive Kiosk systems for access to electronic data
- an integrated SIS that interfaces with PC-based software packages
- improved workstation technology for every staff member

- the connection of each room in the residence hall to the campus fiber backbone
- technical and staffing support for the mini-lab in the residence hall
- installation and technical support for specialized software packages such as Resume Expert
- hardware and software which will provide Public Safety access to various law enforcement information centers such as the National Crime Information Center (NCIC) and Criminal Justice Information System (CJIS)

5.3 Business & Finance. Information technology needs include:

- computer hardware and software to increase efficiency
- hardware and software to improve the efficiency of the Controller's Office as it interacts with the various USM Administration financial records systems and the State of Maryland
- networked services for data, files, printers, and other support services
- training in standard software operating systems and packages for the entire division
- user access to budget reports and other decision making information

5.4 Office of Information Technology. Primary technology needs for information technology include:

- acquisition and utilization of state-of-the-art computer software, hardware, and peripherals
- implement campus-wide network services with adequate bandwidth
- upgrades to the administrative computing mini frame
- more efficient wiring of the network to the client's desktop with migration from thin wire to twisted-pair technology
- migration to client/server and Internet computing technologies
- a single campus-wide e-mail utility
- remote access to all servers and computers on the campus
- system and network analysis/monitoring tools
- tools and equipment for servicing the client groups
- training in the use of the state-of-the-art computer technology
- training in management and communication skills for effective Help Desk operation
- increasing the number and quality of staff
- improving data access security
- development of a Disaster Recovery Plan for the University
- development of standard procedures for evaluation, acquisition, and use of computer technology campus-wide
- documentation and training on client-specific job requests

5.5 Institutional Advancement (IA). Information technology needs include:

- acquisition, training, and implementation of a new software package for foundation, alumni affairs, Title III, and other grants management
- installation and technical support for specialized software packages
- training in the use of the state-of-the-art hardware and software
- access to foundations and other external funding sources via the network and the WWW
- creation of web pages for the components of IA
- acquisition of hardware and software to improve the operations within the division

5.6 Athletics. Information technology needs include:

- wiring the offices and classrooms in the Coppin Center to the campus network for internal and external electronic communications
- acquisition of hardware and software to store and retrieve data for student athletes

6. Alumni. The University must use technology to maintain contact and continuous communication with its Alumni. Through information technology, the University:

- should provide opportunities for alumni to access its services and resources electronically
- should create a web page for fund solicitation, coordination, and constant communication and updates to alumni

7. Community-Public and Private Sectors. Through its community service programs, the University will use information technology to:

- support community development endeavors
- deliver programs and services to residents and community-based agencies and organizations
- provide a high-tech learning center for the community and for the educators of the community
- deliver technology outside the walls of the University and into the community

E. Privatization

The University has analyzed the needs of its client groups. During the analysis, the identification of functions that might be done more cost-effectively by external vendors was considered. These functions include, but are not limited to:

1. maintenance, service, and repair of PC equipment, laser printers, and other computer-related equipment
2. wiring and re-wiring offices and buildings

3. network monitoring and analysis

The advantages of privatization include the ability to free up technical manpower for other tasks and the ability to provide better services more quickly. The disadvantages for privatization include the potential loss of long-term technical expertise and lack of adequate funding to contract out services.

F. Board of Regents Information Technology Minimum Standards

I. Preamble

Information technology has become a major component of everyday life and is continuously evolving. This has resulted in the emergence of new concepts at an explosive pace. The technology revolution includes continuous, rapid and dramatic new developments in information technology services as well as hardware and software. It is, therefore, imperative that each institution of the University System of Maryland provides a minimum level of information technology proficiency. Accordingly the Board of Regents establishes the following as the minimum information technology standard to be achieved and maintained by all institutions. It is intended that each institution be given the responsibility to determine the specific interpretation of these standards for its particular community, including specifically the institutional interpretation of the broad qualifiers such as “appropriate,” “adequate,” and “effective.”

II. Minimum Information Technology Standard

- (1) Each institution will establish a policy designed to assure that all students should have access to a computer 24 hours a day, 7 days a week.
- (2) Each student shall have access to appropriate software and electronic learning materials to complete course assignments.
- (3) Students, faculty and staff shall have access to a campus network of adequate bandwidth connected to the Internet 24 hours a day, 7 days a week.
- (4) Faculty and staff shall have access to appropriate computer technology in their offices or workplaces to do their work. Each institution, as well as the University System Office and the Board of Regents, shall have a plan to enable faculty and staff to apply technology effectively.
- (5) Each institution shall provide access to email communications for students, faculty and staff and an explicit website policy as part of their institution technology policies.
- (6) Given the importance of access to training and technical support, each institution shall have an explicit training and support plan that will assure that

all faculty, students and staff can take advantage of the computer technology available on their campus.

- (7) There shall be a technology plan for each institution, as well as the University System Office and the Board of Regents, which will explicitly address staffing and support as well as upgrade, maintenance and replacement of computer and network hardware and software so that the system is continuously modernized.
- (8) System institutions shall, in cooperation among them and with others where collaboration will be beneficial, and with the USM Office, explore and form technology partnerships, where appropriate, to provide cutting edge information services incorporating e-business to students, faculty and staff.
- (9) The technology revolution has, unfortunately, created a “digital divide” between those who can afford access to information technology equipment and services and those who cannot. Each institution, therefore, shall, in cooperation with other USM institutions where beneficial, develop and maintain mechanisms whereby all students, irrespective of financial means, shall have access to the appropriate information technology equipment and services available at their institution.

H. Maryland Higher Education Commission “Maryland State Plan for Postsecondary Education 2000”

In Mat 2000, the Maryland Higher Education Commission (MHEC) published a plan for postsecondary education entitled “Maryland State Plan for Postsecondary Education 2000”. The plan included general and specific goals relate to information technology. Coppin State University information technology plan satisfies and ties to MHEC postsecondary plan.

I. Summary of Environmental Analysis

Based upon the analysis of internal and external environmental factors, changing technology and diversity of the client groups, it was concluded that there is a wide range of technological needs that must be addressed. Among these are:

- 1) acquisition, and use of, standard software and hardware for instructional purposes and office automation
- 2) use of state-of-the-art computers and computer-related equipment
- 3) training for client groups and technical support staff
- 4) adequate funding for information technology and implementation of a technology renewal plan in the budget process
- 5) implementation of a state-of-the-art campus wide network
- 6) aggressively addressing the digital divide issue
- 7) replacing the current PBX system
- 8) collaborating with other institutions to achieve economy of scale when possible
- 9) migrating to new integrated administrative systems

These needs provide the baseline for the information technology strategic plan for year 2000 and beyond. These needs will continue to evolve as the user population grows and the technology changes. Thus, this strategic plan should be considered a "living" document.

VI. Goals, Objectives and Priorities

There are 11 major goals which have emerged from the organization assent and environmental analysis presented earlier in this plan. These goals reflect what the University intends to accomplish by the year 2000 and beyond. The challenges and goals are summarized in Table 1.

Table 1 - CSC Information Technology Challenges and Goals

	Challenges	Goals
1	Complete the campus-wide network	Utilize industry's "Best Practices" to provide access to information (BOR ³ 3,5 & MHEC ⁴ 2,7)
2	Improve the computing environment	Improve the conditions for work, teaching, and learning (BOR 2,4,9 & MHEC 1,5,6,7)
3	Centralize access to technology materials	Establish "Central Repository (ies)" where current, consistent, and coordinated IT materials will be available to client groups (BOR 2 & MHEC 2,7)
4	Update campus-wide IT standards, techniques and processes	Utilize tools and techniques to increase the productivity of client groups (BOR 3,5,6 & MHEC 2,7)
5	Increase the number and efficiency level of the OIT staff	Recruit, retain and improve OIT staff skills and efficiency in technology, management and communication (BOR 7)
6	Provide training for client groups	Foster a work environment which supports ongoing assistance, education, and training for client groups (BOR 6 & MHEC 5,6)
7	Infuse technology into the curriculum and learning environment	Create a proactive learning environment and curriculum by utilizing information technology-based productivity tools (BOR 2,3,4,5 & MHEC 2,5,6,7)
8	Migrate to a new integrated administrative systems for Students' Information, Financial Management, and Human Resources	Enhance the work environment to support the training, installation, evaluation, and use of the new system (BOR 6,8 & MHEC 8)
9	Increase Financial Resources for IT	Maximize funding for IT efforts (BOR 8 & MHEC 8)
10	Provide state-of-the-art new telecommunication facilities	Replace the current PBX with a new state-of-the-art PBX system
11	Bridge the Digital Divide	Make information technology available to the students regardless of their financial means (BOR 1,9)

³ BOR: Minimum standard number(s) in the USM Board OF Regents "Information Technology Minimum Standard"

⁴ MHEC: Goal number(s) in the Maryland Higher Education Commission "Maryland State Plan for Postsecondary Education 2000"

All goals reinforce the primary goal of utilizing "best practices" of government and industry for IT. Each goal has a set of supporting objectives that serve as guidelines for its attainment. There are 69 objectives that have been identified to address issues most vital to the University. Certain objectives may have more specific implications for some client groups. During the periodic assessment of IT, these goals and objectives will be reviewed and updated. The major goals and objectives are presented next.

Goal #1

Utilize industry's "Best Practices" to provide access to information.

Objective # 1: Provide new network equipment that ensures adequate bandwidth connected to the Internet. (BOR 3 & MHEC 2,7)

Budget needs⁵: [C: \$1,750,000 (R: 5-7 years). O: \$175,000]

Objective #2: Provide E-mail accounts for all clients (BOR 5 & MHEC 2,7).

Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]

Objective #3: Wire and/or re-wire all campus facilities so clients may have state-of-the-art access to information (BOR 3 & MHEC 2,7).

Budget needs: [C: \$1,500,000 (R: 15-20 years). O: \$15,000]

Objective #4: Implement Information Technology security practices and policies to protect the privacy and integrity of University and client data (BOR 5).

Budget needs: [C: \$60,000 (R: 5- years). O: \$6,000]

Objective #5: Expand the existing video and data technologies and integrate with telecommunications technology for a homogeneous network to support communications.

Budget needs: [C: \$100,000 (R: 5-12 years). O: \$15,000]

Objective #6: Pilot and implement wireless communications technology (BOR 3 & MHEC 2)

Budget needs: [C: \$100,000 (R: 5 years). O: \$35,000]

Objective #7: Increase the Internet connection bandwidth to match the expected utilization needs (BOR 3 & MHEC 2,7)

Budget needs: [O: \$45,000]

⁵ O: Capital or one time expenditure, R: Renewal cycle, O: Yearly on going, maintenance or lease costs

Goal #2

Improve the conditions for work, teaching, and learning.

Objective #1: Improve the performance of the computing environment (BOR 4 & MHEC 1).

Budget needs: [O: \$150,000 (R: 3 years).]

Objective #2: Upgrade existing computing equipment to support current and emerging technologies (BOR 4 & MHEC 7).

Budget needs: [O: \$150,000 (R: 3 years).]

Objective #3: Modernize existing work environments, classrooms, and labs with computing furniture, equipment, materials, and other resources (BOR 2 & MHEC 5).

Budget needs: [C: \$300,000 (R: 3-7 years). O: \$60,000]

Objective #4: Standardize hardware and software technologies for consistency and ease of maintaining computing environment.

Objective #5: Increase the number of computers available to students (BOR 1 & MHEC 5,6,7).

Budget needs: [O: \$150,000]

Objective #6: Implementation of a student computers ownership program (BOR 1,9 & MHEC 7).

Budget needs: [C: \$500,000 (R: 3 years). O: \$50,000]

Objective #7: Implement computer facilities that are available to the students' 24x7 (BOR 1 & MHEC 3,7).

Budget needs: [C: \$40,000 (R: 7 years). O: \$165,000]

Goal #3

Establish Central Repository (ies) where current, consistent, and coordinated Information Technology materials will be available to client groups.

Objective #1: Expand the Web server capabilities for departmental, faculty and student- specific web pages (BOR 2 & MHEC 2)

Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]

Objective #2: Implement Portal technology (MHEC 2).

Budget needs: [C: \$50,000 (R: 5 years). O: \$15,000]

Objective #3: Provide Intranet capabilities for campus-specific data.

Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]

Objective #4: Develop, implement, and maintain centralized data repositories for storing campus-wide information technology materials (BOR 2 & MHEC 7).

Budget needs: [C: \$50,000 (R: 5 years). M: \$5,000]

Goal #4

Utilize tools and techniques to increase the productivity of its client groups

Objective #1: Assist in the generation of standard procedures and forms for campus-wide processes by utilizing database technology, implementing the paperless office, and work flows.

Budget needs: [O: \$15,000]

Objective #2: Provide automated tools and techniques to assist with desktop publishing.

Budget needs: [C: \$50,000 (R: 3 years). O: \$5,000]

Objective #3: Provide automated tools and techniques to assist with presentations, status reporting, workshops, training, and instruction (BOR 6).

Budget needs: [C: \$50,000 (R: 3 years). O: \$5,000]

Objective #4: Provide messaging servers and groupware to assist with tasks and calendaring activities (BOR 5).

Budget needs: covered under another goal/objective

Objective #5: Implement Document Management and Imaging systems.

Budget needs: [O: \$450,000 (R: 3 years). M: \$45,000]

Objective #6: Implement an Interactive Voice Response System (MHEC 2,7).

Budget needs: [C: \$150,000 (R: 5 years). O: \$15,000]

Objective #7: Implement Virtual Private Networks for off campus communications (BOR 3 & MHEC 2,7).

Budget needs: [C: \$85,000 (R: 3 years). O: \$25,000]

Goal #5

Improve OIT skills and efficiency in technology, management and communication.

Objective #1: Provide more and better-trained technical support staff to develop a more competent IT work force (BOR 7).

Budget needs: [O: \$1,000,000]

Objective #2: Become more responsive to client and user needs by providing a local, responsive, and accountable Help Desk facility.

Budget needs: [C: \$30,000 (R: 5 years). O: \$3,000]

Objective #3: Implement customer satisfaction and quality assurance measures.

Objective #4: Adjust OIT staff salaries to be more competitive, and devise policies that help retaining them (BOR 7)

Budget needs: [O: \$100,000]

Goal #6

Foster a work environment that supports ongoing assistance, education, and training for client groups.

Objective # 1: Provide training to clients year-round and encourage the development of every user (BOR 6 & MHEC 5,6).

Budget needs: [O: \$120,000]

Objective #2: Conduct periodic surveys and assessments of Information Technology and client needs (BOR 6).

Goal #7

Create a proactive learning environment and curriculum by utilizing information technology based productivity tools.

Objective #1: Wire all classrooms on campus (BOR 3 & MHEC 7).

Budget needs: covered under another goal/objective

Objective #2: Equip classrooms with technology tools (BOR 4 & MHEC 7).

Budget needs: [C: \$2,500,000 (R: 3 years). O: \$25,000]

Objective #3: Build state-of-the-art smart classrooms and rooms that are equipped with video conferencing and distance education facilities (BOR 4 & MHEC 7).

Budget needs: [C: \$450,000 (R: 3 years). O: \$5,000]

Objective #4: Acquire more subject-specific software and provide training in using it (BOR 4 & MHEC 5,6,7).

Budget needs: [C: \$100,000 (R: 5 years). O: \$30,000]

Objective #5: Add information technology-based solutions in courses across the curriculum wherever it may enhance the learning process and improve the productivity of the instructor and the students (BOR 2 & MHEC 6,7).

Objective #6: Create an evaluation mechanism that will assess the impact of information technology on the learning process and the productivity of students and instructors in courses where information technology-based tools are used.

Objective #7: Use Web-enabled technologies to enhance the learning environment (BOR 2 & MHEC 2,7).

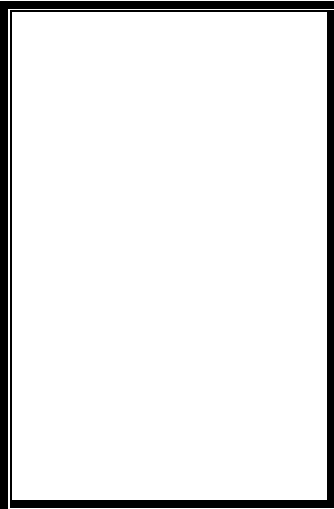
Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]

Objective #8: Implement faculty and student web server for their specific web pages (BOR 4 & MHEC 2,7).

Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]

Objective #9: Implement a student e-mail system (BOR 5 & MHEC 2,7).

Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]



Objective #10: Use e-mail as a University-wide communication tool

Objective #11: Implement a Digital Video Editing facility (MHEC 2,4).

Budget needs: [C: \$50,000 (R: 3 years). O: \$5,000]

Objective #12: Increase the number of On-Line course offerings (MHEC 2).

Budget needs: [C: \$50,000 (R: 5 years). O: \$5,000]

Objective #13: Enhance the distance learning programs (MHEC 2).

Budget needs: [C: \$175,000 (R: 10 years). O: \$75,000]

Objective #14: Install digital video server technology (MHEC 2,4).

Budget needs: [C: \$75,000 (R: 5 years). O: \$15,000]

Goal #8

Migrate to new integrated customer support systems for Students' Information, Financial Management, and Human Resources.

Objective #1: Participate in the ORACLE partnership initiative (BOR 8 & MHEC 8).

Objective #2: Explore different operations and implementation options to reduce costs (BOR 8).

Objective #3: Prepare OIT staff for the migration to new systems (BOR 6).

Objective #4: Acquire training on software applications and hardware platforms that are necessary for the new system (BOR 6).

Budget needs: [C: \$50,000. O: \$15,000]

Objective #5: Acquire, implement, and maintain the system.

Budget needs: [C: \$3,500,000 (R: 10 years). O: \$150,000]

Goal #9

Maximize funding for information technology efforts.

Objective #1: Encourage broad participation in the identification and selection of funding sources for technology improvements.

Objective #2: Promote a coordinated process for acquiring and purchasing materials for information technology utilizing discounts for volume purchasing, maintenance contracts, etc.

Objective #3: Promote the concept of shared technology and/or the reallocation of resources across divisions.

Objective #4: Establish partnerships with companies, schools and organizations to minimize the cost of acquiring and using technology (BOR 8 & MHEC 3,8).

Objective #5: Participate actively in fund raising and grants writing for information technology.

Objective #6: Collaborate with other USM schools for leveraged procurement opportunities (BOR 8 & MHEC 8).

Objective #7: Eliminate the dependence on loans to fund information technology projects.

Budget needs: [C: \$750,000]

Goal #10

Provide state of the art telecommunication facilities.

Objective #1: Develop and implement telecommunication polices and procedure.

Objective #2: Implement cost containment measures.

Objective #3: Identify funding resource for the new PBX system.

Objective #4: Specify, procure, and install a new PBX system.

Budget needs: [C: \$1,500,000 (R: 10-12 years). O: \$100,000]

Objective #5: Properly Train the telecommunication staff.

Budget needs: [O: \$15,000]

Objective #6: Recruit a qualified full time console attendant.

Budget needs: [O: \$45,000]

Goal #11

Bridge the digital divide.

Objective #1: Explore the implementation of a computer ownership program (BOR 9).

Budget needs: covered under another goal/objective

Objective #2: Increase the number of computers available to the students. (BOR 9).

Budget needs: covered under another goal/objective

Objective #3: Provide computer facilities in the residence halls (BOR 9).

Budget needs: [C: \$163,000 (R 3), O: \$40,000]

Objective #4: Implement a laptop or thin client loan program (BOR 9).

Budget needs: [C: \$285,000 (R: 3 years). O: \$60,000]

Objective #5: Provide 24x7 open computer lab facilities (BOR 1).

Budget needs: covered under another goal/objective

Objective #6: Collaborate with other schools in providing leveraged procurement opportunities (BOR 8,9 & MHEC 8).

VII. Implementation Strategies

This section highlights the strategies for implementing each of the 11 goals defined in section, VI: The strategies are not intended to be a detailed implementation plan. As pointed out previously, this is a strategic plan that specifies “what” the University intends to accomplish in the area of providing information technology to its clients, not "how".

Implementation Strategy for Goal #1:

Utilize industry's "Best Practices" to provide access to information.

Every faculty and staff should have a capable computer on their desktop that is connected to the centralized repositories and the Internet through an adequate network. A University-wide standard for the PCs is established and will be revisited every year. The centralized repositories, servers, are standardized on Window NT/Windows 2000 platform. To establish security, two virtual networks will be implemented: one for the administrative functions, and the other for the instructional/students functions. The virtual networks will share the same wire but will be virtually separated. The networks will be connected through an application firewall that will allow our faculty and staff to have access to the student network, but will not allow the students to have access to the administrative network resources. Phase I of the campus network, CoppinNet phase I, will be finished by summer 2000. The student side of the network will be ready by January 2001. The students side will be implemented utilizing the Windows 2000 platform. CoppinNet phase II will be completed by end of summer 2001.

Students will have access to information through kiosk systems as well as web-enabled interfaces. The students will be able to use the web-enabled interfaces from the computer labs on campus or through the Internet off campus.

The campus wide servers will be centrally located, with some distributed services, for easy management. Fault tolerance measures will be implemented to insure high availability. Having adequate bandwidth makes it easy to access the network resources from any place on campus. Budget needed: One time expenditure fund of two million dollars is needed.

Library: Efforts will be undertaken to provide more multi-media workstations in the library. This will allow users to access various on-line and CD-ROM databases. A CD-ROM server is also procured. The library is wired and linked to the Internet. The library is part of CoppinNet and accordingly the CD-ROM server is accessible fro any workstation on campus. In future budgets, provisions need to be made to procure equipment that that will help digitization of library collections so that they are available in an electronic format.

Implementation Strategy for Goal #2:

Improve the conditions for work, teaching, and learning.

Coppin is migrating to NT/Windows 2000 platform for the workstation and server environment with a migration to current desktop technologies for the client environment. A standard PC desktop environment with a client/server configuration has been defined and implemented.

It is the intent of the OIT to provide more uniform acquisition and management of all computing resources and to improve the performance of these systems. Additional memory has been acquired for COA, increasing the performance. There are also plans to upgrade the I/O controller from an HSC50 to 70 or 40. Additional disk space is added, utilizing faster technologies.

User-friendly Mail Package. Coppin is migrating to a single E-mail utility for academic and administrative computing. We had three mail systems on campus: VAX mail, All-In-One mail, and UNIX mail. Coppin is migrating to Microsoft Exchange as its messaging server with Microsoft Outlook 2000 as its messaging client.

Implementation Strategy For Goal #3:

Establish "Central Repository (ies)" where current, consistent, and coordinated IT materials will be available to client groups.

Client/Server Environment. Coppin is implementing a client/server environment across its information systems applications. The administrative network has already been migrated to that client/server technology. The students' network will be migrated by January 2001.

Database management software packages are being utilized. Currently, Microsoft ACCESS is the default standard for desktop computing; however, other packages such as ORACLE are under consideration for interfacing to large mainframe applications for Administrative Computing. ORACLE is also being used for the Help Desk system. Two major applications, the Advising system and the Alumni system, are being migrated to Microsoft SQL server.

Implementation Strategy For Goal #4:

Utilize tools and techniques to increase the productivity of client groups.

Information Access. Procedures are in place for obtaining network access to administrative information (via captive accounts) as well as to academic computing. Access to data on the administrative computer (COA) will continue to be regulated by more secure policies than access to data on the academic computer (COE). However, some level of security and access control will be imposed consistently on both computers to ensure the user that information

(passwords, e-mail, files; data repositories; etc.) is manipulated safely and efficiently. Procedures and techniques relative to computer security and information access include:

- Account Creation. Faculty, staff, and permanent student accounts on the computers are granted upon the signing of a Computer Security Account Form. This is a new policy and will become effective immediately. This policy complies with State Regulations for any user with access to a computer with the ability to manipulate data. System managers will be the only individuals with the privilege to create accounts.
 - Privacy of Information.
- Password Policy and Procedure. Passwords are provided to ensure that the user and only the user have access to his account and can manipulate data within his account (E-mail, files, data). Passwords are not to be given to anyone and are to be changed every 60 days. Users are liable for any actions performed from within their accounts.

Process Automation. Tools to define processes and enforce these processes will be evaluated. These tools will assist in the generation of standard procedures, forms, and templates for campus-wide use. Process automation tools promote the "paperless office" concept and provide support for on-line procedures. Processes that can be automated for specific offices, groups, or functions are currently being assessed and implemented with the assistance of OIT.

Software and Hardware Maintenance. Few maintenance contracts exist for software and hardware computing equipment for the University. Existing software licenses are being reviewed for lease vs. buyout yearly maintenance contracts. Leasing of hardware is being investigated with the proper renewal cycles, which may eliminate the need for having separate maintenance contracts.

Implementation Strategies For Goal #5:

Improve OIT skills and efficiency in technology, management, and communication



Hire New Staff. OIT has a need to hire 12 additional staff positions with some level of expertise in any of the following areas: programming, PC trouble-shooting, UNIX, telecommunications and networking, client/server technology, web technology, Internet Computing technology, and operating systems.

Training OIT Staff. Staff members are to be enrolled in monthly training courses.

Cross Training of OIT. Weekly cross-training mini seminars on IT topics have been planned. OIT staff and guest lectures are the trainers. The director has distributed the responsibilities of each member across all the key functions - especially that of the Help Desk and Training. All OIT staff members are expected to participate in these two key functions as well as to provide services in at least two (2) of the other key functions. In this way, a single member staffs no one function; no one person is responsible for the operation of a key function. This limits the dependence on specific individuals for critical IT functions.

Mini Lectures. There are plans to institute a mini lecture series for IT staff, IT student helpers, and IT department specialists. Guest lecturers from academia, industry, and the government will be asked to participate.

Implementation Strategy For Goal #6:

Foster a work environment which supports ongoing assistance, education, and training for client groups.

Year-round Training. Currently monthly training sessions on computer technology and the use of the standard software packages is going on. The training is held on weekly basis and covers the topics of PC communications with E-mail, Netscape browser for WWW access, Windows 98, and MS Office 2000 application suite. Peer tutoring is available to students daily in the labs between the hours of 12- 5 p.m. Additional workshops are provided to the client groups on an as-needed basis. Future workshop needs will be assessed with a survey on the type of technology workshops, duration and frequency.

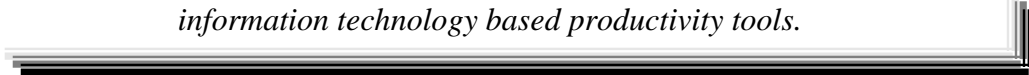
Faculty Training and Empowerment: Currently, the Office of Academic Affairs, the various divisions and departments periodically conduct workshops on information technology for their faculty and staff. A concerted training effort will be undertaken based on the faculty needs (as indicated by them in the survey). These training efforts will be in the form of hands-on training sessions, workshops, and maybe even a summer institute. A lot of the training sessions will be peer to peer and will be conducted by the experienced faculty members. Professionals will be invited to conduct other sessions as required. Workshop topics may range from specific topics (example, using a web browser) to more general and far-reaching topics (example, the role of information technology in enhancing student learning).

Surveys. In order to assess the information technology needs of the client groups, periodic surveys will be conducted. In the next phase, a sample of students, and employers/graduate school representatives will be surveyed. The results of these surveys will provide the basis for future information technology plans.

IT Department Leads. Each office/department should have a technology expert (faculty, staff, or student) who advises, trains, and assesses their needs on a continuing basis. These leads and technologist should interface with the OIT on a regular basis - through meetings, workshops, advisory sessions, and more. In this way, we could promote more of a participative IT planning process, do a better job with allocation of IT resources, and obtain timely feedback for strategic planning and budgeting.

Implementation Strategy For Goal #7:

Create a proactive learning environment and curriculum by utilizing information technology based productivity tools.



Electronic Classroom. An electronic classroom equipped with computers for every student, a workstation for the instructor, and big screen display facilities. These computers will be networked so that they can share data and documents. The instructor will have the ability to display students' screens on the big monitors so that it can be shared with the rest of the class. All the workstations in the classroom will also be linked to the Internet. This electronic classroom will be implemented in 2001. Future plans for this classroom include video conferencing facilities so that it can also be used for distance education. Similar classrooms will also be created in the future.

Curriculum Improvements. In a concerted effort to infuse information technology into the curriculum, the Faculty Information Technology (FIT) Committee will analyze at least one course from each division. The courses will be modified with cooperation from the instructor to include information technology components. Modifications may effect, but are not restricted to, the way in which course syllabi and course materials are provided to students, the way in which students and instructors communicate outside the classroom, the way in which the material is conveyed in the classroom, the way home works and exams are conducted and the way grade information is kept and conveyed to students.

Existing technology will allow us to make these improvements to the courses. Once a few courses are modified, they will be evaluated to study the impact of technology. If successful, more courses will be modified in the future.

Distance Education: Coppin State University is committed to invest in distance education technologies in order to reach into the community. Distance education technology will be used to offer courses in collaboration with other USM institutions. Coppin is also considering investing in MDLN technology. This technology will allow Coppin to offer programs at institutions and locations outside the USM having MDLN technology. Coppin State University is also an active participant in the Institute for Distance Education (IDE) program. This allows Coppin State University to play a dynamic role in the setting of distance education policy. The University is also considering offering programs in urban education in collaboration with other IDE participants. At present, a number of distance learning initiatives are under consideration. They are included in Appendix I.

Implementation Strategy For Goal #8:

Migrate to new integrated customer support systems for Students' Information, Financial Management, and Human Resources.

Coppin staff members, executive, functional and technical teams, are actively participating in the ORACLE partnership initiative. Coppin is playing a leadership role to capitalize on the new emerging Internet computing technology to reduce implementation and operation costs for the new system. Beta testing of the new Student System will take place in summer 2000.

Implementation Strategy For Goal #9

Maximize funding for Information Technology efforts.

Partnerships with local businesses, corporations, schools and Universities will be created to assist in acquiring funding and resources for IT.

Participation in the writing and acquisition of grants will continue.

Promoting the concept of sharing resources (tools, equipment, etc.) across departments will be initiated. One example of shared resources is "network printers."

OIT is currently investigating ways where the department can fund replacement equipment so that the inventory supply room can continuously be stocked with readily available IT resources.

A process will also be investigated to permit the funding of large volumes of products at attractive discounts.

Implementation Strategy For Goal #10

Provide state of the art telecommunication facilities.

The telecommunication department was recently moved to the Office of Information Technology. Efforts are being made to identify funding sources for a new PBX that will accommodate the current needs as well as the future growth of the University.

Implementation Strategy For Goal #11

Bridge the digital divide.

Coppin is actively pursuing different avenues to bridge the digital divide. A laptop ownership program is being investigated. Grants have been submitted to get a thin client loaner program in progress. Also, Coppin is planning to improve the computer-to-students' ratio and implement a 24x7 open computer labs.

VIII. Conclusions

Coppin State University has assessed its IT strengths and weaknesses prior to the development of its strategic plan. In doing so, it has assessed the current state of the technology at the University and identified 11 major goals, with 69 objectives, that will address the needs of its client groups a total Capital or one time expenditure of \$12,585,000 and ongoing, maintenance or leasing budget of \$2,849,000.

The quality of the educational program and the overall effectiveness of the institution will be greatly affected by the University's ability to integrate technology into all aspects of its operation. Factors which figure prominently in the achievement of the University's IT mission are the ability: (1) to keep pace with changes in technology, (2) to provide ongoing training for OIT staff and the various client groups, and (3) to secure adequate funding for continuous technology development

Appendix I

Distance Learning Initiatives Coppin State University

Distance Learning Initiatives

"The University shares the State's concern that many of our "best and brightest" students often choose to seek a University degree out of state. Coppin intends to use distance education technologies to enhance its outreach to both teachers and administrators to assist in ongoing efforts to enhance professional skills and to provide select students within the Baltimore City public schools the opportunity to begin their University studies prior to graduation. In addition, the following distance education initiatives are being undertaken to enhance educational access opportunities for citizens across the city, state and nation. A brief description of these types of initiatives follows.

CERTIFICATE OF ADVANCED STUDY IN EDUCATION (C.A.S.E.)

As part of the University's strategic plan to expand professional opportunities in education, the University is taking the appropriate steps to initially offer the certificate of Advanced Study in Education in three areas reflective of our mission -- Urban School Management, Inclusive Education, and Cognitive Instruction. As outlined, this program will be a "system-wide" cooperative/collaborative initiative permitting students across the state to benefit from the expertise of Coppin's faculty as well as the faculty of System institutions using a variety of distance learning technologies.

HIGHER EDUCATION AND APPLIED TECHNOLOGY CENTER - HEAT Center

In response to requests received from Harford and Cecil Community Universities to provide greater program access to citizens residing in the northeast region of the state, Coppin has entered into a memorandum of understanding to seek approval to export its undergraduate and graduate programs in Special Education to the H.E.A.T. Center utilizing the Maryland Distance Learning Network (MDLN). The use of this system will also permit the University to enhance the successful collaborative two-plus- two programs in Special Education with Dundalk Community University.

NURSING INITIATIVES

The use of distance education technologies will assist our Nursing Division to import as well as export instruction in a variety of critical needs areas. As part of community outreach, forms of distance learning will be used to enhance the health awareness of the residents of Baltimore's central city. Distance education technologies will also be used to further cooperative/collaborative research initiatives impacting African-Americans with other HBIs across the county.

STATE AGENCIES

For many years, the University has been working with the Maryland Department of Transportation (MDOT) to provide a Certificate in Transportation Management. Unfortunately, only those employees residing in the Baltimore metropolitan area have been able to participate. As MDOT and other state agencies incorporate distance education technologies to enhance employee skills, Coppin intends to work with MDOT to make certain that this "nationally unique program" can be made available to all MDOT employees across the state.

COMMUNITY EDUCATION TRAINING

Representatives from Coppin and the Baltimore Cable Access Corporation have scheduled meetings to explore how this system and other distance education technologies can be better utilized to meet the education and employment training needs of the citizens of Baltimore's central city.

OTHER DISTANCE EDUCATION INITIATIVES

As a result of symposia sponsored by AT&T, the University will continue its discussion (at Penn State September 29-October 1, 1996) to explore the feasibility of exporting coursework dealing with African-American and urban issues to select Big 10 institutions. (The University of Iowa has particularly expressed a very strong interest in this type of programming.)

These initiatives clearly indicate that current facilities are inadequate to sustain programs in teacher education and in nursing which are developing a greater reliance on instructional technologies, or to support any distance education initiatives. In light of this, it is anticipated that additional distance learning facilities are needed by the year 2000 as follows:

- . MDLN Room by July 1997; with an annual cost of \$25-30K yearly
- . A 2nd IVN facility is needed by July 1998, with an estimated cost of \$120,000
- . The integration of the "Smart Classroom" (modernized classroom) with MDLN and IVN technology by July, 1999; with an estimated cost of \$TBD

We currently have one IVN room in OCL MC26. It links with all the USM institutions and is being expanded to include select junior Universities. The IVN has the capability of having up to 13-15 connections simultaneously. This is a clear advantage to having a distance learning facility of this type. Users would not be limited to the number of sites it can visit at one single session.

Unlike the IVN facility, the MDLN is limited to three receiving sites simultaneously. But the underlying advantage to this facility is that it can reach into the classrooms of Baltimore City and other county schools. This type of system operates through Bell Atlantic and is expensive.

An investigation of integrating Distance Learning Technology via Interactive Workstations is being done. We anticipate that by 1999 or sooner, a workstation will have the capability of conducting interactive learning sessions between the instructor, student, and other participants on the Internet.

Appendix II

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Appendix III

Information Technology Vision Statement

INFORMATION TECHNOLOGY VISION STATEMENT

Coppin state University has identified information technology as a catalyst to enhance instruction and general university operation, and recognizes it is fundamental to the creation of new teaching, learning, and work environments for students, faculty, administrators, and staff in the 21st Century. To this end, the university will develop and support the necessary technology infrastructure and amend or create policy to provide universal access to appropriate technologies for its students, faculty, administrators, and staff.

FACULTY

The University will provide access to appropriate technologies and training to assist faculty with its broadest applications and integration into the curriculum to meet current and future competitive need resulting from ongoing modifications to learning and work environments. Further, the University will provide technical support as may be required.

STUDENTS

The University is aware that a significant portion of the student population may have limited or no access to a personal computer or related technologies. Therefore, the University will explore the following means to create universal access to information technologies for its students.

1. increase the number of student labs and hours of operation;
2. enhance the campus infrastructure and expand technical support;
3. explore the cost and benefit of securing laptop computers to be made available in the various labs and library as well as the creation of a limited "loaner" program; and
4. examine the cost and benefit of an arrangement with an outside vendor to have a site/storefront on campus to provide technology--sale/lease to students, training, repairs, and other customer support functions.

Appendix V

Office of Information Technology Values

Office of Information Technology “TENETS”^{1,2}

Each of us as employees of Coppin State University serving in the Office of Information Technology must uphold certain values or “tenets” in order to build an effective service department while focusing on our service to the computing user. The following tenets embody the “spirit” or “culture” of our department.

- Our primary orientation is to provide excellent service to the University community in support of all computing activities.
- Our standards for individual and departmental performance are excellence. Excellence is defined as superior performance in relation to accuracy, timeliness, consistency, dependability, reliability, punctuality, objectivity, job knowledge, and professionalism.
- Our foundation is built on information technology; understanding and appreciating that technology is the core to our success. To that end, all staff is expected to actively pursue avenues to extend their knowledge of new technology in application to their work, and to share that knowledge with coworkers and other staff members of the University community.
- Respect, helpfulness, sharing, tolerance, flexibility, openness, honesty, courtesy, and good humor should characterize our attitude. Disagreement is inevitable; our challenge is to use it as a dynamic, positive force in our work.
- Each individual staff member is key to our success and is responsible for the reputation of the department.
- Each of us represents the department, and we should strive to present a unified, cooperative representation to those we serve. Teamwork and cooperation are essential.
- Each of us will “own” the problems we encounter until they have been resolved.
- Each staff member must monitor his or her own well-being, and strive for a pace and routine of activity that will maximize productivity and minimize stress. We must do our best to respect each individual’s needs in this area.
- Each of us has an obligation to support and abide by the legal and ethical standards that apply to information processing, including copyright laws and rights of authorship, confidentiality, and privacy. We will share in protecting this information.
- Each of us should strive for professionalism in our appearance and relationships with the University community, our business

¹ Doctrine, Ideology, Faith

² Adapted, with modifications, from: Jan A. Blatzer, “The learning Action Plane: A New Approach to Information Technology Planning in Community Universities”, Published by: CAUSE, the association for managing and using information technology in higher education.

associates, and our colleagues at other
institutions

