
information
technology
marshall university
strategic
action plan

strategic action plan

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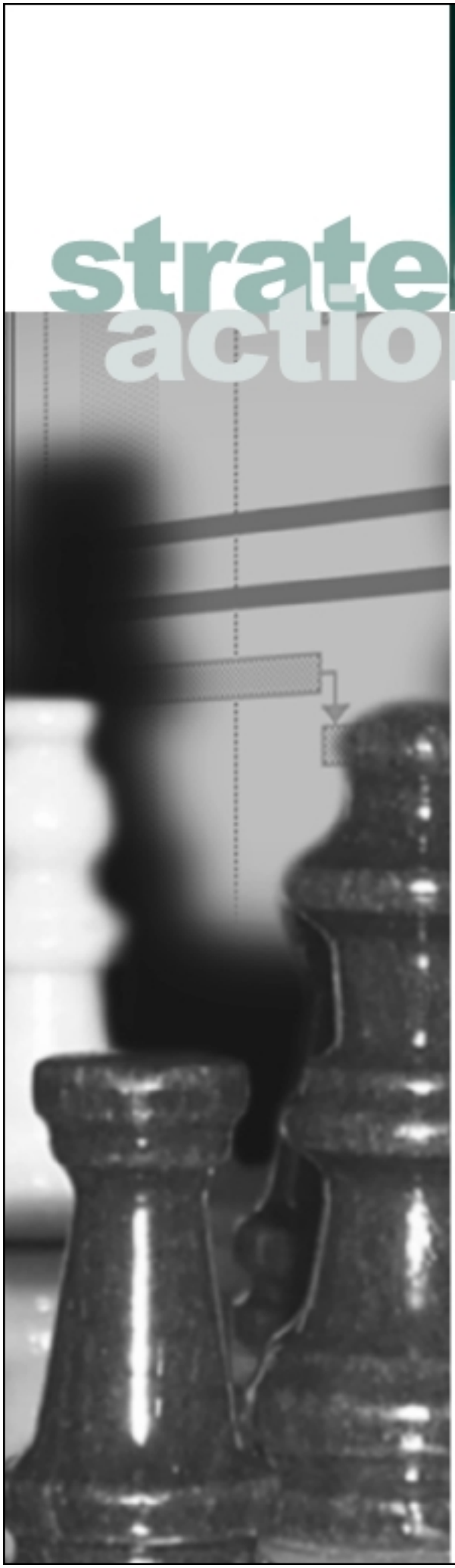

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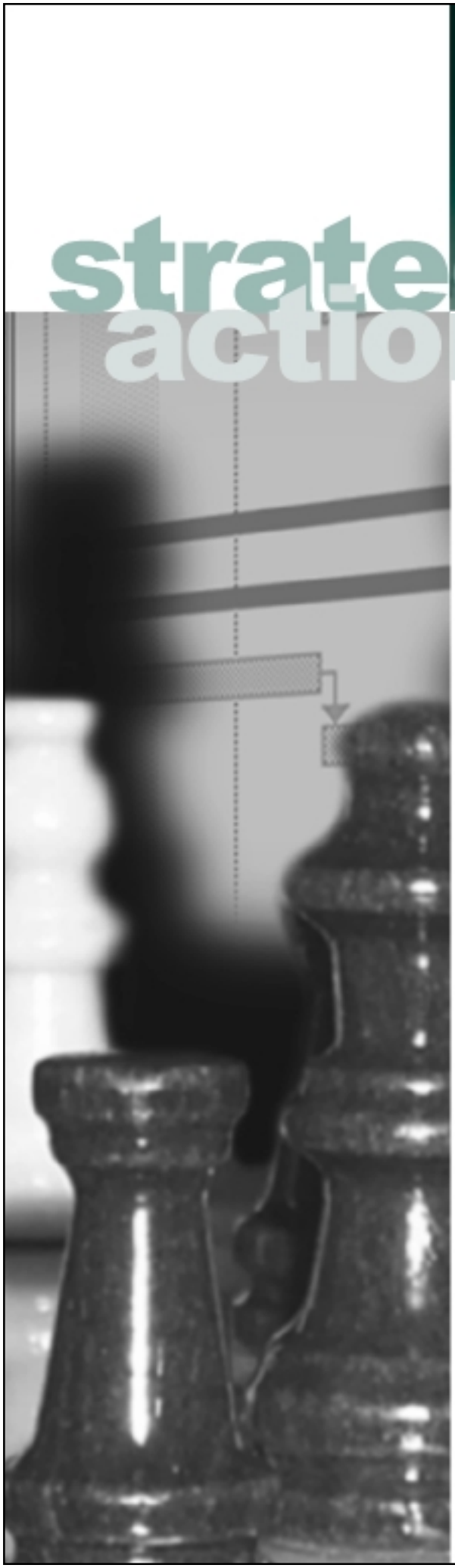

strategic action plan

Executive Summary

Marshall University is a dynamic higher educational organization in West Virginia that prepares students to compete and excel in a world characterized by constant change, high levels of technology, and increased internationalization. The University will serve the needs of the region by developing and supporting the individual's ability to access, assimilate, apply, and create knowledge; to acquire and incorporate rational problem-solving strategies; to appreciate and value artistic expressions; to examine and evaluate beliefs, ideas, and actions; and to develop skills that contribute to continuous personal, economic, and social well-being; and encourage a commitment to enhancing the welfare of the community that Marshall University serves.

Mission

The Information Technology Organization at Marshall University leads the development of an integrated information technology environment that actively aids and enhances the academic and support activities of the University by delivering effective IT products and services that help faculty, staff, and students achieve Marshall University goals.

Vision

- Helping Transfor the way our University shares ideas and information
- Helping build a University that is professionally strong, flexible, and competitive in a changing marketplace
- Helping faculty, staff, and students realize their visions through the use of information technology

Values of a Learning Community

- We are socially inclusive and actively pursue opportunities to ensure that all our members are part of our learning communities
- We view information technologies, including Internet accessible interactive multimedia technologies, as tools for enriching learning by tailoring instruction to societal, organizational, and individual needs.
- We value regional and global interconnections and cultural links for expanding access and opportunity to educational resources regardless of format and/or location.
- We provide flexible learning programs available to address all students' needs.
- We will continue to actively implement a technical, social and intellectual infrastructure that ensures equity of access to learning, information, and information technologies while recognizing that investments in learning contribute to overall competitiveness and the economic and social well-being of the nation.

We will continue to support the educational demands of knowledge workers. This includes restructuring library resources, administrative systems, networks, policy, etc. to meet the needs of our current and future populations.

GOALS

Guiding the institution toward the realization of its mission is an underlying set of goals upon which programs and services are designed and evaluated. Thus, the use of communications and information technologies will incorporate these goals:

- Student success will be at the center of all University endeavors and its realization will be pursued as a collaborative effort among all areas of the University - central administration, academic programs, student services, and administrative support services.

- The University will constantly embrace information technology in creative, experimental, and practical ways to enhance and maximize the creation and delivery of instructional resources and to develop and strengthen its administrative support systems.

- The University will provide an environment that supports flexible access to educational programs, knowledge resources, and administrative systems.

- The University will seek to build strong community partnerships and will emphasize the value of its faculty, students, and staff providing service to the community. The University will continuously assess the value, effectiveness, and currency of its programs, instruction, and services with a view toward continual renewal and improvement.

Marshall University is developing programs in critical cognitive skills to help people learn how to reach, connect, interact and learn from the diverse networks of groups and individuals across the world. We need to help people better understand the skills of information discovery, editorial validation, assimilation, presentation and dissemination made essential by the Internet. We need to help our students learn the social interaction skills inherent to the new medium, the practices of expression, the culture of community responsibility and participation, and the ethical use of information and services.

In the high performance knowledge center of the future, learning will be more important than ever before -- and a lifetime enterprise. Since most people will make several career changes during their work lives, the challenges associated with entering new work communities and learning new work roles will be faced several times. A technology for training and retraining that is based upon easily usable, modular, standardized tools and that can be adapted quickly and cheaply to emergent training needs is needed.

We have been developing many of the pieces of such a technology and propose now to put them together into a system for a life-long education and training. We are at a unique point where we can shape history. We are at the outset of a communications revolution that will lead to profound transformation in commerce, education, governance, and our society at large. Today we are at a serendipitous time where our institutions - and more importantly our educational leaders - can profoundly impact our community.

This region can and should be the global center of the knowledge industry of the 21st century. Our concentration of Internet activity, netcentric development and relevant human capital provide the foundation for our future. A growing dissatisfaction with traditional institutions-- from corporations to governments to schools -- is inspiring a desire for change that is being felt across all socioeconomic levels, ideological beliefs and diverse backgrounds.

The communications revolution is changing how people interact with one another, how organizations engage their constituencies and how we access information. It is also making possible a kind of "collective IQ" where thousands of people can be connected to focus on an issue. Our students, faculty, administrators and staff are all participative partners in this "knowledge revolution". As we reengineer our institutions, we must also reengineer ourselves. This action plan is focused on ten unique goal areas. Capabilities, desired capabilities, measurable outcomes, necessary skills, process, professional development, hardware requirements, software requirements, evaluation measures, timeline and costs are defined for each of these distinctive areas

1) Infrastructure - The University will continue to expand and support a high-speed, reliable, and ubiquitous telecommunications network that facilitates electronic information sharing and retrieval for students, faculty, and staff from both on and off-campus locations, and defines the University as a member in the global electronic community.

2) **Access** - Members of the Marshall University community will have access to computing platforms, software, and network resources that enhance learning effectiveness and individual productivity.

3) **Student Centric Behavior** - The University will focus its information technology resources and network infrastructure on creating student-centered support services that enable direct user access to personal records and institutional information to allow electronic student service transactions.

4) **Information Resources** - The Marshall University Libraries, Computing Services, Instructional Technology and Video and Satellite Networks will serve as a central resource to campus and regional constituents by promoting and providing electronic access to local and global information resources. The University libraries will serve as a central resource to campus and regional constituents by promoting and

providing electronic access to local and global library resources.

5) **Outreach** - Marshall University will emphasize distance- and time-free teaching and learning strategies in order to maximize access to educational programs and to facilitate convenient, off-campus student and faculty participation in instructional offerings.

6) **Teaching and Learning** - Marshall University course offerings will incorporate and exploit the learning advantages of video and multimedia presentation tools.

7) **Enterprise Systems** - In the development of administrative support information systems, the University will continuously take advantage of the efficiencies afforded through networked computing and the productivity gains of enterprise-wide information technology solutions.

8) **Organization/Integration** - The University will adopt an organizational model for information technology that reflects the transition to a network-centered computing environment and reflects a balance between and integration of departmental and university-wide needs and priorities.

9) **Fiscally Responsible** -The University budgeting and funding strategies for information technology resources will ensure a continuous and stable funding base commensurate with the central role of technology in University priorities.

10) Assessment - Resources and services will be continually evaluated to ensure that information technology supports the advancement of the University mission, and that resources are allocated in accordance with the University's priorities.

Strengths

- Medium sized institution that is agile enough to move with new technology
- Web based student information system and tools for administrative and educational needs (WebCT, BANNERweb, VTLS web, etc.). Commitment to student success at all levels of their educational experience at MU: Administration, registration, individualized attention and advising, student-professor relationship, curriculum and academic skills support. The library supports electronic document delivery of research-level materials to faculty and students when resources are not accessible in electronic full-text.
- Strong telecommunications infrastructure that is built for flexibility and growth. This institution has developed a fully fiber optic campus backbone more than twelve years ago. All resident halls are wired. All new facilities are wired with enhanced category 5 wiring. The aggressive integration of voice, data, and video integration via the statewide Network 2001 ATM network.
- Interactive mechanisms with the community with information technology representation Marshall University has been active in the creation of specialized organizations that have strong technical and community integration that help strengthen economic development, workforce development and technology transfer (i.e. Advantage Valley, Marshall University Technology Institute, Empowerment Zone, Cisco Academy).
- Three new library/information facilities that were designed for current and future technologies.
- Widely available access to reasonably configured desktop systems.
- Integrated enterprise academic and administrative systems that will continue to become key to cost effective financial strategies for regional campuses, powerful reports, workflow management, etc.
- Marshall University Information Technology image is very strong in the community, state and nation.
- Assistive Technology and resources for both physically and visually impaired students.
- Level of expertise of faculty and administration level of expertise among staff and staff commitment to students' success.
- Numerous grants and donations for Information Technology projects (One Room School 2000, Bell Atlantic 2001 funds, Technical Advantage Programs, Year of the Book, Teubert Grant, Cisco Donation, etc.)
- Aggressive implementation and vision for appropriate and cost effective technologies campus-wide with strong use of technology health education and flexible manufacturing.

Weakness

- A severely understaffed technical organization. The state of West Virginia Higher Education compensation rate for technical staff is far below the market rate. The number of technical staff has not

grown with the number of technical resources and applications. Retention of highly trained technical staff is becoming increasingly difficult. Major technical units not have enough staff for cross training. This results in an unstable support structure.

- Tenure and promotion procedures need to be revamped to include the use of technology or technical innovation. This has been one of the most limiting aspects for faculty involvement.
- The wiring and installation of Smart Classrooms needs to be dramatically expanded.
- Funding for technology projects has been available, but recurring funding has not been allotted for their continued support, maintenance and replacement. The Information Technology base budgets have been fairly stagnant. A lack of a funding model or percentage of over-all MU budget to off-set forced publisher inflation for existing periodicals and serials collections in the University Libraries has reduced available resources. The need for core instructional technology support has grown dramatically, but the number of position has been static. Video needs continue to have a great demand. Demands on the Computing Services staff and funds continue to erode their strength.
- The faculty technical expertises are bimodal. We still have a core group of faculty that need substantial technical training. We still have a low percentage of faculty and staff who participate in technical training opportunities.
- The process and procedures for outsourcing needs to be less restrictive or reduce the bureaucratic hurdles.
- A plan for the total cost of technical resources to develop and sustain these facilities needs close review. The cost per student ratio, technical staffing, telecommunication costs, and maintenance in all our regional centers will need to be reviewed. Planning for any future regional center will need more upfront planning from a combination of administrative, academic and technical units.
- The integration of information technology has not spread down into the ranks of certain faculty and staff
- Lateral cross-organizational communication in all technical areas will need special attention.

Opportunities

- The potential to expand Marshall University Technology to other agencies has great potential. Because of our Information Technology strengths, we will be able interface with K12, libraries, government other institutions, and businesses. This could increase our ability to fund projects and staff. The sharing of resources (i.e. electronic subscriptions) will bring the overall cost of resources down.
- The potential to successfully compete for dollars from granting institutions seems very promising.
- The statewide ATM network will provide additional interagency integration possibilities.
- The possible change in Community Colleges may be an opportunity for Marshall University to contractually provide services to these agencies.
- Marshall's technology focus and technical student workforce will help us attract technology companies to our area. This includes the spin-off of BioInformatics companies.
- Technology Research Park and the large Transportation grant may offer new and exciting possibilities.
- Statewide Information Technology web-based curriculum that can be totally delivered from Marshall University to anywhere in the world.
- Create a Community Health Information Network for BioInformatics Business spin-offs. Empowerment zone funds will be sought for the planning of the project. The first step will be the creation of the Community Wide Shared Master Patient Index. This will also include a Pediatric Immunization secure database.
- Create collaborative opportunities with the Japanese Gifu Perfector for web-based courses and shared expertise in visualization. This could expand and provide other economic possibilities.

Threats

- Business and industry may have the potential to compete with our technical education. They can move faster in the business arena.
- Due to the few number of technical staff, any loss in key technical staff can have enormous impacts to the entire stability in all major production areas. This includes potential problems in the student information system, finance and human resources system, network stability, online course support, helpdesk support, etc.
- Poverty-level salaries for some classified staff positions (i.e. Library)
- Minimal support of technical personnel at remote centers – new centers created a burden on already over-taxed main-campus staff.
- The lack of a funding model for new programs; staff, faculty, resource, support, library materials, and facilities could cause problems with student satisfaction.

Campus-wide Information Technology Project Summary

#	Begin	End	Description of Project	Capital	Recurring	Proposed Funding Source(s)
			Immediate Priority			
1	1999	2003	IT Staff Retention, Training and Augmentation		$300,000	Proposed Fee Pending
2	1997	2001	Campus Network Backbone FDDI to Switch.	$225,00†	$30,000	Recurring from Unit CB
3	1999	2002	Augmentation of Campus Fiber/Cable Plant.	$300,000 †		
4	1998	2003	Upgrading of Major Campus Horizontal Wiring Infrastructure	$600,000†		
5	2000	2003	Implement Funded Three Year Replacement Cycle for Public Workstations in UCF Sites		$300,000	Proposed Fee Pending
6	1999	2002	Expanded Technology Enhanced Wired Classrooms	$500,000†	$50,000	
7	1999	2000	Business Resumption/Disaster Recovery	$100,000†	$10,000†	
8	1997	2000	Expansion of the Campus OneCard	$100,000†	$100,000	Product Fee
9	1999	2001	SMS V2, Windows 2000, Office 2000 Migration, Virus Protection		$100,000†	Unit Charge back
10	2000	2000	Full Two Level Fire Wall Implementation	$40,000†	$30,000†	$20,000 Capital from Grant
11	2000	2002	Telemedicine with Regional Jails	$308,000	$46,000	Recurring from budget
12	1997	2002	Expansion of Electronic Subscription/Document Delivery		$100,000	
13	1999	2002	Expansion of E-Commerce Opportunities	$100,000†	$25,000†	
14	1999	2003	Faculty Computer Initiative Three Year Replacement Cycle		$325,000†	
15	2000	2001	Switched Service to Faculty/Staff Desktops	$250,000†	$25,000	Recurring from CB
16	1997	2002	Faculty Development Programs for Technology	$1.2M	$200,000	Grant & Student Fee
			High Priority			
17	1998	2002	Expansion of Video Server and Remote Course Delivery	$100,000†	$20,000†	Capital from Grant
18	1999	2001	Enterprise Document Management & Imaging	$350,000†	$50,000†	
19	1999	2002	IT Facilities Support in Regional Center		$50,000†	
20	2000	2001	Data Warehouse/Data Mart Expansion	$150,000†	$25,000†	
21	2000	2002	Integrated Authentication and Digital Signatures	$50,000†	$90,000	Charge back (CB)
22	2000	2002	IP Telephony Implementation	$1.4M	$500,000	CB and Base budget
			Medium Priority			
23	1997	2001	IT Organizational Restructuring (Optimization)			Cost Avoidance
24	1997	2002	Wireless Campus Initiative.	$500,000†	$50,000†	
25	1998	2000	Library VTLS to Virtua Migration	$385,000	$90,000	Department
26	1999	2000	Electronic Thesis/Dissertation	$10,000†	$2,000	Product Fee
	2000	2003	**†Total Un-funded**	**3.4 M**	**$785,000**	

OUR STRATEGIC VISION

STATEWIDE VISION FOR TECHNOLOGY

West Virginia is recognized nationally and internationally for the quality of its institutions of higher learning. Moreover, it has long been counted among the pioneers in the use of information technologies for enhancing access to these institutions. Now, through the implementation of this strategic plan, our institutions will be able to move aggressively to maintain this pioneering reputation through the innovative use of information technologies and distributed learning, not for the recognition, but because the citizens of West Virginia - our learners and those who teach them - deserve the best programs, the best facilities and the best educational tools we can provide.

STATEWIDE STRATEGIC PLAN

The strategic plan of the West Virginia Network for Telecommuting is to support and promote the education, research and service missions of its member institutions by providing telecommunications capabilities and enhanced access to educational programs for their learning communities. WVNET will provide such access through the effective use of the appropriate information technology networks at a cost affordable to the state, the students and the institutions.

This will be accomplished by a renewed commitment among the WVNET member institutions to support the efforts of the consortium in

- encouraging and supporting the development by the member institutions of educational courses and programs, targeted to meet identified needs, that will attract additional enrollment in media-based instruction to meet the distributed learning enrollment objectives of each institution;
- testing, evaluating and/or deploying advanced and developing information technology systems to provide more effective use of financial resources allocated for telecommunications and enhanced access to information and instruction;
- establishing strategic alliances and partnerships outside of the higher education community to deal with competition, cost and resource sharing and political assistance.

Upon successful implementation of this strategic plan, each institution will be able to build on its own strengths while taking advantage of the expertise and educational resources of the consortium. The institutions will have assured themselves of a:

- highly cost-effective access to a full suite of state-of-the-art telecommunications services: interactive video teleconferencing, and computer networking;
- the ability to leverage this access for enhancing on-campus instruction as well as for reaching off-campus audiences through technology-assisted distributed learning;
- negotiate and implement statewide licensing for software;
- a forceful voice in the determination of state telecommunications policies in order to ensure that these policies appropriately address the needs of the educational community; and
- a united and knowledgeable approach to telecommunications providers to assist these providers in their efforts to provide services for the educational community;
- assure the widespread availability of basic and advanced telecommunications services throughout West Virginia;
- Assure the statewide availability of an ever-increasing assortment of telecommunications services, for all West Virginian's at affordable prices;
- Assure that telecommunications service pricing reflects the cost of providing the service, the value required by the consumer, and the competitive nature of the marketplace.

In addition to the member institutions of higher education, it is also recognized that WVNET needs to play an increasing role with regard to many other entities in the State. These various groups will have the assurance that they will continue to have the level of support and service availability that to which they have become accustomed. In fact, there is every expectation that there will be increased growth in these areas.

- The West Virginia Library Commission has become very involved with WVNET for communications support. This has the potential for expansion as all libraries across the state are connected to the Internet.
- The Bell Atlantic World School Project has connected hundreds of public schools to the Internet through WVNET. In addition, WVNET provides and manages a server for the West Virginia Department of Education to provide e-mail and other services. Currently, there are more than 25,000 e-mail accounts in use on this server. Since Bell Atlantic has expanded their project to include private schools and Citizens Telecom has also agreed to provide this same kind of project in their service area, the dependence on WVNET is going to become even larger. The World School Project expires on December 31, 1998. At that time, the Department of Education has to have an alternative provider of network management. WVNET is a viable candidate.

- State Government is using WVNET for providing access to Internet style mail for many of its employees. This has become very important since the Governor made the decision for all state employees to have access to this type of mail facility.
- Disaster recovery or business continuity requirements have grown among the various information systems sites across the state. WVNET is now offering and can provide systems backup services across the network. The information becomes stored in the tape robot, which makes the access trouble free and very timely. The Information Systems and Communications data center is looking to take advantage of this service as soon as sufficient communication capacity has been put into place.

OUR CAMPUS VISION

THE FOUNDATION FOR TECHNOLOGY

Marshall University is being created as a dynamic higher educational organization for to prepare students to compete and excel in a world characterized by constant change, high levels of technology, and increased globalization. The University will serve the needs of the region by developing and supporting the individual's ability to access, assimilate, apply, and create knowledge; to acquire and incorporate rational problem-solving strategies; to appreciate and value artistic expressions; to examine and evaluate beliefs, ideas, and actions; and to develop skills that contribute to continuous personal, economic, and social well-being; and encourage a commitment to enhancing the welfare of the community that Marshall University serves.

Values for are Learning Community

- We are socially inclusive and actively pursue opportunities to ensure that all our members are part of our learning communities
- We view information technologies, including Internet accessible interactive multimedia technologies, as tools for enriching learning by tailoring instruction to societal, organizational, and individual needs.
- We value regional and global interconnections and cultural links for expanding access and opportunity to educational resources regardless of format and/or location.
- We provide flexible learning programs available to address all students' needs.
- We will continue to actively implement a technical, social and intellectual infrastructure that ensures equity of access to learning, information, and information technologies while recognizing that investments in learning contribute to overall competitiveness and the economic and social well-being of the nation. We will continue to support the educational demands of knowledge workers. This includes restructuring library resources, administrative systems, networks, policy, etc. to meet the needs of our current and future populations

Guiding the institution toward the realization of its mission is an underlying set of goals upon which programs and services are designed and evaluated. Thus, the use of communications and information technologies will incorporate these goals:

- Student success will be at the center of all University endeavors and its realization will be pursued as a collaborative effort among all areas of the University - central administration, academic programs, student services, and administrative support services.
- The University will constantly embrace information technology in creative, experimental, and practical ways to enhance and maximize the creation and delivery of instructional resources and to develop and strengthen its administrative support systems.
- The University will provide an environment that supports flexible access to educational programs, knowledge resources, and administrative systems.
- The University will seek to build strong community partnerships and will emphasize the value of its faculty, students, and staff providing service to the community.
- The University will continuously assess the value, effectiveness, and currency of its programs, instruction, and services with a view toward continual renewal and improvement.

The rapid evolution of computer, video and integrated communication technologies has revolutionized the means available for human communications and the ways in which information resources are created, stored, shared, and accessed. Consequently, a revolution is also occurring in regard to how academic programs are structured and delivered, how information resources get managed and accessed how scholarly work occurs, and how information is provided in support of the administrative and student support functions of universities. There was a time when it was sufficient for a university's design to include buildings, books, electricity, phone lines, faculty, and limited support staff. It was also acceptable practice to require all students to 'come to the temple' according to a time schedule determined primarily for the convenience of the institution. This simply is no longer the case. Higher education is being transformed into an age of information geared to the individual learner, and information technology is a primary instrument of the transformation.

Current and emerging computer and communication technologies allow us to:

- offer expanded educational opportunities;
- provide local and global access to information resources;
- form electronic communication and information links with other public agencies and community groups; and
- support the administrative functions of the university in ways that are far more flexible in terms of time, place, and pace.

Thus, to create a new public university today is a rare circumstance that carries with it the responsibility to build a new and much more powerful infrastructure from its inception. Marshall University therefore acknowledges that it is imperative that a technological, human, and financial support plan be designed that can help ensure that Marshall University will fulfill its mission into the 21st century. It is toward this end that this strategic plan for using information and communication technologies will be directed and continually evaluated.

CAMPUS GOALS

Information Technology at Marshall University

Marshall University continues to build an environment that incorporates and supports the effective use of current and emerging communication and information technologies:

- **A Telecommunications Utility** - a network that consists of interconnected desktop computers, mobile laptop computers, campus servers, Internet servers, interactive and broadcast television linked together by cabling and switching schemes; that is ubiquitous in nature, technically heterogeneous, and as intuitive in its use as voice communications or electrical service; and that is the key ingredient making feasible a networked learning, distance-free, knowledge navigation-based environment for the learner.
- **Open Classrooms** - Computer conferencing, electronic mail, and voice mail applications that allow students to communicate with faculty and each other around the clock, allowing a new freedom of discussion, questioning, and clarification even in large enrollment courses.
- **Distance- and Time-Free Learning** - A combination of personal computers, television and videotapes, print materials, electronic library resources, multimedia courseware servers, and networked delivery systems, that allow the University to loosen the rigidity of class schedules, relieve space pressures, and accommodate schedules of the nontraditional student.
- **Customized Personal Learning** - Interactive multimedia instructional software that allows students to control learning segments and explore new segments at a depth and pace appropriate to their own learning needs.
- **Community Partnerships** - Electronic links that extend the campus to community partners such as public schools, health centers, business and industry, government and non-profit agencies, cultural facilities and library resources.
- **Open Information Access** - University information databases that are available for students and faculty to access and update, as authorized, allowing for more convenient and efficient services such as off-site registration, financial aid and admissions processing, and grade reporting; and that are tailored for enrolled and prospective students and faculty to access through personal computers, touch-tone phones, and the Internet.
- **Transformed Organizational Structure** - An organization that models and capitalizes on the benefits that technology offer for transforming traditional organizational structures. In particular, networked technologies and software tools will affect the way decisions are made by expediting the availability and distribution of data throughout the University. Cross-institutional work groups and an appropriate balance between distributed and centralized technical support will make possible collaborative planning and resource management.

Strategic Plan Framework

With the University in a formative stage of development, the strategic plan serves to define a role and scope for the use of information and communication technologies at Marshall University. The construction of this initial plan is guided by several key precepts that provide the framework for defining specific technology goals. They are:

- A technology infrastructure that permits video, data, and voice communications among faculty, students, and staff independent of geography.
- Expanded access for constituents to educational programs, knowledge resources, and administrative systems.
- Organizational structure and processes for the planning, administration, training, and service support of information technology that reflect departmental interests and needs while maintaining University-wide priorities.
- Funding strategies for technology that support the institutional mission and priorities.
- Utilization of information systems to improve

productivity and organizational effectiveness.

- Ongoing evaluation of the technology enterprise with a view toward continuous improvement.

GOAL ONE - INFRASTRUCTURE

The University will continue to expand and support a high-speed, reliable, and ubiquitous telecommunications network that facilitates electronic information sharing and retrieval for students, faculty, and staff from both on and off-campus locations, and defines the University as a member in the global electronic community.

GOAL TWO - ACCESS

Members of the Marshall University community will have access to computing platforms, software, and network resources that enhance learning effectiveness and individual productivity.

GOAL THREE - STUDENT CENTRIC

The University will focus its information technology resources and network infrastructure on creating student-centered support services that enable direct user access to personal records and institutional information to allow electronic student service transactions.

GOAL FOUR -INFORMATION RESOURCES

The Marshall University Libraries, Computing Services, Instructional Technology and Video and Satellite Networks will serve as a central resource to campus and regional constituents by promoting and providing electronic access to local and global information resources. The University libraries will serve as a central resource to campus and regional constituents by promoting and providing electronic access to local and global library resources.

GOAL FIVE - OUTREACH

Marshall University will emphasize distance- and time-free teaching and learning strategies in order to maximize access to educational programs and to facilitate convenient, off-campus student and faculty participation in instructional offerings.

GOAL SIX - TEACHING AND LEARNING

Marshall University course offerings will incorporate and exploit the learning advantages of video and multimedia presentation tools.

GOAL SEVEN - ENTERPRISE SYSTEMS

In the development of administrative support information systems, the University will continuously take advantage of the efficiencies afforded through networked computing and the productivity gains of enterprise-wide information technology solutions.

GOAL EIGHT -ORGANIZATION/INTEGRATION

The University will adopt an organizational model for information technology that reflects the transition to a network-centered computing environment and reflects a balance between and integration of departmental and university-wide needs and priorities.

GOAL NINE - FISCALLY RESPONSIBLE

The University budgeting and funding strategies for information technology resources will ensure a continuous and stable funding base commensurate with the central role of technology in University priorities.

GOAL TEN - ASSESSMENT

Resources and services will be continually evaluated to ensure that information technology supports the advancement of the University mission, and that resources are allocated in accordance with the University's priorities.

SUPPORTING OBJECTIVES FOR GOALS

GOAL 1 INFRASTRUCTURE: The University will establish and support a high-speed, reliable, and ubiquitous telecommunications network that facilitates electronic information sharing and retrieval for students, faculty, and staff from both on and off-campus locations, and defines the University as a member in the global electronic community.

Supporting Objectives

1. A *physical communications infrastructure* will continue to be defined and incorporated into the institutional building program that facilitates high bandwidth communications of data, digital video, voice and broadband television throughout campus.
2. An operational plan will be developed to integrate and *extend University telecommunications resources* into the Advantage Valley community and our expanding regional centers in order to deliver and to improve access to educational programs and public service offerings.
3. A campus *networking strategy* will be documented that will specify network protocols, routing, and switching electronics, hubs, and systems management software.
4. A process will be defined and adopted for setting standards and selecting *common network-based*

software applications such as electronic mail, gateways, group conferencing, and database management systems.

5. A strategy regarding *user access to University networked information resources* will be defined, and a plan to provide the corresponding support infrastructure will be implemented.
6. *University standards and policy* for creating and maintaining Marshall University affiliated Internet servers, application development programs, and browsers will be formulated.

GOAL 2 ACCESS: The University will provide its students, faculty, and staff access to personal computers, software, and network resources necessary for achieving learning effectiveness and individual productivity.

Supporting Objectives

1. *Institutional standards* for desktop and mobile computing platforms, software, communications, networking, and support will be defined, published, and implemented.
2. The University will develop a strategy to outfit general-purpose student computing areas and to provide *on-campus network ports* to support mobile student computing and to provide open access to networked resources.
3. Special purpose cla*ssrooms* will be renovated and equipped *with either network ports and/or computer stations* at each student seat and will have the capability to support and project media applications.
4. An institutional policy, practice, and support strategy regarding *student personal and laptop computers* will be defined and adopted.
5. An institutional policy, practice, and support strategy regarding *desktop and mobile computing resources for faculty and staff* will be defined and adopted.

GOAL 3 STUDENT CENTRIC: The University's information technology resources and network infrastructure will be focused on creating student-centered support services that enable direct user access to personal records and institutional information to allow electronic student service transactions.

Supporting Objectives

1. The University will continue to implement a web enabled *student records system* that fully integrates admission, registration, financial aid, and advising functions, and has student access to information resources and the establishment of electronic student service transactions, as it's central design objective.
2. The University will continue to design and acquire support systems that enable *access to information resources* through multiple networked and dial-in personal computers and touch-tone telephones.
3. The University will continue to provide electronic support mechanisms that facilitate *faculty-student-administration interaction* - such as student electronic mail, voice mail, and computer conferencing.
4. The University will continue to provide *training and assistance programs and software* that enable students to effectively use all of the services offered in support of their educational experience.
5. The University will continue to expand the applicability, potential benefits, and various uses of the *One Card.*

GOAL 4 INFORMATION RESOURCES: Marshall University Libraries will serve as a central resource to campus and regional constituents by promoting and providing electronic access to local and global library resources.

Supporting Objectives

1. The *library 'collection' will* be built to meet the curricular needs of the University and will include print and analog and digitized media formats. A plan for storing, indexing, searching, and retrieving the multimedia digitized resources will be developed.
2. The library infrastructure will continue to be designed to support *on-line user*
3. *Access* to full-text, multimedia, and bibliographic global databases, on-demand document delivery; and electronic reference inquiries will continue to be expanded.
4. *Cooperative arrangements* with other libraries for collection building and sharing will be established and policies adopted for providing user access to local and remote resources.
5. The library facility will continue to feature *state-of-the-art workstations* to support open access to networked resources, the completion of academic assignments and scholarly research, as well as distributed workstations to allow quick access to electronic catalogues of all holdings in all formats.

GOAL 5 OUTREACH: Marshall University will emphasize distance- and time-free teaching and learning strategies in order to maximize access to educational programs and to facilitate convenient, off-campus student and faculty participation in instructional offerings.

Supporting Objectives

1. The One Room School 2000 project will build a desktop video telecommunications network that uses scalable and sustainable technology to support the delivery of live and stored video courses to key receive sites.
2. An assessment of a proposed joint-use facility will be conducted prior to signing an agreement for use in the delivery of courses via live video transmissions

and online courses. As well, a post-evaluation of the facility will occur prior to renewing an agreement.

3. Marshall University academic programs will be analyzed by the respective dean, according to targeted students and program objectives for the purpose of determining appropriate technology-based delivery strategies.
4. For each program that utilizes technology-based delivery systems, College-based Instructional Technologists will create development teams, that will include support staff, to assist faculty in creating and implementing computer, video, audio, or integrated media instructional applications
5. The Center for Instructional Technology will be expanded as a university-wide faculty development center and will continue to support and provide access to the hardware, software and networking necessary for creating computer, video, audio and integrated media instructional applications.
6. Online course offerings will continue to expand, depending on availability of funds, and improve in the quality and required resources. Additional courses will be added to the Southern Regional Electronic Campus catalog.
7. Additional university classrooms will be designed to allow for the origination and off-campus distribution of live and stored video classroom instruction, depending on available funding.
8. The Flashlight Project will be used to evaluate the effectiveness of telecommunications for distance teaching and learning, such as desktop and group video conferencing, broadcast TV and cable distribution systems, videotaped courses, audio conferencing, and online courses.
9. The School of Medicine will continue to develop and expand distance learning and clinical service outreach efforts in support of degree, non-degree and continuing education programs in the fields of nursing, allied health, graduate biomedical science research, forensic science and medicine.

GOAL 6 TEACHING AND LEARNING: Marshall University course offerings will incorporate and exploit the learning advantages of video and multimedia presentation tools.

Supporting Objectives

1. Course-related digitized video material will be identified, or developed, and installed on streaming video servers for use on the Marshall University intranet or Internet, to allow for student viewing of missed lectures, anytime review of difficult to comprehend topics, showing of video-based classrooms examples, and display of examples that would be otherwise too expensive to replicate in the classroom.
2. Necessary training and information related to video usage availability will be provided to the faculty of the University. Instructional Technology support will be provided to faculty who will be incorporating video or multimedia presentation material within their courses to ensure that the technology is used in a way to exploit multiple learning styles.
3. Course-related multimedia-based learning modules will be identified, or developed, and installed on storage devices, such as CD-ROMs or network servers, to allow for electronic access and classroom display across the disciplines.
4. Media and presentation development software tools will be identified, and faculty will be provided the necessary instructional technology training or staff support to use the tools to develop instructional applications.
5. Encourage the use of Computer Mediated Communications (CMC) methodologies to enhance classroom communications outside the physical classroom within an environment such as WebCT.
6. *Video and data projection systems* will be located in selected classrooms and networked to electronic teaching podiums.
7. *Instructor-centered classrooms* will be designed *with electronic podiums* that allow instructor control and projection of both digital and analog instructional media.
8. *Student-centered classrooms* will be designed with a class LAN that allows instructor control of student workstations and projection of any work in the class onto the screen.

GOAL 7: In the development of administrative support information systems, the University will continuously take advantage of the efficiencies afforded through networked computing and the productivity gains of enterprise-wide information technology solutions.

Supporting Objectives

1. The University will continue to implement the administrative enterprise network via the use of Banner 2000 management systems. Information systems will be designed with the objectives of providing qualified user *database access and update capabilities* - independent of time and location.
2. The University will develop and implement decision-support systems, data warehousing strategies, and software development tools and methodologies that best serve the needs for institution-wide information systems.
3. The University will seek enterprise-wide solutions that maximize the productivity gains of *document imaging* and *departmental workflow* analysis in the design of information systems.

4. Emphasis will be placed on adopting only *fully-integrated software products* that are designed with an open-systems architecture, independent of database and platform, interoperable, and scalable.

GOAL 8 ORGANIZATION/INTEGRATION: The University will adopt an organizational model for information technology that reflects the transition to a network-centered computing environment, and reflects a balance between and integration of departmental and university-wide needs and priorities.

Supporting Objectives

1. C*ross-institutional authority and responsibility* for information technology strategic planning, staffing, a budget allocation process, technology acquisition approval, and outcomes assessment. (Information Technology Strategic Planning Committee)
2. The Information Technology Committee will continue to be a *representative committee of user constituencies* that will be vested with the responsibility of formulating, reviewing, and recommending information technology policies and practices.
3. The University will develop *a technical support structure* that is made accountable for providing reliable and compatible network communications while meeting the needs of diverse user groups.
4. In the interest of effectively implementing technology initiatives and projects, the University will form *cross-departmental task groups.* (Information Service Providers Group and College Instructional Technologists)
5. The University will recognize the value of knowledgeable technology users through *an ongoing commitment of funding for faculty and staff training and professional development.*
6. The university will review and incorporate new models to retain and retrain key personnel.

GOAL 9 FISCALLY RESPONSIBLE: The University budgeting and funding strategies for information technology resources will ensure a continuous and stable funding base commensurate with the central role of technology in the University priorities.

Supporting Objectives

1. To ensure optimal use of financial resources, the University will adopt a process to *coordinate technology funding requests* that reflects institutional priorities and standards, and prevents duplication of expenditures.
2. In order to realize the educational and productivity gains of continuous rapid technology innovations, the University will actively seek strategies and programs to *maintain technology currency* in a cost-effective manner.
3. Given the continuing requirement for technology funding and the uncertainty of state funds, the University will *develop strategies for generating revenue* from sources that include user and student technology fees, business and industry grants, and support from other outside individuals and agencies.
4. The University will constantly *seek and evaluate opportunities for outsourcing* information technology programs as a means of cost containment and service enhancement.

GOAL 10 ASSESSMENT: Resources, services, and this plan will be continually evaluated and updated to ensure that information technology supports the advancement of the University mission and that resources are allocated in accordance with University priorities.

Educators need to understand how their uses of technologies such as computing, video and telecommunication are enabling improvement in their educational strategies. We also need to know whether such improved strategies help assure equitable access and promote desired improvement in what students have learned by the time they complete the program, while containing the growth of program costs. The Flashlight Project has been developing and testing survey items, interview questions, cost analysis procedures and other evaluative tools that educators can use to answer such questions.

The Flashlight Project develops survey items, interview plans, cost analysis methods, and other procedures that institutions can use to monitor the success of educational strategies that use technology. Local evaluators can use Flashlight to design two types of study: (1) a longitudinal study of courses in a course of study that uses (or is about to begin using) technology in instruction; and/or (2) a cross-sectional comparison of courses or sections that require technology use with comparable courses or sections that do not require the use of these technologies.

Supporting Objectives

1. A formal means of *regular evaluation of information technology programs* and use will be developed and performed through the University's Office of Information Technology.
2. The University will appoint an *external information technology advisory board via the Marshall Technology Institute* to periodically review the strategic plan, and to provide outside perspective regarding technology innovation and its potential role within the University.
3. This plan will be reviewed and revised at least annually.

STRATEGIC PLAN FOR GOALS

GOAL 1 INFRASTRUCTURE:

The University will establish and support a high-speed, reliable, and ubiquitous telecommunications network that facilitates electronic information sharing and retrieval for students, faculty, and staff from both on and off-campus locations, and defines the University as a member in the global electronic community.

Objective 1	A physical communications infrastructure will continue to be defined and incorporated into the institutional building program that facilitates high bandwidth communications of data, digital video, voice and broadband televis ion throughout campus.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☒ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☒ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Although ubiquitous shared hub10BaseT service has been available in all campus facilities since the late 1980s a migration to switch 10/100BaseT service is underway. Horizontal cabling installed as part of the voice PBX upgrade in 1987 needs to be upgraded to support 100 and/or 1000 Mb Ethernet to the desktop. Most locations on campus will only support 10 Mb with the current cabling. This upgrade will cost about $150 per port ($600,000) to do station by station when the department requires it or about $115 per port ($460,000) if it were done as part of an overall campus upgrade at one time. Fiber replacement/augmentation for vertical riser and inter-building use needs to be in place to provide for future growth. Current estimates are an average of $15,000 per building with 40 buildings or $600,000. To support this additional station bandwidth the shared FDDI campus backbone has and is continuing to be upgraded to a switch Gigabit Ethernet backbone with a parallel ATM OC3 facility in some buildings. Core switching would need to be upgraded to support additional workstations bandwidth. This would required three switches at $450,000. WAN bandwidth between regional campuses/centers and to the global Internet must be grown in proportion to demand.				
Measurable/observable initial, intermediate, and long terms student outcomes	The ability to offer real time desktop multimedia to campus workstations and improve the network performance to meet the growing power of the desktop machine.				
Necessary skills and knowledge	Significant skills in switching and routing as well as network management and control software are required.				
Processes that need to be in place	Pricing schedule for network node upgrades and maintenance. Monitoring and growth backbone to support growing use and demand at the workstation including the movement of layer three switching/routing from the backbone to the wiring closet over time.				
Professional development plans	Participation in the Cisco Academy Program and specific software training in HP Openview.				

	Openview.		
Hardware Requirements	Phased Hub replacements with switches and replacement of horizontal wiring with Enhanced Category 5. An upgrade in the vertical and inter-building fiber capacity and the backbone switches and routers is also necessary.		
Software Requirements	HP Openview, Cisco Works, Network General Sniffer, and Microsoft SMS.		
Evaluation Measures	Congestion monitoring at peak usage periods providing time series reports on a continuous basis.		
Timeline	☒ 1999-2000	☒ 2001-2002	☒ 2002-2003

Goal 1 INFRASTRUCTURE:

Objective 2	An operational plan will be developed to integrate and extend University telecommunications resources into the Advantage Valley community and our expanding regional centers in order to deliver and to improve access to educational programs and public service offerings.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☒ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☒ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Development of more complete relationships with Cable, Telco, ISP, and wireless providers to optimize bandwidth not only to regional but also to homes and local businesses to extend the electronic recourses of the university to the university community in the community.				
Measurable/observable initial, intermediate, and long terms student outcomes	Delivery of adequate bandwidth to meet educational demand.				
Necessary skills and knowledge	Negotiation of formal relationships to optimize access. A technical understanding and business understanding of the changing regulatory and non-regulatory issues and the vast change in voice, data, and video communication technology.				
Processes that need to be in place	Formal contracts with service providers. Performance and network metrics.				
Professional development plans	Significant time must be invested in working with companies in a position to provide enhanced communications infrastructure in Southern West Virginia				
Hardware Requirements	Direct connections to service providers may be needed to optimize bandwidth to form a virtual Intra-net.				
Software Requirements	Communications metering, monitoring, and security software must be in place				
Evaluation Measures	User satisfaction and comparison in response to on campus LAN connections.				
Timeline	☒ 1999-2000	☒ 2001-2002	☒ 2002-2003		

Goal 1 INFRASTRUCTURE:

Objective 3	A campus networking strategy will be documented that will specify network protocols, routing, and switching electronics, hubs, and systems management software.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☒ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☒ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Tools are being put in place that will help to document and monitor usage on all data network segments. Core infrastructure is in place to provide backbone routing and a strategy to move this technology to the periphery as the backbone requires augmentation is in place. Although a variety of protocols are still used the overwhelmingly predominant protocol since 1993 has been TCP/IP. The Drinko Library and all UCF public computer sites are now using 100BaseT switched serve. The Core Backbone has been upgraded to Gigabit Ethernet and Layer 3 switching.				
Measurable/observable initial, intermediate, and long terms student outcomes	Departments can now upgrade their shared 10 Mb LAN connections to switched 10/100 service to support new multimedia based applications as their demand requires at the desktop. This provides for a whole new set of learning and communication tools. Desktop video conferencing and collaboration are now available.				
Necessary skills and knowledge	Extensive training in the most modern hardware and software for data, voice, and video integration.				
Processes that need to be in place	Change and upgrade management, SMS, Cisco Works, HP Openview, LDAP and DHCP.				
Professional development plans	Extensive training in emerging hardware and software enterprise management systems.				
Hardware Requirements	Cisco based switching and routing or those supporting emerging protocols to provide quality over IP based networks.				
Software Requirements	Extension network management and cable management software.				
Evaluation Measures	Response, reliability, and performance reports.				
Timeline	☒ 1999-2000	☒ 2001-2002	☐ 2002-2003		

Goal 1 INFRASTRUCTURE:

Objective 4	A process will be defined and adopted for setting standards and selecting common network-based software applications such as web browsers, digital video, electronic mail, gateways, group conferencing, and database management systems.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☒ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☒ 5 - Very High
Plan to reconcile the	These have been set by Computing Services through the various advisory groups. These				

difference between current and desired capabilities	are currently well established. Group conferencing standards are being set as part of One Room School 2000 and should be in place during FY2000.		
Measurable/observable initial, intermediate, and long terms student outcomes	Improved collaboration tools that are integrated into the curriculum and into Marshall business functions.		
Necessary skills and knowledge	Extensive use will require business re-engineering.		
Processes that need to be in place	Review by various advisory committees.		
Professional development plans	IT professional and user training with *best practices* standards and training.		
Hardware Requirements	Continued expansion of database, web, messaging, and conferencing servers to meet increased demand.		
Software Requirements	Oracle, Microsoft Office/Exchange, WebCT, PMDF, and H.323 Conferencing.		
Evaluation Measures	Extent of integration into the curriculum and business functions. User satisfaction surveys.		
Timeline	☐ 1999-2000	☒ 2001-2002	☒ 2002-2003

GOAL 2: ACCESS

The University will provide its students, faculty, and staff access to personal computers, software, and network resources for achieving learning effectiveness and individual productivity.

Objective	1. Institutional standards for desktop and mobile computing platforms, software, communications, networking, and support will be defined, published, and implemented.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	These standards were developed in 1991. They are compiled, published and are in effect.				
Measurable/observable initial, intermediate, and long terms student outcomes	Decreasing confusion in purchasing and installing equipment. Smoother operation of networked services. More efficient use of help desk staff who can provide faster turn around on problems.				
Necessary skills and knowledge	Knowledge and understanding of institutional standards and continuously upgraded and changed hardware and software.				
Processes that need to be in place	Procedures for continuous information upgrade for all campus constituents to keep abreast of changing conditions.				
Professional development plans	Seminars and workshops for training and upgrading information.				
Hardware Requirements	None				

Software Requirements	Purchase of new versions of software and training software that becomes available.		
Evaluation Measures	Continuing growth in knowledgeable individuals who are prepared to understand and use various equipment and software.		
Timeline	X 1999-2000	X 2001-2002	X 2002-2003

GOAL 2: ACCESS

The University will provide its students, faculty, and staff access to personal computers, software, and network resources for achieving learning effectiveness and individual productivity.

Objective	2. The University will develop a strategy to outfit general-purpose student computing areas and to provide on-campus network ports to support mobile student computing and to provide open access to networked resources.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Continue to develop student labs in various campus locations as demand expands. Adding facilities where none exist including off-campus centers.				
Measurable/observable initial, intermediate, and long terms student outcomes	Current facilities will be used to near capacity. As levels are reached student demand will decrease indicating goals being met.				
Necessary skills and knowledge	Hardware and software knowledge and networking expertise will be required.				
Processes that need to be in place	Continuous training programs for employees and smoother methods for acquiring, retaining, and rewarding staff.				
Professional development plans	Plans must exist for regular training of individual users, faculty, staff, and students.				
Hardware Requirements	New computers, replacement computers, connections, furniture, and networking software.				
Software Requirements	Computers, software for replacement.				
Evaluation Measures	The proficient operation of equipment and software by growing numbers of constituents.				
Timeline	X 1999-2000	X 2001-2002	X 2002-2003		

GOAL 2: ACCESS

The University will provide its students, faculty, and staff access to personal computers, software, and network resources for achieving learning effectiveness and individual productivity.

Objective	3. Special purpose classrooms will be renovated and equipped with either network ports

	and/or computer stations at each student seat and will have the capability to support and project media applications.				
Current Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Departments are currently responsible for these facilities. A two-tiered approach is advisable. Tier one would include an outlet, a computer, software, and projector in each classroom ($10,000 each). Tier two would be larger room support, possibly multiple screens, projectors, and a computer at each student station ($15,000 each).				
Measurable/observable initial, intermediate, and long terms student outcomes	Each department would have access to computer, software, and projection equipment that may be mobile or in a designated classroom area.				
Necessary skills and knowledge	Faculty and staff will need to be knowledgeable and trained to use equipment and software.				
Processes that need to be in place	A master plan for equipment contracts needs to be in place.				
Professional development plans	A good committee needs to be in place to make decisions regarding the availability/need for space that will be allocated for electronic media presentations.				
Hardware Requirements	Connectivity, projection equipment, cameras, computers, and data port.				
Software Requirements	Appropriate curriculum related software for equipment and courses to be taught.				
Evaluation Measures	Evaluation will be the number of spaces usable by the end of 2003.				
Timeline	☐ 1999-2000	X 2001-2002	X 2002-2003		

GOAL 2: ACCESS

The University will provide its students, faculty, and staff access to personal computers, software, and network resources for achieving learning effectiveness and individual productivity.

Objective	4. An institutional policy, practice, and support strategy regarding student personal and laptop computers will be defined and adopted.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	X 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	This will be accomplished through outsourcing the PC Service Center. The PC Service Center will supply and support personally acquired computers and software. The center will develop software contracts to allow bulk purchase, distribution, and upgrading of software.				
Measurable/observable initial, intermediate, and long terms student outcomes	Using the center a growing number of faculty, staff, and students, will acquire personal equipment for which they will become increasingly well trained to use.				

Necessary skills and knowledge	The PC Service Center needs to be fully functional. A procedure for information distribution must be in place to provide clear and complete instructions to individuals seeking campus use of their equipment and software.		
Processes that need to be in place	Service Center must provide an A+ certified technician. Faculty, staff, and students will be better served for their hardware, software, and usage questions as well as their installation and repair requests.		
Professional development plans	Upgrades to hardware that has become obsolete or in need of upgrade.		
Hardware Requirements	Annual upgrade of minimal hardware/software standards.		
Software Requirements	PC Service Center will maintain recommended and supported software lists. PC Service Center will coordinate their work with University Help Desk.		
Evaluation Measures	Faster and better implementation of personal computer acquisition and installation. Better and quicker follow-up for problems and questions from both PC Service Center and University Help Desk.		
Timeline	X 1999-2000	☐ 2001-2002	☐ 2002-2003

GOAL 2: ACCESS

The University will provide its students, faculty, and staff access to personal computers, software, and network resources for achieving learning effectiveness and individual productivity.

Objective	5. An institutional policy, practice, and support strategy regarding desktop and mobile computing resources for faculty and staff will be defined and adopted.				
Current Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	A firm plan for computer upgrade needs to be put into place. The University needs to keep updating equipment. A three-year cycle should place the university at a fairly high rating. A four-year cycle will place it at a very high level.				
Measurable/observable initial, intermediate, and long terms student outcomes	Approximately 600 faculty and 400 staff (required to perform computer jobs) will receive new or updated equipment. On a three-year cycle approximately 300 each year would require upgrades. On a four-year cycle the figure would be 250 per year.				
Necessary skills and knowledge	Most of the skill and knowledge necessary will already be in place except for upgrades or changes in hardware and software.				
Processes that need to be in place	Distribution plans for between 250 and 300 new computers each year beginning in 2000.				
Professional development plans	Plans for faculty/staff upgrades as needed.				
Hardware Requirements	New computers as plan requires.				
Software Requirements	Software to be used will be in place except for changes and upgrades. The University will need to continue bulk leases and distributions of software that currently exists.				

Evaluation Measures	Faculty and staff will have current hardware and software in keeping the requirements for their performance.		
Timeline	☐ 1999-2000	☐ 2001-2002	X 2002-2003

GOAL 3: STUDENT CENTRIC

Objective 1	The University will continue to implement a web enabled student records system that fully integrates admission, registration, financial aid, and advising functions, and has student access to information resources and the establishment of electronic student service transactions as it's central design objective.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Pull all entities together to assess compatibility issues and concerns. Design a plan of functional implementation. Create a campus based "network" (similar to *Campus Pipeline or My Yahoo)* that will allow access to students and alumni.				
Measurable/observable initial, intermediate, and long terms student outcomes	Assess the usage of the various components (numbers generated by surveying students, faculty, and administrative use of the systems.				
Necessary skills and knowledge	Knowledge of the capacities of each component Create student and faculty awareness of the records systems.				
Processes that need to be in place	Train appropriate personnel in the use.				
Professional development plans	Create training sessions for staff and faculty. Offer informational sessions for students.				
Hardware Requirements	Substantially in place				
Software Requirements	Maintain current schedule of appropriate updates.				
Evaluation Measures	Monitor the number of students / faculty users.				
Timeline	X 1999-2000	X 2000-2001	X 2001-2002		

GOAL 3: STUDENT CENTRIC

Objective 2	The University will continue to design and acquire support systems that enable access to information resources through the use of multiple networked and dial in personal computers and touch tone telephones

Current Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Update Voice Response System (IVR) from Brite Systems to another more stable vendor.				
Measurable/observable initial, intermediate, and long terms student outcomes	We will track by term the number of students who use web registration, IVR and walk-up. We are seeing a trend towards more web registration and the other two modes.				
Necessary skills and knowledge	Minimal				
Processes that need to be in place	All systems need to have SCT Banner interfaces.				
Professional development plans	Training for Assoc. Dir of Databases				
Hardware Requirements	Purchase of new compatible system				
Software Requirements	Purchase of new IVR software				
Evaluation Measures	Student Satisfaction Survey				
Timeline	☐ 1999-2000	X 2000-2001	☐ 2001-2002		

GOAL 3: STUDENT CENTRIC

Objective 3	The University will continue to provide electronic support mechanisms that facilitate faculty -student-administration interaction - such as electronic mail, voice mail, and computer conferencing.				
Current Capabilities	☐ 1 - Not at All	❑ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	❑ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Make computer conferencing more accessible to students, faculty and administration via the expansion of the PolyCOm units.				
Measurable/observable initial, intermediate, and long terms student outcomes	Number of faculty to student interactions. Number of student to administration interactions. Number of faculty to administration interactions.				
Necessary skills and knowledge	Knowledge of the use of computer conferencing software / technology.				
Processes that need to be in place	Training in the use of the software and hardware.				

Professional development plans	Just in Time Training		
Hardware Requirements	PolyCom units plus Multipoint Control Unit that can support H.320, H.323, T.210		
Software Requirements	WebCT		
Evaluation Measures	Flashlight		
Timeline	☐ 1999-2000	X 2000-2001	X 2001-2002

GOAL 3: STUDENT CENTRIC

Objective 4	The University will continue to provide training and assistance programs and software that enable students to effectively use all of the services offered in support of their educational experience.				
Current Capabilities	☐ 1 - Not at All	❑ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	❑ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Incorporate addition Information Technology training as part of the Uni101 course. Continue to base systems on a common interface (browser technology) and acces to CBT's				
Measurable/observable initial, intermediate, and long terms student outcomes	Students will be able to complete certifications of these skills.				
Necessary skills and knowledge	This will be part of the standard IT core competencies.				
Processes that need to be in place	Expand current capabilities				
Professional development plans					
Hardware Requirements	Continue upgrades				
Software Requirements	Continue upgrades				
Evaluation Measures	Student Satisfaction Survey				
Timeline	☐ 1999-2000	☐ 2000-2001	☐ 2001-2002		

GOAL 3: STUDENT CENTRIC

Objective 5	The University will continue to expand the applicability, potential benefits, and various uses of the One Card.				
Current Capabilities	☐ 1 - Not at All	❑ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High

Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	❑ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Create more opportunities for the use of the One Card. Create awareness for faculty and alumni users. Establish a link with a local bank for One Card use.				
Measurable/observable initial, intermediate, and long terms student outcomes	Short: Increase the number of student users. Medium: Offer more services (One Card) to users.				
Necessary skills and knowledge	Awareness of the One Card system.				
Processes that need to be in place	Continue upgrades				
Professional development plans					
Hardware Requirements	Look at purchase instead of lease of equipment				
Software Requirements	Continue Upgrades				
Evaluation Measures	Number of student and alumni / employee users.				
Timeline	X 1999-2000		X 2000-2001		X 2001-2002

GOAL 4 INFORMATION RESOURCES:

The Marshall University libraries will serve as a central resource to campus and regional constituents by promoting and providing traditional and electronic access to local and global library resources.

Objective 1	The university library collections must be maintained to support the curricular, accreditation and research needs of the university programs, students and faculty.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☒ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☒ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	1. Achieve adequate funding to offset serials inflation. (utilize Year of the Book				

	endowment for FY 1999-2000 and 2000-2001) 2. Reorganize existing staff to address new programs/library trends. 3. Migration to document delivery services (Carl Uncover's unmediated document delivery services) 4. E-reserves implementation (utilizing existing equipment and WebCT interface) 5. Continued support of online collections 6. Expansion of User Education program 7. Expansion of Extension Services program (building more aggressive partnership with MU remote centers)
Measurable/observable initial, intermediate, and long terms student outcomes	1. Annual statistics on use of materials for collection development assessment. 2. Annual statistics on patron types (i.e. faculty, students, staff, other) to track use and client-base. 3. Annual survey of library users to measure client satisfaction and assess collection.
Necessary skills and knowledge	MLS and continuing education for faculty & staff of the library.
Processes that need to be in place	Established user education program for library users.
Professional development plans	Annual training initiatives for library faculty & staff.
Hardware Requirements	Adequate infrastructure to support library technology needs.
Software Requirements	Subscriptions to database systems and online resource license agreements.
Evaluation Measures	Ongoing statistical analysis of patron use/annual survey of client satisfaction/online comments and Ask A Librarian services.

Timeline	☒ 1998-1999	☒ 1999-2000	☐ 2000-2001

GOAL 4 INFORMATION RESOURCES:

Objective 2	Migrate existing serials collections to "just-in-time" document delivery concept to off-set inflation, provide over 18,000 titles to constituents, and improve turn-around time for materials not owned by the libraries.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☒ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐	☐	☐	☐	☒

	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Full implementation of a document delivery concept must entail cancellation of a large portion of current serials titles. Budget will be reallocated to provide unlimited use of the just-in-time article retrieval service.				
Measurable/observable initial, intermediate, and long terms student outcomes	Students will have 24 hour access to over 18,000 journal titles in the CarlUncover database. They currently only have access to about 2,800 titles in-house.				
Necessary skills and knowledge	Training on use of the database and article retrieval process.				
Processes that need to be in place	1. User Education and technology training. 2. Research skills training. 3. Expansion of extended education services for remote students.				
Professional development plans	Annual regional training initiatives and workshops for professional librarians and information delivery staff.				
Hardware Requirements	Adequate hardware to run the Carl web-based service.				
Software Requirements	Win 95/98 standard web browser technology required.				
Evaluation Measures	1. Monthly use statistics by patron type 2. Monthly use statistics by journal title 3. Annual survey of user satisfaction. 4. Comments online and Ask a Librarian feedback features.				
Timeline	☐ 1998-1999		☐ 1999-2000		☒ 2000-2001

GOAL 5: OUTREACH

Objective 1	1. The One Room School 2000 project will build a desktop video telecommunications network that uses scalable and sustainable technology to support the delivery of live and stored video courses to key receive sites.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the	Develop and deploy IPTV server and clients as well as an archive of stored video course				

difference between current and desired capabilities	offerings to remote sites.		
Measurable/observable initial, intermediate, and long terms student outcomes	Increased, quality stored video course offerings and increased student enrollment in such courses.		
Necessary skills and knowledge	Technical support staff knowledgeable in developing and deploying the technology as well as sufficient knowledge and competence among faculty to develop appropriate course material.		
Processes that need to be in place			
Professional development plans			
Hardware Requirements	IPTV server, routers which support multicast, broadband data connectivity.		
Software Requirements	IPTV server and client licenses.		
Evaluation Measures	Flashlight Proejct.		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective	2. An assessment of a proposed joint-use facility will be conducted prior to signing an agreement for use in the delivery of courses via live video transmissions and online courses. As well, a post-evaluation of the facility will occur prior to renewing an agreement.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Strict enforcement of assessing non-MU facilities; cost of compliance for a suitable facility and responsible party is a crucial part of any agreement, along with appropriate technical support.				
Measurable/observable	Properly designed joint-use facilities will result in a higher quality delivery system				

initial, intermediate, and long terms student outcomes	better product, and greater student & faculty satisfaction.
Necessary skills and knowledge	Knowledge of MU's technical capabilities; user goals; negotiating skills.
Processes that need to be in place	Clear system of accountability – who is authorized to negotiate joint-use facility agreements; involvement of appropriate staff.
Professional development plans	Faculty must demonstrate appropriate skill level when using technology.
Hardware Requirements	Variable; must be compatible with existing MU specifications.
Software Requirements	Ensure that MU technical staff can support the approved software.
Evaluation Measures	Flashlight project.
Timeline	1998-1999 | 1999-2000 | 2000-2001

Goal 5: Outreach

Objective 3	3. Marshall University academic programs will be analyzed by the respective dean, according to targeted students and program objectives for the purpose of determining appropriate technology-based delivery strategies.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Ask the Provost, in conjunction with the dean, to appoint a task force for each college to conduct a formal program assessment. At least one member should be from outside the college and who possesses appropriate assessment skills.				
Measurable/observable initial, intermediate, and long terms student outcomes	A broader range of programs, delivered by appropriate technology, should be available to students. It could lead to time-shortened degree completion.				
Necessary skills and	An understanding of each college's programs of study and the suitability of technology				

knowledge	to deliver all or part of a program.		
Processes that need to be in place	A college-based Program Assessment Committee, start and end date, clear date for final report; follow-up action; allocation of funds.		
Professional development plans	If appropriate to further train faculty in the use of technology; workshop to revise curriculum when adapting for non-traditional delivery system.		
Hardware Requirements	Will vary depending on college's needs.		
Software Requirements	Compliance with MU specifications.		
Evaluation Measures	Compliance with MU specifications.		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective 4	4. For each program that utilizes technology-based delivery systems, College-based Instructional Technologists will create development teams, that will include support staff, to assist faculty in creating and implementing computer, video, audio, or integrated media instructional applications.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Make college-based IT staff accountable to Director of Center for Instructional Technology. Identify and establish a master list of faculty and staff willing to serve in development teams to assist other faculty in the application of technology.				
Measurable/observable initial, intermediate, and long terms student outcomes	A more proficient faculty in the understanding and use of technology will result in a better course product which should lead to a more satisfied student customer.				
Necessary skills and knowledge	Assessment skills; in-depth knowledge of technology to be able to serve as faculty mentors.				
Processes that need to be in place	A process managed by the Director of the Center for Instructional Technology to recruit, train and maintain members of the development teams.				

Professional development plans	Technical training as identified and needed.		
Hardware Requirements	Compatible with MU specifications.		
Software Requirements	Compliance with MU specifications.		
Evaluation Measures	Flashlight Project.		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective 5	5. The Center for Instructional Technology will be expanded as a university-wide faculty development center and will continue to support and provide access to the hardware, software and networking necessary for creating computer, video, audio and integrated media instructional applications.				
Current Capabilities	1 - Not at All	2 - Slight	3 – Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 – Very High
Plan to reconcile the difference between current and desired capabilities	1. Continue to encourage all colleges to employ a full-time instructional technologist to support their own faculty and student multimedia development needs. 2. Seek pooled funding to support a central instructional technologist position to assist faculty and students in those colleges which do not provide their own full time instructional technologist. 3. Continue to seek extramural or institutional funding to upgrade and expand multimedia hardware and software for use by CIT personnel, faculty and students.				
Measurable/observable initial, intermediate, and long terms student outcomes	1. Growing enrollment in E-courses and off-campus distance learning offerings. 2. Increased retention of those students enrolled in Ecourses and distance learning offerings. 3. Increased student satisfaction with E-courses and distance learning offerings.				
Necessary skills and	1. Knowledge of state of the market multimedia development tools both				

knowledge	hardware and software. 2. Practical knowledge of cognitive psychology principles as applied to the development of educational technology applications.		
Processes that need to be in place	1. A more structured technical support process to empower college-based instructional technologists to answer user questions directly and to intercept such questions from the central CIT staff. 2. Continued funding of faculty development incentives to encourage faculty to use educational technology where appropriate. 3. Encourage recognition of effective use of educational technology in consideration for faculty tenure and promotion.		
Professional development plans	1. Contingent upon college-level funding, all instructional technologists will be encouraged to attend at least one applicable conference each year. 2. The university will explore online and computer-based training opportunities, such as CBT Systems and Ziff-Davis University, to help instructional technologists remain current on the latest technology and applications.		
Hardware Requirements	1. Upgrade current equipment as needed.		
Software Requirements	1. Upgrading current licenses as needed. 2. Purchase additional online computer-based training titles as available and needed.		
Evaluation Measures	1. Continue to use FlashLight assessment tool to evaluate effectiveness of instructional technology offerings. 2. Enrollment data for students in E-courses and distance learning classes.		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective 6	6. Online course offerings will continue to expand, depending on availability of funds, and improve in the quality and required resources. Additional courses will be added to the Southern Regional Electronic Campus catalog.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High

Plan to reconcile the difference between current and desired capabilities	Increase the per-credit hour development payment for faculty from $1,000 to $1,500. Provide more support to faculty to revise existing and develop additional online courses.		
Measurable/observable initial, intermediate, and long terms student outcomes	More online courses will increase access for students, both on campus and those at remote sites. It will also make more courses available to XXX, expanding MU's student base.		
Necessary skills and knowledge	Refinement of existing skills; knowledge of new applications will be essential.		
Processes that need to be in place	Implementation of college development teams as referenced in objective 3.		
Professional development plans	Additional workshops offered by the Center for Instructional Technology as well as sending faculty and staff to off-campus sites.		
Hardware Requirements	Additional laptops for faculty (amount will vary).		
Software Requirements	It will depend on course and instructor; technical support provided only to approved software.		
Evaluation Measures	Flashlight Project.		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective 7	7. Additional university classrooms will be designed to allow for the origination and off-campus distribution of live and stored video classroom instruction, depending on available funding.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 – Very High
Plan to reconcile the difference between current and desired capabilities	Additional classrooms for the origination of live and stored video instruction will be built as needs and funding are determined. Campus MCU and associated hardware will be expanded to accommodate simultaneous facility usage as needed.				

Measurable/observable initial, intermediate, and long terms student outcomes	More distance learning courses will increase opportunities for off-campus students, improving quality of educational experience for students and attracting an increased student base.		
Necessary skills and knowledge	Ability to design, implement and support sophisticated distance learning and video conferencing technologies. Ability for faculty to use this sophisticated technology.		
Processes that need to be in place	Processes to prioritize and schedule classroom usage. Processes to enroll and support distance learning students. Processes to support faculty in the development and delivery of distance learning courses.		
Professional development plans	Continued training and professional development of technical support staff and faculty.		
Hardware Requirements	Variable: integrated multimedia and distance learning control panels and equipment.		
Software Requirements	Variable: presentation software		
Evaluation Measures	Flashlight project.		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective 8	8. The Flashlight Project will be used to evaluate the effectiveness of telecommunications for distance teaching and learning, such as desktop and group video conferencing, broadcast TV and cable distribution systems, videotaped courses, audio conferencing, and online courses.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Apply Flashlight Project Evaluation to all technology delivered courses: online, compressed video, satellite, audio, integrated media. Evaluate existing personnel responsible for Flashlight.				
Measurable/observable initial, intermediate, and long terms student outcomes	Using the results of the evaluations will cause the faculty and staff to improve the technology, greatly improving the quality of the experience for students.				

Necessary skills and knowledge	Faculty will need to be trained in the administration of Flashlight as well as assessing the results. May require additional XXX.		
Processes that need to be in place	Process is in place – needs to be enhanced and improved upon.		
Professional development plans	N/A		
Hardware Requirements	None		
Software Requirements	None		
Evaluation Measures	N/A		
Timeline	1998-1999	1999-2000	2000-2001

Goal 5: Outreach

Objective 9	The School of Medicine will continue to develop and expand distance learning and clinical service outreach efforts in support of degree, non-degree and continuing education programs in the fields of nursing, allied health, graduate biomedical science research, forensic science and medicine.				
Current Capabilities	1 - Not at All	2 – Slight	3 – Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 – Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	1. The School of Medicine will develop sophisticated capabilities to deliver real-time video conferencing and stored-video to students and patients in remote locations. 2. The faculty of the School of Medicine will be supported in their efforts to become adept at developing distance learning curricula.				
Measurable/observable initial, intermediate, and long terms student outcomes	1. Growing enrollment in all types of distance learning offerings from the School of Medicine and School of Nursing and Allied Health. 2. Improved recruitment of School of Medicine and School of Nursing and Allied				

	Health students from rural areas of West Virginia. 3. Improved recruitment of School of Medicine and School of Nursing and Allied Health graduates to rural and underserved areas of West Virginia. 4. Improved retention of health care providers in rural and underserved areas of West Virginia.		
Necessary skills and knowledge	1. Expertise in specifying and supporting real-time video conferencing systems. 2. Expertise in developing stored-video instructional modules.		
Processes that need to be in place	1. A mechanism to contract for the creation of medical illustrations for use by School of Medicine faculty in multimedia and distance learning programs. 2. Tenure and promotion consideration for those faculty who strive to develop distance learning curricula.		
Professional development plans	1. Provide training opportunities to full-time Instructional Technologist on staff for the School of Medicine. 2. Conduct instructional technology training sessions for School of Medicne faculty.		
Hardware Requirements	1. Video conferencing equipment, including CODECs, cameras, displays, etc., in a distance learning facilities located in the Medical Education Building, Forensics Building, Center for Rural Health and at remote locations (such as Lincoln Primary Care Center in Hamlin, WV). 2. Multimedia development and editing equipment, including a digital video camera. 3. Broadband WAN connectivity, such as access to Bell Atlantic's ATM network.		
Software Requirements	1. Multimedia development and delivery software, including PowerPoint, Macromedia Director, Authorware, IP-TV, Microsoft Netshow and RealMedia server.		
Evaluation Measures	1. Enrollment data for School of Medicine and School of Nursing and Allied Health distance learning courses. 2. Post-graduate career data for School of Medicine and School of Nursing and Allied Health alumni.		
Timeline	1998-1999	1999-2000	2000-2001

GOAL 6 TEACHING AND LEARNING

Objective 1	Course-related digitized video material will be identified, or developed, and installed on streaming video servers for use on the Marshall University intranet or Internet, to allow for student viewing of missed lectures, anytime review of difficult to comprehend topics, showing of video-based classrooms examples, and display of examples that would be otherwise too expensive to replicate in the classroom.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	X 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	- Obtain video footage of experiments - Digitizing of current video-taped footage - Begin videotaping classroom lectures so that important pieces of lectures can be digitized and stored on mass storage devices				
Measurable/observable initial, intermediate, and long terms student outcomes	- Demand on the use of such systems - Assessment results obtained from surveys using the Flashlight Tool for Assessment				
Necessary skills and knowledge	- Knowledge of digital video production necessary for creators of content - Knowledge of learning styles and how video can be used to influence learning is necessary for instructors wishing to use video content				
Processes that need to be in place	- Training on the use of the digital video equipment (cameras, converters, linkages from server) - Training on leaming styles and the effectiveness of video				
Professional development plans	- Continued training seminars for faculty and IT staff				
Hardware Requirements	In place				
Software Requirements	Maintenance on the software that is in place				
Evaluation Measures	Use of Flashlight tool for assessment with students regarding how the use of video technology influenced their retention and understanding of the specified outcomes by the instructor				
Timeline	X 1999-2000	X 2000-2001	☐ 2001-2002		

GOAL SIX - TEACHING AND LEARNING

Objective 2	Necessary training and information related to video usage availability will be provided to the faculty of the University. Instructional Technology support will be provided to faculty who will be incorporating video or multimedia presentation material within their courses to ensure that the technology is used in a way to exploit multiple learning styles.				
Current Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High

Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	- Additional training programs for faculty on the use of video technologies within specific disciplines will need to be implemented - Training of Instructional Technology Support staff in the pedagogical issues of using video within classroom material, as well as training on how to use the technologies				
Measurable/observable initial, intermediate, and long terms student outcomes	- Effect of video usage within classes on knowledge retention of students - The amount of use of video technologies - Training surveys to see if the training provided is adequate and helpful				
Necessary skills and knowledge	- Instructional Technologists - Knowledge of streaming video standards and digital video conversion and editing practices - Faculty - Knowledge of leaming styles of students pertaining to the use of video-based material				
Processes that need to be in place	- Support models for faculty who wish to use video technology, including the training of how and when to use the technology within the classroom or Internet-based course				
Professional development plans	- Semesterly training sessions for faculty and IT support staff - Encouragement of the use of the Faculty Development Suite in the Drinko Library for video content creation				
Hardware Requirements	- Additional video capture units within the colleges (cameras, streaming video capture cards) will need to be purchased				
Software Requirements	- Video editing software programs will need to be purchased				
Evaluation Measures	Use of Flashlight tool for assessment regarding how the use of video technology influenced the instructor's decision to use the technology				
Timeline	X 1999-2000	X 2000-2001	☐ 2001-2002		

GOAL SIX - TEACHING AND LEARNING

Objective 3	Course-related multimedia-based learning modules will be identified, or developed, and installed on storage devices, such as CD-ROMs or network servers, to allow for electronic access and classroom display across the disciplines.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	X 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 – Very High
Plan to reconcile the difference between current and desired capabilities	- Training of IT staff in the identification of needed modules, the procurement or the development of such models, and the usage of these modules - Put in place a plan where all campus-based instructional technology personnel report through one central department so that these modules can be coordinated and developed across the disciplines, as well as have this group use each other's exbpertise to develop sound instructional modules				

Measurable/observable initial, intermediate, and long terms student outcomes	- Demand of faculty for the use of such modules - Analysis of learning retention from the results of student surveys based on questions from the Flashlight Assessment questionnaires		
Necessary skills and knowledge	- Instructional Technologists - Knowledge of multimedia development software - Instructional Technologists and faculty - Knowledge of pedagogical issues and standards relating to multimedia-based courseware modules		
Processes that need to be in place	- Plan for central coordination of Instructional Technology personnel - Annual reviews of multimedia-based module needs of every college		
Professional development plans	- Professional training on multimedia development and pedagogical issues for IT support specialists - Semesterly training sessions for faculty on how to use the multimedia modules - Encouragement of the use of the Faculty Development Suite in the Drinko Library for multimedia content creation		
Hardware Requirements	- In place		
Software Requirements	Currently in place, but as new versions are released, current MU applications will need to be updated		
Evaluation Measures	- Use of Flashlight tool for assessment regarding how the use of the multimedia-based modules influenced the instructor's decision to use the technology - Use of Flashlight tool for assessment with students regarding how the use of multimedia-based modules influenced their retention and understanding of the specified outcomes by the instructor		
Timeline	X 1999-2000	X 2000-2001	☐ 2001-2002

GOAL SIX - TEACHING AND LEARNING

Objective 4	Media and presentation development software tools will be identified, and faculty will be provided the necessary instructional technology training or staff support to use the tools to develop instructional applications.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 – Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 – Very High
Plan to reconcile the difference between current and desired capabilities	- Additional training programs for faculty on the use of media and presentation software tool within specific disciplines - Training of Instructional Technology Support staff in the pedagogical issues of using multimedia tools within classroom material, how to support faculty who wish to use the tools, as well as training on how to use the technologies				
Measurable/observable initial, intermediate, and long terms	- Student retention of material through the use of multimedia and presentation modules				

student outcomes			
Necessary skills and knowledge	- Instructional Technologists - Knowledge of media and presentation tools developmental software - Instructional Technologists and faculty - Knowledge of pedagogical issues and standards relating to the use of media and presentation tools		
Processes that need to be in place	Support models for faculty who wish to use media and presentation tools technology, including the training of how and when to use the technology within the classroom or Internet-based course		
Professional development plans	- Semesterly training sessions for faculty and IT support staff - Encouragement of the use of the Faculty Development Suite in the Drinko Library for video content creation		
Hardware Requirements	In place		
Software Requirements	Currently in place, but as new versions are released, current MU applications will need to be updated		
Evaluation Measures	Use of Flashlight tool for assessment regarding how the use of media and presentation technology tools influenced the instructor's decision to use the technology		
Timeline	X 1999-2000	X 2000-2001	☐ 2001-2002

GOAL SIX - TEACHING AND LEARNING

Objective 5	Encourage the use of Computer Mediated Communications (CMC) methodologies to enhance classroom communications outside the physical classroom within an environment such as WebCT.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 – Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 – Very High
Plan to reconcile the difference between current and desired capabilities	- Training of faculty on the uses and benefits of teaching and learning practices using Computer Mediated Communication techniques				
Measurable/observable initial, intermediate, and long terms student outcomes	- Student responses to the use of Computer Mediated Communications methodologies within courses				
Necessary skills and knowledge	- Knowledge of how to use the World Wide Web and E-mail applications				
Processes that need to be in place	- Training curriculum for faculty and instructional technology support on the use of CMC methodologies				
Professional development plans					
Hardware Requirements	- In place				
Software Requirements	- In place				

Evaluation Measures	Use of Flashlight tool for assessment with students regarding how the use of CMC influenced their retention and understanding of the specified outcomes by the instructor		
Timeline	X 1999-2000	☐ 2000-2001	☐ 2001-2002

GOAL SIX - TEACHING AND LEARNING

Objective 6	*Video and data projection systems* will be located in selected classrooms and networked to electronic teaching podiums.				
Current Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Identify and convert existing classrooms. Install projection systems as part of Instructor-centered and Student-centered multimedia classroom projects.				
Measurable/observable initial, intermediate, and long terms student outcomes	Short: Increased student and instructor satisfaction with the learning environment. Intermediate: Increased instructor use of technology/multimedia in the classroom and higher quality learning experience for students of different learning styles.				
Necessary skills and knowledge	Product market knowledge				
Processes that need to be in place	Maintenance support. Security.				
Professional development plans	Faculty training on techniques and technology				
Hardware Requirements	1000 lumens + high resolution digital projectors with multiple input types, ceiling mountable				
Software Requirements	None				
Evaluation Measures	Students use Flashlight tool to assess how the use of the technology in the classroom affected their retention and understanding of the course objectives specified by the instructor.				
Timeline	X 1999-2000		X 2000-2001		X 2001-2002

GOAL SIX - TEACHING AND LEARNING

Objective 7	*Instructor-centered classrooms* will be designed *with electronic podiums* that allow instructor control and projection of both digital and analog instructional media.				
Current Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High

Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Identify and convert existing classrooms to instructor-centered multimedia-capable classrooms. Create a generic design for the rooms with specifications that can be adapted to the particulars of each selected room.				
Measurable/observable initial, intermediate, and long terms student outcomes	Short: Increased student satisfaction with the learning experience. Intermediate: Increased use of multimedia material by instructors. Increased student satisfaction with the learning experience.				
Necessary skills and knowledge	Design skills for learning space. Knowledge of technologies.				
Processes that need to be in place	Maintenance. Security				
Professional development plans	Instructor training in techniques and technologies.				
Hardware Requirements	PC, Document Camera, VCR, switching hardware/controller, network infrastructure, power infrastructure.				
Software Requirements	OS license.				
Evaluation Measures	Students use Flashlight tool to assess how the use of the technology in the classroom affected their retention and understanding of the course objectives specified by the instructor.				
Timeline	X 1999-2000	X 2000-2001	☐ 2001-2002		

GOAL SIX - TEACHING AND LEARNING

Objective 8	*Student-centered classrooms* will be designed with a class LAN that allows instructor control of student workstations and projection of any work in the class onto the screen.				
Current Capabilities	X 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	X 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Identify programs that can utilize the facility, identify and convert existing classrooms. Create model classroom that can be adapted to the particulars of each selected room.				
Measurable/observable initial, intermediate, and long terms student outcomes	Intermediate: Increased level of mastery of concepts and skills taught in program.				
Necessary skills and knowledge	Classroom design skills.				
Processes that need to be in place	Maintenance. Security				
Professional development plans	Instructor training in technology and techniques.				
Hardware Requirements	Server, Workstations, LAN and infrastructure, Projector, VCR, Document Camera,				

	Instructor Console and Podium.		
Software Requirements	Control software for projector output, OS licenses.		
Evaluation Measures	Students use Flashlight tool to assess how the use of the technology in the classroom affected their retention and understanding of the course objectives specified by the instructor.		
Timeline	☐ 1999-2000	X 2000-2001	X 2001-2002

GOAL 7: ENTERPRISE SYSTEMS

Objective 1	**The University will continue to implement the administrative enterprise network via the use of Banner 2000 management systems. Information systems will be designed with the objectives of providing qualified user *database access and update capabilities* - independent of time and location.**				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	**X** 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	**X** 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Banner HR is the last suite in the SCT Banner series to be brought on line. Its implementation was scheduled to follow Banner Finance since the HR component calls so much information from Finance. By 12/31/99 the University should be using Banner HR live for the human resources, position budgeting, and payroll functions and by 06/30/00 it should have ceased the use of legacy input media such as the Personnel Action Request (PAR).				
Measurable/observable initial, intermediate, and long terms student outcomes					
Necessary skills and knowledge	The implementation of Banner HR is a paradigm shift. While the specific skills to use it can be imparted readily through training and orientation, it requires a fundamental re-thinking about <u>how</u> we do business. Also, the use of Banner HR calls the question of who is the "owner" of HR information. The capability of extending HR information to users' desktops will create more of a community of users and a wider sharing of HR information among those with a need to know. Banner HR requires no specific knowledge of Oracle, the platform on which it operates, but considerable navigational, usage, and process skills are necessary.				
Processes that need to be in place	(1) Users need to be enrolled. (2) Training needs to be provided. (3) Process privileges need to be extended. (4)Workflow roles and assignments need to be made. The infrastructure (network and application) is mostly in place. There are some issues of PC capability and connectivity from various locations around the University.				
Professional development plans	Widely distributed training and orientation for Banner HR processes. Help for user groups.				
Hardware Requirements	Some issues of PC capability or of needing to acquire more powerful PC's or have a PC in an otherwise Mac environment. Most network capability in place, most PC's can				

	support the Banner suite.		
Software Requirements	In place.		
Evaluation Measures	(1) Before/after analysis of HR/Payroll workflow. (2) Quality assurance with regard to accuracy records, efficiency of processes, and achievement of desired ends from processes such as the Electronic Personnel Action Form (EPAF) and payroll input.		
Timeline	**X** 1999-2000	☐ 2000-2001	☐ 2001-2002

GOAL 7: ENTERPRISE SYSTEMS

Objective 2	**The University will develop and implement decision-support systems, data warehousing strategies, and software development tools and methodologies that best serve the needs for institution-wide information systems.**				
Current Capabilities	☐ 1 - Not at All	**X** 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	**X** 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	An initial data mart for academic information is being developed. The data mart will provide two levels of information. 1) Static information for past years derived from the existing "official" enrollment information from the Office of Institutional Research; and 2) daily/weekly updated data store derived from current data from the Banner transactional database. Reporting will be available from the "Academic Information Warehouse". With levels of customization becoming increasingly higher. Eventually qualified users will be able to query the data mart directly using third-party report writing tools. Need for a complete data warehouse that would bring together data from HR, Finance AND Academics should be evaluated. A facility allowing simple canned queries against HR and Finance data may suffice.				
Measurable/observable initial, intermediate, and long terms student outcomes					
Necessary skills and knowledge	Data warehousing techniques/practices. Training on third party tools. Training on definitions and use of data mart/warehouse metadata.				
Processes that need to be in place	Policies regarding Security for data will have to be established				
Professional development plans					
Hardware Requirements	A separate server will be necessary. This will allow qualified individuals to write queries against the database without concern for the impact poorly written queries will make on the production transactional database.				
Software Requirements	The server will require web server, Oracle server, and SQL Server software as well as third party tools/servers such as Crystal Info, SAS, etc.				
Evaluation Measures	Number of requests to Institutional Research/Computing Services which can be directed to "canned" reports against the data mart.				
Timeline	X		x		☐

	1999-2000	2000-2001	2001-2002

GOAL 7: ENTERPRISE SYSTEMS

Objective 3	**The University will seek enterprise-wide solutions that maximize the productivity gains of *document imaging* and *departmental workflow* analysis in the design of information systems.**				
Current Capabilities	☐ 1 - Not at All	**X** 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	**X** 4 - Fairly High	☐ 5 - Very High
Plan to reconcile the difference between current and desired capabilities	The University needs a cross-functional imaging system that will satisfy imaging, sharing, and collaboration requirements for a wide diversity of users. The University contemplates the purchase of an enterprise imaging and document management system. Constraints include (1) the cost of such applications [we are watching prices come down, deciding when to get on board]; and (2) developments in the imaging field [we don't want to get on board with a technology that will shortly be superseded by the next big improvement, especially as rapid improvements are being made in file compression and economy of storage].				
Measurable/observable initial, intermediate, and long terms student outcomes					
Necessary skills and knowledge	The use of an enterprise imaging and document management system requires extensive orientation and training. Usage will require some amount of understanding of the system even though the "hooks" to use, transmit, or share images/documents may reside in other proprietary applications. It will require a mental transition from reliance upon paper media to reliance on on-line, on-demand media. Users will be encouraged to print media less often so as to realize the economies possible with such a system. A certain percentage of users will continue to routinely print media, just as the implementation of e-mail has caused paper usage to increase in offices.				
Processes that need to be in place					
Professional development plans	With appropriate technical oversight from Information Technology, the user group holds promise as a way to recruit and teach users and expand the usage of such a system throughout the University community.				
Hardware Requirements	Considerable but not specified in this context. The system requires substantial network storage capabilities and requires interface devices including high-speed scanning tools.				
Software Requirements	The application will have to be acquired. Cannot cost the proposal in this particular context because the University has not yet committed to a particular application.				
Evaluation Measures	(1) Compare speed, accuracy, efficiency of workflow processes before and after implementation. (2)Assess faculty/staff migration to usage of new system. (3) Assess typical problems, failures, or opportunities related to usage. (4) Assess rate of addition of image-related business processes to the system. (5) Assess diversity of usage made of the system.				
Timeline	☐ 1999-2000	**X** 2000-2001	☐ 2001-2002		

GOAL 7: ENTERPRISE SYSTEMS

Objective 4	Emphasis will be placed on adopting only *fully-integrated software products* that are designed with an open-systems architecture, independent of database and platform, interoperable, and scalable.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	The University has adopted software products that meet these goals. Among these are Microsoft Office 2000 (for office word processing, spreadsheet, presentation, etc. applications) Banner (for administrative (Student Information, Finance, HR) applications, Windows 2000 for PC operating system, and Microsoft Windows NT for networking services. The step to reach the desired capability is to fully deploy these products to all users. At present, there are Macintosh users who cannot take full advantage of Banner 2000 (GUI mode) due to platform constraints, this can be resolved using virtual Windows "terminal servers" to run Banner applications in a virtual windows session on a server until the platform-independent web-based version of Banner becomes available. We presently have Microsoft Office 98 available for Macintosh, but a large number of users continue to use WordPerfect as the word processor of choice on both Windows and Mac platforms. An initiative to license the Microsoft Campus Agreement and a Y2K problem and de-support of certain versions of WordPerfect will migrate many users to MS Office. Other initiatives regarding support and licensing will continue to move users to MS Office. This movement to Office and especially Outlook is important in order to allow calendaring features and easy sharing of documents via email/web-based servers. Nearly all users of campus central servers connected via Windows NT networking (either through an NT server or a Unix derivative running Samba). The goal will be to have no central servers using Novell networking. Upgrading all users (with appropriate machine capabilities) to Windows 2000 will provide a consistent OS and Windows interface to all PC users. This will aid in support and machine stability over the existing hodge-podge of Windows 95, 98, and NT4.0. The upgrade licenses for Windows 2000 are included in the Microsoft Campus Agreement.				
Measurable/observable initial, intermediate, and long terms student outcomes					
Necessary skills and knowledge	User training for MS Office products may be needed for those current using other products.				
Processes that need to be in place	Charge-back/billing for users' share of Microsoft Campus Agreement License. Process for distribution and installation of software associated with the CA.				
Professional development plans	Limited professional development will be necessary as all products (or at least previous versions) are currently used on the vast majority of machines.				
Hardware Requirements					
Software Requirements	Alternatives are being considered for certain vertical applications dependent on Novell networking. The primary alternative for one application is outsourcing, but a new software system may also be a possibility.				
Evaluation Measures	Number users with "non-standard" software packages. Number of support calls for "non-				

	standard" applications.		
Timeline	X 1999-2000	X 2000-2001	☐ 2001-2002

GOAL 8: ORGANIZATION/INTEGRATION

Objective One	Cross Institutional Responsibility and Authority				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	x 5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	xmaintain 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Assessment and evaluation strategies will facilitate reconciliation of differences;				
Measurable/observable initial, intermediate, and long terms student outcomes	Outcomes are stated but not at the level of proficiency desired.				
Necessary skills and knowledge	Proficiency in applications; on-line research; incorporation of multi-media in instruction; application of distance education strategies other that what is mentioned above.				
Processes that need to be in place	Computer support; training and development sufficient and state of the art infrastructure.				
Professional development plans	Participation is voluntary; Required participation should be examined.				
Hardware Requirements					
Software Requirements					
Evaluation Measures	Proficiency levels need to be developed.				
Timeline	1999-2000		x		2001-2002

		2000-2001	

Goal 8: Organization/Integration

Objective Two	Information Technology Committee				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	x 5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	May be useful to have a sampling of departments examine any gaps between current and desired capabilities.				
Measurable/observable initial, intermediate, and long terms student outcomes	Specified				
Necessary skills and knowledge	Specified				
Processes that need to be in place	Specified				
Professional development plans					
Hardware Requirements					
Software Requirements					
Evaluation Measures	Proficiency levels of the Committee need to be specified.				
Timeline	1999-2000		2000-2001		2001-2002

Goal 8: Organization/Integration

Objective Three	Technical Support Structure				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	x 4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	x 5 - Very High
Plan to reconcile the difference between current and desired capabilities	Plan in place for providing training; organizational structure and technical support in place for current needs.				
Measurable/observable initial, intermediate, and long terms student outcomes					
Necessary skills and knowledge	Support personnel have necessary skills and knowledge.				
Processes that need to be in place	Explore another model because of increasing demand, for example, training support within departments, within dorms, within academic areas, reducing the demand for always going to the higher level tech support.				
Professional development plans	Seems to be continuously upgraded.				
Hardware Requirements					
Software Requirements					
Evaluation Measures	Proficiency levels need to be specified.				
Timeline	1999-2000	x 2000-2001	2001-2002		

Goal 8: Organization/Integration

Objective Four	Cross departmental task groups				
Current Capabilities	1 - Not at All	x 2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Operational; task groups in place.				
Measurable/observable initial, intermediate, and long terms student outcomes	Specific outcomes for students as a consequence of cross departmental task groups.				
Necessary skills and knowledge	According to plan, task groups have necessary skills and knowledge for responsibilities.				
Processes that need to be in place	Processes in place but may not be university wide.				
Professional development plans	Task groups have access to all available training and development.				
Hardware Requirements					
Software Requirements					
Evaluation Measures					
Timeline	1999-2000		2000-2001		2001-2002

Goal 8: Organization/Integration

Objective Five	On-going commitment for funding for training				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	x	5 - Very High

				4 - Fairly High	
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	x 4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	Commitment is very high, explicit, and actively engaged in seeking funds to achieve objectives.				
Measurable/observable initial, intermediate, and long terms student outcomes	Funds reflect institutional priorities.				
Necessary skills and knowledge	Specified for faculty, students, staff. These are desired skills; participation is voluntary.				
Processes that need to be in place	Strategies need to be developed for generated more funds.				
Professional development plans	Grant writing could be a training strategy for more personnel.				
Hardware Requirements					
Software Requirements					
Evaluation Measures					
Timeline	1999-2000		x 2000-2001		2001-2002

Goal 8: Organization/Integration

Objective Six	Marshall University will review and incorporate new models.				
Current Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	x	5 - Very High

				4 - Fairly High	
Desired Capabilities	1 - Not at All	2 - Slight	3 - Somewhat	x 4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	MU is a pace setter. As new technology becomes available, MU is a leader in incorporating it in its operations.				
Measurable/observable initial, intermediate, and long terms student outcomes	Consequences, impact, usefulness, as outcomes need to be examined.				
Necessary skills and knowledge					
Processes that need to be in place					
Professional development plans					
Hardware Requirements					
Software Requirements					
Evaluation Measures	See above.				
Timeline	1999-2000	x 2000-2001	2001-2002		

GOAL 10: ASSESSMENT

Objective 1	A formal means of *regular evaluation of information technology programs* and use will be developed and performed through the University's Office of Information Technology.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	☐ 4 - Fairly High	X 5 - Very High
Plan to reconcile the difference between current and desired capabilities	The Flashlight Project is composed of three modules: Current Student Inventory (CSI), Faculty Gap Analysis (FGA) and Cost Model. The CSI is implemented only in WebCT courses. This needs to be expanded to all courses that utilize technology (video, technology enhanced, etc.). The FGA needs to be fully implemented. The cost model will also need to be utilized for all courses, regional campuses location, educational strategies.				
Measurable/observable initial, intermediate, and long terms student outcomes	This type of assessment will help use define technical problem areas, faculty development issues, cost analysis and impacts of educational strategies and combinations.				
Necessary skills and knowledge	Faculty will be expected to obtain core competencies in the areas utilization of technology resources that they use in the educational process.				
Processes that need to be in place	MU policies and procedures for standardizing and analyzing surveys. Results from the data need to be reviewed at several levels with actions plans for expanding positive options and resolving negative complications.				
Professional development plans	Faculty will need a formal faculty development programs for the technology thet they utilize in their course.				
Hardware Requirements	The Flashlight Project is fully installed on a Marshall NT server.				
Software Requirements	The Flashlight Project is fully installed on the muonline.marshall.edu/faculty/ page				
Evaluation Measures	Script files will need to be written to produce a report and statistical analyses from the database.				
Timeline	☐ 1999-2000	X 2000-2001	☐ 2001-2002		

GOAL 10: ASSESSMENT

Objective 2	The University will appoint an *external information technology advisory board via the Marshall Technology Institute* to periodically review the strategic plan, and to provide outside perspective regarding technology innovation and its potential role within the University.				
Current Capabilities	☐ 1 - Not at All	☐ 2 - Slight	☐ 3 - Somewhat	X 4 - Fairly High	☐ 5 - Very High
Desired Capabilities	☐	☐	☐	☐	X

	1 - Not at All	2 - Slight	3 - Somewhat	4 - Fairly High	5 - Very High
Plan to reconcile the difference between current and desired capabilities	This committee is not currently in place. It will take several months to review whether this committee will have the desired outcome.				
Measurable/observable initial, intermediate, and long terms student outcomes	This type of assessment will help use define technical problem areas, faculty development issues, cost analysis and impacts of educational strategies and combinations.				
Necessary skills and knowledge	Committee members are selected based on their technical knowledge in the areas they represent.				
Processes that need to be in place	Standard meeting times and a method to review, suggest and comment on the Marshall IT strategy and possible collaboration with their institutional needs.				
Professional development plans	Technical expertise and professional training costs and solutions could be shared among these agencies.				
Hardware Requirements	none				
Software Requirements	None				
Evaluation Measures					
Timeline	☐ 1999-2000		X 2000-2001		☐ 2001-2002

OVERALL STRATEGIC TIMELINE

GOAL 6 TEACHING AND LEARNING

1999-2000

Objectives	Sept-Oct	Nov-Dec	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug
Digitized video material	X	X	X	X	X	X
Video-usage related training		X			X	X
Multimedia-based learning modules	X	X	X	X	X	X
Media and presentation tool training	X	X			X	X
Cmc training	X	X			X	X
Video and data projection systems will be located in selected classrooms and networked to electronic teaching podiums.			X (plan)	X (plan)	X Imple-ment	X implement
Instructor-centered classrooms will be designed *with electronic podiums* that allow instructor control and projection of both digital and analog instructional media.			X (plan)	X (plan)	X Imple-ment	X implement

2000-2001

Objectives	Sept-Oct	Nov-Dec	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug
Digitized video material	X	X	X	X	X	
Video-usage related training					X	
Multimedia-based learning modules	X	X	X	X	X	
Media and presentation tool training					X	
Cmc training					X	
Video and data projection systems will be located in selected classrooms and networked to electronic teaching podiums.					X (imple-ment)	X implement
Instructor-centered classrooms will be designed *with electronic podiums* that allow instructor control and projection of both digital and analog instructional media.					X (imple-ment)	X (implement
Student-centered classrooms will be designed with a class LAN that allows instructor control of student workstations and projection of any work in the class onto the screen.	X (plan)	X (plan)	X (plan)	X (plan)	X (imple-ment)	X implement

2001-2002

Objectives	Sept-Oct	Nov-Dec	Jan-Feb	Mar-Apr	May-Jun	Jul-Aug
Digitized video material						
Video-usage related training						
Multimedia-based learning modules						
Media and presentation tool training						
Cmc training						
Video and data projection systems will be located in selected classrooms and networked to electronic teaching podiums.					X imple-ment	X implement
Instructor-centered classrooms will be designed *with electronic podiums* that allow instructor control and projection of both digital and analog instructional media.					X Imple-ment	X Implement
Student-centered classrooms will be designed with a class LAN that allows instructor control of student workstations and projection of any work in the class onto the screen.			X (plan)	X (plan)	X Imple-ment	X implement

ITEMS BY GOAL

GOAL 2: ACCESS

Item Description	Factor	Amt.	Item Cost	Subtotal
	Unit or hour etc.	#	dollars	subtotals
Objective 1: Update software and training materials	Each	50 copies	$10	$500
Objective 2: Replacement of computers/software	Each	100	$1,800	$180,000
Objective 3: Outlets, Computers, Projector	Room	1	$10,000	$10,000
Larger room equipment	Room	1	$15,000	$15,000
Objective 4: Personal computer support	Personal Expense			
Objective 5: Faculty and staff computer support	Each	300	$1,800	$540,000

GOAL 5: OUTREACH

Item Description	Factor	Amt.	Item Cost	Subtotal
	Unit or hour etc.	#	dollars	subtotals
Objective #1				
Objective #2 – Joint use facility development & use agreements				Will vary
Objective #3 – Costs for outside assessor; new hardware & software, if needed				$50,000
Objective #4 – Minimal expense				$5,000
Objective #5 – Pooled instructional technologist	Ea. Position	1	$50,000	$50,000
Objective #5 – Hardware and software upgrades				Will vary

Objective #6 – Course development (1999-2000)	Ea. Course	50	$3,000	$150,000
Objective #6 – Course development (2000-2001)	Ea. Course	50	$4,500	$225,000
Objective #7 – Distance learning classrooms	Ea. Classroom		$150,000	
Objective #8 – Flashlight Project licensing				$1,800
Objective #9 – Telemedicine consultation room	Ea. Room	1	$100,000	$100,000
Objective #9 – Distance learning classrooms	Ea. Classroom	2	$150,000	$300,000

Goal 6: Teaching and Learning

Item Description	Factor	Amt.	Item Cost	Subtotal
	Unit or hour	#	dollars	subtotals
Digitized video material	Units	50	$100/ea.	$5000.00
Video-usage related training	Hours	40/sem	$50.00	$2000.00/sem
Multimedia-based learning modules	Units	50	$200/ea	$10,000.00
Media and presentation tool training	Hours	40/sem	$50.00	$2000.00/sem
Cmc training	Hours	40/sem	$50.00	$2000.00/sem
Training of IT staff	Hours	200	$100.00	$20,000.00
Professional development for faculty	Hours	50/sem	$100.00	$5,000.00/sem
Video and Multimedia Display Projectors				
1100 lumens projectors - ceiling mounted	Unit	16	5300	84800
Instructor Centered Multimedia Classroom (Phase 1 – 12 Classrooms)				
OS License	Unit	12	150	1800
Projection screen and support system - Instructor Centered	Unit	12	1000	12000
Instructor Podium – Instructor Centered	Unit	12	5000	60000
SVHS VCR – Instructor Centered	Unit	12	500	6000
Room conversion – Instructor Centered	Unit	12	3000	36000
PC - Instructor Centered	Unit	12	3000	36000
Document Camera - Instructor Centered	Unit	12	3000	36000
Network Connection and cat5+ cabling - Instructor Centered	Unit	12	500	6000
Seat - Instructor Centered	Unit	12	350	4200
Equipment Rack - Instructor Centered	Unit	12	900	10800
Feedback Monitor - Instructor Centered	Unit	12	400	4800
Control, Switching and Codec Equipment - Instructor Centered	Unit	12	25000	300000
Student Centered Teaching Laboratory (Phase 1 – 4 classrooms)				
Student Workstation Furniture – Student Centered	Unit	128	1050	134400
Student Workstations - Student Centered	Unit	128	2500	320000
LAN Cabling, Hub - Student Centered	Port	132	225	29700
Equipment Rack - Student Centered	Unit	4	900	3800
Document Camera - Student Centered	Unit	4	3000	12000
Feedback monitor - Student Centered	Unit	4	400	1600
SVHS VCR - Student Centered	Unit	4	500	2000
Instructor Podium and Seating - Student Centered	Unit	4	5500	22000
Room Conversion - Student Centered	Unit	4	6000	24000
Server - Student Centered	Unit	4	3500	14000
Projection Screen with Support System - Student Centered	Unit	4	1200	4800
Control, Switching and Codec Equipment - Student Centered	Unit	4	35000	140000
OS License	Unit	132	150	19800