

**Information Technology in the 21st Century:
A Framework
for Planning and Action**

**University of Wisconsin-Green Bay
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**Information Technology in the 21st Century:
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Preface

The University recognizes that information technology can greatly enhance student learning and the preservation, creation and transmission of knowledge through teaching, scholarship, research and public service. It is also evident that careful planning is essential to:

- Articulate a vision for information technology;
- Encourage innovative thinking;
- Assess the information technology needs of the user community;
- Communicate institutional goals, priorities and future directions;
- Design specific projects, plans and implementation strategies; and
- Provide a context for resource allocation and reallocation.

Advances in information technology have led to the convergence of the missions of the academic programs, academic support services, and administrative computing. Networks and the hardware and software connected to them have become essential tools to transmit information and enhance communication processes for academic, professional and administrative purposes. The major purposes for developing this plan are to enhance:

- *Student learning and teaching*, measured as improvements, enhancements and new opportunities that are made available to faculty, academic and support staff and students as a result of access to new technologies.
- *Personal productivity*, measured by the ability of individuals to achieve their personal and professional goals within the university environment.
- *Student support services*, measured by the ability of students to fulfill their educational goals smoothly and efficiently from application through graduation, aided by multiple technologies that coordinate and streamline processes.
- *Administrative productivity and quality*, measured by the cost-effective processes, efficiencies in service, and work product quality that are made possible by the application of a variety of new technologies system-wide.

The decision by the University of Wisconsin-Green Bay to initiate this planning process was done in recognition of the fact that quality information technology resources are essential ingredients for institutional success. However, information technology is not an end but a means. It is critical that information technology planning not be done piecemeal or in isolation from the other university planning initiatives. Therefore the technology plan will be complementary to and integrate with the university planning and budget process.

Technology Planning Principles

Establish Standards for Hardware and Software Applications. Given the limited financial and human resources available to the University, the technology plan must establish standards for hardware and software applications. There are several important advantages to establishing standards for information technology. The use of common tools:

- reduces the complexity of support and improves service to users;
- enables a shared knowledge base across campus, which facilitates collaboration and reduces overall training costs;
- allows for better sharing of electronic information without the added burden of converting formats; thus saving time for users;
- allows users to go from one computer to another with the confidence of knowing they will be able to use the applications;
- enables better manufacturer warranty and “swap in” replacements, thus reducing downtime, repair, and overhead costs; and
- improves the overall reliability and availability of computing applications and reduces the total cost of operations to the campus.

Use “Open Systems.” In order to position the campus for future migrations of technology, the technology plan should use “open systems” wherever practical. This principle entails a migration away from proprietary systems in which a single vendor controls all aspects of the hardware, software and communications architecture and interfaces. Through the use of standard interfaces between IT system elements, it is possible for the institution to substitute one product for another when the new product better meets the institution’s evolving needs. The use of open systems provides flexibility of product choice and access to competitive pricing.

Employ Integrated Groupware Software. Wherever practical, the University should employ integrated groupware software packages that allow users to easily move information and data among applications and between departments to save users time and reduce redundancy in data entry.

Employ a Flexible RDBMS. Whenever possible, the University should employ a flexible Relational Data Base Management System (RDBMS) that would provide users with direct control over their own data and access to relevant data in the most cost and time efficient method, without sacrificing data integrity, data security, and protection of privacy.

Assess Financial and Human Resource Impacts. The financial and human resource impacts of the technology plan must be assessed and evaluated in the context of campus budget and planning processes. Startup costs associated with a particular information technology

initiative as well as continuing costs should always be incorporated in the planning and budgeting process.

Strategic Goals and Planning Objectives

In the summer of 1997 UW-Green Bay contracted with Allied Computer Group Companies to provide advice on computing directions for the future that would enable the campus to better meet the growing technology needs of faculty, academic and support staff and students. The consultants gathered data from end users about their computing needs and desires, analyzed the technologies currently deployed, and assessed the staffing levels supporting information technology. Based on their knowledge of the technology market place and technology trends in higher education, the consultants made recommendations regarding infrastructure, architecture, applications, services, staffing and training. In the fall of 1997 the Office of Assessment and Testing Services conducted a series of focus groups and surveyed faculty by mail to obtain feedback regarding their instructional technology needs. The results, to a large extent, validated the outside consultants' findings. Written and oral reports from the consultants and the assessment coordinator were made to the Technology Council in December 1997. In January 1998, the Technology Council began to develop a technology plan that would set out a philosophy for the use of technology and long-term strategic directions.

This planning document is intended to set specific goals and objectives based on the recommendations of the consultant's report and the faculty survey. The final section is a plan of action that outlines specific implementation strategies for accomplishing the goals and objectives. Copies of the Allied Computer Group Report are available from the Library Reserve desk (Info Tech P2).

A. Infrastructure

Goal Statement

Establish and maintain an infrastructure that supports the institution's mission, is consistent with its guiding principles and promotes student learning.

Planning Objectives

- A.1. **University Infrastructure.** Provide a stable and robust campus infrastructure to ensure reliable network services.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Standards for each element of the University's infrastructure are established.
- b. All Wide Area Network (WAN) and Local Area Network (LAN) topology, protocol,

- bandwidth, switches, server hardware and cabling, necessary to run the network operating system and software applications are purchased, installed and operational.
- c. Each member of the faculty, academic and support staff has a workstation or laptop, which is capable of accessing all standard applications provided over the network.
- d. A funding mechanism is established to replace/upgrade all elements of the University infrastructure on at least a four-year cycle.

A.2. **Network Operating System.** Provide network operating systems that assure stability, manageability, security, performance, and support for a wide range of standard applications.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. The NT operating system for PCS has been installed and is operational.
- b. The MOS operating system for Macintosh workstations is maintained.
- c. Standards are established for all networked services including: (a) E-mail interchange protocol; (b) network management system; (c) Internet services and access; (d) network operating system software; (e) institutional rational data base management system; (f) remote access services; and (g) UW-Madison mainframe services.
- d. Efficient information searching and filtering tools are selected and installed.

A.3. **Client Operating System.** Provide a user friendly client operating system that assures stability, manageability, security, performance, and support for a wide range of standard applications.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. The NT client operating system for PC workstations is installed and operational.
- b. The Macintosh operating system is maintained.

A.4. **Desktop Software.** Provide standard office applications for writing, calculating, developing presentations, and managing information and projects.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Standard institutional software is selected and supported by Information Services for each desktop software application including: (a) word processing; (b) spreadsheet; (c) presentation; (d) statistical analysis; (e) project management; (f) anti-virus; (g) help desk tracking software; and (h) graphics package.
- b. Desktop software is installed and operational on all workstations and laptops.

A.5. **Groupware.** Provide applications for campus communication, meetings and sharing information for purposes of collaborative learning and research as well as efficient business transactions.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Standard institutional software is selected for: (a) e-mail; (b) calendaring/scheduling; (c) fax; (d) shared databases; (e) bulletin boards; (f) discussion databases; (g) document imaging and management; (h) forms routing/approval; and (I) work flow services.
 - b. Groupware is installed and operational on all end user workstations and laptops.
- A.6. **General Access Labs.** Maintain general access labs and other facilities that provide students with on-campus access to the institution's networked software, Campus Wide Information Systems (CWIS), and the Internet.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Students are able to freely access the institution's network from on-campus anytime between 7:00 am and 7:00 pm, Monday through Saturday.
 - b. All general access computers can function efficiently on the campus network.
 - c. Operational policies and procedures and staffing requirements for the management of the general access labs are established.
 - d. A multi-year plan, including the identification of sources of funding, for the acquisition/replacement/upgrading of computers and on-going supplies and expenses in the general access labs is completed.
 - e. Campus-wide, long-range and short-range plans are developed that focus on alternative ways to provide students with access to the campus network.
- A.7. **Special Use Computer Labs.** Maintain special use computer labs that provide students with the opportunity to use instructional technology for specialized academic purposes.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. An equipment inventory of all special use labs (e.g., ecology, residence halls, writing, business, GIS) and a description of how they are being used is completed.
 - b. A plan is developed by the appropriate academic program, and filed with Information Services, which outlines how the lab will be managed, costs for supplies and a recommended schedule for the replacement/upgrading of computer hardware/software.
 - c. Criteria and a periodic review process is established to determine if special use labs should be established or maintained.
- A.8. **Classroom Technologies.** Equip classrooms, lecture halls and other learning spaces with appropriate technologies to allow all faculty reliable access to the instructional technology resources and applications they need to complement instruction and enhance the overall teaching-learning process.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Current and projected (3-5 years out) classroom technology needs, including permanent and transportable equipment, are determined by each academic unit.
- b. All classrooms are appropriately equipped with reliable and dependable equipment as appropriate for the instructional needs of the faculty.
- c. An appropriate number of distributed learning classrooms have been designed and equipped.
- d. A multi-year plan, including sources of funding, for the acquisition/replacement/upgrading of classroom instructional technologies is completed.

A.9. **Purchase and Maintenance of Infrastructure Components.** Develop a fiscally responsible process to purchase and maintain the hardware that comprises the institution's information technology infrastructure.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. A process is developed to coordinate, institution-wide, the purchasing of all computer hardware and networked software.
- b. Base budget and other sources of funding are identified to ensure that equipment is purchased and replaced when needed.
- c. An institutional policy and plan for the identification and replacement/upgrading of obsolete instructional technology resources is developed and implemented.
- d. Functional workstations with network connections are continuously available to all faculty, academic staff, support staff and students.

A.10. **Supplies and Expenses.** Develop a process of funding the ongoing costs associated with the institution's use of information technology.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Each budget unit has determined the ongoing costs associated with the use of information technology and has base budget funding to cover those expenses.
- b. A policy and implementation procedures have been developed regarding what ongoing information technology costs will be paid directly by students.
- c. The institution has determined what ongoing costs (if any) will be funded by a central source maintained by Information Services.

B. Curriculum and Instruction

Goal Statement

Provide faculty, academic staff, support staff and students with the instructional technology resources necessary for advancing the institution's mission of preparing students to evaluate

critically and to address the complex issues of their professions and human experience and supporting the concept of students as life-long learners.

Planning Objectives

- B.1. **Curricula Support.** Provide faculty, academic staff, support staff and students with an appropriate array of instructional technology resources to support and facilitate the University's curricula, anticipated student learning outcomes and assessment of learning.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Each academic unit continues to implement and update their 5-year Program Development Plans. [Instructional technology resources needed for delivering course materials that cannot be presented or could be more appropriately represented with technology should be specifically identified.]
- b. Faculty, academic staff, and support staff are provided with appropriate development opportunities to keep them abreast of how instructional technology is being used to enhance the teaching-learning process and to implement it in their classes.
- c. Instructional technology resources are used by every faculty member to some extent to facilitate active, collaborative student learning.
- d. All faculty have access to the technology resources they need when they need them.

- B.2. **Assessment of Student Learning.** Develop procedures for assessing the impact of technology on student learning.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Each academic program has established and implemented an on-going process of planning and assessment to promote the efficient and effective use of instructional technology in the delivery of its curriculum.

C. *Access to Resources*

Goal Statement

Provide faculty, academic staff, support staff and students with access to the information technology resources needed to support student learning, academic programs, student support services, and community outreach/continuing education, at any time from any place.

Planning Objectives

- C.1. **Network Access.** Provide all faculty, academic staff, support staff and students with on and off campus access to the institution's network.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. All end users have a fully functional computer and can use it efficiently to access the information resources available through the campus network.
 - b. Students living in on-campus housing have direct access (versus slip connections) to the campus network.
 - c. All classrooms and other learning spaces have an active data and video port that will allow a faculty member to access the campus network and the World Wide Web.
 - d. Faculty, academic staff, support staff and students can access the campus network 24 hours a day, seven days a week from any location.
- C.2. **Authentication/Identification System.** Establish and maintain an authentication/identification system for the campus network.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. All end users have secure access to the campus network and appropriate resources, as determined by their category, at any time from any place.
 - b. The authentication/identification system interfaces with all networked software.
- C.3. **Access for Physically Challenged.** Provide the hardware and software necessary for physically challenged faculty, academic staff, support staff and students to have full access to the institution's information technology resources.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. All faculty, academic staff and support staff who are physically challenged have a workstation that is appropriately equipped to allow access to the campus network.
- b. Appropriately equipped workstations are available to physically challenged students to access the campus network from all areas used by the general student population.

D. Training and Technical Support

Goal Statement

Provide faculty, academic staff, support staff and students with the training and technical support needed to ensure that they are knowledgeable in the use of information technologies to enhance student learning, research productivity, professional development and job performance.

Planning Objectives

- D.1. **Recruit and Retain Computing Staff.** Recruit and retain qualified computing technical

support staff.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Current and future computing staffing needs (e.g., through an annual assessment process) are determined.
- b. All computing technical support positions are filled by qualified and appropriately trained individuals.

D.2. **Train Computing Staff.** Train computing staff to support the University's information technology systems.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. A multi-year plan for the on-going training of computing staff is completed and resources to support the implementation of the plan are identified.
- b. The University's information technology systems are well maintained and operate reliably.

D.3. **Faculty, Academic Staff and Support Staff Training.** Provide adequate training and support services to enable faculty, academic staff and support staff to use information technology effectively.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. A process for conducting annual surveys of faculty, academic staff, support staff and students on technology use and technology training needs is implemented.
- b. All Program Development Plans include professional development activities for faculty, academic staff and support staff.
- c. The Learning Technology Center has developed annual and multi-year institutional plans for the delivery of training and other professional development activities and is appropriately staffed and supported through base-budget funding.
- d. On-going training is being provided for all faculty, academic staff and support staff in the areas of word processing, e-mail, the World Wide Web, SOAP, STAR, automated library search systems, and other administrative systems.
- e. On-going training is provided to faculty, academic staff and support staff in the development and delivery of courses both synchronously and asynchronously.
- f. Faculty, academic staff, support staff and students use the institution's information technology resources appropriately and effectively.

D.4. **Student Technology Literacy.** All students can use information technology resources,

applications and tools effectively.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. A set of institutional guidelines is established describing the information technology skills that should be developed by all students.
- b. A plan is prepared to provide all students with the opportunity to become proficient in the areas of word processing, e-mail, the World Wide Web, SOAP, STAR and automated library search systems.
- c. UW-Green Bay graduates are proficient in the use of word processing, spread sheet, e-mail and network communication programs.

D.5. **Help Desk.** Establish and maintain a Help Desk that can be readily accessed by faculty, academic and support staff and students.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. The Help Desk is established and its scope of services is defined.
- b. The Help Desk is staffed at least 16 hours per week day, and eight hours on Saturday and Sunday and provides timely problem resolution.

E. Administrative Information Systems

Goal Statement

Maintain an appropriate array of software applications and technology staff to support the administrative functions of the University.

Planning Objectives

E.1. **Data Base Management System.** Provide an institutional relational database management system (RDBMS) that supports the University's administrative systems and allows users to manage and share information within and beyond campus boundaries.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Relational database management system training for academic and support staff has been completed.
- b. Oracle software has been installed and the current Student Information System (SIS) database has been converted to Oracle RDBMS.
- c. A web interface with the relational database management system has been implemented for end users.

- E.2. **Transfer Information System (TIS).** Continue to work with UW System Administration to implement Phase 4 of the TIS project, which will allow students to obtain an evaluation of how courses will apply towards the requirements of a specific degree program at any UW System institution.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Students are able to access the information in the TIS at all UW System campuses.

- E.3. **SHRS (Shared Human Resource System).** Implement the Department of Employee Relations classified employee information system SHRS.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Computing staff install SHRS software on Windows NT client for staff in Human Resources Department.
- b. Human Resources staff complete training and begin using SHRS.

- E.4. **Payroll System.** Upgrade to new UW System payroll management system.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Payroll staff input benefits data in the Web based format.
- b. Kronos software is installed on Windows NT client for Human Resources staff.
- c. Payroll staff complete training and begin using Kronos.
- d. Employees are trained in using the new reporting system.

- E.5. **General Ledger and Purchasing System.** Implement the Peoplesoft Financials and Purchasing applications.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Software on Windows NT client for staff in Business and Finance Office is installed.
- b. Business and Finance staff complete training and begin using Peoplesoft applications to enter general ledger and purchasing data.

- E.6. **Library Management System.** Migrate from the KeyNOTIS library management system to a client server system selected through the Library Automation Task Force process.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. Library staff installs and tests hardware and software.
- b. Library staff complete training and begin using.

c. Library staff train end users.

E.7. **Scheduling Software.** Implement a centralized system (or systems) of scheduling rooms, events and equipment to improve efficiency and accommodate special needs.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. One or more software packages are selected, installed and tested to allow the centralized scheduling of meeting rooms, classrooms, institutional events, and equipment.
- b. Academic and support staff complete training and begin using the software.

E.8. **Electronic Storage and Retrieval of Documents.** Establish a mechanism for determining when it would be appropriate to store University documents electronically.

Success Indicators - *UW-Green Bay will meet this objective when:*

- a. A general institutional policy is established regarding the electronic storage of University documents.
- b. A document imaging and filing system is established and maintained.

IT 2000 Action Plan

Overview of the Plan

The IT 2000 Action Plan evolved from a technical review by an external computing consultant and was developed by the Information Services Division in consultation with the Technology Council. The purpose of the plan is to identify objectives and strategies which will enable the campus to make effective use of technology to enhance student learning, support the preservation, creation and transmission of knowledge, and support campus administrative functions.

There are four major thrusts of the Action Plan IT 2000:

- Replacement and reconfiguration of the campus network system
- Upgrade of the database management system for student information
- Automation of certain business functions
- Replacement of the library management system

Campus Network System. The replacement and reconfiguration of the campus network (*Objectives 1-6*) is the foundation for the campus technology plan and supports all of the other information technology objectives. The reconfigured network, which is based on the Allied Computing Consultants recommendation, is designed to provide an evolving environment which will allow the campus to meet growing user demands and to provide for efficient and effective operations. This part of the IT 2000 Action Plan focuses on upgrading the network hardware to

improve speed, bandwidth and reliability; changing the network operating system to Microsoft NT running on Wintel servers to improve functionality; and changing the PC desktop environment to the NT operating system with standard office and communications applications to improve functionality and productivity. It is critical that the campus migrate from Windows 3.11. Not only has it become difficult to find software applications that will run on Windows 3.11, but By January 1999 it will be impossible to purchase hardware that will support Windows 3.11. Migration to an NT client necessitates a change in the network operating system.

Institutional Database. Upgrading the database management system for student information (*Objective 7*) is critical to managing the university's key business functions of recruiting, admitting and registering students, as well as awarding financial aid and managing academic records. The current relational database system is unsupported and must be upgraded. Migration to the Oracle platform will improve reliability and functionality for staff and will enhance student access through the development of a web interface for SOAP, STAR, and SIRS.

Automating Business Functions. The automation of certain business functions is for the most part being driven by UW System and State of Wisconsin initiatives. *Objectives 8-10* reflect UW System upgrades for general ledger and purchasing applications, the transfer information system (TIS) and the payroll management system. *Objective 11* is a Department of Employee Relations project for recruiting and hiring classified employees. *Objective 12* reflects a campus initiative to automate scheduling to improve management of classroom space and accommodate special instructional needs, such as technology access. Automation of these business functions is dependent upon Objectives 1 through 7 being completed in a timely fashion. The general ledger, payroll management and classified hiring initiatives have mandatory switch over dates in 1999.

Library Management System. Replacement of the library management system (*Objective 13*) is a UW System initiative to select a new library management system for all UW libraries through an RFP process. The next system is expected to be a multi-tier client server system which is designed for an open network environment. The upgrade of the campus network hardware and software will be critical to the new library system. A system-wide queue has not been established yet, but Green Bay anticipates implementation in mid to late 2000.

Planning Objectives & Implementation Strategies

IT 2000 Planning Objective 1

- ❖ *Provide a stable and robust campus infrastructure to ensure reliable network services.*

Explanation. Campus infrastructure refers to the WAN (wide area network) and LAN (local area network) topology, protocol, bandwidth, switches, server hardware and workstation hardware which provides the foundation for the information technology environment. If the infrastructure is not adequate users will experience functional problems at their desktop, such as slow response time, machine locking, application errors, and even data loss. All networking services rely on a stable and robust infrastructure to function well. Ten years ago the campus undertook a major wiring

project installing state-of-the-art fiber optic cable between the campus buildings and category three data cable within the buildings. Since that time additional data cable has been added for computer labs and offices to meet the growing computing needs. Over the next five years the infrastructure must be upgraded to accommodate the ever increasing network traffic and the anticipated demand for multi-media applications.

Strategy 1.1. Migrate to a switched fast Ethernet/ATM backbone technology.

Strategy 1.2. Upgrade category three data cable to category five or better.

Strategy 1.3. Upgrade network management system.

Strategy 1.4. Replace all workstations at time of NT deployment and schedule a 3-4 year replacement cycle.

IT 2000 Planning Objective 2

- ❖ *Provide network operating systems (NOS) that assure stability, manageability, security, performance, and support for a wide range of standard applications.*

Explanation. The current network operating system (NOS), DEC Open VMS Pathworks, is no longer able to provide the flexibility needed to keep pace with the increasing demands for network services. New network and desktop applications that are desirable for the campus community cannot be deployed on the current NOS. In order to maintain adequate network services it is necessary to change the NOS. Essentially there are two choices: Microsoft NT and Novell NetWare. NT is the better choice for UW-Green Bay for several reasons: it is the fastest growing server operating system and given the strength of Microsoft, will likely become the de facto standard in the next three years; it is superior to NetWare in running applications; and it has management tools that will significantly decrease server administration time. Migration to NT operating system will improve performance for end users and reduce support costs for end users. Macintosh OS will continue to be the network operating system for Macintosh clients through the year 2000.

Strategy 2.1. Develop and test NT prototype network.

Strategy 2.2. Upgrade network servers and migrate to NT operating system for the network and workstations.

Strategy 2.3. Continue to support Macintosh users.

IT 2000 Planning Objective 3

- ❖ *Provide a user friendly client operating system that assures stability, manageability, security, performance, and support for a wide range of standard applications.*

Explanation. The client operating systems that are currently in use are Windows 3.11, DOS and Macintosh OS. While the Macintosh client does meet the above objective the other two client operating systems do not, especially the last criteria. Office applications and educational software are no longer being written for DOS or Windows 3.11.

Therefore, as newer versions of our current applications or new applications are released it will not be possible to install them on the network or the client. Windows 95 is the most common user interface on home computers. Windows NT for the client offers the same user interface as Windows 95, but provides additional features for a campus environment that make it the best choice. Some of the key features are: multi-tasking capabilities for all applications; greater applications reliability; file system security; multiple CPU support; single log-in validation for network resources; fully "replaceable" PCS; "no touch" installation of application and operating system updates.

Strategy 3.1. Migrate to NT client operating system for the PC workstations.

Strategy 3.2. Continue support for Macintosh workstations.

IT 2000 Planning Objective 4

- ❖ *Provide standard office applications for writing, calculating, developing presentations, and managing information and projects.*

Explanation. Office applications are essential to the work of the University. Whether one is preparing to teach, working on a class assignment, preparing a budget report, writing personnel evaluations, or tracking registration for a conference, desktop software has become an integral part of the daily work of faculty, staff and students. While the current array of office applications is adequate in the short term, there is much to gain by migrating to an integrated package of office tools that is ubiquitous in the business and home environment. Microsoft Office has over 80% of the business and consumer market share. Students are likely to be familiar with these products upon entering the University and are very likely to encounter these products when entering the work force. Thus many students will be able to use these applications effectively, freeing them to expend their intellectual energy on learning content and process rather than learning mechanical skills. Many faculty and staff also have Microsoft Office on their home computers and will be able to transfer files between their home computer and office computer more easily. In addition they should find a gain in mechanical skill and efficiency when the applications between home and office are consistent.

Strategy 4.1. Deploy Microsoft Office (Word, Excel, PowerPoint, Access, and Project).

Strategy 4.2. Provide training and support to migrate end users to the new software.

Strategy 4.3. Provide assistance to end users in converting their files to new applications.

Strategy 4.4. Establish central storage files for end user data and teach users how to manage files.

IT 2000 Planning Objective 5

- ❖ *Provide applications for campus communication, meetings and sharing information for purposes of collaborative learning and research, as well as efficient business transactions.*

Explanation. Transmitting information electronically has become commonplace. Through the use of distribution lists, FTP (file transfer protocol), document attachments, and list serves, faculty, staff and students are sharing information, discussing ideas and transacting business. Our current E-mail and calendaring applications, however, do not easily support collaboration in learning and research. In order to advance to the next level "Groupware" products should be deployed. There are essentially three major players in the Groupware products market: IBM Lotus Notes; Microsoft Exchange; and Novell GroupWise. The first two comprise 40% and 26% of the market, respectively, and are the two contenders for Groupware deployment.

Strategy 5.1. Evaluate LOTUS Notes and Microsoft Exchange and select the package which best meets user needs. Time line: 1998

Strategy 5.2. Deploy groupware, web proxy server, firewall and web search engine.

IT 2000 Planning Objective 6

- ❖ *Provide adequate training and support services to enable faculty, academic staff, support staff and students to use information technology effectively.*

Strategy 6.1. Train technical staff.

Strategy 6.2. Develop a variety of learning options for faculty, academic and support staff and students including: multi-media training disks, user friendly manuals, workshops, and on-site training where appropriate.

Strategy 6.3. Deploy end-user courseware over the network and on CD's to be checked out at the Library.

IT 2000 Planning Objective 7

- ❖ *Provide an institutional relational database management system (RDBMS) that supports the University's administrative systems and allows users to manage and share information within and beyond campus boundaries.*

Explanation. The University's institutional relational database management system (RDBMS) is the repository for all critical and sharable institutional data, such as registration data, admissions data and financial aid data. The current DEC relational database system does not have the flexibility to allow users to generate reports and import/export data across functions. Also there is no vendor assistance when problems arise because we no longer have a support contract. There are several reasons why Oracle is the right platform: it is becoming the defacto standard of the database world and the defacto standard for the UW System; there are migration tools available; it provides Web interface tools; and UWSA has secured a system-wide Oracle license.

- Strategy 7.1. Install Oracle software and provide training for Management Information Systems (MIS) staff.
- Strategy 7.2. Convert current student information system database to Oracle RDBMS.
- Strategy 7.3. Create a web interface for SOAP, STAR and SIRS to access for students.

IT 2000 Planning Objective 8

- ❖ *As part of UW System's initiative to address the Year 2000 problem and move toward best business practice model, UW-Green Bay will implement the Peoplesoft Financials application.*

Explanation. UW-Green Bay has always used the UW Processing Center (UWPC) for general ledger computing. The UWPC is migrating its computing operations from an in-house legacy system to Peoplesoft Financials. All campuses will be required to either use Peoplesoft or develop an interface from their own system to the UWPC by mid 1999. UW-Green Bay could do one of the following: (a) migrate to Peoplesoft along with UWPC; (b) develop an in-house financial system and create an interface to Peoplesoft; or (c) purchase another financial package and develop an interface to Peoplesoft. The Institutional Business Representative and the Chief Information Officer are in agreement that "a" is the best option. Having the same software will ensure higher integrity of data transfer, will save money on licensing and possibly server hardware, and will provide a cohort of experts. The other two options would require additional computing staff to write or adapt programs and would lead us to a non-standard application. The overarching goal of the Technology Plan is to move toward standardized systems that can achieve cost savings, provide better technical support and better integration of data.

- Strategy 8.1. Business and Finance staff and CIT staff participate in UW System planning meetings to determine IT requirements and develop an installation plan
- Strategy 8.2. CIT staff install software and hardware.
- Strategy 8.3. Business and Finance staff complete training and begin using new applications.

IT 2000 Planning Objective 9

- ❖ *Continue to work with UW System Administration to implement Phase 4 of the transfer information system (TIS) project, which will allow students to obtain an evaluation of how courses will apply towards the requirements of a specific degree program at any UW System institution.*

- Strategy 9.1. Respond to UWSA requests in a timely fashion.

IT 2000 Planning Objective 10

- ❖ *Upgrade to the new UW System payroll management system.*

Explanation. The UW Processing Center (UWPC) is changing its payroll and benefits management system to a web environment and has selected the Kronos Time Keeper software for the campuses to record employee work time, use of vacation, sick leave, etc, and to record benefits. By July 1999 the campuses must submit the employee's data to UWPC using this software application.

Strategy 10.1. Payroll staff begin inputting benefits data in the Web based format.

Strategy 10.2. CIT staff install Kronos software on Windows NT client for staff in Human Resources Department.

Strategy 10.3. Payroll staff complete training and begin using Kronos. Payroll Office trains employees in using the new reporting system.

IT 2000 Planning Objective 11

- ❖ *Implement the Department of Employee Relations classified employee information system Shared Human Resource System (SHRS)*

Explanation. This is a Department of Employee Relations project which is intended to improve the speed with which classified positions can be filled. The Office of Human Resources will need to access and use this information system in order to hire classified staff. The information system will be available in 1998 and required for use by January 1999.

Strategy 11.1. CIT staff install SHRS software on Windows NT client for staff in Human Resources Department.

Strategy 11.2. Human Resources staff complete training and begin using SHRS.

IT 2000 Planning Objective 12

- ❖ *Implement a centralized system (or systems) of rooms, events and equipment to improve efficiency of scheduling.*

Explanation. This software application will allow the Registrar to automate the process of classroom assignment. The software will enable the Registrar to establish criteria for classroom assignment which takes into account special teaching requirements, such as the

need for certain technology, to better match the classroom characteristics with the needs of the faculty. The software selected can use Oracle as a database which will fit well with Objective 7.

Strategy 12.1. CIT staff installs and tests software.

Strategy 12.2. Registrar's academic staff and support staff complete training and begin using the software.

IT 2000 Planning Objective 13

- ❖ *Migrate from the KeyNOTIS library management system to a client server system selected through the Library Automation Task Force process.*

Explanation. In December, 1997 The UW System issued an RFP for a new System-wide library management system. The Library Automation Task Force will begin evaluating the proposals in April, 1998 and expects to issue a recommendation for procurement in early summer of 1998. The new library system will be implemented on all campuses, and may take two to three years to complete the migration. The UW-Green Bay campus hopes to be in the middle of the queue so that the library system migration does not occur at the same time as the campus network migration. The goal for the new library system is to acquire a multi-tier client-server system with a Windows and/or Web interface.

Strategy 13.1. Library staff develop a migration plan and prepare database for conversion.

Strategy 13.2. System vendor installs hardware and software; library staff tests system.

Strategy 13.3. Library staff complete training and begin using.

Strategy 13.4. Library staff train end users.

Time Tables

Each of the major thrusts of the IT Action Plan has its own time table. The tables below identify each major activity of the plan followed by a reference number which links to the Objectives & Strategies section of the plan, e.g. 1.1 refers to Objective 1, Strategy 1. The Roman numeral in the Phase column indicates when the activity will take place, and the approximate time lines for the phases are listed at the bottom of each table. The phase dates are tied to the financial proposal and will be affected by the availability of financial resources.

Campus Network System

Activity (Objective/Strategy)	Phase
Upgrade to switched backbone (1.1)	I
Train technical staff (6.1)	I
Evaluate groupware (5.1)	I-II

Install Kronos for Human Resources (10.2)	III
End user training and implementation of Kronos (10.3)	III
Install and test classroom scheduling software (12.1)	III
Staff training and implementation (12.2)	IV

Approximate time line for Phases: I = 5/98 - 8/98; II = 9/98 - 2/99;
 III = 3/99 - 7/99; IV = 8/99 - 1/00

Replacement of Library Management System

Activity (Objective/Strategy)	Phase
Develop a migration plan (13.1)	I
Prepare database for conversion (13.1)	II
Install/test hardware and software (13.2)	III
Staff training and implementation (13.3)	IV
Train end users (13.4)	IV

Approximate time line for Phases: I = 8/98 - 12/98; II = 1/99 - 12/99
 III = 1/00 - 6/00; IV = 7/00 - 12/00

(Revised July 27, 1998)