



IT Management Flexibility Report
The University of North Carolina at Wilmington

Submitted to:
UNC Office of the President
June 2002

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*The University of North Carolina at Wilmington
Information Technology Management Flexibility*

Section I:
The Context of Our Management Philosophy

The University of North Carolina at Wilmington, like many institutions of higher education throughout the nation, is attempting to define a vital balance between access to an unlimited quantity of information and ideas while maintaining coherence and quality in its academic programs. Maintaining the institution's commitment to excellence in teaching, research and scholarship essential to a comprehensive university of the new millennium will require persistent and thoughtful attention to the power of information technologies.

In an effort to manage necessary change strategically and to align the full range of opportunities afforded by information technologies, the University of North Carolina at Wilmington undertook a comprehensive study of integrated planning, budgeting, goal development, structures and policies related to information technologies to determine how each aligns with the planning processes and goals of the University. The study, released in 1998 and revised in 2001, linked UNCW planning with the strategic direction of the Board of Governors and UNC IT strategies. The Chancellor established a committee, *The Chancellor's Steering Committee on Information Technologies*, comprised of internal and external experts, to recommend a planning and management model that would unify the disparate elements of IT planning and operations. The charge to the committee was as follows:

- 1) assess the University's ability to meet and extend the capacities of students to utilize IT resources,
- 2) establish quality technical support systems designed to extend access to university programs via web-based courses and related services,
- 3) recommend standards to ensure economies in operations, allow for interoperability, ensure privacy and security of information and allow for related efficiencies,
- 4) define organizational structures, processes and policies necessary to manage, coordinate and align technology resources and services, and
- 5) identify incentives to stimulate and focus the use of information technologies in all aspects of campus operations. The University also considered sanctions to discourage wasteful, illegal and unethical practices at odds with responsible use policies or law.

The eight-month study conducted by the CSIT resulted in a series of major recommendations that included a call for the complete overhaul of structures, policies and practices and the creation of a new division, the Information Technology Systems Division.

Organizing Principles of the UNCW, IT Strategic Plan

In an effort to ensure coherence in the daily operations of the University's IT planning and support units, it was deemed necessary to frame activities and actions with a set of organizing principles.

Eight organizing principles emerged to serve as the framework for UNCW's strategic plan. These principles are as follows:

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- Technology literacy in the new millennium of globally networked information and communication is a prerequisite for an informed and productive life in a democratic “learning society.”
- A well managed and supported institutional intranet is a necessary component of any institutional service support system designed by a public educational institution to meet the twin needs of campus-based learning and life long learning.
- “Information Technology makes possible an unprecedented decentralization of technical power to individual option while at the same time it requires a coordinated infrastructure to permit the effective individual exercise of that power.” [Batin, Patricia garden/dkescop/kmo.shtml.]
- Change management is necessary and critical. These aspects of change management that require standardization are institutionalized by requiring formal processes for selecting, developing, customizing, and implementing mission-critical technology resources.
- All students and employees should have convenient access to a personal computer with a basic collection of productivity software that is connected to the institution’s networks at any time and from almost any place they are working.
- An institution should contain overall IT support costs and improve the quality of its IT support services by centrally supporting selected configurations of personal computer hardware and productivity software to be replaced/updated on a technological life cycle basis.
- Funding for an institution’s central IT support should be on a recurring life-cycle basis to the extent possible and should not overly rely on one-time sources or depreciation schedules not attuned to the rapid pace of technological change.
- An institution’s total IT investment should serve institutionally strategic interests while being administered with enough flexibility and participatory processes to encourage and support innovation and entrepreneurship in the departments.

Taken together these principles have shaped an integrated, strategic plan at UNCW which operationalizes the vision of the Board of Governors to “use the power of information technology guided by IT strategies and more effective educational, administrative and business practices to enable the University to respond to the competitive global environment of the 21st century.” [UNC, BOG Long Range Plan 2002-2007].

Core Concepts of the UNCW IT Management Plan: “Managing Necessary Change in the Knowledge Ecology”

In academic terms, the revolution in human communications and resource sharing is enabling the evolution of a learning society that values new, interconnected patterns to solve problems requiring collaboration across the traditional boundaries of knowledge. This new environment constitutes a “knowledge ecology” in which people, information and processes are inter-connected across the knowledge enterprise in a heretofore impossible manner through a hyper linked network of information and communication tools [George Por, “Designing Knowledge Ecosystems for Communities of Practice,” October 15, 1997]. *Creating an organizational structure and operational policies and processes that combine the concept of a knowledge ecology with the power of Internet technologies into a change management strategy provides UNCW opportunities to transform services and support functions across*

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the institutional spectrums. The concept of the knowledge ecology is central to understanding UNCW's approach to managing IT resources. An environment of rapid and pervasive change requires a different type of organizational structure and processes to manage the diverse activities related to change. Change management requires that an organization's structure be flexible, relationships adaptable and that work is focused more on process management and alignment than on task management. ***The knowledge ecology combines a social network of individuals with a physical network of information management systems and tools. This concept and the Blended Mode University concept, shape UNCW's IT Strategy.***

In 1999, UNCW became the first UNC campus to adopt the "Blended Mode University" concept, to compliment and further define the "knowledge ecology". The Blended Mode model ensures that students have equal access in an online, virtual environment to the support services of the University such as Career Counseling, Registration, Admissions, payment, library resources, as well as other services accessible in the traditional environment. From its first online course, UNCW has been committed to the creation of courses that allows all requirements to be met online and which leads to either a constellation of related courses or complete degree programs. Because UNCW was among the first universities in the nation to adopt these approaches to IT management, the university entered the new millennium with a strategic plan that established a systemic approach to the campus as the focus of change (*Managing Necessary Change in the Knowledge Ecology*, Tyndall 1999).

In 2000, the UNCW Quality Planning Council, the Chancellor's Cabinet and the Board of Trustees adopted the IT Strategic Principles outlined earlier and seventy-two specific objectives intended to support full implementation of the IT Strategic Plan. These were revised in 2001.

Unique Program Features of IT Management

A number of unique program features emerged as UNCW has implemented its plan. The nine program features listed represent a rich sample of efforts that have given the overall plan substance and life.

- UNCW was among the first UNC campuses to establish a Computer Replacement Life Cycle Plan for the campus in 1998. This required establishing a replacement formula and replacement cycle and the adoption of a baseline campus standard for desktop, laptop and handheld computing devices.
- As a corollary to the PC Life Cycle Replacement Plan, the university also established one of the UNC system's first Comprehensive ***Classroom Technology Assistance Plans***. The plan defined baseline technology for classrooms across the UNCW campus designed to support teaching and learning with technology. One hundred classrooms were identified and a \$1.5 million dollar assistance plan was set in motion to equip, connect and install the equipment.
- UNCW was among the first campuses to establish a guaranteed universal access standard for students and faculty that ensured a pervasive fiber, wireless and cellular campus network coupled with web-mail and OWA access from off campus.
- In 2001, UNCW began eliminating fourteen e-mail clients and implemented Outlook to improve communications and efficiencies. In 2002, UNCW reorganized its computer lab management processes resulting in a standard classification scheme, shared lab management system and a campus committed to prohibiting additional fixed labs and moving towards a mobile computing environment.
- Another area of note is UNCW's enterprise applications management process, which tracks applications. New applications are tracked through a campus approval process to ensure compatibility, cost efficiencies and a system for managing license and maintenance costs.

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- UNCW was the first and only institution to review all campus IT committees and reorganize and align committees to reflect the realities of functioning in the fluid environment of IT. Forty-nine discreet committees were collapsed into eight campus committees, with a steering committee to ensure coordination among these committees.
- The University also established a review process in the new division to assess the creation of positions and hiring of all on-faculty positions to prevent duplication and fragmentation of roles.
- In 2001, UNCW began the process of reviewing all IT policies and distinguishing between policies and administrative procedures or provisions. Hundreds of pages of what had been called “policies” were reorganized into two categories, *The Responsible Use of Electronic Resources* and *The Responsible Management of Information Technology Resources*.
- In 2001, UNCW expanded its commitment to support for faculty and students by authorizing the construction of a new Technology Assistance Center, Center for Technology Innovation and the TLT Development and Production Lab for faculty and a Technology Assistance Center for students.

In aggregate these efforts represent planning and implementation on many fronts to bring coherence and order to the management of IT resources. *These actions, and others cited elsewhere in this document, demonstrate the scope and depth of efforts at the University of North Carolina at Wilmington to use and manage its information technology resources. These efforts will ensure that citizens of North Carolina can experience the vision of the founders of the university system, to provide access to the rich resources and opportunities our institutions represent.*

Section II:

Linking the IT Plan of UNCW to the Strategic Directions of the Board of Governors and the UNC IT Strategy

The strategic direction of the Board of Governors and the UNC IT Strategy has been consciously considered in every phase of development and implementation of the revised UNCW strategic plan. We have amended our plan as appropriate as new elements of the UNC IT Strategy have been revealed.

Without the partnership with UNC and the leadership of the Board of Governors, the comprehensive network upgrades to our infrastructure would not have been possible. As a direct result of these funds and those provided by the Bond Referendum, UNCW will be able to upgrade its entire fiber network and ensure that all new facilities are connected at the standards established by the Net Study Committee. UNCW was the first full-fiber campus in North Carolina in 1992; thus the recent upgrades have been necessary and timely

UNCW is a pilot site for the Perspective Student Portal and e-procurement and has a collaborative e-learning program in Nursing with UNCC. *Because of our strong, positive relationship with the agencies in UNC-OP, UNCW has fully embraced a collaborative approach to the OP e-learning goals that call for a collaborative approach to course development within an umbrella degree.* Today, UNCW has approximately 2000 students enrolled in online courses.

UNCW has made major progress toward implementing the “baseline” web services identified in the Web Student Services Project. The university is on or ahead of schedule in the implementation of web for services in admissions, transfer services, orientation, financial aid, residents’ life, advising, registration, records, student life, career services, alumni services,

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student accounts and campus bookstore services. As a full member of the Alliance, the University has committed to full implementation of web services and was one of the first UNC campuses to go live with Pipeline.

UNCW is a full participant in the TLT Collaborative, designed to “ensure faculty and students effectively use the world’s leading edge tools and resources to enhance the educational process, from course planning and content development through pedagogical process and assessment credit.” *The assessment pilot for TLT is hosted at UNCW. UNCW faculty and staff recently produced a report in response to a request by the Vice Chancellor for Academic Affairs and the Vice Chancellor for Information Technology Systems, which makes recommendations for significant reorganization of UNCW’s teaching and learning with technology support efforts. In response to the study a new Integrated IT Resource Inventory has been placed online, a new TLT Development and Production Center for faculty has been designed and a Technology Assistance Center for students is being built.* The Center for Teaching Excellence and the Technology College are also being reorganized in response to the study recommendations.

UNCW has been a leader in the implementation of new and more efficient administrative systems. As a member of the Alliance, UNCW endorsed the Statement of Strategic Intent Supporting Migration to Banner/Oracle and has secured support from the UNCW Chancellor’s Cabinet and the Chancellor for a four-year migration plan funded as an “off the top” priority of the University. In light of current funding circumstances, this is a major commitment to ensure that our administrative systems meet the needs of current and future users.

Our plans are consistent with the UNC-OP, IT Strategy “to ensure that all UNC campuses have the technologies to effectively and efficiently manage routine business and student functions, from registering for courses to making a donation.”

In summary, UNCW is:

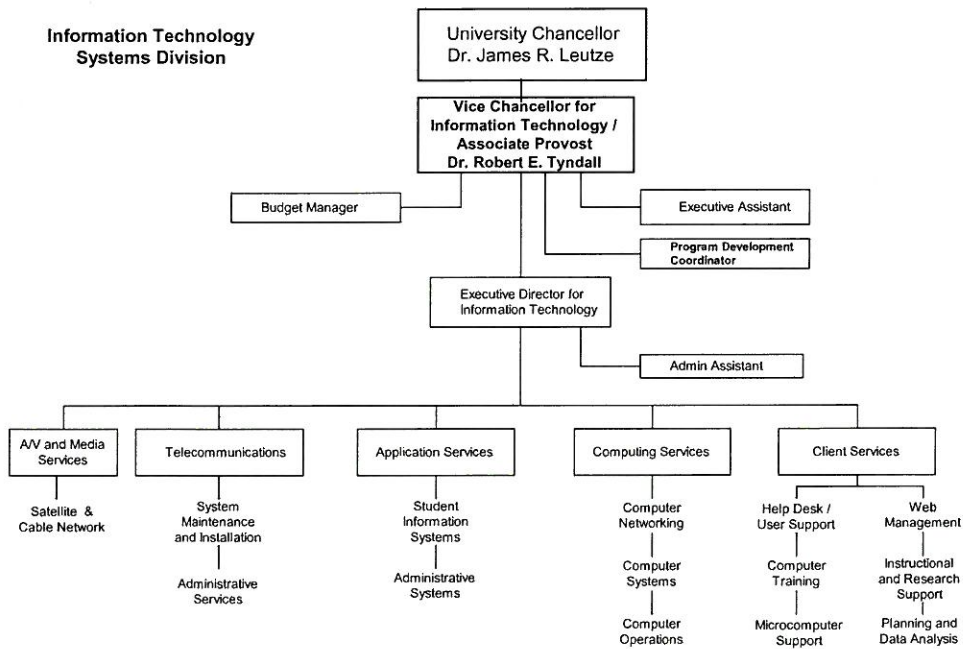
- 1) taking aggressive action to improve access to information technologies,
- 2) guaranteeing support in the continuous development of online literacy and
- 3) providing campus-wide support to both faculty and students for online distributed learning,
- 4) providing integrated access to knowledge resources in support of teaching, research and service,
- 5) standardizing and authorizing core IT planning and operation processes,
- 6) developing and implementing policies and procedures to ensure central support of critical university networks and core computing systems and is providing distributed support for desktop, lab and mobile computing environments,
- 7) ensuring universal access to IT resources, and
- 8) realizing economies in operations and leveraged purchasing processes.

Section III

Organization of IT at UNCW

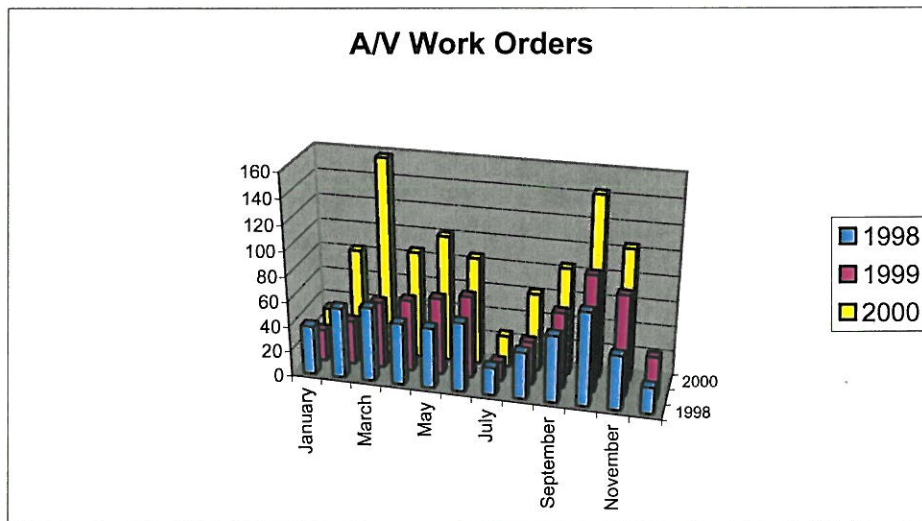
The central IT Management unit at UNCW is the Information Technology Systems Division, which was established in 1999. The division works in partnership with all divisions of the University but has forged a particularly strong and unique relationship with the Academic Affairs Division to ensure that priority is given to the institution’s core mission. The ITS division is organized into five departments and the Office of Web Management. An organization chart and brief unit description follows:

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Department of AV/Media Services

As part of the overall reorganization of technology systems and services by the Information Technology Systems Division at UNCW, the Department of Audiovisual/Media Services was created to facilitate access to technical and multimedia resources. This unit is a service-focused entity created to extend support to the University in high demand and developing areas. Through this office, a centralized approach to audiovisual and hypermedia services is being taken in an effort to create economies in resource management and services. To facilitate the work of this new unit, four new positions were added through continuing funding. Audiovisual work orders indicate a growing demand from faculty and staff for these technology services. The chart below illustrates the growth of this need.



The Department of AV/Media Services, through the campus Committee on AV/Media Services, attempts to ensure that the allocation of resources meets the needs of users, aligns with University goals and maintains standards in the most effective manner possible.

Section III (continued)

In the fall of 2000, the Department announced the first Technology for Instruction Classroom Assistance Plan to create a technology-rich learning environment. Through the Committee on AV/Media Services, baseline classroom configurations were developed and are being implemented. The Department of AV/Media Services orders, tests, installs and maintains equipment purchased through this plan.

AV/Media Services Management Process

In support of the mission and goals of the University, the Department of A/V Media Services developed and maintains a framework of goals and objectives that are intended to guide the department in providing the necessary and required support services. The Director of A/V Media Services utilizes role maps to match staffing assignments and responsibilities with skills and experiences, and resource tracking and analysis techniques for better alignment of activities and resources with programmatic goals. Assignments and responsibilities are linked to annual work plans describing performance expectations and responsibilities, which are in turn used to provide job performance assessments related to the services provided by the unit.

Department of Client Services

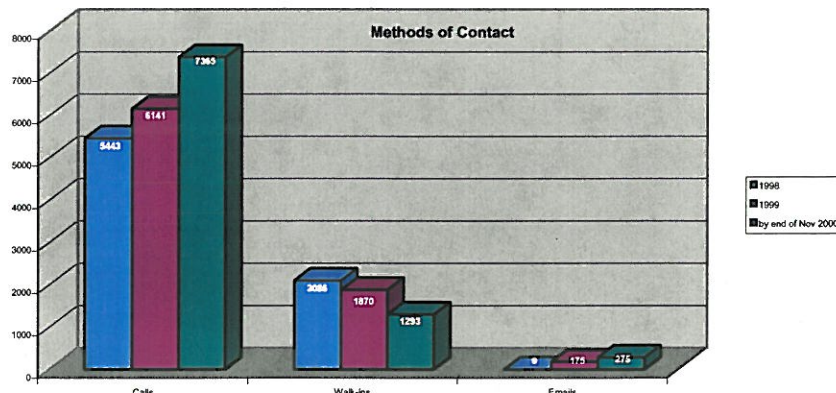
The Department of Client Services is an “in the field” support unit providing on site assistance to campus IT users in offices, labs and remote locations.

This organizational unit has five major responsibilities:

- 1) The department manages the Technology Assistance Center that provides online, on-call and walk-in assistance to students, faculty and staff who are experiencing difficulties in accessing or using the institution’s IT resources. To assist in tracking work requests to individual consultants, who can respond online from their office or in the field via handheld wireless devices, the TAC uses Remedy work management software.

The following graphic illustrates the frequency and methods of contacts from 1998-2000.

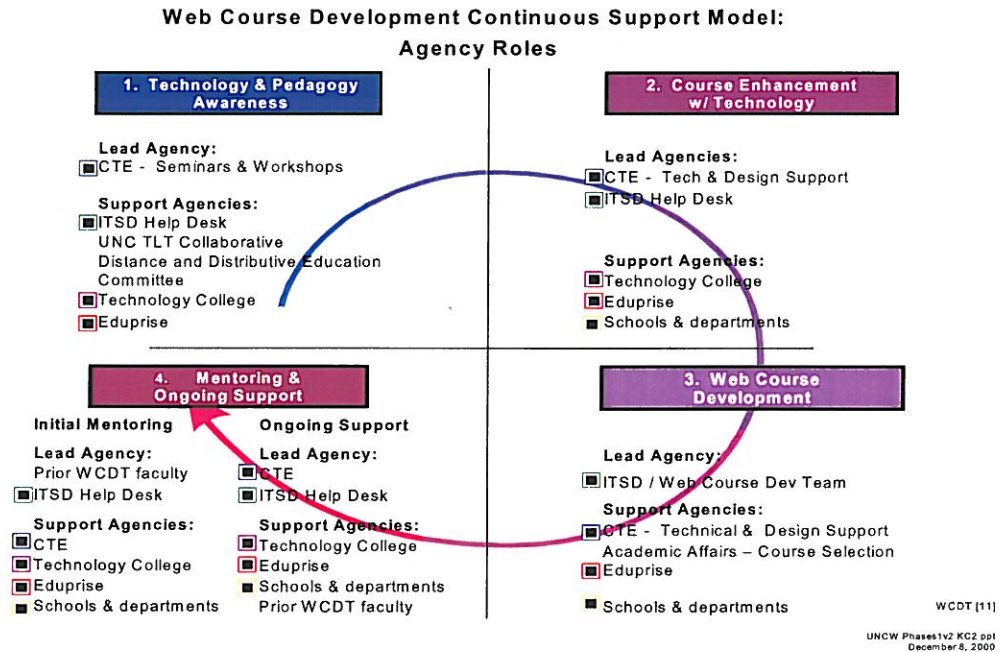
Help Desk Statistics, 1998 - 2000



- 2) Client Services provides computer consultants, assigned to zones throughout the campus. These consultants go to offices and labs and install units and software, repair or exchange equipment and serve as consultants to departments considering new equipment, software or configurations.

Section III (continued)

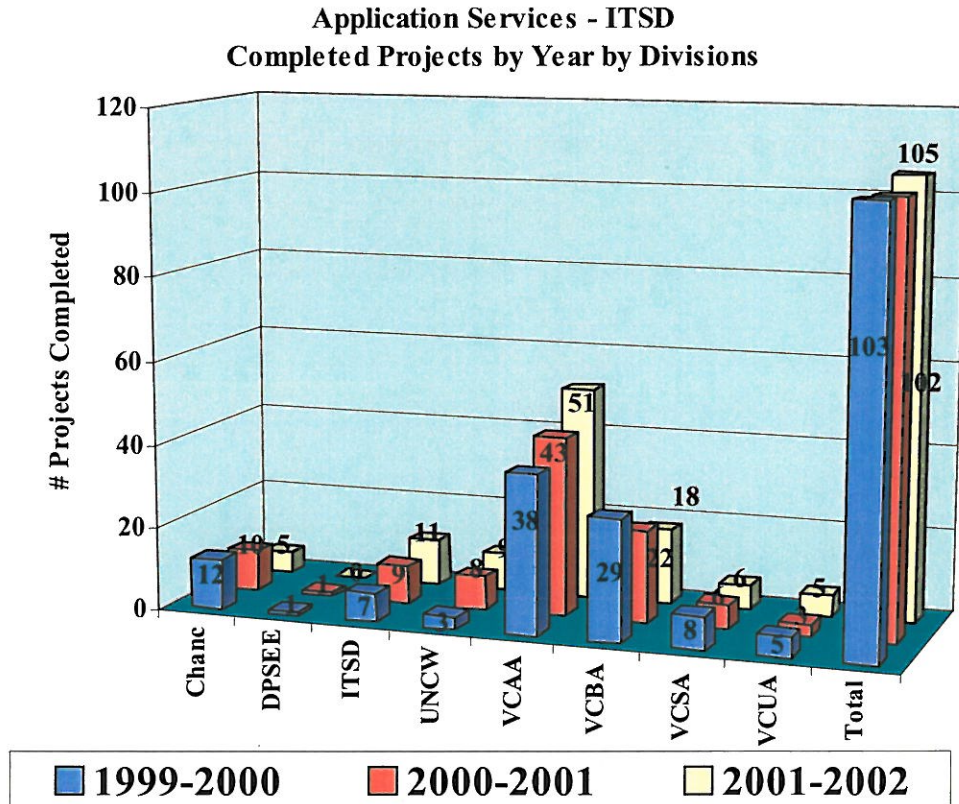
- 3) The University's PC Life Cycle Replacement Plan is managed in the Department of Client Services. A baseline standard is established by the Baseline Standards Committee for Computing Devices and Networks. The department also controls lab growth and monitors units entering the system and those being surplus.
- 4) Training support is provided through instructor led workshops, tailored mini-courses and computer based training by employees in DC_LS. Over 300 online training modules, 82 workshops and 5 tailored training sessions were offered in 2001-2002.
- 5) The Department of Client Services works with the Center for Teaching Excellence and the Technology College to support online course development.



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- To deliver or coordinate training of user/client personnel to ensure effective utilization of application systems.

The department is empowered through policy to manage broad software applications. The chief administrative officer for the department is the Director of Application Services, who is advised by the University Committee on Applications Implementation. Projects are carefully tracked and regular progress reports are provided to the appropriate senior administrator. The following chart shows how projects were distributed in 2001.



Department of Application Services Management Process

At the divisional level, the Director of Application Services is an active member of the ITSD Executive Council, which addresses issues such as division-wide planning and policies, IT initiatives, and IT goals and objectives. The director reports back to the council on the status of departmental projects related to divisional initiatives, departmental goals and objectives, and other IT related issues that have division-wide ramification. Departmental managers (student information and administrative) as well as the director participate in the ITSD Management Council, which deals with operational issues across IT departments and the campus.

The department itself is divided into two development teams that are managed by lead analysts who provide leadership to their team to ensure continued support for related systems, schedule resources for the nine-month project schedule, and monitor the progress of the project schedule, making necessary schedule adjustments to ensure the successful completion of projects.

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The Committee on Application Services was established to advise the director of Application Services on procedural-related issues and to make recommendations to the Vice Chancellor on specific issues related to the management and operation of the department. Functional user teams for major systems such as student information, human resources and financial records exist to provide input into the daily operations of each system, to assist with scheduling and maintenance issues, and to serve as a forum for communication between departments and Application Services.

Department of Telecommunication Services

Central to the infrastructure of the campus are the data and voice networks, which are becoming increasingly integrated. Telephonic and data lines are now pulled simultaneously and there is accelerated demand for both types of connectivity. Within the Department of Telecommunication Services support is provided to help wire and configure computing labs and to design, install, and maintain telecommunications networks. The department provides support to both the cellular wireless and laptop wireless networks. Telecommunications led the development of design specifications and assisted with the vendor negotiations in the contract that covers these innovative networks. The department has shifted from being a provider of phone services to the connection and communications business.

Department of Telecommunication Services Management Process

The Department of Telecommunication Services is aligned with the goals of the division, departments and offices. On the divisional level, the director of the Telecommunications department participates on the Executive Council of ITSD, which addresses division planning and goals. Department issues of directors are reviewed with a focus on implementation at the directors' level. A second tier of review is the ITSD Management Council, which focuses on the operational level. The director, two Telecommunications supervisors, the systems maintenance/installation supervisor, and the administrative services supervisor participate on the Management Council of ITSD. These meetings feed information vertically and horizontally. Each of these two units is required to align unit goals with departmental and ITSD division goals. The Telecommunications department staff participates in internal teams and is required, through these teams, to provide input into the management of the department. These teams (Services Delivery, Systems Management, Engineering and Construction, Strategic Planning and Administrative Support) hold regularly-scheduled meetings to discuss issues related to daily operational issues, new technology, and maintenance of each system or systems under their direction.

Department of Computing Services

The Department of Computing Services is responsible for the planning, installation, management and support of the campus-wide computing and data network infrastructure. This infrastructure enables faculty, staff and students to utilize efficiently and effectively UNCW's information technology resources for teaching, research, public service, and administration and information management. This unit is responsible for the delivery of core network and intranet services to the campus and for access to the Internet. The department, headed by a director, is based in the Information Technology Systems Division and is under the administrative purview of the Vice Chancellor for Information Technology Systems. The primary functions supported by the unit are as follows:

- Manage and operate the central campus computer systems and distributed servers, which currently include VMS, Windows NT/2000, UNIX and Exchange 2000.

Section III (continued)

- Provide fundamental services to the campus in such areas as network file sharing and printing, Email, calendaring, the Web and Intranet.
- Plan and manage the campus-wide data network, physical infrastructure, and active network components.
- Provide and support the campus connection to the Internet.
- Provide operational support to campus administrative and academic computer systems in such areas as user authentication and security, data backup and recovery, job scheduling, and report distribution.
- Maintain infrastructure maps and progress files for computing networks, systems, and assigned special projects.
- Evaluate and recommend current and emerging technologies and support strategies for possible use by the University community.

All core-computing operations are managed by this unit. UNCW is in the process of building a new Information Technology Computing Center to upgrade security and operations.

Goals and objectives of the department are updated and reviewed annually. They are formulated and operationalized at the departmental level once approved at the divisional level. Goals and objectives are guided by:

- The University Mission statement which states "...UNCW encourages ... the integration of technology throughout the university..."
- The University Area of Excellence #3 – "UNCW will excel in the use of technology for the improvement of teaching, learning and support services. UNCW will use the power of information technology to enable the members of the university community to respond to the challenges of the 21st century."
- The Goals and Organizing Principles of the Information Technology Systems Division.
- UNCW's Technology Standards.

The Office of Web Management

The Office of Web Management is responsible for the overall quality, utility and ease of access and navigation of the UNCW web presence. The director is charged with establishing and maintaining general guidelines intended to ensure a common look and feel and uniform navigation systems among the numerous web sites under the university umbrella. The office is authorized to review official university sites for quality of design and general continuity and compliance with identical standards established by the university. In cooperation with the assistant vice chancellor for university relations, the director assists organizational units or persons with their efforts to create web sites in compliance with university standards. The Office of Web Management is also responsible for the planning, purchasing and maintenance associated with web servers used to provide the campus-wide presence on the web. In this capacity, the office assists with services ranging from the delivery of the UNCW homepage, support of materials for some online courses or course segments, and database connectivity to live streaming video.

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These six units, in partnership with other divisions, constitute the core IT structures at UNCW. Approximately sixty-two personnel support these units, and University policies and procedures have been established to ensure that the departments can execute their charge. In addition to the departmental structure, UNCW has a number of related special support services and centers.

Special Support Services and Centers

In addition to the services provided by the five ITS departments and the Office of Web Management, there are a number of special support services provided by ITS and the Academic Affairs Division. A brief description of each follows:

- **The Technology Assistance Center:** The TAC provides Help Desk and production services to students and UNCW employees. Individuals needing assistance may start with the *ITS Self Help Guide* which features over 400 commonly asked questions presented by categories such as hardware, software, network, etc. If help is needed beyond the guide, users may scroll through the *IT Integrated Services Inventory* to find an array of distributed support services such as digital editing, equipment loan, CD burning, scanning, special events, and support. If a user needs direct assistance from the TAC, he or she may call, walk-in, or communicate via e-mail with student assistants, the TAC manager or any one of eight computer consultants.
- **The Faculty Teaching and Learning with Technology Development and Production Center:** This center is still in the design phase. Construction, equipping and staffing having been budgeted for a 2004 opening. When the facility is complete, it will feature a wide array of technical services and will further complement the IT Integrated Services Inventory.
- **The Technology College:** The Technology College was begun in 1997 to provide students with an IT intensive experience complementing their core academic program. Students may select from an array of technology-rich courses approved by the Director of the Technology College. By assembling a sequence of eight TC courses, a student can earn a special certification and a TC citation on his diploma upon graduation.
- **The Center for Teaching Excellence:** The CTE is designed to provide pedagogical training to enable faculty to improve instruction regardless of the delivery mode. Workshops, conferences and tailored bibliographies are provided to assist faculty with understanding learning theory, teaching methods, instructional design and learning assessment. Significant emphasis has been given to the integration of technology tools as a means of enriching instruction and expanding access.
- **Web Course Development Team:** From 1998 until the spring of 2002, the ITS Division managed the web course development process. The model was based on "learning communities," where faculty teams worked with team leaders, IT resource personnel and CTE consultants, to collaboratively develop courses. The Academic Affairs Division defined programmatic areas of emphasis. Interdisciplinary teams were used to create, display and critique their work at every stage of development, thus, improving knowledge of design, delivery and assessment throughout the process. Today these teams have developed 130 online courses with approximately 2000 students enrolled in 2002.

Section IV

IT Management Standards

The IT Standards adopted by the Chancellor's Cabinet in 2000 called for a baseline classroom technology configuration, a PC Life Cycle Replacement Plan based on a standardized desktop configuration, laptop or handheld computing units compatible with a baseline software suite, a common e-mail client, restrictions on mailbox and file transmission size, full compliance with the Net Study Committee Comprehensive Network Standards, a wireless speed and security standard, universal access, full compliance with SACS and EDP audit requirements and a Student Preferred Laptop Vendor purchase and support program. UNCW has operationalized each of these standards, which are further elaborated in the following grid:

*University of North Carolina at Wilmington
Information Technology Standards – Fall 2002*

Standard Description	UNCW Standard	Standards Adherence Process	Status
Security and Encryption	Server and network security is a high priority for the university. Access to all computing resources on campus requires a user name and password regardless of the operating system of the resource - VMS, Unix, and Windows. Once access into a system is authenticated via a proper username and password, access is restricted to data and information owned by that account or allowed via a tightly controlled application. The university utilizes the encryption of data at every available opportunity. It is policy for passwords to be stored encrypted. Encryption keys from VeriSign Inc. are required on servers that process secure information such as credit card numbers and authorization ID's. Remote access to the campus network is allowed only via a VPN (Virtual Private Network) server that requires data encryption.	IT security is inherently included in all appropriate departmental operational procedures and routinely reviewed by management, UNCW Internal Audit and the state EDP auditors. Security is repeatedly addressed in several sub-policies that fall under the umbrella of the university's Policy on Responsible Management of Electronic Resources. Security is also the foundation for much of the university's Policy on Responsible Use of Electronic Resources.	Completed
Software	The university has addressed software standards at both the microcomputer level and the mainframe	Software standards at a university are important for the same reason that they are	Completed

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Standard Description	UNCW Standard	Standards Adherence Process	Status
<p>Hardware</p>	<p>level for two dominant purposes – economics and support. The Microsoft operating system and Microsoft Office suite are the current standard for the desktop.</p> <p>The university has adopted the Systems and Computing Technology Corporation's (SCT) Plus2000 suite of administrative applications for its campus-wide administrative systems. This integrated solution of applications for students, finance, HP and alumni utilizes a non-relational database structure on an Open/VMS platform with web-services provided through middle-ware on Microsoft Windows/Intel platforms. Reporting from these systems has been standardized using IBI's Focus 4GL with extensive decentralization of report writing spread across the campus. Other vendor-supplies software solutions for administrative and student services are on Open/VMS, Windows or Unix platforms. In-house development has been standardized to Open/VMS or Windows platforms.</p>	<p>often resisted – diversity. The university recognized in 1998 that in order to sustain IT support and affordability, standards must be set. The CSIT report recommended that the university establish IT standards and an "IT Standards Council". The "council" was created and charged by the Vice Chancellor for Information Technology in 1999 as the Committee for Baseline Standards for Computers. The committee has recently been renamed to the Committee on Baseline Standards for Computing Devices and Networks to incorporate handheld computers and network devices. The committee makes recommendations to the Vice Chancellor for Information Technology.</p> <p>Enterprise level administration applications are regulated via the policy on "Broad Impact Systems and Software." Many factors impact enterprise level software, such as the UNC OP Alliance Board, budget, and the wants and needs of the faculty, staff and students. Due to significant budget implications and changes that will impact faculty and staff daily functional duties and routines, broad impact software must be approved at many levels including, the Chancellor's Cabinet.</p>	<p>Completed</p>
<p>IT Management Flexibility Plan UNCW/RET Spring 2002</p>	<p>Hardware standards are generally dictated by operating system and applications software. For example, the current SCT product suite runs on the</p>	<p>The vendor for Windows desktops and servers is set by the Committee on Baseline Standards for Computing Devices and Networks. This</p>	<p>Completed</p>

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Standard Description	UNCW Standard	Standards Adherence Process	Status
Acquisition of IT Consulting and Contract Services	<p>VMS operating system and requires Alpha processors; the next generation of SCT products (currently under consideration) requires the Sun Solaris operating system. The Windows operating system that runs on the Intel platform introduces an opportunity for standardization and the university has done so with Dell Computer Corporation. Standardizing with a single vendor allows for volume discounts and significant support benefits. Standardization of the desktop and Windows servers has been the very core of the tremendous success and savings that the university has experienced with its Life Cycle Replacement Plan for the last three years. Standards for classroom technology for the delivery of multimedia presentations and lectures have been established for high quality video projection based on the standard desktop system.</p> <p>In most cases the acquisition of IT consulting or contracts services is directly related to and bundled with a hardware or software purchase.</p>	<p>committee makes recommendations to the Vice Chancellor for Information Technology.</p>	Completed
		<p>Acquisition of consulting and contract services is strictly governed by purchasing rules, guidelines and laws of UNCW and the state of North Carolina.</p>	Completed

Section IV (continued)

Standard Description	UNCW Standard	Standards Adherence Process	Status
Disaster Recovery	<p>Various campus policies dictate that the responsibility to provide a comprehensive, realistic plan for recovery of IT resources in the event of a disaster reside within the department that is responsible for managing those resources. The ITSD Department of Computing Services is identified in the "Networked Systems and Servers Standards and Management" sub-policy of the university's Policy on Responsible Management of Electronic Resources as being responsible for the campus enterprise central servers.</p>	<p>The current UNCW Disaster Recovery Plan is a three volume-comprehensive document that not only includes ITSD's plans for the central servers and campus data network but also includes Business Continuity Plans for every applicable department on campus. The document was coordinated personally by the ITSD Vice Chancellor and approved and signed by the Chancellor and every Vice Chancellor in May 2001. The ITSD portion of the plan is reviewed annually (at a minimum) and tested for at least one major application, such as SCT Plus 2000 Financial Recovery. In addition, Disaster Recovery planning is a reoccurring audit point with university Internal Auditors as well as the state EDP auditors. The planning model at the core of ITSD's plans for the central servers is to maintain a minimal hardware configuration outside of the main computer room. Current goals and objectives for future projects support this model as new hardware and software are acquired.</p>	Completed
Desktop and Server Computing	See Hardware.	See Hardware.	Completed
Telecommunications	<p>The university continues to maintain high standards for Telecommunication Services. The standards are based on a university owned and maintained PBX. By owning its phone switch the university has been able to maintain full</p>	<p>Telecommunications has several policies that have been approved by senior management and published in the campus Administrative Procedures that detail their services and procedures to request services. All policies</p>	Completed

Section IV (continued)

Standard Description	UNCW Standard	Standards Adherence Process	Status
	<p>Telecommunications services including voice mail that are consistent and reliable throughout the university.</p>	<p>related to Telecommunications have recently been updated and incorporated under the umbrella of the university's Policy on Responsible Management of Electronic Resources.</p>	
<p>Networking</p>	<p>The foundation for the university's data network standards is the UNC OP Network Baseline Standards that were adopted for the entire UNC system in 1999. Fortunately the UNC OP standards were based on standards that had already been adopted at UNCW - an Ethernet network with fiber between buildings and Category 5E or better to the desktop. The university enhanced the generic baseline standards to standardize with Cisco as the vendor. Vendor standardization has positioned the university for volume discounts and significantly simplified network installation and management. The university has also standardized protocols that run on the campus network – specifically TCP/IP.</p>	<p>UNCW network standards strictly adhere to the standards established by the UNC Office of the President and the North Carolina Research and Education Network. Network standards are guided by the ITSD Committee on Baseline Standards for Computing Devices and Networks and the Faculty Senate Information Technology Committee. "Network Standards and Management" has recently been updated and incorporated under the umbrella of the university's Policy on Responsible Management of Electronic Resources.</p>	<p>Completed</p>
<p>Video Services</p>	<p>Video services at UNCW strictly adhere to the standards that have been established by the NCIH and NCREN. All video services on campus must be coordinated through the ITSD Department of Audiovisual and Media Services. AV/Media Services in turn coordinates with the Department of Computing Services for video services that may impact the campus data network.</p>	<p>UNCW video services standards strictly adhere to the standards established by the NCIH and the North Carolina Research and Education Network. Video Services standards are guided by the ITSD Committee on AV/Media Services. "Audiovisual and Media Services and Equipment" has recently been updated and incorporated under the umbrella of the university's Policy on Responsible Management of Electronic Resources.</p>	<p>Completed</p>

Section IV (continued)

Standard Description	UNCW Standard	Standards Adherence Process	Status
<p>Personal Digital Assistants</p>	<p>In order to be consistent with the desktop environment regarding the Windows operating system, the university has standardized with the Pocket PC. This decision was made after extensive research and evaluations conducted in a forum that encouraged participation and feedback from the entire university community. Vendor standardization was less specific after the study as pockets of support existed for the Compac iPaq and the HP Jornada. With the merger of these two companies the vendor standard will be the HP iPaq.</p>	<p>The Committee on Baseline Standards for Computing Devices and Networks was recently redefined to incorporate handheld computers. This committee makes recommendation to the Vice Chancellor for Information Technology.</p>	<p>Completed</p>
<p>Construction Standards</p>	<p>The Business Affairs Division and the Division of Information Technology Systems have developed IT categories and standards that serve as a process check list during major renovations and new construction. These guidelines cover network development, classroom equipment and layouts, connectivity, security, wireless networks and offices.</p>	<p>These standards are incorporated into briefings with architects and contractors. They are summarized in templates which are used to ensure that standards are addressed throughout planning, construction and final walk throughs.</p>	<p>Completed</p>

Section IV (continued)

Standard Description	UNCW Standard	Standards Adherence Process	Status
Other Wireless Technologies	<p>The wireless LAN standard at the university is an extension of the wired network – Ethernet based on the IEEE 802.11b standard. Standardization with Cisco as the vendor for the wireless Access Points is also an extension of the wired network.</p> <p>Regarding wireless technologies based on Cellular technologies, standards have not yet been set as this particular technology is currently undergoing rapid development.</p>	<p>Wireless LAN standards are guided by the ITSD Committee on Baseline Standards for Computing Devices and Networks and the Faculty Senate Information Technology Committee. “Network Standards and Management” has recently been updated and incorporated under the umbrella of the university’s Policy on Responsible Management of Electronic Resources. Emerging Cellular standards will be incorporated into the “Telecommunications Standards and Practices.”</p>	Completed

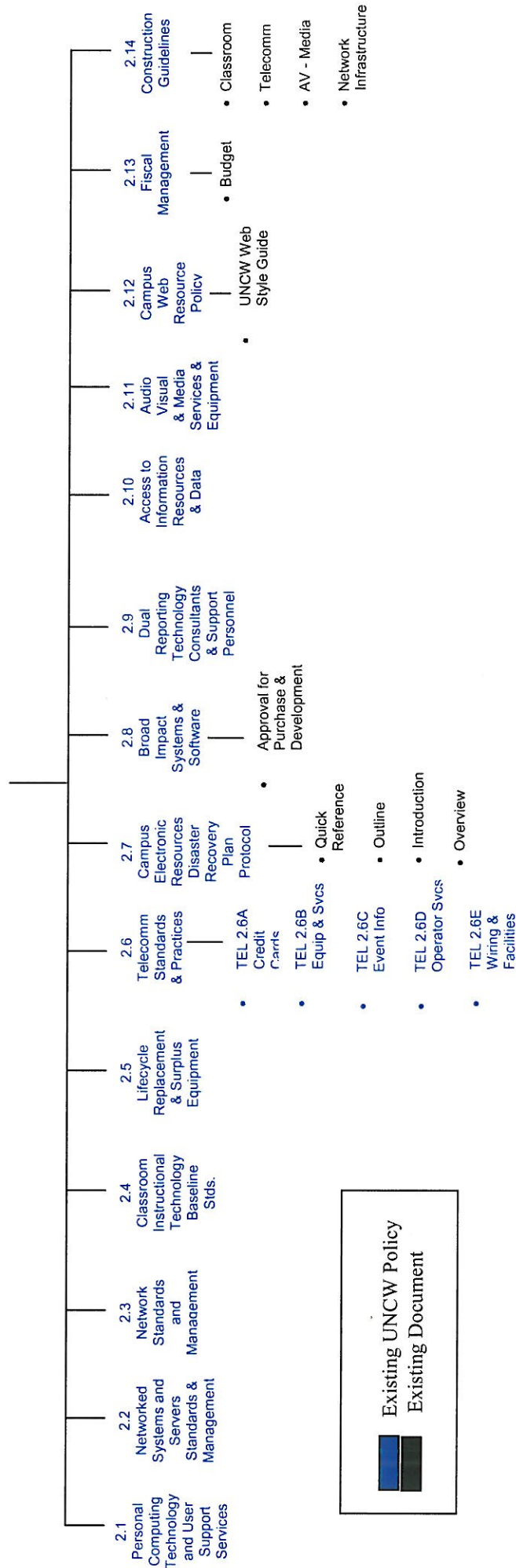
Section V
IT Management Policies

In 1999-2000, UNCW began an extensive review of all policies related to core IT management and resource use. It became apparent early in the review that a variety of documents, ranging in scope from general agreements about process and administrative procedures and guidelines, to policies were all being grouped under the policy heading. Literally, hundreds of pages existed in the policy inventory. To ensure clarity and ease of access, the ITS Division undertook the task of recodifying all "IT policies" to simplify and clarify the maze of documents and ensure that users could find, understand and comply with institutional policies. As a result of this effort, two broad policies emerged: ***Responsible Use of Electronic Resources Policy*** and ***Responsible Management of Information Technology Resources Policy***. The policy statements were reduced in complexity and "hot links" were attached to each policy for explanatory purposes. These policies and the explanatory procedures, provision or guidelines are represented in the diagrams that follow:

ITS 2.00 Responsible Management of Information Technology

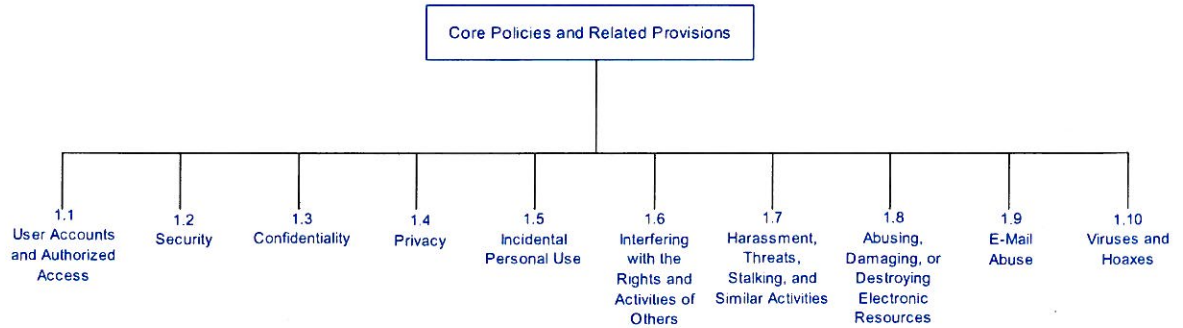
Resources Policy

Core Policies and Related Provisions



Section V (continued)

ITS 1.00 Responsible Use of Electronic Resources Policy



These policies and the related explanatory documents were reviewed by the SACS team and the EDP audit team during the 2001-2002 term.

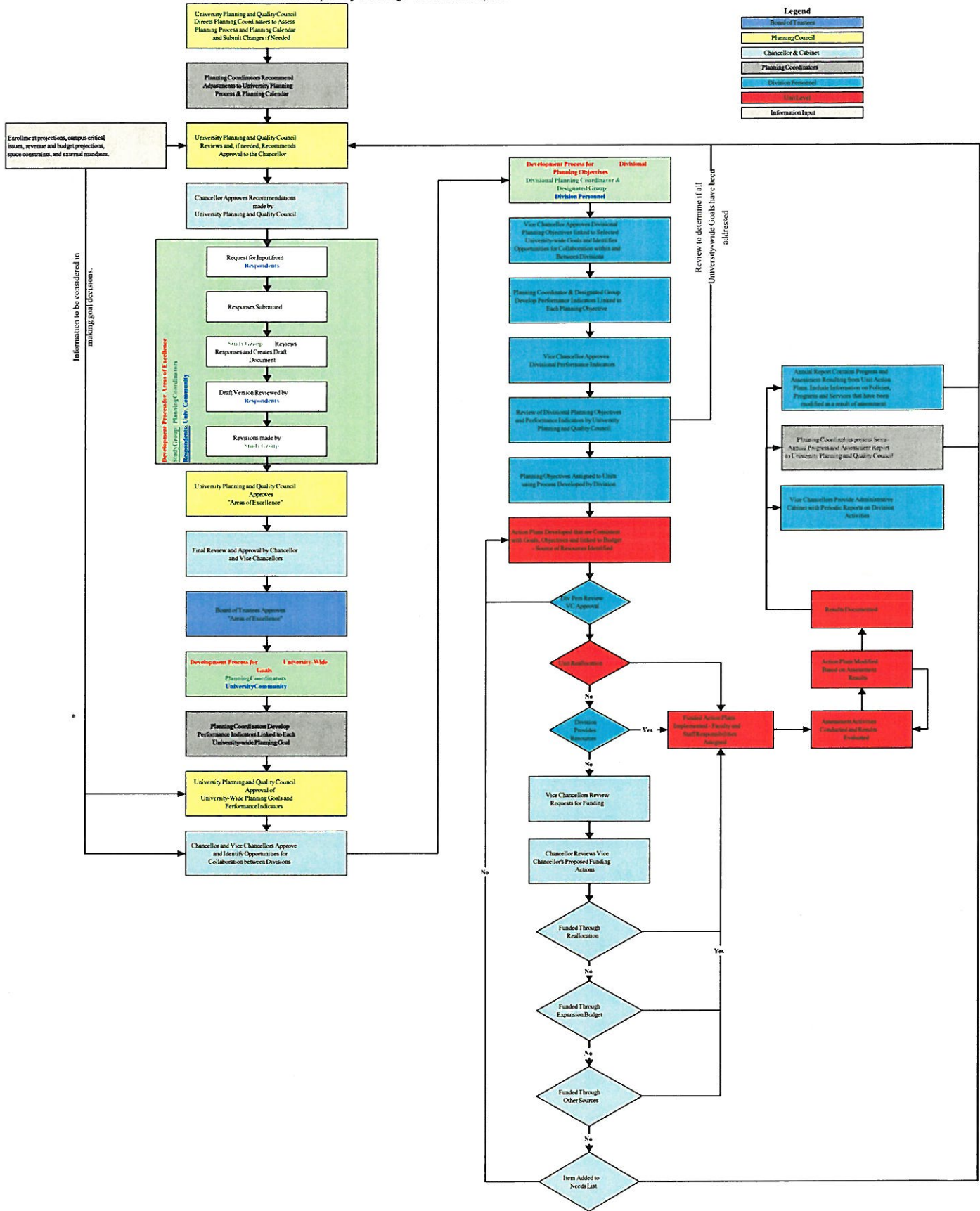
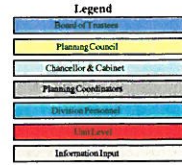
Section VI
Management Processes

In addition to the management processes discussed in Section III, the University and the ITS Division embrace a comprehensive systems approach to planning and development. This approach demands clarity in roles throughout the planning and management processes and a decision-making process that is responsive to data collected at several levels. Objectives and strategies are continuously revised in the context of targeted goals at the division, university and UNC system levels. While complex, the university planning model ensures the convergence of departmental and university goals and essential structures and funding required to accomplish those goals. IT goals are developed and advanced within the context of the institutions planning and review model, which follows:

Section VI (continued)

University of North Carolina at Wilmington
 University Planning Process
 Detail Model - Adopted by the UPQC on October 23, 2001

Group Responsible For Task



Section VI (continued)

Within this broad framework, which is monitored by the UNCW Quality Planning Council, the core IT functions of the University are coordinated. At the operations level, eight campus committees guide IT decisions. *Perhaps as unique as the collaborative, open relationship between the Academic Affairs Division and the ITS Division is the committee structure created in 1999-2000. UNCW is the only campus in the UNC system to have campus-level IT committees co-chaired by academic and ITSD appointees.* A listing of these committees is presented below:

<u>Title of Committee</u>	<u>Co-Chairs</u>
Web Coordination Committee	Web Master/Assoc. VC-Academic Affairs
Committee on Information Technology Innovations	VC-ITSD/Assoc. Provost Academic Affairs
Committee on Student Support and Technology	Student Affairs officer/Assoc. Dean School of Ed.
Committee on Application Services	Director of Application Services/Director Institutional Research
Committee on Baseline Computer Standards for Computer and Networks	Director Client Services/Chair Faculty Senate IT Committee
Committee on Audiovisual/Media Services	Director AV/Media/Director, Center for Teaching Excellence
Committee on Distance and Distributive Education	AUNCW TLT and Assoc. VC Academic Affairs
IT Coordination Council	All co-chairs and 4 Faculty Senate Appointees, 3 student SGA appointees

The university committees strengthen and focus the management processes in place within each department. Departmental issues are reviewed at the Directors Council. Implementation issues are refined by the Managers Council of ITSD. Campus issues are assessed by the appropriate university committee prior to transmission to the Cabinet. These structures feed information and ideas vertically and horizontally.

Each department within ITSD has developed clear, revised unit descriptions and supporting goal statements that are aligned with division and university goals. Units within the division are required to provide an annual report on improvement strategies as part of end of year reviews. University related IT committees also file end-of-year reports. Further, internal management processes such as review cycles, application logs, workflow analysis and systems checks are built into the annual calendar.

Section VII
Assessment

Informal and formal data collection is vital to maintaining healthy and productive relationships. The Vice Chancellor conducts regular feedback sessions with department chairs, deans, special units such as the Library, Academic Affairs, Student Affairs, Business Affairs, Advancement and a variety of external agencies at the local and state level. Functional teams have been created in Student Information Services, Financial Systems, Research and Instructional Support, Human Resources, Web Course Development, Alumni Services as well as several other areas. The division has representation on thirteen campus committees and ten state committees in an effort to participate in an exchange of information useful to planning. Numerous online data sources are consulted regularly and online feedback sites are provided.

Customer satisfaction assessments are embedded in the daily business routines of the five ITSD units and are collected more formally through surveys conducted by the Office of Institutional Research. Each year surveys are collected from freshmen, sophomores and seniors that include satisfaction indicators related to the work of these ITSD units.

Section VII (continued)

The fall 2000 SACS survey revealed the expected need for a significant educational effort to help the campus and certain segments of the external community better understand what functions these units perform and why they are of value. Overall the services provided by ITSD and partner IT units in Academic Affairs received from 66% to 92% good to very good ratings by faculty and students in 2002.

All ITSD units are evaluated on an ongoing basis by working one-on-one with clients, helping them to assess their needs, determining the appropriate strategy for reaching the end goal, testing and prototyping the product from the administrative and the user standpoint, placing the product in production and finally gathering feedback from clients on the outcome of the solution.

Assessments range from personnel performance reviews, user satisfaction surveys and project evaluations to data analysis of software and systems performance, user traffic against network capacity to response time for Technology Assistance Center calls. These are internal assessments designed to link actions to goals and are in addition to Budget Audits, SACS Reviews and Electronic DATA Processing Audits.

Assessments conducted in 2001-2002 include but were not limited to the following:

<u>Assessment Title</u>	<u>Assessment Sponsor</u>
• Full EDP Audit	State IT Auditors/GA
• SACS Team Visit	SACS
• User Evaluations of VC and Directors	Chancellor's Office
• Lab Use Frequency Profile	Client Services
• Classroom Technology Assistance Plan	User Survey – AV/Media Services
• IT Innovations Awards	Computing Services
• Network Reliability and Security Analysis	Computing Services
• Network Traffic Capacity Analysis	Net Study/MCNC
• Distance Learning Usage Hours NCIH	AV/Media Services
• Online Course-Faculty/Student Satisfaction	Client Services
• FOCUS Requests vs. Completes Analysis	Client Services
• Project Completion Analysis for Applications	Application Services
• Fixed Asset and Inventory Audit	Internal Auditor/Fixed Assets
• Handheld Computing Standards Review	Client Services
• New Telephone Time to Install	Telecommunications
• Tech. Services Satisfaction Compared to Cost	Telecommunications
• Web Site Hits Analysis	Office of Web Management
• AV/Work Orders to Response Time	AV/Media Services
• Sealine/Seaweb Access Usage Profile	Application Services
• Cellular Phone & Pager Cost Efficiency Anal.	Telecommunications
• Voice Mail Frequency Profile	Telecommunications
• Laptop Checkout Program Assessment	Client Services
• Test of Disaster Recovery Plan	Computing Services/Application Services/Internal Auditor
• Internet Connection Speed/Fluctuation	Computing Services
• Training and Workshop Evaluations	Client Services

Section VII (continued)

Each of these assessments was charted and/or graphed and provided to or reviewed with the Planning Council, departments or the Cabinet. A graph noting a sample of recent assessments and outcomes being tracked by the divisions follows. This is intended as a sample of such efforts.

Section VIII Funding

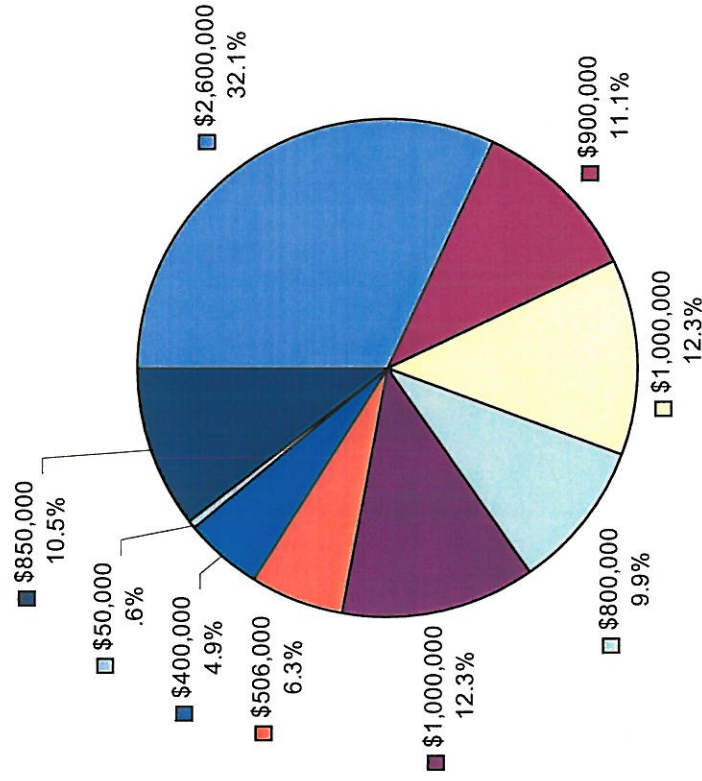
To accomplish its goals in support of the University's mission, the ITS Division has collaborated with campus, system, state, federal and private agencies to secure adequate funding. UNCW has a central IT continuing budget of approximately \$2.6 million annually, ranking it among the top six campuses. In 2002 the Board of Governors responded to a requested technology fee increase of \$96, which was approved and will provide a continuing source of funding to replace approximately \$900,000 in annual, one-time funds eliminated in recent budget cuts. Together, these funds will help to stabilize UNCW IT operations during a very difficult budget period. The recent Bond Referendum provided a critical source of technology infrastructure funds that will allow UNCW to connect all new facilities at the Comprehensive Network Standard, upgrade switches and routers, significantly enhance our firewall and provide improved security, build a new IT Central Computing Facility which will also house a new TLT Development and Production Center for faculty and new Technology Assistance Center for students and provided funds to improve network centric classroom functions.

In 2001, the Chancellor authorized \$500,000 to match funds to upgrade our collaborative computing environment. In 2002, the Chancellor's Cabinet and the Chancellor authorized "off the top" funding for Banner/Oracle to replace UNCW's administrative systems with new systems. From 1999 to 2002, UNCW has secured \$2.6 million in grants to enhance IT and \$600,000 in private support. Because UNCW manages resources through a division, systems approach, economies of scale are possible.

The demand for increased Information Technology resources represents one of the fastest growing areas of need on modern campuses throughout the nation. It is unlikely that faculty or students at campuses that set high expectations and standards will perceive that they have enough resources or support. As perceptions change, UNCW, like many campuses, must evaluate progress against both satisfaction levels and measurable increases in the type and number of resources. Clearly, UNCW has made significant investments in technology resources. This has been particularly true since the creation of the Information Technology Systems Division. Though the division is still new, a clear understanding about the role of ITSD in contributing to learning is already beginning to gel. It is clear that additional resources are needed at the department and school level. ***The University has sufficient funding to address core technology needs, however, as classroom technology is added, networks are enhanced, and service standards are upgraded, UNCW will need to address increased funding in the five year tuition and fee plan to ensure an expanded base of continuing funding.*** While clear progress is being made, dramatic growth in enrollment, coupled with increased expectations, has resulted in a constant struggle to keep pace with instructional support needs.

IT needs are met through a combination of funding sources. The overall dollar amount varies annually. The graph and pie chart which follow provide a snapshot of funding for 2001-2002 and an illustration of what percentage of funding came from each source. Without grants, special appropriations assistance from the President's Office and special allocations, UNCW would not be able to enjoy a rich IT environment.

Profile of IT Resources
UNC Wilmington 2001-2002



- State Appropriations General Operating Budget
- Technology Fees
- Grants, NSF Digital Library
- Technology and Teacher Preparation Fellowships
- PT3
- Presidents Office (including Special Allocations)
- Special Source Match Grants
- Special Allocations Private
- Bond Funding Capital

Section VIII (continued)

Section IX
Indicators of Quality

To complete a comprehensive list of all the indicators of quality IT management processes and services at UNCW would be a lengthier process than called for in this report. *We believe the report speaks to the seriousness and thoroughness with which we have addressed the management of our resources. Over the past four years UNCW has moved from "random acts of progress" to a well balanced, aligned and managed IT strategy.* We believe our strategy integrates with and supports the BOG and UNC strategy. To ensure, however, that all aspects of this report are fully addressed and that IT Management Flexibility is granted we offer the following examples of quality indicators.

- In 2001 and 2002 UNCW was named in Yahoo rankings as among the top 75 wired campuses in America.
- EDP auditors recognition of the comprehensiveness of our approach to IT operations and a request that our audit preparation process, Disaster Recovery Plan and policy development process be shared with sister institutions.
- UNCW received the International Technology Forums Award for its IT Knowledge Ecology Model in 2000.
- UNCW has been selected as a pilot site for development and/or testing of six UNC or state IT initiatives. In each case, quality personnel, management practices and a spirit of innovations were cited.
- UNCW was awarded the BellSouth Innovations in Technology Award for its IT regional partnership.
- The UNCW Blended Mode University has been a featured presentation at several national conferences.
- The VC-ITSD was selected to chair the Alliance Board in 2001-2002.
- UNCW won the Distinguished Achievement Award at the 2002 NC Distance Education Conference.
- UNCW recruited approximately 4 million dollars in IT related grants between 2000 and 2002.
- The SACS team review cited no service delivery or program deficiency findings.
- The UNCW Technology Innovations Awards Program was cited by the National Entrepreneurs Roundtable as an IT Catalyst Model.
- The course development model which combines instructional improvement with online delivery was cited by SREB as "one of the most cost effective and pedagogically sound models in the south."
- A host of internal reviews, assessments and performance profiles can be produced upon request.

IT Management Flexibility Authorization

Based upon the evidence presented herein and the wealth of supporting documentation available at <http://www.uncwil.edu/itsd/>, the SACS Report and the EDP Audit, the University of North Carolina at Wilmington is confident that it fully meets the requirements for IT Management Flexibility in spirit and substance.

Chancellor

Date

Vice Chancellor of Information Technology
Systems Division

Date

Chairman UNCW Board of Trustees

Date