



**Request for
Information Technology
Management Flexibility**

April 2002

Prepared by Denise Cowardin and the ITP management

Questions can be directed to

Vice Chancellor James Clotfelter, 336/334-5426, james_clotfelter@uncg.edu

Section 1: Introduction

This Request for Information Technology Management Flexibility document describes the purposes and resources of information technology at The University of North Carolina at Greensboro. Information technology is used to advance the strategic goals of UNCG and the University of North Carolina system. This section summarizes how that occurs.

Alignment with the UNCG Strategic Plan

UNCG is operating under a 5-year strategic plan approved in 1998. The UNCG Plan for 1998-2003 has Technology as one of the four Cornerstones on which are built the University's Strategic Directions (instruction, research, campus community, outreach, and enrollment growth). The University has begun work on The UNCG Plan for 2003-2008, and that too will have Technology as a Cornerstone.

The Chancellor's Executive Staff in October 2000 set goals in "The UNCG 2008 Profile" to be included in the next plan for 2003-2008. UNCG aims to "be the Triad's leading public Research University," with continuing increases in external funding. This will depend heavily on UNCG's IT capabilities. The "Profile" says that, in 2008, UNCG will "be a university engaged in major initiatives in the life sciences and information technology" and will "be at the forefront of instructional technology."

The UNCG Information Technology Plan 2000-2003 can be found online at http://www.uncg.edu/apl/IT_Plan_2000-03_files/v3_document.htm. The 2001 Supplement to the UNCG IT Plan can be found online at http://www.uncg.edu/apl/IT_Plan_supple_00-03.pdf. Both of these grew out of formal, campus-wide planning processes initiated by the Vice Chancellor for Information Technology and Planning. The next UNCG IT planning process will be carried out in 2003, once the directions of the overall 2003-2008 plan are known.

The UNCG Information Technology Plan is based on financial assumptions that can be found at http://www.uncg.edu/apl/fin_assum_ITPlan.html. The assumptions include full 5-year funding of the UNC ITS Phase 2 plan. That plan, based on a study conducted by PricewaterhouseCoopers, identified IT funding needs for UNCG and other UNC campuses. The State so far has been able to provide only one year of UNC ITS Phase 2 funding. Permanent budget cuts absorbed by UNCG and all UNC campuses in 2001 and 2002 also will slow the fulfillment of UNCG's IT goals.

UNCG Strategic Directions

IT Supporting Activities Include

UNCG will provide exemplary learning environments	<ul style="list-style-type: none">• Provide instructional multimedia resources in classrooms, lecture halls and seminar rooms, including connections to the campus network• Provide training and support for faculty using the multimedia facilities and IRCS computing labs• Continue to meet the needs of students for
---------------------------------------------------	----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

UNCG Strategic Directions

IT Supporting Activities Include

	<ul style="list-style-type: none">open access to public computing resources• Develop additional networked classrooms for student laptop computers• Develop video streaming technology for distance learning• Provide instruction in the UNCG TeleLearning Center• Continue to support faculty and students in Web development for instruction and research
UNCG will expand its research and infuse the excitement of scholarship into its teaching and learning	<ul style="list-style-type: none">• Provide the most up-to-date computational capabilities for the campus research community• Integrate IT support for faculty and staff to simplify the process of seeking assistance and identifying problems• Support the supercomputing needs of UNCG faculty• Provide research computing consulting for faculty and students• Provide appropriate network and software support for research offices on campus
UNCG will build a strong sense of community as a student-centered university.	<ul style="list-style-type: none">• Build student community through provision of student computing equipment and staff support• Support residence hall computing• Continue to upgrade the campus network to facilitate video and Web-based services
UNCG will expand its outreach in the Piedmont Triad, the state of North Carolina, and beyond.	<ul style="list-style-type: none">• Expand required Web infrastructure for the development, delivery and support of distance education• Provide network access to needed learning resources for off-campus learners• Continue to support University centers and institutes

Enrollment

UNCG will increase its enrollment by actively recruiting and retaining students with the academic preparedness and potential to succeed in a rigorous academic environment.	<ul style="list-style-type: none">• Manage the Student Information and Financial Aid Systems to support the enrollment effort• Guide the integration of Continuing Education into the University's enterprise systems, to promote growth
-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Enrollment

	<p>in continuing education enrollment</p> <ul style="list-style-type: none"> • Provide technology support for satellite campuses being developed
--	-----------------------------------------------------------------------------------------------------------------------------------------------------------------

Cornerstones

IT Supporting Activities Include

<p>UNCG will strengthen its technology resources and use them effectively in academic programs and administrative services.</p>	<ul style="list-style-type: none"> • Complete the planned campus network upgrades • Provide streaming video and audio services • Implement email-based shared calendar for faculty, staff & students • Provide the best telephone services possible to faculty and staff • Provide technology training for faculty, staff, and students • Provide support for both central technology units and for distributed support in academic and administrative units • Develop and maintain online systems and application documentation • Review and implement appropriate wireless networking technologies
<p>UNCG will use effective processes to deliver services to the University community</p>	<ul style="list-style-type: none"> • Continue the implementation and support of Banner and Banner Web for Student and Alumni systems • Provide telephone and Web-based interfaces for various aspects of student interaction with the University's business offices • Support a campus Web portal to give all members of the UNCG community a personalized Web interface • Provide Web-based access to appropriate elements of the Financial Records, Human Resources, Purchasing, and other strategic administrative systems

Alignment with the UNC IT Strategy

In 1998-99, UNCG participated with the UNC System to develop a strategic plan to guide the system in prioritizing IT needs, allocating IT resources, and developing or expanding IT-based services. UNCG has participated fully in the development of the UNC ITS Phase 2 vision and strategic directions, the UNC Shared Services Alliance, the Teaching and Learning with Technology Collaborative, and other UNC System IT committees.

There are five components of the UNC IT strategy: Services for Students, Teaching and Learning with Technology, Administrative Systems, Campus Network and Beyond, and Distance Education. ITP developed its UNCG IT Plan to correspond closely with these components in the UNC ITS Phase 2 strategy.

Alignment with the BOG Strategic Plan

In the fall of 1999, the Board of Governors selected six strategic directions to help fulfill the mission of the UNC System, including the goals of the IT Strategy Project. UNCG’s IT goals are fully aligned with the BOG IT goals.

BOG Strategy

UNCG IT Supporting Activities Include

<p>Access: Ensure affordability and access to higher education for all who qualify, and embrace a vision of lifelong learning.</p>	<ul style="list-style-type: none"> • Develop video streaming technology for distance learning • Provide instruction in the UNCG TeleLearning Center • Expand required Web infrastructure for the development, delivery and support of distance education • Provide network access to needed learning resources for off-campus learners • Continue to upgrade the campus network to facilitate video and Web-based services
<p>Intellectual Capital Formation: Through high quality and relevant graduate, professional, and undergraduate programs, develop an educated citizenry that will enable North Carolina to flourish.</p>	<ul style="list-style-type: none"> • Continue to meet the needs of students for open access to public computing resources • Provide training and support for students using UNCG’s computing environment • Continue to provide research computing consulting for faculty and students • Provide the most up-to-date computational capabilities for campus research community • Provide Internet 2 connectivity that will act as a vehicle for high-speed collaborative research
<p>K-16 Education: Continue to propose and support initiatives to serve the needs of the State’s public schools</p>	<ul style="list-style-type: none"> • UNCG’s School of Education is one of the best in the South, and its faculty and students are supported by UNCG’s IT resources
<p>Creation and Transfer of knowledge: Expand the frontiers of knowledge through scholarship and research and stimulate economic development in NC through basic and applied research, technology transfer, and public service activities</p>	<ul style="list-style-type: none"> • Provide the most up-to-date computational capabilities for the campus research community • Support the supercomputing needs of UNCG faculty • Provide research computing consulting for faculty and students

BOG Strategy

UNCG IT Supporting Activities Include

	<ul style="list-style-type: none">• Provide appropriate network and software support for research offices on campus• Expand required Web infrastructure for the development, delivery and support of distance education• Provide network access to needed learning resources for off-campus learners• Continue to support University centers and institutes• Provide access to information and research databases for UNCG scholarship, teaching and learning
<p>Internationalization: Promote an international perspective throughout the University community to prepare citizens to become leaders in a multi-ethnic and global society</p>	<ul style="list-style-type: none">• Develop video streaming technology for distance learning• Continue to support faculty in Web development for instruction to make academic programs available across national boundaries• Expand required Web infrastructure for the development, delivery and support of distance education• Provide network access to needed learning resources for off-campus learners• Continue offering specialized computer training workshops for on-campus international students
<p>Transformation and Change: Use the power of information technology guided by IT strategy and more effective educational, administrative and business practices to enable the University to respond to the competitive global environment of the 21st century.</p>	<ul style="list-style-type: none">• Provide instructional multimedia resources in classrooms, lecture halls and seminar rooms, including connections to the campus network• Provide training and support for faculty using the multimedia facilities and Instructional, Research, and Client Services (IRCS) computing labs• Develop additional networked classrooms for student laptop computers• Continue to support faculty and students in Web development for instruction and research• Continue to provide research computing consulting to faculty and students• Continue to upgrade the campus network to facilitate video and Web-based services• Complete the planned campus network upgrades

BOG Strategy

UNCG IT Supporting Activities Include

	<ul style="list-style-type: none">• Continue the implementation and support of Banner and Banner Web for Student and Alumni systems• Implement and support the campus Web portal to give all members of the UNCG community a personalized Web interface• Provide technology training to faculty, staff and students• Support the supercomputing needs of UNCG faculty• Provide the most up-to-date computational capabilities for the campus research community
--	-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Section 2: Organization

ITP Organization

The Division of Information Technology and Planning is an integrated information organization. It is UNCG's primary IT service organization, with 106 professionals in the IT and telecommunications departments, plus over 100 student employees. ITP's staff are professionals with technical expertise in the processing, communication, and analysis of information. The Division is headed by Dr. James Clotfelter, Vice Chancellor for Information Technology and Planning, who reports directly to the Chancellor and is a member of the Chancellor's Executive Staff. UNCG was the first UNC campus to have a Vice Chancellor whose primary responsibility was information technology. Areas within ITP are Information Technology, Telecommunications, Institutional Research, and University Planning. The Division supports the Chancellor, the faculty, the students, and the other four Divisions.

The Information Technology area of ITP provides all central computing services. IT is headed by Dr. Kenneth McCollum, Associate Vice Chancellor for Information Technology and Chief Technology Officer. IT is responsible for University-wide administrative and academic computing as well as campus networking for data and video. It has three departments:

Management Information Systems (MIS)

MIS has responsibility for acquiring; developing and maintaining integrated enterprise systems that support critical administrative and academic functions of the University. Activities supported by MIS include: acquisition and maintenance of software and hardware systems; in-depth systems analysis; systems and applications design; database administration; application and network integration; software and systems programming; testing and implementation; documentation; production services; and network operations.

Instructional, Research, and Client Services (IRCS)

IRCS provides computing services to faculty, staff, and students. Its responsibilities include telephone support for desktop computing, research computing consulting for faculty and graduate students, Web development for instruction and research, student computing (labs and help desk), IT-related training, and PC repair and maintenance. It consists of four units: Student Computing, Research and Application Support, the IT Help Desk, and Field Services. The TeleLearning Center provides networked video services to a classroom and conference room.

Networks

Networks consists of two units: Network Administration and Network Services. Networks is charged with coordinating, monitoring, and managing the UNCG campus network traffic and activities. It also operates all systems controlling the allocation of network resources, including access to the network, bandwidth available to users and applications, and latency performance.

Networks is responsible for UNCG's Wide Area Network connections, including the NCREN3 connection through the new Greensboro Regional Point of Presence (RPOP).

The Director of Networks also serves as ITP Chief Engineer, reporting to the Vice Chancellor.

Telecommunications

The Director of Telecommunications reports directly to the Vice Chancellor and is responsible for Telephone Services, an auxiliary organization with no direct state funding. Services provided by the department include: operator services, voice services help desk (trouble calls), detailed service billing, support and maintenance of voice services and hardware (phone moves/add/changes, building wiring, voice mail administration, training, automatic call distribution systems) as well as voice system design and project management to support new construction. The Director of Telecommunications and the Director of Networks/Chief Engineer work together closely to coordinate and take appropriate steps toward integrating the voice and data networks. Over the next year, Telecommunications and IT will integrate their Help Desk and trouble-ticket processes.

Distributed IT Personnel and Other Central Services

The Division of Information Technology and Planning provides support for distributed information technology personnel throughout the schools and administrative offices. These include

- Field Services Consultants: Joint employees of IRCS and the individual schools are assigned for computer consulting and repair. Currently, six schools participate in this program.
- Instructional Technology Consultants (ITC): Employees of Academic Affairs' Teaching and Learning Center (TLC) are assigned to the schools to consult with faculty on the instructional use of technology. ITP provides support for the TLC and the ITCs.
- Administrative Liaison Program: Personnel in the administrative offices act as the main contact between IRCS and the offices. Administrative liaisons receive priority support and services from the IT Help Desk.

The Teaching and Learning Center provides central support for classroom multimedia resources. The Library provides central support for online informational resources for on-campus and distance learning students.

Standing IT Committees

Administrative Systems Committee

The Administrative Systems Committee provides the principal oversight for administrative systems across all divisions, and is comprised primarily of Associate Provosts and Associate Vice Chancellors. Cross-divisional project teams work under the guidance of this committee, which reports as needed to the Provost/Vice Chancellors. Working in conjunction with their Provost/Vice Chancellors, the committee recommends major new initiatives in administrative systems.

Twice each year, in June and December, the Administrative Systems Committee submits a list of recommended priorities for MIS to the Chancellor's Executive Staff. The approved University Priorities for Management Information Systems, available online at <http://www.uncg.edu/mis/UniversityPriorities.pdf>, determines the guidelines for MIS activities during the year.

Computing Lab Advisory Committee

The Computing Lab Advisory Committee provides direction for staff practice and the introduction of technology in the IRCS student computing labs. It approves additions and changes to the hardware and software to help maintain a stable environment for students and faculty teaching in the labs.

Web Oversight and Policy Committees

The Web Oversight Committee provides guidance for the day-to-day management of the Web, including the design, development, and integration of all aspects of UNCG's public Web presence. It includes representatives from each area of the university.

The Web Policy Committee approves major policies related to UNCG's Web presence. It is co-chaired by the Vice Chancellors for University Advancement and Information Technology and Planning. Members include the Provost, Vice Chancellors for Student Affairs and Business Affairs, and the Director of Intercollegiate Athletics.

Committee on Academic Computing

The Committee on Academic Computing is a Faculty Senate committee concerned with academic computing. The committee acts in an advisory capacity to the Faculty Senate and ITP.

UNC System committees and MCNC/NCREN

UNCG is an associate member of the Shared Services Alliance of the UNC System and participates in a range of UNC and MCNC/NCREN committees.

The IT decision making process

The IT decision-making process is based on sound management practices and policies of the State of North Carolina and the University of North Carolina system. Information Technology & Planning operates under plans and guidance from the Chancellor's Executive Staff (Chancellor, Provost, Vice Chancellors). The Executive Staff reviews and approves overall ITP policies and directions.

Initiatives may come from within ITP or from clients. Alternative approaches will be reviewed by ITP staff and committees, in terms of costs and benefits to clients. Funding decisions will be made at various levels, depending on the scope of initiatives.

Section 3: Standards & Policies

IT Policies

The University has established a set of policies regarding the use of information technology by faculty, staff, and students. They include:

Computer Copyright Adherence

<http://www.uncg.edu/apl/POLICIES/iip009.html>

Computer Use by Employees

<http://www.uncg.edu/apl/POLICIES/iip018.htm>

Computer Use by Students

<http://www.uncg.edu/apl/POLICIES/iip017.htm>

E-Mail Retention

<http://www.uncg.edu/apl/POLICIES/iip019.htm>

Supported Products

<http://www.uncg.edu/apl/POLICIES/iip008.htm>

Wireless Communications

<http://www.uncg.edu/apl/POLICIES/wireless.htm>

World Wide Web Policy

<http://www.uncg.edu/apl/POLICIES/iic015.html>

Technical Standards

Security and Encryption

UNCG's policy-based networks ensure reliable, fair, and consistent network services to the campus. The Networks department maintains node registrations for nodes connecting to the campus network. Open-use machines are required to have the users identified and the usage period noted. ITP monitors system management access privileges to all routers on campus as well as the authority to either power-off, re-boot, physically disconnect, or disable packet delivery from any individual system that may be causing problems.

ITP must ensure that our campus facilities do not disrupt campus, statewide, or national networks and that we maintain good connectivity to the network for all campus users. The division is neither an investigative nor a disciplinary entity in its primary responsibilities. However, in cases where University resources and privileges are abused or otherwise threatened, the division will take appropriate steps.

Hardware, Software, Desktop & Server Computing

The University maintains a list of Standards for Computer and Related Technology, available online at <http://www.uncg.edu/apl/POLICIES/iip008.htm>, which includes a list of supported operating systems, software, and hardware. (Personal digital assistants will be included on the Supported Products List in the future.) Departments are not prevented from purchasing products other than those on the list; however, support of any product not on the list is the responsibility of the purchasing party.

Software used specifically for instruction is not covered under the Standards for Computer and Related Technology policy. The acquisition or use of such software is reviewed by the Computer Lab Advisory Committee.

Acquisition of information technology consulting and contract services

ITP hires information technology contract services and consultants to perform services for which ITP does not have on-staff expertise. Services are purchased in accordance with purchasing guidelines set by the UNC system and the State of North Carolina.

Disaster Recovery

UNCG has both a University-wide Emergency Operations Plan and a Crisis Communication Policy. Information Technology and Telephone Services are members of the Emergency Planning and Response Team, and, when necessary (i.e., emergency involving a telephone outage, information systems sabotage, or computer network outage), ITP will operate as Incident Commander for UNCG.

In the event of an emergency, IT and Telephone Services are responsible for:

- Providing personnel to ensure the integrity of the telecommunications system infrastructure
- Maintaining a list of temporary communications resources, pending permanent repair
- Providing for repair or maintenance of communications for the Emergency Operation Center
- Recovering core administrative systems' functionality
- Restoring required information services, including the World Wide Web.

According to the Crisis Communications Policy, available online at <http://www.uncg.edu/apl/POLICIES/iid004.html>, ITP is responsible for all electronic communications in crises, such as e-mail, network alerts, and the University's home page on the World Wide Web.

ITP has its own Disaster Recovery Plan, with a primary objective of helping to ensure the continued operation of the university by providing the ability to successfully recover computer services in the event of a disaster. As part of the IT Disaster Recovery Plan, ITP provides for

routine back up of critical data and software systems. ITP has established a second, parallel computing environment, which will have sufficient capacity for the University to operate at reduced service levels in the case of a disaster.

Telecommunications

UNCG does not own a private phone system (PBX). To take advantage of the state's volume buying power, the University purchases local and long distance services through the N.C. Office of Information Technology Services state master contract (ITS-00048). Local service is provided by BellSouth (Centrex). Long distance service is provided by AT&T (faculty/staff phones) and BTI (student phones). The UNCG/ITS contract provides for UNCG to have direct technical and billing relationships to service providers, rather than going through ITS.

Networking

Ethernet protocols are used for building and campus networks. Office and instructional laboratory networks are connected to Ethernet building networks and the campus network as appropriate. IT provides full support for TCP/IP and NetWare IPX software protocols and limited support of AppleTalk and DECNet protocols. Core network switching is performed by Cisco's very high speed Ethernet switches augmented by a mixture of 100Mb/second and Gigabit Ethernet. All campus switching hardware and switch software must operate under the Cisco Catalyst environment.

The design of a new building requires new fiber optic cables to be installed from one of the campus main hub buildings in concrete-encased duct banks, and terminate in a main telecommunications closet in the building, and then be distributed to remote closets located throughout the building. Likewise, Bell South, utilizing concrete-encased duct banks provided by the new building project, brings telephone service to the building main distribution closet. Cabling specifications meet or exceed the current UNC System standards. *Design and Construction Guidelines*, which includes a section on telecommunications systems, is included with all design, development, and bid document materials distributed to contractors by Facilities Design and Construction.

During Phase 1 of the UNC System Information Technology Study, the Network Connectivity Assessment Task Force (NetStudy Team) defined network connectivity specifications for all campus facilities, and determined the cost of moving all campuses to these standards. At the completion of the UNCG campus-wide telecom project in fall 2002, 100% of buildings on campus will be wired to these specifications, available online at <http://www.ga.unc.edu/its/netstudy/netspec.html>.

Video services:

UNCG's TeleLearning Center provides video teleconferencing connections to other UNC System campuses from our wired facilities in the McNutt center over the NCREN network. NCREN can, in turn, provide connections to other institutions throughout North Carolina, e.g., such as research centers, medical schools, government agencies, community colleges, and high schools.

To reduce the amount of needed bandwidth while maintaining high video quality, UNCG's connection to the NCREN network is made using codecs (coders/decoders) by Litton Electronics

that utilize MPEG2 compression. This compression allows us to utilize only 5.1 Mbps., while delivering a broadcast quality video signal at 30 frames per second (the same as broadcast television). UNCG's TeleLearning Center can send two simultaneous sets of signals to different locations, utilizing a bandwidth of only 10.2mbps.

When the Telecom Network Project is finished (scheduled for July 2002), ITP will be able to support both point-to-point and multicast streaming video to any campus desktop. We currently support RealServer as part of a cooperative test/development project and we are working with Internet Service Providers to improve connectivity so that campus streaming services will be usable off campus. Once the network project is completed, IT will deploy video streaming in the production environment.

Other wireless technology

Wireless equipment being recommended and installed by ITP uses either the FCC unlicensed 2.4 GHz Industrial/Scientific/Medical (ISM) band or the FCC 5.0 GHz Unlicensed National Information Infrastructure (U-NII) band. Wireless equipment transmissions within the 2.4 GHz band conform to the IEEE 802.11b DSSS (Direct Sequence Spread Spectrum) wireless LAN specification. Wireless equipment transmissions within the 5.0 GHz band conform to the IEEE 802.11a OFDM (Orthogonal Frequency Division Multiplexing) wireless LAN specification. Additional information on wireless communications (data and voice) can be found online at <http://www.uncg.edu/apl/POLICIES/wireless.htm>.

Section 4: Management Processes

IS/IT Audit performance

The Office of the State Auditor performed an information systems general controls audit from June 14, 2000 through August 11, 2000 of the administrative computer operations at UNCG. The audit identified two major and fourteen minor findings. The UNCG Office of the Internal Auditor stated in an Audit Report Transmittal dated April 20, 2001, that an audit review had been conducted and the major audit findings have been resolved.

The Office of the Internal Auditor performed an audit review of the minor findings during the spring of 2001. The Internal Auditor issued a report of the review findings on June 18, 2001, stating that all of the minor findings except three had been resolved. Two of the three minor findings have since been resolved. Resolution of the third minor finding is scheduled for completion by June 2002.

UNCG's Enterprise Systems Policy seeks to ensure that all enterprise systems will be managed in ways compatible with the state's IS audit standards and good management practices.

Acquisitions of IT Goods & Services

All IT goods and services are acquired in accordance with state purchasing regulations, state laws, UNC system, and UNCG purchasing recommendations.

Under G.S. 143B-472.66 as amended in Session Law 1999-434, the University of North Carolina (UNC) system is exempt from the authority of the North Carolina Office of Information Technology Services (ITS) to manage information technology procurement for state government. However, given the possible benefits of cooperation between the two organizations, representatives of ITS and UNC met and discussed opportunities for working together in the area of IT procurement. A Memorandum of Understanding (MOU) was signed in 2000 and re-affirmed in 2001 between the UNC Vice President for Information Resources and Chief Information Officer and the state's Chief Information Officer. Through the MOU, UNC and ITS expressed their common understanding of the agreement and the process by which UNC IT procurement contracts will be managed. See Appendix A for the provisions of the agreement.

IT goods and services for university-wide purposes are purchased by the Information Technology and Planning division. IT goods and services for desktop computing and other distributed support are purchased by the units needing these goods and services.

Process for major IT implementation projects

IT projects are implemented using sound business practices. The University offices/sponsors involved in a project provide a descriptive title for the project and a document describing the desired functions of the application. A project leader is designated to oversee the project implementation. A project team, consisting of departmental and IT staff, are assigned to work with the project leader. Appropriate project management techniques are used to ensure the timely completion of the project. An oversight committee monitors the progress and approves changes to the project.

An example of the implementation process is the Banner project. The decision was made by the Chancellor's Executive Staff in 1995-96 to implement an integrated SCT Banner Student Information System, Accounts Receivable, and Financial Aid software package on an Oracle database. The Vice Chancellors for Information Technology & Planning and Business Affairs and the Provost acted as the sponsors of the project. A Banner Oversight Committee supervised the implementation of the system. A Banner Project Team, composed of managers from each area affected by the Banner implementation and MIS staff, was responsible for defining policies and procedures and developing detailed user task assignments and timelines for project implementation. From the project team, approximately 20 working committees were formed. After a successful implementation, UNCG was the first UNC System campus to complete online registration in November 1997.

Recently, the IT departments have been formalizing project management. All IT staff members will receive formal project management training and all IT-originated projects will be carried out according to rules and procedures developed by an internal project management review board. IT intends to create a Project Management Office to assist project managers and to help track project progress and resource use.

IT life cycle management efforts

Most file and application servers are subject to a three-year refresh program, with leasing used to leverage available resources. Desktops are purchased on an as-needed basis by the individual IT departments, which are encouraged to shorten the lifecycle of equipment and to consider leasing to move from a capital to continuation model for desktop computing costs.

Training and Professional Development

ITP strongly supports staff training and development. The changing nature of technology requires diligence about maintaining an up-to-date knowledge base. Where appropriate, IT employs outside trainers, but also utilizes a "train the trainer" approach whereby some ITP staff may attend off-campus training and then train other ITP staff.

ITP also trains the faculty, staff and student body at UNCG. The Department of IRCS offers hands-on computer workshops covering basic and intermediate training on productivity applications, web development tools, and statistical and research applications. It also offers computer-based training courses created by SmartForce, accessible to all UNCG employees and students, both on-campus and off.

Section 5: Assessment & Accountability

UNCG and ITP are committed to institutional effectiveness and the use of assessment measures to improve services. Since no single metric measures the success of IT support and services, ITP uses several means of assessment and accountability. Monthly, each ITP department submits Key Success Indicator data to the Vice Chancellor for ITP. For each indicator, a performance standard has been set. These quantitative data assist the Vice Chancellor and other managers to track departmental performance, and to identify areas that may need attention. Examples of Key Success Indicators tracked by ITP include measurement of:

- Percentage of help desk calls resolved within the same business day
- Number of network system shutdowns affecting the client community
- Percentage of classes using the TeleLearning Center experiencing error-free communication
- Percentage of time production applications/databases are available during normal operating hours

In addition, ITP departments regularly use customer surveys and portions of faculty and student surveys that relate to IT, to determine both client satisfaction and customer needs. Some of these surveys, such as Client Satisfaction, Quality and Performance, and Computing Lab surveys, are conducted quarterly and analyzed in the Key Success Indicator data submitted to the Vice Chancellor. The questionnaires ask customers who have used IT services during the quarter to rate the knowledge of the consultant, the quality of the lab, and the overall experience with the IT departments. Others, such as the UNCG Spartan Experience Questionnaire and the UNC Sophomore and Graduating Senior Surveys, are conducted and reviewed every two years. ITP also develops focused surveys to assess customer needs, such as one on web development software needs and another on desired features in an email and collaborative system.

In February 2001, Vice Chancellor Clotfelter conducted a series of meetings in which administrative clients were invited to discuss ITP services and communication. Fifty-four clients attended an initial 5-hour meeting, and then participated in task groups over succeeding months that addressed issues such as “how does ITP communicate with clients about system downtime?” The IT Administrative User Group continues to meet and provide feedback to ITP.

Section 6: Funding

Budgets for ITP and other divisions are set by the Chancellor after discussions within the Chancellor's Executive Staff. The primary uses of IT funds are to purchase equipment (hardware and software) and to pay staff. Other important uses are to pay annual charges for hardware and software maintenance, and to purchase services, e.g., Internet gateway services from NCREN.

Information Technology and Planning relies primarily on the following types of funds to support information technology (excluding telephone services):

- budgeted state funds;
- budgeted distance learning funds;
- student fees (Educational and Technology Fee – treated as state budgets per state standards);
- state funds allocated by the Chancellor or the General Assembly for one-time purchases.

Telephone Services is a fully self-supporting auxiliary operation. Telephone customers pay for whatever level of service they choose to purchase. No state funds are allocated directly to Telephone Services, and no telephone receipts are used to support non-telephone operations.

Small amounts of private and grant funds may be used occasionally to support ITP operations. Private funds sometimes go to distributed IT projects in academic units.

Capital funds occasionally are used for IT purposes, e.g., the campus-wide Telecommunications Network Project. This multi-phase project was jointly managed by the Business Affairs/Facilities area and ITP.

UNCG units outside ITP also purchase equipment and pay staff. Because desktop computing is a distributed expense at UNCG, each department purchases its own computers.

Section 7: Conclusion

UNCG has effective policies, standards, and management control for all areas of information technology and telecommunications. The ITP division has an appropriate management structure, committee structure, and decision-making process. ITP seeks to be responsive to clients across the campus, and uses assessment measures to improve its performance. UNCG works cooperatively with other UNC campuses, ITS, and MCNC/NCREN to provide services in an economical and effective manner. UNCG has responsibly managed information technology in the past and will continue to do so.

Appendix A: Provisions of the Memorandum of Understanding for IT Procurement

- Relative to the University and its constituent institutions, all ITS contracts will be convenience contracts, not term contracts. UNC and its constituent institutions will have access to the state IT contracts administered by ITS on a convenience rider basis--they will not be required to procure IT goods and services through ITS contracts, but may purchase off the contracts as needed. This will enable ITS to utilize UNC purchasing volume in leveraging discounts and other benefits from IT companies.
- Because of the potential to realize greater value for the state and its universities through educational discounts and related strategic alliances, UNC retains the right to establish system-wide contracts for IT goods and services.
- UNC and its constituent institutions will not be responsible for the costs associated with the ITS procurement activities beyond those UNC and its constituent institutions directly incur in completing their administrative functions. UNC institutions will not pay any fees that were not in place as of January 1, 2000.
- UNC and its constituent institutions will receive "best value" procurement training as a joint venture between UNC, the Division of Purchase and Contract, and ITS.
- In determining the recommended IT procurement benchmarks for its institutions, UNC will consult with ITS in assessing an institution's capacity for managing its proposed delegation relative to IT.