Year In Review
Information Technology & Computing Services
Dr. Jack Brinn, Interim CIO
2006-07
EXECUTIVE SUMMARY

We are pleased to present our annual report to our stakeholders and supporters. The ITCS staff and management teams have continued to work diligently to provide ECU with the best possible information technology services and support. We remain the premier IT department in the UNC system. This was fully evident during President Bowles’ PACE initiative when most of the IT cost/efficiency suggestions put forth for the UNC system had already been implemented at ECU. In addition to the on-going and highly visible Banner project, we accomplished a myriad of other, less prominent but nevertheless, important, projects that are described in this document. We have also made a significant internal staff realignment, consistent with market trends, and promising better support depth for critical applications, operating systems and storage technologies.

Last year’s report, which differed from the list of projects and accomplishments in previous years, presented the major hurdles faced by ITCS, and, given that some of those issues, (1) staffing and market rate salaries, (2) growth of service demands, and (3) IT funding remain wholly or in part, the reader should review that document for details (http://www.ecu.edu/itcs/upload/YearInReview06.pdf). This report will place additional emphasis on those concerns. If left unaddressed, we feel that East Carolina University will undergo some marketability weaknesses in the technically-savvy student recruitment arena and some of the University’s strategic goals will be compromised. These comments are not intended as complaints; rather, ECU has reached level of institutional maturity and sophistication such that all services and functions must be integrated into the overall management vision.

Finally, we would be remiss in not discussing the data exposure event that occurred through our portal, One Stop, in January, 2007, as well as providing a progress report on Cotanche Building renovations necessitated by the power failures of June, 2006. In summary, we feel that the former incident has been fully addressed; however, the second is not resolved and we are functioning at great risk.
I. Incident Follow Ups

Data Exposure Incident

The data exposure incident involved a brief opening, the equivalent of a software “bug,” in One Stop that allowed unauthorized users to see sensitive information, including Social Security numbers and sixteen credit card numbers. The incident was the result of a programming error and did not involve a malicious intrusion, thus the term “data exposure” rather than “breach.” All persons whose information may have been viewed were sent letters of explanation and caution. In the interest of full disclosure, an internal audit of the circumstances surrounding the data exposure was requested. Furthermore, (1) One Stop was developed by ITCS staff rather than being a vendor-supplied application and (2) there are approximately two-hundred applications included in the collective One Stop code; therefore, an external assessment of the One Stop application was contracted to determine if there were other security issues. Both of those assessments are now complete.

The findings of the internal audit are in the public record and all issues have been addressed except the career banding salary problem, a concern raised in last year’s Year In Review, but which is being addressed to some degree legislatively. East Carolina University still must address career banding as a policy issue.

The separate software assessment revealed several easy-to-fix security concerns that were more policy and data processing issues than programming errors. For example, we did not have a filter for the ten most commonly-used passphrases that match our passphrase policy. We require at least eight characters, one of which must be an upper case letter and one must be either a symbol or a number. Without a filter, “Password” can be a part of an acceptable passphrase, thus making the work of a password “cracker” application much easier.

We are confident that the procedural and technical issues related to the One Stop data exposure incident have been resolved and that we as a competent and evolving IT department are in an improved security posture as a result of the incident.

Power Failure

The Cotanche Building experienced two power failures on June 20 and 22, 2006. Three major problems led to those failures: (1) two circuit breakers rated at half the required amperage, (2) incomplete redundancy in the building’s backup power supplies, and faster-than-expected growth in the number of servers housed in Cotanche. The reason for the lower-rated circuit breakers being installed in the initial renovation of the site from a newspaper building to a data center is unknown; incomplete redundancy in the backup power supplies can be attributed to cost overruns in the initial renovation. Correct circuit breakers are now in place, and they have functioned appropriately during the very hot days of June, 2007.
A vendor has been selected and plans for redesigning our power and air conditioning supplies as well as the basic computer room floor space are being developed. We anticipate that work will begin in the Fall, and upon completion, ECU’s data center should be at a Tier III rating, Tier IV being highest.

The best-case scenario: the fundamental problems of inadequate power and air conditioning remain to the extent that we cannot deploy another server in the building. This places serious service constraints on us.

The worst-case scenario: we are nevertheless operating in a very tenuous situation with no power or cooling redundancy to meet emergencies. An as-yet-unknown upstream event resulted in the temporary failure of an uninterruptable power supply (UPS) with a concomitant machine downtime on the weekend of July 7, 8. We are literally at the mercy of the external temperatures and any ensuing power spikes/dips from Greenville Utilities, and our own non-redundant internal system of the generator, circuit breakers and UPS.

II. ISSUES OF CONCERN

Career Banding and Staff Salaries

Career banding, a State Office of State Personnel mandate, gave us significant latitude in classifying SPA staff; however, it also present two problems: (1) the bands were pegged to market salary rates and (2) no funding was provided. Some campuses have addressed this issue in varying degrees of success out of local funds. We requested $600,000 in the ’06-’07 funding cycle to bring our staff up to 85% of the market rate, and we received ~$98,000. We supplemented with $85,000 from our operating budget, thus taking away from training and travel needs and creating another problem in the future, to bring some of the more egregious situations up to 85% of the market rate. Career banding is now impacting other staff pools across the campus, and ECU must develop a plan to deal with the need. As of this writing, we do not know what impact if any the legislative effort toward career banding will have.

Campus IT Funding

ECU has approximately $2.4 million in Banner hardware that must be replaced in two to three years, another $6.4 million in bond-funded smart classroom technology and $4.5 million of instructional and research equipment in the Science and Technology Building for which there is no replacement funding plan. With the exception of the current Banner and Blackboard servers, ITCS purchases much of the University’s hardware through reallocation (lapsed salary), one-time monies. Every piece of equipment purchased with one-time monies or from other sources must have an on-going service contract, and it must eventually be replaced.
These issues underscore last year’s concerns over the need for a consistent funding plan for campus technology. While we are not unique in this area (it is the number one university IT issue cited in the May/June 2007 issue of Educause); with no funding plan for upgrading central server and network facilities as well as updating major IT investments in other areas such as the Science and Technology Building, ECU will soon be at risk on multiple fronts. As equipment ages, the mean time to failure decreases and the security risks increase. Machine/network failures impact basic business services, client confidence and recruiting of faculty and students; security breaches undermine public confidence.

In light of ECU’s increasing dependency on a reliable, state of the market IT infrastructure, I have borrowed from an article from Educause: Funding Information Technology, An Educause Executive Briefing 20003 to substantiate our call for an IT funding plan (www.educause.edu/ir/library/pdf/PUB4002.pdf).

The article begins with the challenges and obstacles to campus IT funding, e.g., reduced budgets and competition for dwindling resources, increasing demands for IT services, security needs, etc., as well as the campus barriers to IT funding. The following are cited as failures (paraphrased in italics):

1. Engaging management at the highest levels as well as campus-wide stakeholders in planning. ITCS has been very successful in bringing deans and faculty into discussions and preliminary planning; however, senior management has not fully engaged. We recognize the need to deal with some near-crisis campus issues, but we don’t want IT to become one of those crises.
2. Educating the user base about outcomes of IT investments and the potential need for process change: The Banner project has demonstrated this point quite well; the rollout of Microsoft Office 2007 is similar; ITCS has organized extensive required training for the former and made training available for the latter.
3. Establishing replacement life cycles for infrastructure and incorporate cycle costs into the IT budget. ITCS is ahead of many UNC constituent IT departments in determining equipment life cycles as demonstrated by President Bowles’ PACE initiative; however, much of the equipment replacement is done with one-time monies.
4. Dealing with the human resource component of IT. The local equivalent of this issue is career banding.
5. Standardization to achieve economies of scale. ITCS has been a leader in this arena with hardware, software and services for at least seven years, again demonstrated in the President’s PACE effort.

The article then presents various IT funding models: (1) centralized department with allocations from a campus operating budget, (2) service charges for connectivity or a “tax”, and (3) debt financing. We do get about three million dollars annually to support service contracts, basic operations, etc., but that funding is flat while our growth and financial liabilities are on the ascent.

Finally, four “principles and recommended practices” are posed (paraphrased in italics and not in same order).
1. **Sound IT management must precede effective IT funding.** Given the ITCS record of effective life cycle management, working with the lowest student technology fee in the UNC system, and the maintenance of service levels in the face of budget constraints and cuts, we believe that we have effective, cost-conscious IT management practices.

2. **Comprehensive institutional planning involving senior management and including questions of what and how much is needed, how to best integrate IT with institutional planning, how to include IT in campus governance and at what levels is the CIO involved are necessary.** This has not yet happened at ECU.

3. **IT financial plans, with periodic “big-ticket” replacement cycles, e.g., Banner hardware, must be long term and included in the campus’ planning and budgeting. In addition, campus-wide IT costs, central and distributed, must be assessed. Costs must cover infrastructure as well as personnel.** We have not arrived at this point.

4. **IT investments must be justified and prioritized at an institutional level.** There must be wide-spread understanding of outcomes and change for administrative and academic IT investments, along with value assessments with understanding that funding all IT projects is not feasible or desirable in all cases. We have not arrived at this point.

We have proposed a campus IT management scheme represented below. The top row depicts the distribution of services and functions with examples shown in the columns beneath those functions. The implications of the model are:

1. We should determine which IT functions can be provided less expensively by off-campus entities;
2. The data center has a role in the provision of mission-critical services and IT tool sets and appropriate campus centers can serve as the final bridge between users and services;
3. The occupants of the right hand column should be users of the services in the other three columns and not duplicators of those services.

<table>
<thead>
<tr>
<th>Low-value-add services (Outsourced)</th>
<th>Value-add services, tools (Data Center)</th>
<th>Tool enhancement (Campus Centers)</th>
<th>Creativity &amp; Leadership (Admin/Academic Units)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Archival storage,</td>
<td>Network/security</td>
<td>Business intelligence</td>
<td>Research</td>
</tr>
<tr>
<td>Student/alumni email,</td>
<td>Banner data</td>
<td>Media center</td>
<td>Pedagogy</td>
</tr>
<tr>
<td>Shared learning modules,</td>
<td>Critical application</td>
<td>Research computing (code</td>
<td>Data driven management</td>
</tr>
<tr>
<td>Selected application servers, e.g.,</td>
<td>(Banner, Blackboard, etc.)</td>
<td>enhancement, etc.)</td>
<td></td>
</tr>
<tr>
<td>PDF</td>
<td>Research machines,</td>
<td>Research design, &amp; statistical</td>
<td></td>
</tr>
<tr>
<td>Research machines</td>
<td>Work enhancement tools (surveys, stats),</td>
<td>support</td>
<td></td>
</tr>
<tr>
<td>Web servers</td>
<td>Web development</td>
<td>Desktop/Smart Classroom</td>
<td></td>
</tr>
<tr>
<td>ID management</td>
<td>Database admin</td>
<td>Support</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Systems Admin.</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Virtualization of core servers, labs</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Reporting tools, training &amp; hardware</td>
<td></td>
<td></td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>
If fully implemented, with full dialogue among all constituents, such a model would facilitate the development of a realistic IT funding and management plan.

It is out of concern for the quality of ECU’s IT program and its role in the strategic direction of the University that we raise the issue of the need for a sustainable funding model. We have some work remaining to garner effective feedback from our academic constituents; however, the basic communications channels are in place. The larger issue is the recognition and buy-in needed from senior management to help resolve these developing problems.

III. PROJECT REPORTS

A. Reorganization

Joe Norris, Director of IT Support Services, was assigned to the new title of Chief Technology Officer. This change was made with the goals of better integrating project management and gradually bringing infrastructure management under one person. With that change, other staff realignments were made that altered and increased the depth of expertise in systems and applications support. For example, Banner, Blackboard and research computer operating systems will have team support rather than individuals for each system under the old paradigm.

B. Information Technology Support Services

Performance Management

ACE Support Center

Over 4500 service calls were logged in the ACE Student Support Center, a 7% increase from last year. Hands-on support is offered through the Connect2ECU project; satellite support sites are located at residence hall locations during the first week of school to assist users with upgrading their computer security to meet the new network guidelines. Over 708 Lenovo warranty repairs were processed through May 15th, a 187% increase over last year. Two technicians were certified for Apple Warranty repair. Next year, an Apple Service Center will be established.

Through Dowdy Student Stores, over 1200 computers were purchased, a slight increase over last year. Additional academic majors chose to participate in the initiative, bringing the number of academic majors requiring or recommending a computer to over thirty. For the first time, medical students had an option during orientation to select a tablet pc or traditional laptop. Over half the students selected the tablet PC.

Approximately 4100 students are in these 30+ programs' (2700 required, 1400 recommended) informational sessions for parents of incoming freshmen. These
sessions provided information on computer requirements and recommendations, technology resources available for students, and answered general questions parents have related to purchasing a computer for the student. Over 1800 parents attended these sessions that were held over 7 different orientation sessions.

**ITCS Help Desk**
The Help Desk, including the Student Help Desk, handled over 47,000 calls. The first-call resolution is 87%, a slight decrease due to the reduction of password resets. Student Help Desk calls reduced; the decrease was in part a result of the increased use of ACE by students for assistance, proactive steps to decrease password resets, the use of CCA to prevent virus infections of student computers, and increased educational efforts directed at student customers.

The Help Desk was relocated from Cotanche to Austin to allow ITCS to begin providing walk-in support services in the Technology Resource Center for the coming semester. Similarly, walk-in support service was established on west campus at the ACE location in the Allied Heath/Nursing (AHN) building. An online chat tool was added to the ITCS web site, so users could quickly chat with Help Desk and Student Help Desk staff to solve problems. The primary goal for the Help Desk is to increase educational efforts when dealing with customers, increase first level resolution, and increase call resolution remotely. This is being accomplished through increased use desk top tools and increased communications between campus departments who use ITCS-supported systems such as Banner. These steps will increase the Help Desk's ability to troubleshoot and resolve basic technical issues.

The following table represents a summary of calls presented to, handled by and abandoned from the IT Help Desk, Student Help Desk, and Operations for FY06-07.
Total Call Summary (IT Help Desk, Student Help Desk & Operations)

<table>
<thead>
<tr>
<th>Month</th>
<th>Calls Presented</th>
<th>Calls Handled</th>
<th>Calls Abandoned</th>
<th>% Abandoned</th>
</tr>
</thead>
<tbody>
<tr>
<td>Jul-06</td>
<td>4507</td>
<td>4007</td>
<td>500</td>
<td>11%</td>
</tr>
<tr>
<td>Aug-06</td>
<td>8428</td>
<td>6891</td>
<td>1537</td>
<td>18%</td>
</tr>
<tr>
<td>Sep-06</td>
<td>3860</td>
<td>3450</td>
<td>410</td>
<td>11%</td>
</tr>
<tr>
<td>Oct-06</td>
<td>4466</td>
<td>3991</td>
<td>416</td>
<td>9%</td>
</tr>
<tr>
<td>Nov-06</td>
<td>3762</td>
<td>3329</td>
<td>430</td>
<td>11%</td>
</tr>
<tr>
<td>Dec-06</td>
<td>3085</td>
<td>2781</td>
<td>282</td>
<td>9%</td>
</tr>
<tr>
<td>Jan-07</td>
<td>5353</td>
<td>4713</td>
<td>633</td>
<td>12%</td>
</tr>
<tr>
<td>Feb-07</td>
<td>3397</td>
<td>3045</td>
<td>351</td>
<td>10%</td>
</tr>
<tr>
<td>Mar-07</td>
<td>4108</td>
<td>3721</td>
<td>386</td>
<td>9%</td>
</tr>
<tr>
<td>Apr-07</td>
<td>4538</td>
<td>4055</td>
<td>473</td>
<td>10%</td>
</tr>
<tr>
<td>May-07</td>
<td>5352</td>
<td>4719</td>
<td>591</td>
<td>11%</td>
</tr>
<tr>
<td>Jun-07</td>
<td>2697</td>
<td>2423</td>
<td>269</td>
<td>10%</td>
</tr>
<tr>
<td>Total</td>
<td>53553</td>
<td>47125</td>
<td>6278</td>
<td>11%</td>
</tr>
</tbody>
</table>

**Student Employee staff**
We continued to integrate student staff from Austin Lab, the Ace Support Center, and Student Help Desk. This integration enables us to operate more cost efficiently, offer expanded services, and provide a greater learning experience for the student employees. Training and development for student employees was expanded, accountability increased, and students were given the opportunity to increase their pay rate based on performance and achievement. We provided professional development and training on a monthly basis for student staff with a continued heavy emphasis on training student staff on workplace safety and security.

**Technology-Enhanced Classrooms**
Technology-enhanced classrooms are increasing at a rapid rate. This year, we have added or upgraded 72 rooms with over 250 rooms available campus wide. These numbers include labs and conference rooms with varying levels of technology.

In order to save costs, much of the programming and installation of new technology-enhanced rooms is completed using existing campus personnel. As a result, we can troubleshoot our own problems and regulate the user interfaces to be similar in nature, making it easier for faculty to teach in multiple classrooms. The average ECU implemented Technology-Enhanced Classroom costs $13,000.

New buildings completed this year with significant technology enhancements include the Old Cafeteria Complex and the new Allied Health and Nursing building. With the new AHN building and an increased demand throughout campus, the ability to record courses and distribute content to both on campus and distance education students has dramatically increased. During the spring semester, 1364 Mediasite video presentations were created with a total of 19968 viewings of these
presentations. Mediasite™ has become the standard tool at ECU for compiling and distributing course presentations. The software enables interactive student and professor chatting, as well as in-class polling. In the upcoming year, we will explore the podcasting of presentations. Future buildings that will have significant classroom technology enhancements include Flanagan South, Belk, Family Practice, and Academic A.

**Infrastructure & Security Updates**

**Student Computing & Technology Fee**
The Student Computing and Technology Fee provided upgrades for 27 student computer labs with 425 new computers and printers ($691,000) and software upgrades to academic departments for their labs ($501,000). New technology projects ($405,000), printing services extended for students using wireless and special curriculum needs ($174,000), and a number of student areas throughout campus were upgraded to include wireless improvements to identified areas of campus ($168,000). The capacity of the Blackboard hardware infrastructure was upgraded, and a variety of technical support services were provided to SCTF funded computer lab, as well as other student IT services ($656,000).

**Service Management System**
ITCS implemented a service management software package called TechExcel ServiceWise in April 2007 with plans for live implementation the new fiscal year beginning July 1, 2007. TechExcel ServiceWise will allow ITCS to provide enhanced delivery and support services to the ECU community. Additional services handled with the new software package and process is ITCS fixed assets and inventory, software distribution, and form tracking.

**Password Resets**
To improve the security associated with ECU e-mail accounts, a new passphrase policy was put into place. This policy and resulting procedure requires users to provide a photo ID prior to having their passphrase reset. Most importantly, there was a required educational process, where users were walked through self help mechanisms so in the future they could resolve their passphrase issue. Through effective planning and implementation the policy change was implemented in a seamless manner. The result is a more secure passphrase and an extraordinary decrease in passphrase resets coming into the Help Desk. The decrease will create the opportunity for the Help Desk to achieve their goal of increased call complexity resolution.
Collaboration

Alumni E-mail
Out of the 2007 graduating class of 3000 students; more than 450 students have registered for ECU alumni e-mail accounts. This service, negotiated with Microsoft Corporation will provide ECU-branded email accounts that will enable the University to maintain better contact with its graduates.

Freshmen Orientation
Student staff conducted “technology at-a-glance” sessions, exposing incoming freshmen to technology resources, educating them on Piratemail, Passphrase Maintenance, support services, etc. Over 1700 incoming students participated in these hands on sessions that were held in campus computer labs across campus.

Microsoft Communicator Pilot Project
ITCS collaborated with Academic Outreach and the College of Education to test various application features of the Instant Messaging tool; an overall evaluation was distributed to more than 300 users; survey results were presented to the IRCC. ITCS recommends purchasing licenses primarily for internal (to ECU) business communications and slowly expanding to faculty and students as the need/demand arises.

ECU Web Site
On average, the ECU web site receives 85 million hits per month, which consists of over 13 million page views. The ECU Web site includes over 800 unique sites ranging in purpose from administrative, to academic, to student clubs and organizations. Over 90% of our sites have migrated to the CommonSpot environment (the university's content management system). The ECU Web site has seen enhancements to its home page and upper level site this year. These
enhancements have brought about a positive reaction from the ECU community. In the next fiscal year, we will work on further visual enhancements as well as navigational improvements.

Meetings, Conferences, and Other Collaborations
ITCS/ECU coordinated and co-hosted the annual UNC CAUSE conference which brings together IT leaders across the UNC system to share information, attend presentations, and learn about new technologies. The meeting was held in New Bern and received high accolades as the best Cause meeting in recent history.

An IT Security Awareness Fair was hosted by ITCS with attendance by IT staff and other professionals from ECU and across the state's UNC campuses. The purpose of the fair was to raise security awareness. The guest speaker came from Virginia Tech, and the earlier tragedy on that campus combined with his presentation skills made the fair very successful.

ITCS participated in this year's prospective student Open Houses; the Spring Open House was attended by approximately 3800 students and family members, making it the largest Open House ever. ITCS partners with the Center for Faculty Excellence to plan new faculty orientations. ITCS hosted a faculty reception and networking session in March of this year.

Communications and Training
ITCS has emphasized client education in the appropriate usage of resources, password resets, and other technologies through the re-tooling of the ITCS Web site, ECU Technology Digests, and the distribution of over 11,000 IT newspapers and 5,000 student computing CDs. The increased communications, quality, and focus on usability has dramatically improved the effectiveness of ITCS communications. With the significant changes in Microsoft’s Office 2007 and sensing the need to better manage the roll out of this product, we conducted several introductory familiarity sessions across campus. In the continued effort to support a content management system, twenty-two CommonSpot courses were led and twelve New to Web Design sessions were conducted. Through online training tools over 1200 courses were completed with the majority completed by students. Microsoft courses were the most attended for all students. Other face to face courses offered through the year include XML, Project Management Fundamentals, Perseus, SPSS, SSAS, XMTL, and Secure Computing.

Mobile Device Strategic Plan
With a growing dependency on mobile computing/telephony devices, we have developed a two-year strategic support plan that maps the educational and business impacts of mobile technologies, along with the strategy and support plan required to meet current and future university needs.
**Innovation**

**Virtual Computing Initiative**
ECU is partnering with North Carolina State University and IBM on the Virtual Computing Initiative (VCI). The VCI will enable students to access software applications on remote, reconfigurable servers from any broad-band-enabled site through the Internet. This project will make software packages now available only in labs more accessible to distance education students. We will be working with a number of departments for the fall semester to implement this PACE-consistent technology.

An equipment grant from the IBM/Southeastern University Research Association (SURA) program, awarded to ECU, North Carolina Central University, NC A&T, UNC-Greensboro, and Appalachian State University will extend the educational activities of the VCI and strengthen collaborative relationships among the universities.

**High Performance Computing**
Through a NSF grant to several ECU faculty, a 128-node SGI Altix 4700 Supercomputer was purchased and installed this year. This is the fastest research computer in North Carolina, rated at approximately one teraflop. Combined with the other 32-processor SGI machine purchased three years ago, there is now a major high performance computing capability at ECU.

**C. Networking Services**

**New Buildings & Renovations**
With building renovations and new construction, including Old Cafeteria, Fletcher Music Hall, Financial Services, cardio-pulmonary facilities and Teddy Bear, the University’s network port count increased by approximately 1500, bringing our total data port count to approximately 30,000 for both campuses and off-campus sites.

**Network Upgrades**
In order to continue the Voice Over Internet Protocol (VoIP) telephony project certain elements of the data network were upgraded to support voice communications. Broader bandwidth (one gigabit/second) links were also supplied to the buildings in the vicinity of each of the major network nodes, including Belk, Ward Sports Medicine and the majority of the Austin Node; the Bate node area will be completed in the first quarter of Academic Year 2007.

The Brody School of Medicine network has been upgraded at a cost of nearly one million dollars. This effort involved removal of unsupported, end of life equipment, and the addition other devices to increase network dependability and increased network link speeds (one gigabit/second).
A critical connectivity weakness between the University and the health sciences campus was corrected with the implementation of a redundant fiber link from the data center to that campus.

**SAN Infrastructure Expansion**
ECU’s high speed Storage Area Network (SAN) was expanded to include an off-site switch for disaster recovery at the Brody Medical Sciences Building. SANs are especially useful for storing transactional data, e.g., Banner financial data, but we also use them for ultrafast temporary backup devices for other production machines before the backup data are ported to slower tape drives. As a part of this expansion, Blackboard data are now backed up to the SAN.

**Wireless Expansion**
An upgrade of the wireless network on both campus now provides expanded coverage and security features as well as supporting the newest bandwidth technologies. This upgrade will enable the implementation of wireless encryption later in the year.

Our wireless network includes forty-four new installations in all new construction and renovation sites, bringing the total to over 469 access points and approaching 77% saturation campus wide.

**IP Telephony (VoIP)**
Approximately 2350 work stations now have IP telephone sets assigned, over 1900 of which have unified messaging (voice mail goes into Outlook Inbox). Network Services’ goal is to deploy 200 IP telephones monthly until the VoIP implementation plan is complete. The VoIP system routes an average of over 18,000 calls per day and provides a platform for a variety of new communications technologies. For example, we are now deploying the Berbee InformaCast service which enables designated ECU personnel to broadcast emergency messages to IP telephones and/or IP speakers located across the East campus (the West Campus is not VoIP-enabled).

**Network Analysis**
This year, the Network Analysis team designed and implemented a number of security improvements in the Onestop, Banner and Blackboard application, Leo Jenkins Cancer Center, the Bernstein clinic, PCI security, Dining Services and the UNC Cause meeting connectivity.

**D. IT Security**

**Enhanced PassPhrase Security**
In order to protect against the possibility of identity-spoofing, ITCS implemented procedures to improve the verification of the clients’ identity prior to accessing ECU’s computer network, including:

1. We implemented an education program for the use of Web-based sign-up as the primary source of PassPhrase resets
2. Telephone requested resets are no longer honored for campus clients; clients must use Sign-up or visit reset centers on campus
3. Off-campus clients must provide photographic proof of identity prior to reset

Security Awareness Program
With the alarming rate of increase of compromise to computer systems containing confidential data, IT Security implemented an aggressive security awareness program for the University.
   1. Security awareness presentations to nearly fifty departments across campus
   2. Security awareness presentations to campus IT resources
   3. Security awareness presentations to ITCS staff
   4. Quarterly security awareness sessions offered to the general campus community.
   5. Security Tips and information posted on the IT Security websites
   6. Hosted Security Awareness Fair for campus and UNC schools with international speaker, Randy Marchany

Encryption Implementation
Although an enterprise-level encryption solution has not been identified, ITCS purchased licenses for WinZip and educated clients on its use. This has minimized the occurrence of sending confidential data via email unencrypted.

OneStop Application Assessment
As a result of a data exposure incident, ITCS conducted an external security assessment of the OneStop portal application. The assessment highlighted the many security safeguards that ITCS has already implemented to protect the confidentiality, integrity and availability of its data but also revealed areas of improvements. Recommendations from the assessment will be applied to the application as well as other segments of ITCS to enhance overall security. It also highlighted ECU’s need for regular reviews of its application by external security experts.

Leadership Program
ITCS launched its Leadership Program in the spring of 2006. This program is unique in that it is not restricted to management but is open to all members of the department. Three sessions of the program has been offered to over sixty participants. Graduates of the program continue to meet to further develop their skills and implement initiatives to further enhance the capabilities of ITCS.

E. IT Software Development Services

Banner Admissions Module
On October 9, 2006, the Banner Admissions Module went into full production status for the Undergraduate, Graduate, Medical and International admissions offices.
Banner Financial Aid
On March 15, 2007, Banner Financial Aid completed its first phase of production operation in completing the packaging and issuance of award letters for freshmen and the Medical School and once again on May 21, 2007 for all undergrad, graduate and transfer students.

Banner Student Registration
The Banner Student Registration module went into production on March 21. Students began registering for fall 2007 at 8:00 a.m., and in nine minutes, 514 students were registered via Banner! The software was flawless and the hardware infrastructure never slowed. This was a major milestone event that set the stage for the remaining student implementation! Also included was a major marketing campaign to our students and faculty introducing Banner and was overwhelmingly successful.

ecuBIC Formally Introduced
ITCS introduced the newest technology in providing a campus-wide platform for ad-hoc reporting using the Microsoft Reporting Services tool. This has been aptly named ecuBIC (ECU’s Business Intelligence Center). Included are data drill-down capabilities utilizing dashboard and scorecard technology that can be used with a wide variety of data bases and application systems to include Banner. This is fast-becoming the reporting system of choice throughout the campus community. ecuBIC is a part of our new emphasis on information services that will empower budget units to develop their own sophisticated reporting capabilities and decision-making tools.

F. Administrative Support Services

Fixed Assets and Insurance
Administrative Support Services worked with Fixed Assets to replace a cumbersome, antiquated tracking system and restructure the process of reporting equipment inventory, equipment insurance and equipment surplus.

Cell Phones, Pagers and Calling Cards Billing
We devised and implemented a billing system that supported the standards required by the University Auditor and the University Attorney. The new system provides improved billing accuracy and diminished the unauthorized usage of cell phones or pagers.

ITCS Library
As we expand our professional resource library with training materials for the benefit of ITCS staff, we have also upgraded our VHS-based items to DVD versions that can be viewed on computers. We also added an integrated an electronic bar coding system, Information Management System, designed for accurate tracking of the resources within our library.
**ITCS Event Planning**
Over the past year ITCS has sponsored a variety of conferences, fairs and leadership programs that “touched” ITCS staff, the ECU community and UNC-wide audiences with Administrative Support Staff playing key roles in planning and executing the logistics of the events, including registration, travel and catering. The UNC CAUSE Conference, held in New Bern, NC in November, 2006 was our premier event, but all were gratifying and valuable in the development of our staff.