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Letter from the Vice President

This annual report for FY04-05 chronicles OIT’s continuing efforts to enrich the educational process and enhance productivity by making information technology a way of life for students, faculty and staff at Princeton. With our increasingly complex technology environment, OIT’s goal is to make technology accessible to our entire university community and to strive to be “simply the best” at delivering service to our users.

Over the past year, OIT worked with research faculty across the institution to plan for the evolution of Princeton’s IT infrastructure. These efforts culminated in the acquisition of a Blue Gene/L high performance computing system from IBM. This computer is among the world’s top 100 most powerful supercomputers. Acquisition of the Blue Gene/L, known as “Orangena,” supports OIT’s goal of providing information technology that enables innovation in teaching, research and scholarship. Moving forward, it is our hope that Orangena will help faculty advance their research more quickly and provide new avenues for collaboration among researchers.

In the administrative area, OIT worked on completing the implementation of the University’s core administrative IT systems. This effort concluded with the successful implementation of the PeopleSoft undergraduate student records and admissions modules in August of 2005. Implementing this system supports OIT’s goal of delivering administrative information technology systems that meet the needs of the University.

In the area of IT infrastructure, OIT responded to the growing demand from undergraduates for expanded wireless coverage on campus by deploying a ubiquitous wireless infrastructure throughout the dormitories and residential colleges. Implementation of the wireless network supports OIT’s goal of providing a robust, reliable and secure information technology infrastructure that serves the needs of the University community.

Looking forward, there are several key IT issues facing the University at large. In the area of IT infrastructure, we will focus our efforts on disaster recovery and business continuity planning, so that we are best prepared to address small scale disruptions of service, as well as large scale disasters that might completely disable our systems. In addition, in the face of increasing IT vulnerabilities, we will continue our efforts to maintain a secure campus computing environment.

In the area of IT services, we will begin working with the library to develop a comprehensive strategy for the production, management, preservation and sharing of digital content. In addition, in response to requests from faculty and
students, we will look for ways to develop 24/7 IT support. Also in response to requests from the community, we will look to expand the University’s wireless network to the entire campus.

We in OIT are grateful for the opportunity to serve the University. We will continue to look for ways to enhance the visibility, accessibility and availability of IT services and are thankful for the continued support of the students, faculty, and staff we serve.

Betty Leydon
Vice President for Information Technology and Chief Information Officer
OIT Mission and Goals

The mission of OIT is to enable the effective use of information technology in support of the University. In pursuit of this mission, OIT’s goals are to

- Deliver information technology products and services that meet the needs of the University community and achieve the highest levels of customer satisfaction;
- Support the use and development of information technology to enable innovation in teaching, learning, research, and scholarship;
- Provide leadership in planning for the effective use of technology;
- Provide a robust, reliable, and secure information technology infrastructure;
- Attract, develop, and retain quality information technology professionals;
- Enable communication and collaboration among information technology professionals and users of information technology at the University.
## FY05 OIT Timeline

### July 2004

In preparation for the FY05 academic year, OIT upgrades 46 Dell PCs and installs eight new printers in campus computer clusters. OIT also replaces the Sun workstations in the Friend Center and Jadwin Hall with high-end OS X Macintosh computers that support both Macintosh and Unix environments.

OIT offers a full schedule of hands-on training classes during the summer on a variety of desktop and admin-istrative software applications and tools. A new offering is Upgrading to Windows XP and Office.

OIT completes a redundant fiber ring that can be used in the event of a failure of the primary fiber infrastructure or to restore computing services quickly to campus buildings designated as “most critical.”

OIT assists the Facilities Planning Office during the renovation and new construction of 1901/Laughlin, Pyne, Henry, 1903, Lockhart, Holder Hamilton, the Boiler House, Aaron Burr, Clio, the Lawrence apartment additions, and the Engineering Quadrangle. The effort involves removing and later upgrading data cabling, network equipment, and computer clusters. In most sites, OIT designs and installs hardwired and wireless cabling systems.

In the COFHE survey of Princeton seniors, information technology once again rates highly, placing third among all University services.

The University’s TSM Backup and Restore Service backs up nearly 100 Terabytes of data a year, ten times the amount of data stored in the print collection of the Library of Congress.

### August 2004

Telecommunications Services purchases and installs a new Automatic Call Distributor (ACD) system for the Help Desk operations in OIT and Human Resources. The new ACD service will permit the two departments to provide increased levels of customer service. Later in the year, the Admissions Office also adopts the ACD system.

OIT’s “Doing More with Less” Task Force identifies more than 50 savings opportunities, ways that OIT can operate more efficiently to save money. Many of the recommendations are implemented during the year.

Working with the Office of Human Resources and General Counsel, OIT offers a Voluntary Transition Program (VTP) open to those eligible to retire.

Working with the Ombuds Office, an OIT task force identifies core values to improve how we work with each other and how we serve our customers. During the year, OIT focuses on making the core values a reality within our daily work.

In a continuing effort to keep the campus network safe, OIT installs an intrusion prevention system, McAfee’s IntruShield 2600, between the University’s network and the Internet. The new system provides an additional layer of protection for University systems against attacks originating off-campus and will proactively detect compromised computing systems within the Princeton.edu domain.

OIT enhances the “Beowulf” cluster that continues to provide high-performance computing services to faculty in a number of departments. Machine-room facilities are now available for researchers who need a place to house and run their own equipment.

At the All-OIT Presentation on August 30, Betty Leydon presents the first CIO award to Lee Varian and Don Albury. Betty reviews the highlights from FY04, the goals for FY05, and the challenges ahead.

### September 2004

Open to all University students, the Student Computer Initiative offers for sale aggressively priced, and highly capable, computers customized for academic work at Princeton.

A special edition of it matters introduces students to the full range of relevant OIT services, from registering computers and virus protection through publishing web pages and use of the wireless network.

As part of the back-to-school effort, OIT presents an IT overview at the New Student brunch, participates at the first-year-student and the Graduate Student sign-in events, and extends the office hours at the Solutions Center.

As in past years, a significant number of campus computers, notably Dormnet machines, are infected by viruses. OIT staff devote considerable time to detect, document, block, fix, and restore network access to these infected machines.

The University’s Blackboard Course Management System continues to provide course web sites for all undergraduate courses. This fall, the system offers faculty a range of powerful new features. Most notable is a new content system that permits faculty to load documents to a central file storage location. For the first time, students can search the documents in any course web site or across all of their classes simultaneously.

Responding to departmental requests for OIT to run specialized, departmental web-based applications, OIT begins to offer a new web hosting service. OIT will now work with a department’s IT support staff to create and host professionally developed web sites.

The Wednesday Lunch ’n Learn seminars return with “SPAM: Everyone talks about it, but OIT is doing something about it,” “Blackboard content system and new BB features,” and “Create and edit your own video extravaganzas.”
October 2004

The entire Undergraduate admissions application is made available via the Web for the first time. The customized Princeton Online Application collects appropriate information about prospects long before the application process begins.

Telecommunications Services enables Caller ID and Caller Originated Trace on every campus telephone line. The group also offers a new service for victims of threatening or harassing telephone calls. The new feature, Customer Originated Trace, instructs the telephone system to retain the details of the call for analysis by law enforcement agencies.

OIT upgrades the core connections in several campus buildings to gigabit Ethernet and the internal networks to support 100Mbs desktop connections. In support of disaster recovery, the group moves the point-of-entry for the campus’s AT&T internet connection from the Computing Center to New South.

In conjunction with the strategic planning effort announced by the School of Engineering and Applied Science (SEAS) and in order to meet the changing Information Technology infrastructure needs of the University’s research and teaching community, OIT initiates a strategic planning process for infrastructural support for University researchers. The plan will assist OIT in determining the resources needed to match the IT infrastructure with the needs and priorities of the research community.


The September/October edition of it matters highlights “New Features in Blackboard” and “updating Personal Information in the University Directory.”

November 2004

Upon request, OIT sends graduate student consultants to faculty offices to provide instruction in the use of the Blackboard course management system and related teaching technology. The service is available to faculty and their teaching assistants. Based on the success of the program, the group expands the service to cover Windows, Word, PowerPoint, and Almagest, OIT’s multimedia database system.

OIT’s Telecommunications Services offers a new service to cell phone users who need to call international locations. A prepaid service supports calls to more than 80% of all international locations for $0.07 per minute.

In response to the University’s Health and Well-being survey, OIT partners with the Department of Athletics and the Office of the Dean of Student Life to add three additional information kiosks in the lobby of Dillon Gym.

OIT consolidates Windows and Unix file servers into a single device with more than 4 trillion bytes of storage, a ten-fold increase for the University, and increases personal storage quota from 20 MB to 250 MB. Members of the community can gain now access to their data in this large personal storage space from any networked location.

The newest addition to the OIT staff development program is the OIT Team Learning Forum. The goal of this program is to enhance professional and personal growth of OIT staff. Twenty OIT staff members are selected to participate in the first OIT Team Learning Forum. The first session, held during the spring, focuses on leadership, with President Tilghman as the first outside speaker.

The Lunch ‘n Learn seminars in November feature “Technology in Language Teaching,” and “ARTstor: A Digital Library for the Humanities.”

December 2004

To accommodate the growing needs of University members who run computationally intensive jobs using commercial software like Matlab, SAS, and Mathematica, OIT established a new Unix computing service on both the Sun Solaris and Linux platforms. At the same time, members of the community who rely on Unix for general-purpose work such as e-mail and file editing are given access to a separate group of machines dedicated to such tasks. Separation of the intensive and general uses improves service for all.

OIT rolls out the second phase of the Princeton Software Repository (PSR) by opening the PSR web store. The web store provides a single, convenient, and secure location for getting information about, and purchasing all University licensed software both institutional and personal purchases.

OIT creates the OIT Interdepartmental Project Portfolio (IPP) to improve communication and collaboration across the organization on key projects. The IPP lists information essential for cross-department communication on more than 100 projects that involve resources outside a single OIT department and are more than two weeks in duration.

In addition to annual staff progress reports, 360 evaluations, and department/workgroup goal-setting, OIT implements a Staff Development Program (SDP) to identify and track staff development opportunities across OIT. To address the most common needs in the SDP, OIT publishes the first edition of an OIT Staff Development Curriculum that introduces and coordinates several planned learning opportunities for staff.

The Lunch ‘n Learn seminar for December is on “Our New Web Content Management System.”

The December/January issue of it matters reports on OIT efforts to combat Spam, spyware, adware, and ‘phishing.’
January 2005

In response to feedback from the University community, OIT begins to offer temporary wireless internet access (TVWNA) to campus visitors who have wireless devices. The service is available to alumni, trustees, and other visitors to campus. Graduate students who live off campus are also able to gain network access when they occasionally bring their computers to campus. Visitors can now get access without first having to register their devices.

Owing to interest by other institutions of higher education, OIT releases Almagest, the University’s multi-media data repository and display tool, to the general public as an open source product. By year’s end, Almagest is in use at three institutions. The initial release of Almagest includes all source code. Subsequent releases will include copyright-cleared images.

In response to departmental inquiries, OIT offers server hosting services in the 87 Prospect Avenue Computing Center. The new service provides server administration and patching, backup and recovery, and performance monitoring services in the climate-controlled and secure facility.

To support the Data Warehouse, the University selects ReportNet, a web-based, front-end reporting tool as the University’s standard enterprise report writing product. ReportNet supports predefined and customized reports on almost any kind of data. In addition, using ReportNet, users can establish schedules for the delivery of personalized e-mail reports. The initial rollout of ReportNet contains data collections for Human Resources, the Committee on Committees, ID Card, Undergraduate and Graduate Housing, and Facilities.

The final Lunch ’n Learn seminars of the fall semester are “The new Data Warehouse,” “Intellectual Property issues in technology,” “Open Source Software: The good, the bad, and the costly,” and “From Supercomputers to the OIT Beowulf Cluster.”

February 2005

OIT creates Almagest Exchange, a shared repository of art images that can be freely used in academic contexts.

OIT enhances the precept tool that permits faculty members to assign students to precept sections. A new component allows students to indicate their precept preferences. The tool can now automatically assign students to precepts and other sections, including labs, based on these preferences and the student’s current schedule.

OIT takes over supervision of all Library copiers as well as the copy card system used in all the machines. OIT now oversees the purchase/lease and general administration of approximately 200 copiers and the purchase/sale of approximately 5,000 copy cards.

A special column on academic features is added in OIT newsletter, it matters, then expanded into an online newsletter called IT’s Academic. The first edition is sent to Academic Managers, SCADs, GAITs, OIT staff, and select faculty. The first issue contains a spotlight on Molecular Biology Professor Lee Silver.

To assist in improving customer communications, OIT forms an Editorial Review Board that provides an editorial service for all OIT communications.

OIT publishes “Savings Tips” to remind OIT staff of best practices in office management, hosting meetings, and planning travel.

The spring Lunch ’n Learn seminar begin with “Eleven Cool Things you can do with PHP”.

The February/March issue of it matters highlights the Faculty Office Visit Programs and TVWNA, the new wireless internet service for campus visitors.

March 2005

OIT develops a program for the Psychology Department that permits students to conduct Implicit Association Testing (IAT) over the Web. The program was then modified to support specialized psychological surveys for Professor Daniel Kahneman.

OIT eliminates its last vulnerable password management system, thus significantly reducing the use of network applications that transmit easily readable passwords across the network.

OIT upgrades the firewalls that protect our centrally managed administrative systems. More robust models will better cordon off sensitive systems. OIT also begins to provide a firewall consulting service to assist academic and administrative departments in protecting their own computing environments.

In conjunction with the Office of Human Resources and General Counsel, OIT offers a Voluntary Separation Program (VSP) to all OIT employees.

Lunch ’n Learn seminars in March feature “A Quick Tour of Geographic Information Systems,” “Redefining the Photograph in the Digital Age,” and “An Introduction to the Tablet PC.”
April 2005

OIT begins a new lecture series based on a proposal by Engineering School Dean Maria Klawe and Kati Lovasz. The series “@rts,” brings a number of distinguished contemporary artists to Princeton to discuss the interface between Art and IT. The April presentations in the new /@rts series are “How to Wind a World Election: Gender, Power & Leadership among Young People On-line” and “The New Interactive Web Site at the Princeton Art Museum.”

OIT sponsors its second “Take Your Children to Work Day” on April 28.

To speed up both backups and restores and to take advantage of inexpensive disk technology, OIT converts the TSM backup system to use a large array of low-cost disks rather than magnetic tapes. As a result, backups run faster, are more reliable, and require much less attention from the TSM administrator.

OIT’s Printing and Mailing adds a Presstek Dimension 400 Computer-to-Plate System. The new system eliminates the need for film-based workflow, traditional plate making, and chemicals, because the plates are processed with plain water and the unit fits into the existing digital workflow already in use. The new system also replaces the department’s film processor, plate processor, all manual stripping of film, and two ultraviolet plate burners, leading to significant new savings and efficiencies.

Lunch ’n Learn seminars in April feature “Discovering Data with CPANDA,” “What’s New on Macs,” and “Chess: Modern Tools for the Royal Game.”

May 2005

OIT coordinates EndNote training for students. The sessions prove to be very popular — bringing 75-100 students together at each “bowl-room” session.

OIT implements the second phase of the University’s defense against SPAM e-mail. Using Proofpoint technology, another 30% of the mail that arrives is now tagged as possible SPAM and kept in quarantine. Members of the University community can inspect the suspect e-mail, request that the sender be added to a “safe” or “blocked” list, or simply let it expire. As a result, the University’s e-mail infrastructure no longer processes or stores much of the unsolicited e-mail sent to the campus, and users no longer have to deal with it in their inboxes.

OIT installs a central file server to consolidate more than a dozen individual file servers, reducing administrative and hardware costs through economies of scale. The service supports both Windows and Unix users, and provides a “snapshot” feature that permits users to recover files they have accidentally deleted.

The final stage of system testing for the PeopleSoft Student Administration System takes place. The new system will go into production in early August. By replacing the last of the legacy systems, this new system will enable the University to retire the IBM mainframe, and provides enhanced functionality to the Registrar’s Office, the Office of the Dean of the College, and the Admissions Office.

The new Labor Accounting System incorporates several new features including improvements to existing Labor Accounting functions, automation of previously manual processes, and the ability to pay academic year support for the months of May and June in advance.

OIT’s hardware support group is established as an authorized Hewlett Packard warranty service center, making repair of HP equipment faster and easier for faculty, staff and students.

June 2005

By the end of the fiscal year, the SCI program sells a total of 1,333 computers: 998 Dell (75%) and 335 Apple (25%).

The Graduates Associates in Instructional Technology [GAIT] program provides IT training to a small group of graduate students who then serve as IT mentors within their departments. Funded jointly by OIT and the Graduate School in fall 2004, the program has a successful first year.

Responding to the growing demand from undergraduate students for expanded wireless coverage on campus, OIT begins deploying a ubiquitous wireless infrastructure throughout the dormitories and residential colleges. Additional wireless installations are completed at 120 Alexander Road, Von Neumann Hall, Helm Hall, Bobst Hall, and the Graduate College.

OIT begins to offer “Early Bird” classes to accommodate the University community. Starting at 7:30 a.m., these classes are designed for staff members who work a night or morning shift, or for those who want to get an early start on the day. The Early Bird sessions fill quickly.

To deal specifically with the cooling needs of the “Beowulf” high performance computing clusters that researchers are housing in 87 Prospect, a specialized air conditioning unit and additional chilled water are added to the machine room.

A new Time Collection component is added to the Data Warehouse making access to this information faster and easier.

Access to the IBM mainframe is disabled on June 30 for all who do not directly use or support the remaining student systems (undergraduate admissions and student records) or account provisioning systems. New systems will be launched in August and the mainframe will be fully decommissioned on November 1.
### OIT by the Numbers, FY04

<table>
<thead>
<tr>
<th>Item</th>
<th>Number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bytes of data backed up by the University’s Tivoli Storage Manager service</td>
<td>100,000,000,000,000</td>
</tr>
<tr>
<td>Bytes of central storage for all faculty, students, and staff</td>
<td>250,000,000</td>
</tr>
<tr>
<td>E-mail messages processed by the University’s mail servers</td>
<td>210,000,000</td>
</tr>
<tr>
<td>Total telephone calls with a system reliability of 99.9993% uptime</td>
<td>19,785,600</td>
</tr>
<tr>
<td>Copies made at the OIT Copier Center</td>
<td>16,000,000</td>
</tr>
<tr>
<td>Copies printed on the University’s Xerox Docutech</td>
<td>7,700,000</td>
</tr>
<tr>
<td>Pages printed on the computer clusters printers</td>
<td>6,900,000</td>
</tr>
<tr>
<td>Records for 58,000 students loaded into the new student system</td>
<td>1,600,000</td>
</tr>
<tr>
<td>Logs to OIT Cluster machines</td>
<td>616,828</td>
</tr>
<tr>
<td>CPU hours used on the Beowulf high-performance computing cluster</td>
<td>493,653</td>
</tr>
<tr>
<td>Records back to 1985 converted into the new undergraduate admissions system</td>
<td>294,252</td>
</tr>
<tr>
<td>Impressions per month on the University’s Xerox iGen color digital press</td>
<td>286,000</td>
</tr>
<tr>
<td>Financial vouchers processed through the University’s Financial System</td>
<td>168,863</td>
</tr>
<tr>
<td>Checks printed through the Human Resources System</td>
<td>153,035</td>
</tr>
<tr>
<td>SPAM e-mails quarantined every day by the new Proofpoint firewall system</td>
<td>75,000</td>
</tr>
<tr>
<td>Phone inquiries responded to by the OIT Help Desk</td>
<td>46,201</td>
</tr>
<tr>
<td>E-mail inquiries responded to by the OIT Help Desk</td>
<td>24,889</td>
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<tr>
<td>Computers and other devices connected to the campus network</td>
<td>24,400</td>
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<tr>
<td>Voice mailboxes in service</td>
<td>12,500</td>
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<tr>
<td>Customers assisted in the OIT Solutions Center</td>
<td>8,018</td>
</tr>
<tr>
<td>Wireless devices registered on the wireless network</td>
<td>8,000</td>
</tr>
<tr>
<td>Systems protected by the Tivoli Storage Manager backup system</td>
<td>8,000</td>
</tr>
<tr>
<td>Jobs run on AdrOIT, the new high-performance research computing cluster</td>
<td>7,995</td>
</tr>
<tr>
<td>Films borrowed at the Language Resource Center</td>
<td>5,185</td>
</tr>
<tr>
<td>Applications entered into the undergraduate admissions web application</td>
<td>4,809</td>
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<tr>
<td>Jobs scheduled weekly on 32 Unix and Windows hosts</td>
<td>4,100</td>
</tr>
<tr>
<td>Changes to telephone service or equipment</td>
<td>3,954</td>
</tr>
<tr>
<td>Total jobs performed by Media Services</td>
<td>2,653</td>
</tr>
<tr>
<td>Visitors to the New Media Center</td>
<td>2,264</td>
</tr>
<tr>
<td>Participants in 258 training classes</td>
<td>1,934</td>
</tr>
<tr>
<td>Faxes processed each month on the Central Fax Server</td>
<td>1,344</td>
</tr>
<tr>
<td>Problems resolved by the Residential College Consultants (RCCs)</td>
<td>1,656</td>
</tr>
<tr>
<td>Computers sold through the Student Computer Initiative (998 Dell, 335 Apple)</td>
<td>1,333</td>
</tr>
<tr>
<td>Knowledgebase solutions updated in OIT’s online help database</td>
<td>1,000</td>
</tr>
<tr>
<td>Employees in four departments using the new electronic time clock</td>
<td>500</td>
</tr>
<tr>
<td>Classes accessing online films using the OIT video server</td>
<td>220</td>
</tr>
<tr>
<td>Unix systems proactively monitored for systems failures and network outages</td>
<td>213</td>
</tr>
<tr>
<td>New knowledgebase solutions created in OIT’s online help database</td>
<td>200</td>
</tr>
<tr>
<td>University databases managed by OIT</td>
<td>140</td>
</tr>
<tr>
<td>University staff members attending OIT project methodology workshops</td>
<td>120</td>
</tr>
<tr>
<td>Users receiving support for wireless Blackberry devices</td>
<td>110</td>
</tr>
<tr>
<td>Windows-based servers supporting academic applications</td>
<td>100</td>
</tr>
<tr>
<td>Savings opportunities identified by the OIT “Doing More with Less” Task Force</td>
<td>46</td>
</tr>
<tr>
<td>Servers hosting the University’s administrative databases</td>
<td>40</td>
</tr>
<tr>
<td>OIT projects using the Princeton Project Management Methodology</td>
<td>36</td>
</tr>
<tr>
<td>Web-based surveys built using the online survey system</td>
<td>24</td>
</tr>
<tr>
<td>Staff participating in OIT’s first Team Learning Forum</td>
<td>20</td>
</tr>
<tr>
<td>OIT employees receiving peer-nominated and peer-elected achievement awards</td>
<td>15</td>
</tr>
<tr>
<td>Foreign language channels offered on the Dish Network</td>
<td>8</td>
</tr>
<tr>
<td>Telephone number to call (258-HELP) for OIT support</td>
<td>1</td>
</tr>
</tbody>
</table>
2004-2005 Achievement Award Recipients

For contributing significantly to their departments and OIT in one or more of the following categories:

Creativity & Innovation
Customer Service & Outreach
Teamwork & Collaboration
Technical Excellence
Demonstrating Core Values

Kathleen Bozowski
Sergey Guberman
William Guth
Phil Immordino
Chris Longo
Gail Martinetti
Dennis McRitchie
Greg Meszaros

Daniel Mola
Kevin Perry
Donna Tatro
Michelle Templon
Irwin Tillman
Dave Walter
Velvet White

2004-2005 CIO Award Recipients

For outstanding service to OIT and Princeton University

Don Albury
Lee Varian
IT Governance Model

- Provost
- Senior Advisory Group for IT (SAGIT)
- Administrative Systems Planning Group (ASPG)
- Project Managers Team (PMT)
- Committee on Academic Technology (CAT)
- DeSc
- Academic Managers Group (AMG)
- Administrative Departments
- Faculty Committee on the Library & Computing (FCLC)
- Research Computing Advisory Group (RCAG)
Senior Advisory Group on IT

In operation since FY04, the Senior Advisory Group on IT (SAGIT) advises the Provost on those administrative systems projects that have been endorsed by the Administrative Systems Planning Group (ASPG) and considers budgetary matters related to those projects. During FY04, to support the IT decision-making process, the Provost broadened the purview of SAGIT and ASPG to include academic systems and IT infrastructural initiatives. The specific charge of the group is to:

- Evaluate administrative systems project proposals and review the proposed funding mechanisms for capital and operating expenditures required for such systems;
- Assess steady state costs of maintaining current administrative systems;
- Identify administrative systems opportunities that should be evaluated;
- Ensure projects are fiscally responsible and assess whether proposed funding mechanisms are satisfactory;
- Advise the Provost with regard to budgetary or other issues posed by projects.

During FY05, members of SAGIT were:

Chris Eisgruber, Provost (Chair)
Mark Burstein, Senior Vice President for Administration
David Dobkin, Dean of the Faculty
Betty Leydon, Vice President for Information Technology, Chief Information Officer
Jed Marsh, Vice Provost for Institutional Research (Executive Secretary)
Christopher McCrudden, Treasurer

Highlights

During the past year, SAGIT:

- Approved the implementation of University Health Services new medical management system, Medicat;
- Approved the implementation of wireless networking in the undergraduate and graduate dormitories;
- Requested a business case analysis to assess the use of electronic forms technology.
Administrative Systems Planning Group

The Administrative Systems Planning Group (ASPG) critically assesses all administrative systems efforts, determines existing needs, and identifies key opportunities to build on our administrative systems investments. The specific charge of this group is to:

- Evaluate the University’s current administrative systems to identify gaps, needs, and opportunities;
- Recommend the appropriate distribution of resources for new, maintenance, upgrades, and development efforts that will enhance the University’s administrative systems;
- Ensure that the University’s administrative systems meet the needs of faculty, staff, and students;
- Endorse project proposals that need to be passed to the Senior Advisory Group on IT (SAGIT) for further review.

The ASPG has been in operation since FY02. The current members are:

Greg Bressler for Mike McKay, Vice President for Facilities
Janet Dickerson, Vice President for Campus Life
Joseph Greenberg, Registrar
Stephanie Greene, for the Academic Managers Group
Ben Hammond for Mark Burstein, Senior Vice President for Administration
Karen Jezirnyn for Robert Durkee, Vice President for Public Affairs
Betty Leydon, Vice President for Information Technology, Chief Information Officer
Nancy Malkiel, Dean of the College
Jed Marsh, Vice Provost for Institutional Research
Sandra Mawhinney for William Russel, Dean of the Graduate School
Kris Miller for David Dobkin, Dean of the Faculty
Christopher McCrudden, Treasurer
Julie Shadle for Brian McDonald, Vice President for Development
Karin Trainer, University Librarian

Ex Officio:
Nancy Costa, Director, Finance, Administration and Planning, OIT
Colin Currie, Director, Administrative Information Services, OIT

Highlights

During the past year, the ASPG:

- Discussed the new Oracle-Peoplesoft relationship and the strategy for future PeopleSoft upgrades;
- Endorsed a new Room Draw web application for Housing;
- Discussed the administrative systems impact of the new graduate student status, Dissertation Completion Enrollment (DCE);
- Endorsed a standard process to be followed when selecting new software;
- Reviewed and endorsed the FY06 administrative systems project slate.
Project Managers Team

In operation since FY1997, the Project Managers Team (PMT) provides leadership and guidance on the delivery of administrative products and services, and continues to support the application and data management principles established under Partnership 2000. The PMT acts as the “working group” in support of the efforts of the Administrative Systems Planning Group (ASPG). The specific charge of the group is to:

- Identify, assess, and prioritize mandatory maintenance (regulatory updates, software upgrades, service packs) and enhancements (to fill gaps in current functionality and/or deliver new functionality) to administrative systems;
- Coordinate administrative requirements across offices and departments;
- Facilitate activities that foster the improved use of administrative products and services at the University;
- Achieve the highest level of customer satisfaction in meeting the needs of the University community.

During FY05, the members of the PMT were:

- Marvin Bielawski, Deputy University Librarian
- Maria Bizzarri, Bursar and Director, Loans and Receivables
- Ted Bross, Manager, Data Warehousing and Integration, OIT
- Michelle Christy, Director, Research and Project Administration
- Nancy Costa, Director, Finance, Administration and Planning, OIT
- Kristie Collins, Director, Development Information Systems
- Colin Currie, Director, Administrative Information Services, OIT
- David Etherton, Manager, Academic Department Systems
- Patty Gertz, Manager, Custom Software Solutions, OIT
- Chris Hatt, Program Director, Human Resources
- Kim Hoeritz, Project Manager, Student Systems, OIT
- Kris Miller, Senior Systems Manager, Office of the Dean of the Faculty
- Craig Richmond, Director, University Financial Systems
- Lee Varian, Director, IT Architecture, OIT
- Russell Wells, Manager, Packaged Software Solutions, OIT
- Mike Williamson, IT Manager, Facilities

Highlights

During the past year, the PMT:

- Added several ex officio members covering all OIT support areas to ensure all resources required are involved in the planning of the projects;
- Reviewed and updated monthly the status of the projects in the OIT Project Portfolio. Most importantly, interdependencies across projects were discussed;
- Formed an OIT Advisory Committee to support the implementation of University Health Services’ new medical management system, Medicat;
- Formed a PMT sub-team to research and assess the use of electronic forms technology;
- In collaboration with all administrative offices and academic departments, assembled a comprehensive list of project proposals for ASPG review.
Committee on Academic Technology

The Committee on Academic Information Technology (CAT) facilitates communication and collaboration between IT providers and the University offices most directly responsible for the curriculum. The specific charge of the committee is to:

- Serve as an informational clearinghouse so that those responsible for technology and those responsible for the curriculum are well-informed of each other’s initiatives;
- Develop new initiatives that may enhance the curriculum through information technology;
- Help evaluate IT initiatives that affect the curriculum and prioritize the distribution of resources;
- Take leadership to assure that the use of academic technologies in the curriculum receives appropriate assessment, both evaluative and formative.

During FY05, members of CAT were:

Hank Dobin, Associate Dean, Office of the Dean of the College (Chair)
Jane Bryan, Associate University Librarian for Public Services and Collection Development, Library
Lin Ferrand, Associate Dean, Office of the Dean of the Faculty
Serge Goldstein, Director, Academic Services, OIT
Linda Hodges, Associate Director, McGraw Center for Teaching and Learning
Clayton Marsh, University Counsel and Assistant Secretary, Office of General Counsel
Jed Marsh, Vice Provost for Institutional Research
David Redman, Associate Dean for Academic Affairs, Graduate School

CAT met four times in 2004-2005 (October, November, February, May).
**Highlights**

**Course Management Tools**
After a presentation on and review of open-source alternatives to Blackboard (e.g., Sakai), the group agreed that Princeton should follow these developments, but defer any decision about long-term plans for the University’s course management system software until the alternatives mature.

The group also reviewed several new Blackboard features including the content system, the journaling tool, the voice recording tool, and the ePortfolio capability. The committee found the latter capability especially interesting but the feature remains relatively undeveloped and has seen only limited use at the University.

The Committee heard a presentation from the Educational Technologies Center about the precept enrollment tool being built within Blackboard. The committee also heard a presentation about the new Office Hours Scheduling tool, which helps faculty to schedule their office hours on the web.

**Almagest**
The group discussed OIT’s plans to release Almagest as an open-source product, as well as OIT’s efforts to create a collection of images that can be freely used for teaching.

**University Channel**
The Committee reviewed Donna Liu’s effort to develop a video channel for University lectures. Princeton is participating by providing video material, equipment, and technical support.

**Infrastructural Issues**
The committee heard a presentation on Tablet PCs and the growing use of wireless on campus. The committee noted that the Classroom Committee decided that former Provost Ostriker’s mandate to have wiring and power to all desktops in new and renovated construction no longer made sense as a mandate. It was agreed that the requirements and use of each new or renovated building should be studied and a decision made as to whether each space required wired or wireless capability. The committee studied usage statistics that showed that 95% of faculty did not use networking in any of the classes they teach. The group emphasized that wireless can always be installed into classroom space if later needed. With wireless, however, you cannot do high-bandwidth activities. A class needing high-bandwidth (video, film) would need to be scheduled into a classroom that has wiring to each individual desktop.

**Graduate Assistants in Instructional Technology [GAIT]**
The committee reviewed the accomplishments of the first year of the GAIT program. CAT decided to continue the program under reduced funding. GAIT will be recast as a teaching-grants-based effort. Faculty will be able to apply for a GAIT in support of a specific teaching objective.

**Plagiarism**
The Committee reviewed various technology tools to assist faculty in detecting plagiarism. The committee concluded that use of Safe Assignment, a tool that integrates with Blackboard, would be high among the faculty. However, OIT does not have the funds to pay the yearly license fee. The purchase would need to be an institutional decision funded outside OIT. Moreover, the Discipline Committee would have to develop a set of protocols and training to help faculty evaluate the Safe Assignment plagiarism reports. The full version of the program should be available for review in the fall.
Research Computing Advisory Group

The Research Computing Advisory Group [RCAG] advises and collaborates with OIT on matters related to research computing at the University. The specific charge of this group is to:

- Advise OIT on the research computing needs of academic departments;
- Collaborate with OIT on various projects related to research computing;
- Advise OIT on the software needs for research computing.

During FY05, members of the RCAG were:

Chair: Curt Hillegas, Manager, Academic Applications, OIT
Mary Lynn Baek, Senior Technical Staff Member, Civil and Environmental Engineering
Robert Barnett, Assistant Director, Physical Planning
Robert Calderbank, Professor of Electrical Engineering, Mathematics, and Applied and Computational Mathematics. Director, Program in Applied and Computational Mathematics
Roberto Car, Professor, Chemistry and Princeton Institute
Emily Carter, Professor, Mechanical and Aerospace Engineering and Applied and Computational Mathematics
Kara Dolinski, Senior Technical Staff Member, Lewis-Sigler Institute for Integrative Genomics
Bruce Draine, Professor, Astrophysical Sciences
Hank Farber, Professor, Economics
Sal Fattoross, Ecology and Evolutionary Biology staff
Chris Floudas, Infrastructure Operations Analyst, Chemical Engineering
Serge Goldstein, Director, Academic Services, OIT
Scott Karlin, Research Associate, Computer Science
Daniel Marlow, Professor, Physics. Chair, Department of Physics
Pino Martin, Assistant Professor, Mechanical and Aerospace Engineering
John Matese, Senior Technical Staff Member, Lewis-Sigler Institute for Integrative Genomics
Robert Ortego, Environmental Compliance Officer, Engineering and Construction
Josko Plazonic, Infrastructure Operations Analyst, Mathematics
James Stone, Professor, Astrophysical Sciences and Applied and Computational Mathematics
Daniel Trueman, Assistant Professor, Music
Chris Tully, Assistant Professor, Physics
Doug Welsh, Senior Technical Staff Member, Molecular Biology
Bill Wichser, Infrastructure Operations Analyst, Princeton Materials Institute
Highlights

Presentations to faculty
During FY05, RCAG gave two presentations to a broad audience of science and engineering faculty about OIT’s support for research computing.

Grant Proposal
RCAG submitted a grant proposal to the NFS CISE CRI program requesting a 256 processor high-performance computing cluster. The grant involved faculty from Astrophysical Sciences, Ecology and Environmental Biology, Mechanical and Aerospace Engineering, Molecular Biology, Physics, and Psychology. The proposal was not accepted, but the collaboration between OIT and the faculty established a positive framework for future endeavors.

High-performance computing infrastructure
RCAG refined the model and procedures for housing individual faculty and department owned high-performance computing resources in the 87 Prospect machine room. During the development of the new approaches, the group evaluated the 87 Prospect machine room to determine the short term and long term infrastructure needs.
The Provost formed the Desktop Systems Council (DeSC) to standardize the University’s administrative desktop computer environment. By choosing one hardware model and a standard software suite, the University is positioned to negotiate better pricing and maintenance fees, and computing support staff are better able to provide the best possible assistance to DeSC customers. Launched originally as the Princeton Desktop Initiative in 1996, the program was an essential part of the success of the new administrative computing applications then under development. The goals of the Council are to:

- Streamline the costs associated with application development, software installation, computing support, system administration, and software licensing;
- Ensure that the standard administrative computing environment is sustained;
- Enhance regularly the delivery of key administrative systems and productivity tools.

During FY05, members of DeSC were:

Steven Sather, Director, Support Services, OIT (Chair)
Charlayne Beavers, Technology Integration Specialist, OIT (DeSC Coordinator)
Marvin Bielawski, Deputy University Librarian
Nancy Costa, Director, Finance, Administration and Planning, OIT
Kathy DiMeglio, Program Manager, Visual Arts, Creative Writing, and Theatre and Dance
Ellen Kemp, Director, Computing Services, Woodrow Wilson School (DeSC Hardware Leader)
Dave Morreale, Manager, Desktop Computing Support, OIT
Steven Niedzwiecki, Manager, PC Systems, OIT
Jay Plett, Manager, Application Delivery, Electrical Engineering
Vikki Ridge, Senior Human Resource Manager, Facilities
Leila Shahbender, Manager, Student Computing Services, OIT
Highlights

During FY05, DeSC recommended the migration of the minimum operating system environment from Windows 2000 to Windows XP Service Pack 2. A new system was developed to manage DeSC local administrator passwords including quarterly password changes. A Security Policy and Procedures document for the DeSC environment was produced and disseminated.

New Software

To increase security and efficiency, OIT Software Support set up a continuously running SMS software distribution that deploys weekly Advance/Stripe business application updates to targeted DeSC machines for the Development office. During the year, DeSC purchased Dreamweaver and Photoshop concurrent licenses and maintenance.

Software developed, tested, and distributed to all DeSC machines during FY05 included:

- Windows XP Professional with Service Pack 2
- Internet Explorer 6.0 Service Pack 2.
- Microsoft Office 2003
- Avery Wizard for Word 2003
- Symantec AntiVirus Corporate Edition 9
- Sassafras Key Server Client 6.0.2.8
- SSH Secure Shell 3.2.9
- Tivoli TSM 5.2.2
- Adobe Photoshop CS
- Macromedia Dreamweaver MX 2004
- Oracle client 9
OIT initiated the OIT Ambassador Program in January 2003 to improve communication and customer service with the University community. The program’s mission is to:

- Provide an ambassador for every non-OIT department;
- To ensure excellent communication between the Ambassador and the department while maintaining a high level of service and satisfaction;
- Increase communication between OIT and non-OIT departments;
- Represent OIT to our customers, notably by disseminating information about OIT services;
- Represent customer needs and issues to OIT by listening and gathering information from customers.

The OIT Ambassador program is open to academic departments as well as certain undergraduate and graduate student groups. A total number of 71 Departments and programs are served by the program and enrollment growth is steady. Approximately 90 departments and programs do not currently have an Ambassador.

**Highlights**

During FY2005, the Ambassadors worked with their departments and OIT to resolve 350 problems and questions and assisted many undocumented matters. Most concerns regarded upgrades, training opportunities, and conversion to new software applications.

Ambassadors typically meet with their departments once every month. The increase in frequency of meeting owes mostly to the recognition that the ambassador and department both value the relationship. The program has assembled a list of expectations for Ambassadors. Ambassadors are required to attend meetings, to have at least quarterly contact with their departments, and to publish their meeting minutes.
Office of Information Technology

Division Reports 2004-2005

Princeton University
Academic Services

Academic Services supports the University community in the use of information technology in teaching, learning, and research. Academic Services brings together within a single OIT department those units and staff members who are primarily involved with support of Academic Computing.

Within Academic Services, the Educational Technologies Center supports the use of instructional technology to create learning modules and other computer-based teaching resources, including course web pages and learning modules for use in University courses. Media Services supports the use of instructional technology (audio, video, overheads, slides, and computer-based presentations) in the classroom. The Language Resource Center supports use of instructional technology in language courses, and manages the University’s video collection and its digitized video server. The New Media Center runs a laboratory that makes sophisticated instructional technology hardware and software available for student and faculty use. Research and Academic Applications Support provides support for the use of information technology in science and engineering research, including the operation of a Beowulf computing cluster. Humanities Computing Research Support provided support for the use of information technology in humanities and social science research. Desktop Application Support builds desktop applications for University departments and works to develop, support, and document the tools it uses for this purpose. Education and Outreach Services supports efforts to inform the University community about Academic Services initiatives and services and provides training and instruction in the use of Academic Technology.

Highlights

Precept Scheduling Tool

Last year, at the request of the Registrar, OIT’s Educational Technology Center (ETC) implemented a web-based tool that permitted faculty members to assign students to precept sections. The tool was used by a small number of courses for the spring 2005 semester. During FY05, OIT enhanced the tool with a new component that permits students to indicate their precept preferences. The tool can now automatically assign students to precepts and other sections, including labs, based on these preferences and the student’s current schedule. The tool was more widely used by departments during the fall semester. The Registrar expects the tool to become the primary mechanism by which precept assignments are made.

Apart from the technical challenges of designing and implementing the tool in a way that makes it easy for faculty, staff, and students to use, a key hurdle will be to communicate effectively the availability of the tool to the University community. OIT is working closely with the Registrar’s office to insure a successful roll-out.

Meeting the high performance computing needs of the research community

In FY04, OIT implemented a “Beowulf” cluster that continues to provide high-performance computing services to faculty in a number of departments. In FY05, OIT enhanced this central, shared Beowulf capability and made machine-room facilities available for researchers needing a place to house and run their own equipment. OIT also worked with faculty to explore grant-funding opportunities to enhance the University’s current research computing services. These efforts helped to foster greater collaboration between OIT and Princeton’s research faculty.

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1 In September, 2005, this group was incorporated back into the Educational Technologies Center.
Towards a top-500 (http://www.top500.org/)

High-Performance Computing [HPC] facility at Princeton

A key AS goal for FY05 was to develop a plan for supporting HPC computing at Princeton. The main elements of the plan were to establish a strategic partnership with an HPC vendor and to work with that vendor to identify and implement an HPC facility that would meet the broadest possible faculty needs, and would establish Princeton as a significant HPC site (e.g., among the top 500 HPC facilities in the world).

In the spring semester, at a special meeting of the Research Computing Advisory Group (RCAG) it was agreed that OIT would work to identify a vendor with whom Princeton might establish a strategic partnership. After preliminary meetings with a number of vendors, IBM was identified as a possible strategic partner. Further meetings were held with representatives of IBM, Princeton faculty, and OIT staff to discuss possible architectures and modes of cooperation and partnership. Based on these meetings, OIT, working with faculty, has put together a series of funding options for partnering with IBM. If the funding is rapidly identified, it should be possible to have an HPC facility in place by this fall.

Web application facility

Last year, OIT made a strategic decision to discontinue development of DBToolbox, OIT’s home-grown web application development tool. Although DBToolbox has served the University well, it can no longer compete with commercial and open-source web application development platforms, and it is not in Princeton’s best interests to remain dependent on a home-grown solution, particularly one that is routinely used to build critical business applications.

In FY05, OIT identified an alternative technology (DreamWeaver and PHP) and began the process of assembling the replacement infrastructure. The implementation of a LAMP server permits members of the University community to create PHP-based web applications. To communicate effectively with campus DBToolbox users, OIT formed a support group for web application development, offered free classes in DreamWeaver/PHP to DBToolbox users, and commissioned the development of a tool that would automate the process of converting existing DBToolbox applications to PHP. OIT retained a consultant to build an application that will automate the conversion of DBToolbox applications to PHP. The tool was completed early in the year. To facilitate migration of application development from DBTollbox to PHP, OIT also offered a series of courses in PHP programming.

Educational Technologies Center

The Educational Technologies Center [ETC] helps Princeton faculty to build multimedia tools for the classroom. ETC’s designers collaborate with faculty members to share their scholarship with a wider audience of students, alumni, and other members of the University community, and ETC administers the campus Blackboard learning management system and the Almagest multimedia database.

FY05 was a challenging year for the ETC. Despite the handicap of two staff retirements and the discontinuation of the @princeton courseware effort, the ETC successfully focused its efforts on building, managing and maintaining scalable applications to support teaching and learning at Princeton.

Highlights

Precept Scheduling

The development of a new tool (written using the programming interfaces in the Blackboard CMS) that permits faculty and staff to assign students to precept sections using a web-based interface. Extended use of the new tool is anticipated for the fall, 2005 semester, when the tool will be enhanced with a new feature that permits students to indicate their precept assignment preferences using a web interface.

Almagest

During FY05, ETC released the Almagest image storage/presentation system as an open-source application. By year’s end, Almagest was in use at three institutions. Dramatic growth in use is expected in FY06.

During FY05, the ETC created Almagest Exchange, a shared repository of art images that can be freely used in academic (teaching) contexts. Four collections were added during the year.

Academic Web Sites

ETC continued to assist departments to build academic web sites. Notable additions included “Music in the Land of the Jaguar” and the “Wu Shrine rubbings” for the University Art Museum. ETC also worked on the development of a web site that will be used to illustrate an on-going archeological dig in Syria.

During FY06, ETC will complete the implementation of the precept enrollment tool (including the student preferences section) and re-incorporate the Humanities computing support function within its support structures. ETC will be hiring an instructional technologist and a humanities computing specialist to assist these endeavors.

Language Resource Center

The Language Resource Center [LRC] supports the use of audio, video, and multimedia materials for specific assignments and for self-directed foreign language study. The LRC runs the central language support laboratory and manages the University’s collections of DVD, CD, and tape as well as the central digitized video server.
Highlights

Enrollment numbers for language courses between 2001 and 2005 show slightly declining enrollment (an average of 15% over the four years) in the European languages; Portuguese is the exception with a 61% increase over five years. Enrollment in Chinese and Japanese grew by 29% and 28% respectively. By contrast, several of the less commonly spoken languages show a significant increase in enrollment: Hebrew 52%, Turkish 58%, and especially Arabic 225% (from 51 students in 2001 to 166 in 2005). The LRC now offers eight Foreign Language Channels via Dish Network: Arabic, Chinese, French, Hebrew, Italian, Japanese, Russian, and Spanish, and will be offering German in 2005-2006.

Some students come to the LRC simply to sign out films. There were 5,185 transactions during FY05. Many others come to use the viewing rooms or the stations to watch videos or DVD’s. The LRC continues to be a very popular facility and is often filled to capacity. According to tracking software used to monitor the usage of the LRC computers, 1,791 unique users logged on in fall 2004 (total logons were 12,467 or 623 per week) and 1,938 in spring 2005 (total logons were 13,792 or 862 per week). Not surprisingly web browsers were the most accessed programs. Real Player was the second most used program because many students come to the LRC to either listen to audio files or watch films. The high numbers reflect the fact that students use the LRC for more than just language work.

The video collection continues to grow. During the last two years, the number of videos in the collection has increased by 480 and DVD’s by 620 bringing the totals to 3,230 and 1,085 respectively. DVD has become the preferred media among faculty. The number of videos on reserve has increased by 148 titles, from 1,397 to 1,545. The use of the LRC’s Video on Demand [VoD] service is expanding to more courses and more departments. The number of classes using VoD increased by 61% since FY04 (from 136 to 220) and the number of titles assigned has increased by 66% from 540 to 908.

New Media Center

Located on the ground floor of 87 Prospect Avenue, the New Media Center [NMC] offers a walk-in facility where students, faculty, and staff can come to work with sophisticated computer and audio-visual equipment. NMC staff members assist customers in the use of this equipment and the associated software. Major activities during FY05 included the creation of multimedia web pages, the digitization of text, the production of short video segments, and the creation of media-rich printed graphics.

Highlights

Visits to the NMC sustained an active pace throughout FY05. There were 2,264 visits (170 faculty, 1,601 students, and 487 staff) from 754 different people (70 faculty, 507 students, and 176 staff). 1,537 visitors come to use the NMC’s sophisticated media equipment. 289 came for consultation on varied projects. Major activities included Video Capture and Editing (613 visits), DVD Burning (192 visits), use of graphics applications (187 visits), web design (173 visits), color printing (171 visits), scanning slides (166 visits), and audio capture and editing (72 visits).

Video and audio production projects

The NMC continued to serve as one of the University’s prime video production units. During FY05, the NMC produced nine video projects.

NMC Staff shot and edited five instructional videos for Frist Campus Centers staff training program. The NMC mastered, designed and duplicated an audio CD for a musical performance held at Château de Balleroy for Princeton University in 2004.

The NMC produced a video featuring interviews of students, staff, and faculty who wished to thank Building Services personnel. The completed DVD was screened at the Building Services “Thank You” luncheon.

The NMC interviewed and assembled footage of the recipients of the Hambrecht scholarship to create a “Thank You” DVD sent to Mr. and Mrs. Hambrecht. The NMC produced five videos highlighting course offerings for the History department’s Fall 2005 semester. Advertisements for the videos were published in the Daily Princetonian and on Blackboard.

The NMC also digitized and converted to DVD a total of 26 archival 16mm films for the Stokes Library.

Video Streaming

Streaming video has become an increasingly popular way for departments to share lectures and other activities on the Web. During FY05, the NMC streamed more than 110 lecturers onto the Web, an increase from 24 last year.
Web Design Projects
NMC staff assisted eight departments and programs to design and implement their web sites.

Major web projects included the 98 page University Health Services web site, the Conte Grant report web site, and the Art Museum “Land of the Jaguar” web site.

The NMC designed mock-ups for the Near Eastern Studies web site. The NMC created the web site for the Princeton University – Microsoft Intellectual Property conference, sponsored by Microsoft and held at the Woodrow Wilson School. The NMC staff also worked with the Communications office on producing the OIT Frosh web site using the new Roxen Content Management System. This site provided IT information to the Class of 2009.

In FY06, the NMC will work closely with the Office of Communications to implement departmental web sites using the Roxen content management system.

Education and Outreach Services
In its first full year, the Education and Outreach Services group began to consolidate and coordinate training and communications efforts for Academic Services. The group is charged with ensuring that the University community is aware of the services offered by the department, and that these services are adequately documented and described.

Highlights
Training
The group consolidated AS training with OIT Training by standardizing the listing of courses offered by AS within the central OIT Training database and by sharing resources and instructors, the group’s major accomplishments included:

- Lunch ’n Learn program
- Office Visits Program
- GAIT

Lunch ’n Learn program
The group increased the number of presentations, and broadened the speaker base and range of topics. The group also created and maintained a web site and advertised this important series using dedicated mailings and e-mails.

Office Visits Program
Upon request, Academic Services sends graduate student consultants to faculty offices to provide instruction in the use of the Blackboard course management system and related teaching technology. The service is available to faculty and their teaching assistants. Based on the success of the program, the group expanded the service in FY05 to cover Almagest, Windows, Word, and PowerPoint.

GAIT
The Graduates Associates in Instructional Technology [GAIT] provides IT training to a small group of graduate students who then serve as IT mentors within their departments. Funded jointly by OIT and the Graduate School in fall 2004, the program had a successful first year.

“IT’s Academic”
The group developed a special column on academic features for the OIT newsletter, “it matters,” and then expanded the idea into an online newsletter called “IT’s Academic.” The first edition was delivered to Academic Managers, SCADs, GAITs, OIT staff, and select faculty in the beginning of the Spring semester.

/arts speaker series
The group developed a new lecture series based on a proposal by Dean Maria Klawe and Kati Lovasz. The series brought a number of distinguished contemporary artists to Princeton to discuss the interface between Art and IT.

During FY06, the group will face a challenge in determining how best to continue the GAIT program in the face of diminished funding, and how to improve outreach about AS services to the University community.

Desktop Application Support
In its first full year, the Desktop Application Support [DAS] group is dedicated to the creation and support of departmental applications. DAS addresses the need for professionally developed database applications that cannot be implemented by University staff, yet which fall below the enterprise level systems deployed by OIT’s AIS department. DAS focuses on applications that have departmental rather than University scope, and which are intended to solve immediate information gathering and dissemination needs. Typically, these are small-scale applications that can be developed in days or weeks.

Highlights
The most significant project involved the conversion of DBToolbox to PHP, described above. During FY05, DAS also hosted courses on building applications with Dreamweaver, and on MySQL database creation and programming. DAS developed a total of 24 web-based surveys using OIT’s online survey system. DAS took over support of a critical application for the Ombuds office. The application is used by this office to track incidents, and required a high level of security and access control.

During FY05, the group helped 28 departments to build web sites and related web applications that were critical to their ongoing work. Types of applications typically include departmental web sites employing data-driven content, Web forms that gather data and store it in a database, event registration systems, and Web-based surveys.

DAS built an application that permits Princeton-In-Africa to capture information from a web form to a database.
Another DAS web application permitted Community and State Affairs to automate enrollment in a conference.

The major challenge in FY06 will be to make significant progress in the ongoing migration from DBToolbox to PHP/Dreamweaver. Towards that goal, DAS will implement a variety of new environments to support PHP-based web applications and will convert all OIT DBToolbox applications to PHP. The group will also aim to improve the online web-based survey facility. Among new applications, the most prominent for the new year is a system for enrolling auditors in Princeton courses, a project being undertaken for Community and State Affairs.

Research and Academic Applications Support

Research and Academic Application Support [RAAS] assists the University’s research and academic activities for High Performance Computing, programming, and third-party software. RAAS provides computational hardware and software facilities for use by the research and academic community. The group assists other University departments to install and support their own high performance computing facilities. RAAS also provides programming assistance and training for those developing in-house research and academic applications.

Highlights

Princeton Software Repository (PSR)

A year ago, RAAS introduced the Princeton Software Repository (PSR). This new online facility makes available third-party software packages that have been configured to work within the University’s computing environments. PSR also provides standard processes to register, distribute, update, and decommission software packages.

By year’s end, PSR provided the most up-to-date versions of 67 free software packages. OIT sponsored these initial core software packages. Individuals or departments may sponsor additional packages. Also this past year, a PSR Advisory Committee was established with membership from the University’s research community. The committee reviews policies, and approves requests for software package sponsorship.

During FY05, RAAS assisted in the development of the PSR Webstore, which went into production in January of 2005. All software sales are now processed through the web store. A new project will permit members of the University community to purchase, and then download, software online.

Beowulf cluster

During FY03, RAAS acquired a 32-node Beowulf computing cluster, adroIT. During FY04, the cluster’s first full year of operation, 47 users from 15 departments registered for access to the cluster. In FY04, the server ran a total of 4,833 jobs utilizing 476,410 CPU hours or 72% CPU utilization. During FY05, 7,995 jobs were run on adroIT by 31 users from 15 departments and 2 undergraduate classes totaling 493,653 cpu hours or 88% cpu utilization, close to the theoretical maximum.

During FY05, OIT enhanced its central, shared Beowulf capability and made machine-room facilities available for groups that need a place to house and run their own equipment. OIT also explored grant-funding opportunities to help expand the University’s high-performance computing services. In the spring semester, at a special meeting of the Research Computing Advisory Group (RCAG) it was agreed that OIT would work to identify a vendor with whom Princeton might establish a strategic partnership to create a top-500 high-performance computing facility at Princeton. After preliminary meetings with a number of vendors, IBM was identified as a possible strategic partner. Further meetings were held with representatives of IBM, Princeton faculty, and OIT staff to discuss possible modes of cooperation and partnership. Based on these meetings, OIT, working with faculty, put together a series of options for partnering with IBM. Discussions of these options are currently underway.

“Condor” project

Developed by the University of Wisconsin, the “Condor” software permits the use of spare machine cycles in support of research activities. During FY05 staff upgraded Condor software and presented a Condor workshop for PICASso.

Support for research applications

RAAS has worked with a number of faculty to provide programming assistance, and to aid in the design and maintenance of various computational/data analysis efforts. During FY04, RAAS completed two major programming projects. The first involved the development of a program for the Psychology Department that allows students to conduct Implicit Association Testing (IAT) over the Web. This program was then modified to support specialized psychological surveys for Professor Daniel Kahneman. In FY05, RAAS has continued to work with research faculty to provide various types of programming support, and to facilitate the housing of several faculty-
owned high-performance computing clusters in the 87 Prospect machine room.

RAAS also worked with Professors Dan Marlow, David Botstein, Bruce Draine, Simon Levin, Pino Martin, Jerry Ostriker, Ken Norman, Chris Tully, and the Director of ORPA, Michelle Christy, to write a proposal for an NSF grant. Although the proposal was not accepted, it brought together a number of faculty from different departments for the first time to produce a proposal that will likely be augmented and resubmitted.

Support for the School of Engineering and Applied Science (SEAS) Strategic Plan
RAAS is currently working with SEAS to survey and interview faculty in engineering and non-engineering departments as part of an effort to create an IT infrastructure plan that will meet the needs of both the SEAS Strategic Plan (announced in May 2004) and the University in the years ahead.

To more clearly signal the heightened focus on HPC support, the RAAS group has been renamed Computational Science and Engineering Support (CSES).

Humanities Computing Research Support
This was the Humanities Computing Research Support group’s last year. Late in the year, Raf Alvarado, Manager of the group, left to take a position at the University of South Carolina. After a careful review, the functions of the group were incorporated into OIT’s Educational Technologies Center (ETC). A humanities support person will be hired in FY06 to assure that on-going projects continue to be supported.

During FY05, the major accomplishments of the group included:

- Implementation of a blogging service, Princeton Commons, in support of faculty teaching and research. Although only in its pilot phase, the service has begun to establish itself as vital part of the University’s Writing Program.
- Development of version 1.0 of TextGarden (TG), a tool for the support of projects that involve textual analysis.
- Initiation of new projects, including the Cibola and Sefer Hasidim projects.
- Porting to PHP of Figura, a tool developed by HCRS to encode and display complex rhetorical and grammatical markup of literary text.
- Assistance with the development of the curriculum for the GAIT summer training program.

As Humanities computing support is folded back into ETC, a major challenge will be to ensure that the text-oriented IT services developed by the group (blogging services, Figura, and TextGarden) continue to serve the Humanities community.

Media Services

Media Services [MS] provides a full range of audio-visual equipment and technical support for University classes and events. More than just support for conventional media, services include capturing and placing satellite television broadcasts on the University’s cable television system, videotaping, and consulting on the design and installation of data projection systems.

Highlights

MS assisted in the planning and implementation of multimedia AV systems for the Aaron Burr and Jones Hall renovations. MS coordinated the upgrading of data/video projectors in McCosh 60, 62, 64 and in Architecture 106 and 107. The group also worked with the School of Engineering and Applied Sciences to assist with the upgrade of the D221 E-Quad classroom.

MS attended the National Association of Broadcasters convention to research and recommend broadcast video/audio equipment for the upcoming television production studio in the new Science Library.

MS assisted with the implementation of the B1000 video playback server, a unit that provides DVD quality (M-PEG2) playback of pre-recorded events over campus channel 7 and town channel 27.

As part of the group’s continuing association with the Office of Design and Construction, MS integrated RoomView with Crestron Control Systems in order to monitor and control twenty campus classroom spaces. These capabilities will now be added to new renovation or installation, facilitating the continuing expansion of the campus.

Table 1: Media Services jobs in FY05

<table>
<thead>
<tr>
<th>Jobs</th>
<th>Fall 2004</th>
<th>Spring 2005</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total jobs</td>
<td>1299</td>
<td>1354</td>
<td>2653</td>
</tr>
<tr>
<td>Course-support Jobs</td>
<td>468</td>
<td>374</td>
<td>842</td>
</tr>
<tr>
<td>Non-course Jobs</td>
<td>831</td>
<td>980</td>
<td>1811</td>
</tr>
<tr>
<td>Course Jobs Requiring Operator</td>
<td>169</td>
<td>91</td>
<td>260</td>
</tr>
<tr>
<td>Non-course Jobs Requiring Operator</td>
<td>108</td>
<td>135</td>
<td>243</td>
</tr>
<tr>
<td>Videotaping Orders</td>
<td>74</td>
<td>49</td>
<td>123</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-billable Tasks</th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consulting</td>
<td>11</td>
<td>35</td>
<td>46</td>
</tr>
<tr>
<td>Training</td>
<td>102</td>
<td>64</td>
<td>166</td>
</tr>
<tr>
<td>Repairs</td>
<td>66</td>
<td>100</td>
<td>166</td>
</tr>
<tr>
<td>Maintenance</td>
<td>19</td>
<td>19</td>
<td>38</td>
</tr>
<tr>
<td>Networking</td>
<td>44</td>
<td>17</td>
<td>61</td>
</tr>
</tbody>
</table>

MS activities during FY05 are summarized in Table 1.
Administrative Information Services

Administrative Information Services (AIS) implements, maintains and supports the University's administrative systems. The mission of AIS is to provide the best possible technical foundation upon which the University’s automated business processes run. Services also include project planning, design, development, integration, testing, and deployment of administrative applications. Core competencies include PeopleSoft, Java, PowerBuilder, and the Oracle relational database management system.

Administrative Information Services contains three groups, Custom Software Solutions (CSS), Data Warehousing and Integration (DWI), and Packaged Software Solutions (PSS).

Highlights

PeopleSoft Student System
The new PeopleSoft Student System for the Undergraduate College and Undergraduate Admission was successfully implemented on time and within budget in August. By replacing the last of the legacy systems, this new system will enable the University to retire the mini-mainframe, for a savings of more than $400K annually, and will provide enhanced functionality to the Registrar’s Office, the Office of the Dean of the College, and the Admissions Office. This completes the implementation of the University’s PeopleSoft administrative software systems, enables the retirement of the old “mini mainframe,” and places the Undergraduate College’s records in the same administrative system environment as Human Resources, Payroll, the Treasurer’s office, and the Graduate School. The Undergraduate Admission Office will use the new student system to manage their prospect and applicant pools. A new Princeton-specific web application, developed by the University, enhances the PeopleSoft functionality. Together, these new systems are now the primary point-of-entry for undergraduate application information and create a unified data and computing environment for all of the primary administrative system functions across the campus. A significant portion of this year’s applicants used the new, online system to enter and submit their application for admission to the University.

Delivering IT products and services that meet the needs of the University community
In September, 2004, the Architectural Review Board was formed. This group conducts technical architecture reviews of IT-related projects in conjunction with the appropriate business office representatives who own the systems. During FY05, the board reviewed Badging, Vendor Direct Deposit Self-Service, Labor Accounting, Princeton Receivables, the Health Management System, Maximo, T2 Parking, and the Roxen Content Management System.

The full deployment of Undergraduate Admission Web Application was an important development for Undergraduate Admission. This Java-based custom application will be the point of entry for all the University’s undergraduate admission applications, regardless of whether they are submitted from the University’s website, the Common Application, or received in hardcopy. This application then interfaces relevant pieces of information to PeopleSoft for the processing of admission. Upon matriculation, the same data then flows into the Student System to create the initial portion of the student record.

During FY05, great strides were made in creating the new Princeton University Information Warehouse. An important and major undertaking in the evolution of
Princeton’s information management strategy, the Information Warehouse combines data from multiple disparate systems to provide standard, reliable, centralized data access to the campus. This project was enabled by the University’s acquisition of COGNOS ReportNet as its standard reporting application.

**Custom Software Solutions (CSS)**

CSS is primarily responsible for the development, maintenance, and support of the University’s custom administrative applications, nearly all of which are Java-based. CSS focuses upon application integration issues in order to provide the University with a consistent computing environment for administrative systems.

**Merit increase process**

Following the success of the web based Merit Increase Process that Human Resources implemented during FY04, the Dean of the Faculty office used an enhanced version of the system successfully during FY05. A more secure distribution of spreadsheet passwords in December eliminated even more manual intervention for the Human Resources offices.

**Labor Accounting**

The Labor Accounting System had been running since 1997 on a Sun Server with an operating system that had not been supported for at least five years. In February, to mitigate risk during the rewrite of the application, AIS migrated the application to a more current environment.

Development of the new Labor Accounting System is on schedule. The new system incorporates several new business processes, including improvements to existing Labor Accounting functions, automation of previously manual processes, and adding entirely new features that address gaps in the Standard Business Model. Some of the new features include:

- Requests to pay faculty summer salaries and the related salary commitments input directly into the system;
- Eliminate the need for the Graduate Assistantship in Instruction Appointment (AI) Form by allowing the department to enter the AI form information online;
- Ability to pay academic year support for the months of May and June in advance;
- Ability to pay summer support in advance.

The first pieces of the Labor Accounting system are due for completion in the spring of 2006 with the balance of the functionality due in the fall of the same year.

**Undergraduate Admission Web Application**

The Undergraduate Admission Web Application (UA/Web) provided the entire Undergraduate Application via the Web for the first time during FY05. The web application contributed to the successful record number of applications for admission to the Class of 2009. Final numbers for UA/Web:

- 4,809 applications entered;
- 2,960 applications submitted;
- 725 of those requested Early Decision.

For the Class of 2010 cycle, CSS changed the UA/Web application to integrate with PeopleSoft Admission on the backend. Next year, the application will automatically deliver applications coming from the Common Application. CSS has also written a more robust web application that gathers information from prospective students and feeds information to PeopleSoft. As a result, the Undergraduate Admission Office will be able to track prospects better.

With the retirement of the mini-mainframe and the go-live of PeopleSoft student, the custom Princeton Online Application will become the primary interface between the Undergraduate Admission office and the applicant data. All applications, whether received electronically or in hardcopy, will flow through this application. Important further enhancements to the system in FY06 will include the creation of an automated feed between the Common Application (a shared, communal, web-based college application system to which Princeton subscribes) and the Online Application. As a result, data collected by the Common Application will flow seamlessly and automatically into the Online Application. From there, it will flow via interface to the PeopleSoft Student application and the Information Warehouse.

**Time Collection**

The new features of the Time Collection system developed during FY04 were used for the first time during FY05. Scheduling is now seamlessly integrated with time collection and accommodates regular and nonproductive times, both of which are automatically entered into Time Collection.

The new electronic time clocks, which are fully integrated, flexible, inexpensive, and generic in its design, efficiently record in/out time. This system has completely replaced the use of mechanical time clocks. Two different user interfaces—via a magnetic card reader or via time collection—provide maximum convenience. Through the same interfaces, managers are able to manage employees’ lunch/break attributes and perform at-the-clock supervisor override in case of clocking errors or swiping in for an employee who forgot a card. Currently more than 500 employees in four departments are using the time clock functionality. The Human Resources department is planning to expand its use.

Student longevity pay, a further enhancement to Time Collection, affects approximately 2,600 student workers by replacing the arbitrary student-pay assignment practice with a batch process that enforces University rules. The system includes a very flexible and powerful reporting interface.
Princeton Receivables
The existing Loans and Receivables system contains serious weaknesses, including security vulnerabilities and an underlying architecture that complicates maintenance. The new system, a four-year effort, will improve business practice flows and permit increased web functionality, impossible within the current architecture.

During FY05, Princeton Receivables (PR) built foundation components, including client and security pieces, to prepare for the development of the 15 individual receivables applications. The first receivable, short term computer loans, will deploy in Fall, 2005. The Treasurer’s Office will then prioritize the list of the remaining receivables. During FY05, CSS initiated a parallel development track in order to develop loans and billing simultaneously. CSS is continuing to keep the existing Loans and Receivables system running in parallel. New receivables will bridge back to the old system until the new system is complete.

The project will have longer-term benefits to the University as well. The Campus Community feed approach will be redesigned and will be in tune with how future application interfaces will be architected. The project is taking advantage of newer, proven technologies to have different receivables “talk” to each other and to external systems.

Demand
The DEMAND system, which was used as a portal to multiple administrative systems and as a test bed for the uPortal Open Source software initiative, was retired at the end of FY05.

Data Warehousing and Integration (DWI)
Data Warehousing and Integration (DWI) organizes and manages a significant portion of the data recorded and stored in Campus Community, the Data Mall, the new Information Warehouse, the Interface Hub, Enterprise Reporting, and the campus’s other administrative systems. The group is responsible for establishing many of the University’s policies for data administration. A significant portion of the group’s effort goes into consistently defining, implementing, and applying data designations and values across University systems.

DWI works to enhance University effectiveness by promoting a culture that capitalizes on its information and business applications as strategic assets. DWI achieves this vision by:

- Making information access and its underlying security more consistent, customer friendly, and easier to manage;
- Promoting the notion of data as a strategic resource and ensuring that data captured by existing and future systems is consistent with, and usable by, the broader University population;
- Expanding the breadth of information in the data warehouse, extending its reach to additional systems and further refining our data formatting and presentation capabilities;
- Fulfilling the responsibility to support an enterprise repository for people and organizations through Campus Community.

Campus Community
All Campus Community patches delivered by PeopleSoft were tested in development and quality assurance and applied into production in February, 2005. DWI applied necessary changes to customized Campus Community objects.

Campus Community spent a significant amount of time and effort during FY05 getting ready for the August 2005 go-live of Student Records and Undergraduate Admission. Major enhancements to Campus Community associated with this effort included:

- Redesigning security for Campus Community pages to prevent Undergraduate Admission records from being accessed by non-Undergraduate Admission staff;
- Reevaluating and restricting access to Search Match to a select number of users in light of Undergraduate Admission being part of the shared system;
- Modifying Search Match criteria to fit Undergraduate Admissions requirements in addition to the rest of the users on campus;
- Working with the Undergraduate Admissions team to develop criteria for duplicate record checking using both bio/demo data elements as well as affiliations;
- Creation of a new address type of “School” for Undergraduate Admissions and changing all the business rules for addresses to account for the new type;
- Changing the SCORE Address functionality to be consistent with the rest of PeopleSoft now that Legacy Student Records is being retired;
- Developing functionality for “Multiple Citizenship;”
- Tuning certain areas within Campus Community for improved performance.

Campus Community continued to support Human Resources, the Graduate school, the TigerCard office, LDAP and various other clients on campus.

Hub interface
New Hub interfaces were created for Badging, Princeton Software Repository (PSR), and Student Computer Initiative (SCI). Significant changes were made to the following interfaces: Advance, Dining, Student Health (in support of Medicat), and Housing. In addition, the Hub now accepts mail drop codes from Housing and sends the codes to Human Resources. The Hub was modified to
remove interfaces with Student Legacy and to replace those with interfaces to the new PeopleSoft Student system.

599,317 individual transactions were propagated successfully through the Hub. During FY05, the system was available 99.9% of the time.

During FY05, in addition to hub-specific work, many annual feeds and loads were run for Campus Community data. For example, the class of 2009 freshmen and freshmen parent bio/demo data were loaded into Campus Community.

**Information Warehouse/Data Mall**
The Information Warehouse will eventually replace the current Data Mall and serve as the University’s primary reporting environment for administrative applications. The multi-year conversion effort progressed well in FY05. Authorized members of the University community are now using the Information Warehouse, a reporting and data distribution system, to perform data analysis and produce predefined or ad hoc reports. Users have found that the new system provides more efficient and flexible access to the University’s comprehensive data collections.

To support the Warehouse, the University selected ReportNet, a web-based, front-end reporting tool, from COGNOS Corporation as the University’s standard enterprise report writing product. ReportNet supports predefined and customized reports on almost any kind of data. In addition, using ReportNet, users can establish schedules for the delivery of personalized e-mail reports. Training for dozens of functional office staff was held throughout the year with over 200 University employees, both technical staff and clients, being taught the new tools. New database, application, and web servers were installed and the initial rollout of ReportNet with five data collections occurred in January, 2005. The data collections included Human Resources, the Committee on Committees, ID Card, Undergraduate and Graduate Housing, and Facilities.

The next major component to go live, Time Collection, became available on June 30. This replaced the existing Data Mall store and increased the number of ReportNet users significantly.

Three other data collections were created and were being readied for production in early FY06. These included Undergraduate Admissions and Student Records (Registrar) which were planned to coincide with the go-live of the new PeopleSoft Admission and Student Administration applications on August 2, and the Student and Administrative Phone Booths, both of which will be available on September 1.

**Packaged Software Solutions (PSS)**
PSS is responsible for the maintenance, enhancement and operational support of vendor supplied, packaged administrative systems. These applications include:

- Alumni Records (Stripes);
- ClassRoom Scheduling (Resource 25);
- COEUS/Grants Management;
- Dining Services;
- FSA Atlas — SEVIS;
- Housing (Diebold);
- ID Cards;
- LockBox;
- PeopleSoft Financials (UFINSI);
- PeopleSoft Human Resources Management System (HRMS);
- PeopleSoft Student Administration System;
- PeopleSoft CRM (HR helpdesk);
- Recruiting (PeopleAdmin);
- Telephone Management;
- UG Admission.

PSS has several subgroups: PeopleSoft HR & Student Administration, PeopleSoft Financials, Alumni Development, Telephone/Resource25/SEVIS, and Grants & Housing Management.

**PeopleSoft**
During FY05, PSS supported the PeopleSoft HRMS system by applying all PeopleSoft issued patches and fixes and all payroll tax updates. PSS made necessary modifications to the annual Benefits open enrollment and payroll year-end processing. During the year, PSS focused upon increasing efficiencies and automating processes.

For example, PSS applied Maintenance Packs 1 and 2 to the PeopleSoft HR Help Desk system to remain current. The group also created an automatic monitoring process that sends an e-mail message to a predefined list of programmers when an error message comes from the PeopleSoft HRMS; By so doing, PSS automated what had been manual monitoring of the system.

PSS participated in the implementation of the PeopleAdmin job posting and resume tracking system; The group wrote all of the interfaces from PeopleSoft to PeopleAdmin, including automated nightly data transfers..

During FY05, the Student team successfully implemented PeopleSoft Student Administration and Undergraduate Admission modules. The effort took a total of 45 hours straight to complete the Student Records conversion and backups. The team loaded 1.6 million records for roughly 58,000 students. 34,500 current prospects were also converted into the production database.

The new system permits faculty to use the Web to submit grades and to view Advisee’s information. In addition, the team improved the “STUVIEW” system within PeopleSoft to help the academic deans and departments to view
During FY05, PSS completed several projects for the Office of Research and Project Administration. The Institute Review Board project required a load of Access data into Coeus. The team completed the mapping and the initial load of all historical data for this project.

In addition, the Historical Data project established a process to load a subset of data for the Office of Undergraduate Admission reporting purposes. The historical data resides in the data warehouse for Undergraduate Admission applicant records going back to 1985 and 387,676 prospect records going back to 2001. Undergraduate Admission applicant records are used by the Undergraduate Admission office. Finally, PSS converted 294,252 Undergraduate Admission applicant records going back to 1985 and 387,676 prospect records going back to 2001. The historical data resides in the data warehouse for Undergraduate Admission reporting purposes.

During the upcoming months, PSS will continue to stabilize the new system in production and catch up on patches and fixes that were not applied during the implementation cycle.

**Telephone/Resource25/SEVIS**
During FY05, PSS continued to apply the appropriate patches and fixes to keep the Telephone Management System, Resource25, and the FSA Atlas/SEVIS systems current. The upgrade effort also involved the conversion to the Windows XP operating system. PSS developed an interface from the Telephone system to the Interface Hub so that the relevant information can be further propagated to the University’s LDAP directory. The team also upgraded FSA Atlas to make sure that operations reflect newly upgraded SEVIS regulations.

**Badging / Parking**
PSS assisted the implementation of a new Badging system and a new Parking system for the TigerCard office. Early in FY06, the team will assist the implementation of the eCommerce portion of the Parking system.

**Office of Research and Project Administration (ORPA)**
During FY05, the Coeus team completed several projects for the Office of Research and Project Administration. The Institute Review Board project required a load of Access data into Coeus. The team completed the mapping and the initial load of all historical data for this project.

For CoeusWeb, the team wrote a new subcontract module that permits researchers to approve invoices online and to send purchase order and invoice payment information automatically to the Treasurer’s Office. Finally, the team wrote a new web-based java application to capture and to report upon possible conflicts of interest within faculty, library, and administrative staffs.

During FY06, PSS will be working with MIT on converting the Award Budget subsystem to Java, converting the sponsor forms to the Web, and installing Coeus 4.

**Housing**
Facilities rewrote the application that enables graduate students to apply online for room draw. In support of that effort, PSS wrote the edit functions and worked with Campus Community to supply additional graduate status information. PSS also created a new e-mail feature that permits Housing to send mass e-mail messages to all graduate students requesting confirmation of their personal information prior to room draw. In addition, for the first time, Housing can view undergraduate information as soon as they are admitted to the University.

In addition to supporting the current system, PSS began designing improvements to the online student housing application process. Among the first deliverables, students can now select their dormitory rooms via the Web.

During FY06, four major initiatives will be undertaken. One will be the rewrite in Java of the Graduate OnLine Housing Application. This is due to go live in the Fall of 2005. Second will be the Undergraduate Online Room Draw Application. This application will incorporate the new housing rules that will be in effect for the Fall of 2007 and will permit students to participate in room draw remotely and on-line. It is due for completion in January, 2007. Third is Web Room Selection, also due in January, 2007. Finally, the Electronic Contract will compliment the web Room Draw and Room Selection. This is due for completion in Spring, 2007.

**STRIPES**
Within STRIPES during FY05, PSS focused upon improving data integration and access, fundraising performance management and metrics, and application upgrades to current vendor releases. PSS also enhanced prospect management functions to provide meaningful online data retrieval, standardized identification of the principal giving pool, and improved progress reports for the solicitation cycle. The team also implemented the OnBase application interface for indexing and retrieval of scanned donor files.

PSS reengineered the custom download facility to accommodate a wider user base through role-based security and more data selection options. The team completed the interface with Mellon Bank to exchange Planned Giving beneficiary data and completed the automated gift feed to University Financials. For Pledge Management, PSS completed a function to provide donor communication and revenue forecasting tools regarding outstanding balances.

PSS created facilities to perform statistical analysis of fundraising sources. The team established data feeds from ReunionAid, a third party vendor product that collects class demographic data for Princeton Reunion Class directories and web sites. Finally, PSS upgraded to SungardBSR version 8.1 of Advance and version 3.1 of Advance Web Community (AWC) version 3.1, expanded the Campus Community interface to include faculty and staff, and created new entity profiling and query tools to
track appeals and respondents for Art Museum membership.

During FY06, PSS plans to upgrade the Events Management system to SungardBSR version 3, which will allow for the upgrade to Oracle 9i. The team will complete the integration of Art Museum and Library donor management within STRIPES, and it will establish a peer screening data collection program for prospect identification. Advance/Advance Web Community will be upgraded to the next vendor release. Finally, PSS will expand the integration between Advance and Onbase and continue to support the preparations for the campaign.

**University Financials**

During FY05, the University Financials system has remained current with respect to vendor-supplied patches and fixes, and has gone a step further by researching and implementing fixes to data corrupted by PeopleSoft coding errors. On the infrastructure side, the PeopleSoft Financials database was successfully migrated to the latest release of Oracle 9.0.

The team made several significant gains in processing efficiency and resource conservation. For example, the team improved the vendor search function and the General Ledger reporting extract processes. To save one page per printed order, a reference to a web page replaced the terms and conditions on purchase orders. The team also put in place processes to improve the synchronization of data from University Financials and the DataMall Stores.

To reduce manual data entry and to increase accuracy, the team completed an interface with the Coeus system to accept an automatic feed of project grant information into Financials. As a result, the Treasurer’s office can now make mass changes to project grant data without technical assistance.
Enterprise Infrastructure Services

Enterprise Infrastructure Services (EIS) provides support for University servers and middleware services such as databases, e-mail, directory, and authentication services, backup and restore services, systems management, job scheduling, output management, architecture, and security.

Within EIS, Systems and Data Management Services manages the University’s enterprise systems and provides backup and restore services. IT Architecture Services is responsible for security, research and development. Computing and Support Services provides Unix, Windows, and collaboration services (e-mail, calendaring, authentication, and directories).

Highlights

**Improved Backup and Restore Service**
The University file backup system today supports more than 8,000 computers from desktops to large servers. To speed up both backups and restores and to take advantage of inexpensive disk technology, OIT converted the backup system in late spring to use a large array of low-cost disks rather than magnetic tapes. The result is that backups run faster, are more reliable, and require much less attention from the TSM administrator. Self-service capabilities for backup users and departmental support staff have also improved. More than 100 terabytes (100,000 billion characters or the equivalent of 10 Libraries of Congress) of storage is available on the disks. For disaster-recovery purposes, high-capacity tape storage backs up the disks.

**Central File Services**
OIT put in place a central file server to consolidate more than a dozen individual file servers, reducing administrative and hardware costs through economies of scale. The service supports both Windows and Unix users, and provides a “snapshot” feature that permits users to recover files they have accidentally deleted. A secondary disaster recovery server, located across the campus in an alternate data center, provides physical protection for the data as well as large-scale temporary data storage needs.

**Exchange Electronic Mail and Calendaring Services**
OIT completed the preparation and testing for the upgrade of OIT’s “premium” mail and calendaring service to Exchange 2003. Initial migrations were begun. More than 100 users are now using the wireless Blackberry device support with Exchange. OIT is also preparing to provide Exchange services for the Department of Molecular Biology and the Princeton Investment Company.

**Database Administration**
In addition to managing a 10% increase in databases on more than 40 servers, the DBA group has added support for the increasingly popular SQLServer database from Microsoft in addition to Oracle and Sybase. Major projects included completion of the multi-year new Student Records and Undergraduate Admissions applications as well as medical records system, new data warehouse, and Princeton Software Repository.

**Account Provisioning**
Account provisioning is the collection of computer-based processes that create and assign “netIDs” and passwords to people and things, and then put the “right information” in the “right places” so faculty, students and staff can gain access to appropriate information technology systems like e-mail, Blackboard, PeopleSoft, Time
reviews the security capabilities of systems being assessment of their computing environment. OIT also weaknesses, and to alternative recommendations, legislative requirements, to spot possible security department use of new security consulting services grew spyware. During FY05, academic and administrative reduced University exposure to viruses, worms and the latest Windows operating system version have further University’s standard administrative desktop computers to that reaches user desktops, and the upgrading of the network applications that transmit easily read passwords management system and significantly reduced the use of more generalized way to address new provisioning needs. As part of the design, the new system is data-driven from the campus-wide PeopleSoft Campus Community repository, reducing errors and inadvertent duplication.

Machine Room Growth and Research Computing
Growth in OIT’s machine room facility has stretched the limits of current electrical and cooling facilities. To deal specifically with the cooling needs of the dense “Beowulf” high performance computing clusters that researchers are housing in 87 Prospect, a specialized air conditioning unit and additional chilled water were added to the machine room. In addition, OIT has been involved in a study by Facilities to address long-standing health and safety issues (fire suppression and asbestos) as well as meeting current and future space, electrical, and cooling needs driven by growth in administrative, academic, and now research needs.

Information Technology Security
During FY05, OIT eliminated its only vulnerable password management system and significantly reduced the use of network applications that transmit easily read passwords across the network. OIT upgraded the firewalls that protect our centrally managed administrative systems. More robust models will better cordon off sensitive systems. OIT provided a firewall consulting service to assist academic and administrative departments to protect their own computing environments. New intrusion prevention technology has begun to block malicious Internet traffic from reaching University targets.

New technologies that reduce the amount of e-mail spam that reaches user desktops, and the upgrading of the University’s standard administrative desktop computers to the latest Windows operating system version have further reduced University exposure to viruses, worms and spyware. During FY05, academic and administrative department use of new security consulting services grew significantly. To ensure compliance with applicable legislative requirements, to spot possible security weaknesses, and to alternative recommendations, departments can now request overall IT security assessment of their computing environment. OIT also reviews the security capabilities of systems being developed or purchased for use at the University as well as off-campus systems with which the University may interact.

Collaboration and Systems Services

Unix Systems Group
The Unix Systems group provides systems administration for the more than 200 Unix-based servers on which University business and academic applications operate. During FY05, the Unix Systems group worked closely with the Windows Systems group to significantly improve the disk server systems that support the University’s file storage. The group consolidated a number of existing, independent servers into a single Network Attached Storage (NAS) device. The result was improved reliability and performance, and decreased support and maintenance overhead.

OIT rolled out this new “Central File Services,” in August 2004 and was able to increase the amount of disk quota for faculty, students, and staff from 20 MB to 250 MB per person. Members of the University community are permitted to purchase additional quota as needed. The new Central File Services now serves as a gigantic hard drive in the 87 Prospect Avenue machine room. Rather than store critical documents on a local hard drive, faculty, students, and staff are now encouraged to use the Central File Services space. The Central File Services data is backed up nightly, as well as in periodic “snapshots” throughout the day. OIT has also installed a secondary, large capacity storage system at the smaller New South machine room. This secondary unit is ready to take over should the 87 Prospect machine room become unavailable. Given the regular backups, snapshots, and secondary unit at New South, the Central File Services disk has become “disaster resistant.”

Windows Systems Group
The Windows Systems group provides systems administration for more than 100 Windows-based servers. Many University business and academic applications run on these OIT-managed servers. In addition to the regular systems administration work and the improvements to the disk storage infrastructure (see Unix System Group, above), the group worked closely with the OIT e-mail administrators to complete testing and quality assurance work in advance of the upgrade to Exchange 2003 mail and integrated calendaring services.

Collaboration Services Group
The Collaboration Services Group (CSG) is responsible for administering the infrastructure for campus e-mail, directory, authentication services, and web services. CSG operates the University’s e-mail services for receiving and sending mail, and maintains the servers that provide electronic lists and directories.
E-mail

In addition to the daily operations for these critical services, the group rolled out a new set of systems to respond to the increasing volume of incoming viruses, worms, and unsolicited junk e-mail. In December 2004, the first layer of new anti-spam tools was implemented. This new e-mail firewall blocked approximately 70% of incoming e-mail traffic.

During FY05, University servers delivered approximately 210,000,000 e-mail messages. 140,000,000 e-mail messages were transferred between the University and the Internet. An additional 77,000,000 internal e-mail messages were processed by the University’s SMTP servers.

The patterns of e-mail system usage by students, faculty, and staff continue to mirror long-standing trends. Figures 2 and 3 below illustrate the typical highs and lows of connections to the University’s main e-mail servers.

In the spring, OIT installed a second layer of protection to “quarantine” any spam-like messages that the first layer did not stop. By the end of June the first layer, called the “e-mail firewall” was blocking 65% of the 400,000 incoming messages by simply stopping all messages from known spam sources. The second layer, Proofpoint,” then quarantined about 40% of the mail messages that successfully passed through the firewall layer. Faculty, students, and staff can accept or delete messages in the quarantine system. Initial reaction from members of the University to the e-mail firewall and Proofpoint systems was overwhelmingly positive.

By blocking nearly 300,000 pieces of SPAM each day and keeping another 75,000 in quarantine off the mail and backup servers, the anti-spam service has enabled OIT to meet growing e-mail demands with fewer hardware resources.

In spring, 2005, on behalf of numerous University departments, the group completed the upgrade of the hardware and software for Exchange e-mail services. In May, e-mail administrators began the move of mailboxes from Exchange to Exchange 2003, the newest version of the software. In addition, both the Molecular Biology and Princeton Investment Company Exchange Services are moving to the central Exchange infrastructure.

Staff upgraded the IMAP e-mail software to the vendor’s latest version. Staff also upgraded and consolidated core directory services (LDAP) to redundant, load balanced servers.

CSG staff also provided the infrastructure support for various web server technologies. For example, the group
worked with the Office of Communications to “go live” with the new University web site based on the Roxen content system. The group also provided support for a new web scripting service with support for PHP. By the end of the academic year, eight departments were using the new shared server environment.

**Monitoring tools**
CGG staff worked to deploy specialized monitoring tools (Tivoli, Argent, Dell OpenManage, Sun SRS Netconnect, and Sun disk monitoring utilities) that instantaneously detail through graphical views the load, disk activity, and memory usage of University servers and their components.

**Redundant servers**
Taking advantage of upgrade cycles to replace obsolete andunsupported equipment, OIT deployed a set of redundant servers for key infrastructure services as well as vital applications such as university web presence (www.princeton.edu) and central e-mail delivery. Enhancements, such as the new spam and virus filtering utilities, now have redundant backup and load balanced components that will insure continued operation in the event of hardware failures.

**Single sign-on**
The future of login services for web applications is to sign in securely once with a netID and password and then rely on the different web applications to know that a person has already signed in. The adoption of this new login method would simplify access to many web pages by reducing the number of times faculty, students, and staff have to login.

Such systems are referred to as “Web Initial Sign On” or WebISO. Staff from CSG and Information Architecture groups completed a pilot project to test WebISO login services. Several new applications are slated to be built using this WebISO service during FY06.

**Systems and Data Management Services**

**Database Management**
The Database Administration (DBA) group provides a robust, secure, and reliable development and production database environment, and supports software upgrades and product installations, notably the new Peoplesoft Student Records and Admissions systems. During FY05, the DBAs also expanded their support to include SQL Server, which has begun to appear as a requirement for some new Windows-based applications.

The DBA group maintains and improves the University’s database infrastructure. During FY05, the group supported 45 different applications and 140 databases (a 10% increase from the previous year) and three different DBMSs (Oracle, Sybase and SQL Server). The group also supports several instances of the BEA Tuxedo application server software and BEA Weblogic web server software. These applications run on more than 40 Unix and Windows servers and encompass more than a terabyte of disk space.

The DBAs regularly provide assistance in performance tuning for production applications. For example, the group optimized the Peoplesoft Internet Architecture for Student Course Selection. The group upgraded the Oracle database software to the current release on all applicable servers, and DBAs participated in the team that selected and will implement the University’s new disk storage system. The effort involved the consolidation of six development servers into two new servers, reducing management effort and providing better service for the developers.

Implementing and upgrading administrative applications
During FY05, the DBA group provided support for the implementation and deployment of several new administrative applications. The most significant were the new Student Records and Undergraduate Admissions applications, each the culmination of multi-year efforts. In addition, the DBAs supported the implementation of a new medical records system (Medicat) for the University Health Center, the new Data Warehouse and the Princeton Software Repository. DBAs also supported upgrades of Blackboard, the Advance/Stripes development system, and the R25 resource scheduling system.

Major projects for FY06 include the implementation of the new disk subsystem, implementation of the data guard facility to provide improved fail-over capability for Blackboard, and an upgrade of the Oracle name server infrastructure.

**Enterprise Systems Management**
The Enterprise Systems Management (ESM) group has a diverse portfolio of responsibilities that includes backup and restore services, system monitoring, job scheduling, and Unix printing.

**Backup and restore services**
ESM maintains the University’s Tivoli Storage Manager (TSM) backup system. Any computer on the campus network except those owned by undergraduates is eligible for the service. TSM currently backs up more than 8,000 systems, an increase of approximately 700 over FY04. In July, OIT put a new policy in place. The TSM backup service now focuses on the protection of personal data and charges for services beyond that baseline. As expected, the new policy has slowed growth in demand and provided additional revenue to fund the remaining growth. The number of accounts has continued to grow, but the annual rate of growth has slowed from 14% to 9%. The growth in total data backed up has decreased from 15% in FY 2004 to 10% last year.
During FY06, ESM will upgrade the backup servers, which are now running near capacity and develop processes to either delete or archive backup accounts that have not been active for more than a year.

**Job Scheduling**

The Tivoli Workload Scheduler provides job scheduling services for all administrative systems on 32 Unix and Windows hosts. In a typical week, the system schedules 4,151 jobs. During FY05, ESM staff produced a “TWS/Maestro Problems and Solutions” document to assist Maestro users.

**System Monitoring**

ESM is also responsible for system monitoring. During FY05, ESM used the IBM Tivoli product to monitor 213 Unix servers, 34 web sites, and 22 e-mail related services, an increase of 22% in the number of servers monitored over FY04.

During FY05, in a significant project, ESM upgraded the Tivoli hardware and software. Many of the Tivoli servers had not been upgraded since the product’s installation in 1999. All of the Tivoli servers have now been replaced by newer, faster systems that will increase productivity for ESM staff and the Unix systems staff. Staff upgraded the Tivoli monitoring software to Version 5.1.1 and staff reorganized Tivoli monitoring to meet better the needs of the Unix system administrators.

During FY06, staff will select and implement a new alert notification system and implement Tivoli’s Web site monitoring product to replace the current, locally developed product.

**Printing and Faxing**

The ESM group operates a central Unix printing service and a central faxing service. During FY05, print volume has grown from 68,710 in FY04 to 72,033 in FY05. Fax volume declined by about 18%, but the central fax service still processes an average of 1,344 faxes per month.

The group remained active in responding to the growing threats from computer hackers who continue to launch ever more sophisticated virus attacks that aim to exploit poor user practices and software vulnerabilities at both the system and application level. In the IT security area, the group focused on three areas: improving password controls, addressing software vulnerabilities, and preventing malicious traffic from entering the network via the Internet.

Initiatives included the elimination of a legacy password system that provided inadequate protection against hackers trying to locate passwords stored within University systems. In addition, the group has begun to eliminate programs that send passwords across the network in a readable form. For example, computer users are now prevented from gaining access to OIT-managed servers using a terminal program that does not support encryption. Additional efforts are underway to eliminate all e-mail and file transfer programs that transmit unencrypted passwords across the network.

To address software vulnerabilities, the group has become heavily involved in reviewing system and application implementation designs. The group has also begun to provide IT security consulting services throughout project lifecycles to software implementation teams. Finally, the group has begun to assist University departments by performing IT security audits for departments who request the service and by assisting the deployment of firewalls to protect their systems.

Malicious traffic originating from sources on the Internet is now being detected and blocked with the implementation of a second McAfee IntruShield intrusion prevention device. The device compares network traffic against both known attack patterns and messages that do not comply with domestic and international standards.

**IT Architecture**

The IT Architecture group develops, disseminates, and promotes policies, standards and guidelines to ensure that the University’s information technology solutions are implemented in a consistent, practical, and secure manner.

During FY05, the group played a lead role in the deployment of the new account provisioning system that will administer the computer accounts that are used to access the University’s centrally managed systems. The University purchased a general purpose application that provides the functionality typically required for tightly controlled, corporate environments. However, the complexities of the academic environment required the vendor to make significant modifications to the base system. The IT Architecture team played a substantial role in the overall design of the final product.
Finance, Administration and Planning

Finance, Administration and Planning (FAP) is a “catalyst” for OIT organizational change, enabling and facilitating organizational efficiency and effectiveness. FAP coordinates staff assessment, development, and recognition; project planning and project management practices; process improvement opportunities; and financial analysis and budgeting for OIT. In addition, FAP provides a comprehensive IT training curriculum and cost effective printing and mailing services to the University community.

The Finance, Administration and Planning group includes IT Training, OIT Budget and Finance, OIT Human Resources and Administration, OIT Process Improvement, the Princeton Project Office, and the Office of Printing and Mailing.

Highlights

Organizational Planning & Performance Enhancement

The following timeline highlights the processes now in place within OIT to facilitate organizational planning and performance enhancement practices. Specific details on many of these practices are described under the appropriate FAP workgroups.

Reduce Reliance on Central Funding

To meet our agreed-upon post-Partnership 2000 IT funding levels, OIT initiated a multi-faceted plan to identify new savings and efficiencies while ensuring minimal impact on service or employee morale. During FY05, the following steps helped OIT reach this goal, even as demand for IT services continued to increase.

The following steps highlight the efforts:

- Assessed the current budget and inventory of services, identifying vacant positions that could be eliminated with some restructuring and marginal, non-critical services that could be discontinued;
• Working with the Office of Human Resources and General Counsel, defined and executed a Voluntary Transition Program (VTP) open to those eligible to retire;  
• Created a “doing more with less” task force to involve staff in identifying opportunities for savings. The task force identified over 50 savings opportunities which continue to be implemented;  
• In conjunction with the Office of Human Resources and General Counsel, defined and executed a Voluntary Separation Program (VSP) open to all OIT employees;  
• Negotiated more cost effective licensing and maintenance agreements with key vendors;  
• Working with the Provost and Treasurer, prepared and reached agreement on a multi-year budget and savings plan that will allow us to successfully reach our targeted budget levels.

OIT Core Values
Working with the Ombuds Office, an OIT task force identified core values to improve how we work with each other and how we serve our customers. The core values were presented at an all-OIT meeting in August 2004. Since that time, we have focused on making the core values a reality within our daily work. Adherence to the core values is now included as a rating factor within the annual performance appraisal process. Within the staff recognition program, demonstrating core values has been added as a criterion for the OIT Achievement Award (recognition from peers) and the OIT Service Award (recognition by managers). New polices and the publication of OIT best practices refer to the OIT core values. We have created core values posters for conference rooms and wallet-size calendars for every staff member. Finally, to ensure that all staff have easy access to OIT organizational information, we have recently redesigned the OIT intranet site.

Comprehensive OIT Performance Enhancement Process
OIT’s comprehensive performance enhancement process starts with annual staff progress reports and 360 reviews. The process continues with the development of OIT organizational, department, work group, and individual staff member goals. Finally, individual staff development plans are identified based on goals and associated projects. The newest addition to the OIT performance enhancement process is the OIT Team Learning Forum. The goals for this forum are: to enhance professional and personal growth, focusing on leadership and management competencies; to strengthen relationships among participants and build a support system fostering collaboration; to engage participants in the importance of continuous learning and in creating a learning organization. Twenty OIT staff members were selected to participate in the first OIT Team Learning Forum. The first session, held during the spring, focused on leadership. President Tilghman was the first outside speaker.

IT Training
OIT continues to provide free courses on a wide range of IT topics for members of the University community. During the past year, OIT offered a comprehensive IT training curriculum to support the effective use of University administrative systems and desktop productivity tools.

The effort involved two new initiatives:

• Jobs At Princeton, a new online recruitment system for hiring managers campus-wide
• Project Management Made Easy, an opportunity for OIT to share its successful project management methodology with other Princeton departments. An optional, add-on MS Project class is also available.

<table>
<thead>
<tr>
<th>University Delivered Training</th>
<th>Type of Training</th>
<th># Classes</th>
<th># Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Systems</td>
<td>107</td>
<td>556</td>
<td></td>
</tr>
<tr>
<td>Desktop Productivity Tools</td>
<td>142</td>
<td>1315</td>
<td></td>
</tr>
<tr>
<td>Custom Classes</td>
<td>9</td>
<td>63</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>258</td>
<td>1934</td>
<td></td>
</tr>
</tbody>
</table>

Based on staff feedback, OIT continues to improve the delivery of IT training:

• Offered staff more flexible schedules to meet their training needs. Many classes were re-designed into specific task-based two hour segments, a shift from former three hour multi-task classes.
• Began to offer “Early Bird” classes in order to provide more IT training opportunities to members of the University community. Starting at 7:30 a.m., these classes are designed for staff members who work a night, or morning, shift or for those who want to get an early start on the day. Available only since late July, the Early Bird sessions have already attracted 88 attendees and have filled to 90% capacity.
• Coordinated EndNote training for students, which proved very popular – bringing 75-100 students together at each “bowl-room” session.
• Offered custom training classes for a modest fee in order to address specific departmental and/or workgroup training needs

Many of the University departments that offer training are now using the OIT training database to assist with class registration. The chart below summarizes the statistics for all training classes administered through the OIT training database. A new feature of the OIT training database is to send notification of attendance status to both the employee and manager upon completion of the class.

<table>
<thead>
<tr>
<th>Training Database</th>
<th># Classes</th>
<th># Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>FY04</td>
<td>341</td>
<td>3016</td>
</tr>
<tr>
<td>FY05</td>
<td>433</td>
<td>3643</td>
</tr>
<tr>
<td>27% Increase</td>
<td>21% Increase</td>
<td></td>
</tr>
</tbody>
</table>
OIT Budget and Finance

Budget and Finance assists OIT operating units with all financial issues. The group provides accounting expertise, controls the capital assets, recommends rates for OIT services, and ensures compliance with University rules and procedures.

During the past year, the group carried out a number of special projects:

- Assessed the financial impact of a variety of alternatives to reduce OIT’s reliance on central funding;
- Created a scenario building template to describe investment alternatives and the corresponding financial impact;
- Evaluated funding options to acquire a University-wide Oracle license, to transition TSM backup services from tape to disk, and to implement wireless computing in the dormitories;
- Performed a detailed review of OIT cell phone, pager and home internet usage costs and requirements. This review precipitated a Telecommunications effort to investigate new cost effective options;
- Prepared a presentation to the Board of Trustees describing IT funding practices in higher education.

OIT Human Resources and Administration

OIT employees are our most valuable asset. In FY05, OIT welcomed 10 new employees and promoted nine employees; Three employees retired. OIT recognized more than one hundred employees with service awards, 15 employees with achievement awards (i.e. peer nominated and peer selected recognition) and 2 employees with CIO awards (personally selected by the CIO).

During the past year, we continued to improve the working climate for OIT employees. In addition to the Team Learning Forum and the continuing efforts to make our Core Values real (both are described above), OIT undertook the following initiatives.

Staff Development Program

In addition to annual staff progress reports, 360 evaluations, and department/workgroup goal-setting, OIT implemented a Staff Development Program (SDP) to identify and track staff development opportunities across OIT. To address the most common needs in the SDP, we published the first edition of an OIT Staff Development Curriculum that introduced and coordinated several planned learning opportunities for staff.

<table>
<thead>
<tr>
<th>Type of Training</th>
<th># Classes</th>
<th># Attendees</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Writing, Conflict</td>
<td>16</td>
<td>136</td>
</tr>
<tr>
<td>Management, CPR/First Aid,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Employment Law, Facilitation,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Performance Appraisal Workshop,</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Roxen, Visio</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

OIT Process Improvement

In FY05, a new organizational support area, Process Improvement, was created within Finance, Administration and Planning to enable a culture throughout OIT that continually strives to improve our operational and management processes and to deliver value.

Accomplishments during FY05 include:

- Created the OIT Interdepartmental Project Portfolio (IPP) to improve communication and collaboration across the organization on key projects. The IPP lists information essential for cross-department communication on more than 100 projects that involve resources outside a single OIT department and are more than two weeks in duration. Project Managers and Resource Managers with such projects are required to submit their project information to the portfolio. To share the information on a regular basis among OIT staff and customers, the IPP has been distributed monthly at OIT Leadership Group, Project Managers Team (PMT), and Cabinet Portfolio Review (CPR) meetings. The IPP Coordinator gathers information to update the IPP on a regular basis by attending OIT meetings and reaching out to project managers and facilitates meetings to disseminate the updates. In part as a result of the IPP, managers are meeting with fewer surprises than in the past.

Internal Communications

The OIT Blackboard Web site was redesigned to improve the presentation and maintenance of organizational and project information. Regular e-mail notes were distributed to all OIT staff highlighting new information posted to the Blackboard intranet.

Capturing the past

Computing at Princeton reaches back to 1959 when the first mainframe was installed on the back porch of a small Victorian house on Nassau Street. Many of those involved in those early efforts are still alive and it is still possible to capture the history of the extraordinary developments in computing over the past four decades. The power of “story telling” gives staff an appreciation of what came before them and a sense of the legacy they are creating today. To date, we have collected many historical documents, conducted more than a dozen interviews, and are in the early stages of summarizing the events that shaped computing at the University.

IT Matters

Published regularly throughout the academic year, the OIT Newsletter, it matters, continues to be a primary IT resource for faculty, staff and students. The newsletter introduces our customers to new services, highlights the effective use of all services, and focuses periodically upon relevant IT issues. During the past year, OIT published two special editions, one about phishing, spyware, and firewalls and a Faculty and Staff Quick Start that is now included in the Human Resources’ new hire packet.
In support of the core values, developed best practices (e.g., writing effective e-mail, responding to e-mail and v-mail, responding to customer inquiries) that clarify expectations.

To assist in improving customer communications, formed an OIT Editorial Review Board that provides an editorial service among OIT colleagues.

Published “Savings Tips” to remind OIT staff of best practices in office management, hosting meetings, and planning travel.

To empower staff to work on cross-organizational efforts, continued to encourage the use of OIT cross functional teams (e.g., Communications, Disaster Recovery, Facilities and Office Management, IT Architecture, Software Coordination, Training, and Video Coordination).

Princeton Project Office

OIT continues to pursue coordinated project planning efforts. The Princeton Project Office (PPO) offers support for managers of IT projects, in OIT and other departments, to ensure that projects are delivered on time, within budget, and with expected results. PPO provides project management support and mentoring, facilitates project reviews, and shares project management best practices. Accomplishments during the past year include:

- The Princeton Project Management Methodology (PPMM) is now used throughout OIT. During the past year, 12 key projects in Academic Services, 14 key projects in Administrative Information Services, four key projects in Enterprise Information Services, three key projects in Finance, Administration and Planning, three key projects in Support Services, all applied the PPMM.
- Working with the OIT Project Office Advisory Committee, continued to mentor project managers and to address project management issues.
- Redesigned the PPMM, placing online many easy-to-use templates and a “lite” version for small to mid-size projects.
- Developed a new course offering, Project Management Made Easy, to assist both functional and technical staff to get started with the PPMM. Offered nine workshops to more than 120 people across campus.
- Provided more than 150 hours of facilitation and/or consulting to projects both within and outside OIT.

Graphics and Prepress

Printing and Mailing continues to produce a range of integrated services, including design, illustration, typesetting, scanning, Toshiba composite color output for proofing and copying, and Epson large format printing up to 44 inches in width by 20 feet in length.

In FY05, Printing and Mailing added a Presstek Dimension 400 Computer-to-Plate System. A far more efficient and productive approach, the new system eliminates the need for a film-based workflow, eliminates traditional platemaking and the need for any chemistry because the plates are processed with plain water, and fits into the existing pdf/digital workflow. In addition, the system replaced the department’s film processor, plate processor, all manual stripping of film, and two ultraviolet plate burners. With the system in place, the use of the ECRM imagesetter, which was used to produce negatives and film positives, is also being phased out.

Offset Printing Production

Printing and Mailing continues to print a wide variety of printed work, from single color to process color: letterheads, business cards, flyers, note cards, books, pamphlets, manuals, pocket folders, and posters. The bindery area has capability for perfect bound, saddle-stitched, and spiral bound books, and support for cutting, collating, punching, perforating, folding, scoring, and laminating up to 12x18 inches. New to the printing area in FY05 was the installation of the Ryobe 2-Color Offset Press, which accommodates plates produced from the computer-to-plate system.

Digital Networked Printing Center

The Xerox DocuTech 6180 provides printing in black on paper up to 11x17 inches; the Xerox iGen3 Digital Production Press provides printing in color on paper up to 14.3x20.5 inches. The upgrade to the DocuSP Color Server for the iGen brought extraordinary enhancements to color appearance. The center has the capability for scanning and printing a wide variety of work including personalized laser letters and postcards.

Mailing Production

Mailing continued to offer a full range of services including inkjet addressing, automatic inserting, sorting for first class, third class, and international mail, mailing list standardization, metering, wafer sealing, live stamp affixing, bulk mailing, packaging, shipping, and mass e-mail notices to the campus.

Office of Printing and Mailing

The Office of Printing and Mailing provides a broad base of cost-effective, cost-recovery services to the University community with special consideration given to the support of Annual Giving, Development, Alumni Council, and the Office of Communications. Printing and Mailing services are divided into four areas:
Support Services

Support Services provides direct customer support for the University’s information technology infrastructure. Support Services is comprised of five main groups. Network Services sustains the data infrastructure. Customer Support provides in person, telephone, e-mail, print, and web-based IT support for the University. Student Computing Support provides direct support for students and sustains their access to workstations and shared printers in public University spaces. Desktop Support, which includes both the Hardware and Software Support groups, maintains and enhances the University’s desktop computing infrastructure. Telecommunications Services supports the University’s telephone and voice mail systems.

Support Services also subsumes a range of smaller support programs and services, including SCAD and DCS programs, the OIT Ambassador Program, Policy Office, Software Sales, Software Licenses, Software and Service Contracts, Software Deployment, Faculty Computer Program, and the University Copy Centers.

Highlights

Enhancing the telecommunications infrastructure

Expanding the wireless infrastructure
Responding to the growing demand from undergraduate students for expanded wireless coverage on campus, OIT is deploying a ubiquitous wireless infrastructure throughout the dormitories and residential colleges. By placing the wireless infrastructure in student living spaces, which house the highest concentration of wireless-capable computers, the University is maximizing its investment in this technology. By the fall, nearly 90% of undergraduates will have wireless laptops purchased through the University’s Student Computer Initiative (SCI). Some wireless installations also took place this year at 120 Alexander Road, Von Neumann Hall, Helm Hall, Bobst Hall, and the Graduate College.

Temporary Visitors Wireless Network
During the year, the Networking group initiated a new service, Temporary Visitor Wireless Network Access (TVWNA, pronounced “tuna”) to provide short-term Internet connectivity for wireless devices brought by visitors (including guest lecturers, trustees and alumni) to the University. TVWNA provides networking connectivity for wireless devices for up to seven days within a calendar month. TVWNA is not intended to provide service to devices belonging to Princeton University faculty, staff, and students, or to longer-term visitors. To initiate the service, the Networking group upgraded and reconfigured the wireless network infrastructure.

Network upgrades
The project to upgrade network wiring and Ethernet switching electronics from shared to switched Ethernet in all campus buildings also continued during the year. Hardware Support assisted the Facilities Planning Office during building renovation and new construction. In addition, OIT upgraded several network servers to new hardware. Work progressed on the campus ring network that will be used for disaster recovery.

Reliable and cost-effective telephone and voice messaging services
During FY05, the University enabled Caller ID and Caller Originated Trace on every campus telephone line. The call volume for FY05 was 19,785,600 total calls with 6.3
million inbound calls, 5.8 million outbound calls, and 7.7 million intra-University calls. System reliability during the year was rated by Nortel at 99.9993% uptime. Two new Automatic Call Distribution (ACD) systems were installed to sustain excellent service for the University.

Princeton Software Repository
A year ago, OIT introduced the Princeton Software Repository (PSR). This new online facility makes available third-party software packages that have been configured to work within the University’s computing environments. PSR also provides standard processes to register, distribute, update and decommission software packages.

By the end of FY05, PSR provided the most up-to-date versions of 67 free software packages. OIT sponsored these initial core software packages. Individuals or departments may sponsor additional packages. Also this past year, a PSR Advisory Committee was established with membership from the University’s research community. The committee reviews policies and approves requests for software package sponsorship.

OIT developed the PSR Webstore, which went into production on January 10, 2005. All software sales are now processed through the web store. A next phase of the project will permit members of the University community to purchase, and then download, software online. Project plans include adding the hardware currently sold in the Solutions Center Depot to the web store database making it an integrated point-of-sale system.

Copiers and copy cards
In February, 2005, OIT took over supervision of all Library copiers as well as the copy card system used in all the machines. OIT now oversees the purchase/lease and general administration of approximately 200 copiers and the purchase/sale of approximately 5,000 copy cards.

Student computer initiatives and cluster upgrades
Again in FY05, the SCI program offered for sale to students aggressively priced, highly capable computers customized for the University environment. In addition, in preparation for the academic year, Student Computing Services upgraded 46 personal computers and installed eight new printers in campus computer cluster locations. OIT also replaced 75 laptops.

Communication and Documentation
During its first full year of existence, the Communications group became an integral part of Support Services. Working closely with OIT operational groups, the Communications group coordinated customer communications about system and service upgrades on more than two dozen projects. Continuing its collaboration with central University business offices, the Documentation group focused during FY05 on the deployment of the Student Records system.

Networking
The Networking group works to sustain a cost effective data network capable of supporting the University’s academic and administrative needs. Towards that goal, the group insures the correct and efficient operation of the campus network, maintains the University’s access to the Internet and other external networks, manages the various remote access facilities, and evaluates new network technologies for possible deployment on campus.

In addition, the Networking group works closely with other OIT groups as well as academic and administrative departments to assess network-related needs and to apply network technologies that address those needs.

As in past years, a significant number of campus computers, notably Dormnet machines, were infected by viruses. Networking staff devoted considerable time to detect, document, block, fix, and restore network access to these infected machines.

Highlights
The group played an essential role in the continuing expansion of the campus network. Departments continue to request the installation of additional networking services. During FY05, the Networking group continued to upgrade the physical network wiring from shared to switched Ethernet within campus buildings. In several campus buildings, the group upgraded the core connections to gigabit Ethernet and the internal networks to support 100Mbs desktop connections. In support of disaster recovery, the group moved the point-of-entry for the campus’s AT&T internet connection from the 87 Prospect Ave. Computing Center to New South.

Wireless service is being deployed in all campus dormitories. The group expanded the number of wireless IP addresses in the wireless IP pool to 4,000 with easy further expansion to 8,000. The group installed network management using RADIUS servers to assist in recording usage and controlling access.

The group upgraded several network servers to new hardware, including the DNS and DHCP servers as well as the network web and host database server, Heymon. The group made functional improvements to the DNS service by separating the on-campus from the off-campus DNS servers. The group continued to make progress on the campus ring network that will be used for disaster recovery.

Security systems
OIT worked with several departments that are in the process of deploying network-based applications such as security camera systems.

No “Phishing” allowed
In a small achievement but a significant precedent, the Networking Systems blocked a “phishing” e-mail from...
gaining access to the Princeton.edu domain. As a result, campus users were prevented from linking to a bogus website located in Romania.

Telecommunications Services

Telecommunications Services provides the University with reliable and cost-effective telephone and voice messaging services. With FY05 revenues of slightly more than $3,700,000, Telecommunications Services is OIT's largest cost recovery unit.

Highlights

Infrastructure

During FY05, Telecommunications Services managed 8,755 academic and administrative telephone lines, 2,930 student telephone lines, and more than 12,500 voice mailboxes. Every telephone line on campus has Caller ID enabled and Caller Originated Trace (for threatening or harassment calls). Console attendants responded on average to more than 400 inquiries per day. The call volume for FY05 was 19,785,600 total telephone calls (6.3 million inbound calls, 5.8 million outbound calls, and 7.7 million intra university calls).

Work Orders

During FY05, more than 973 work orders were issued for telephone work that involved 3,954 changes to telephone service or equipment. In addition, the group processed 1,165 work orders for voice mailboxes. The group achieved a 98% success rate in meeting requests for new or changed services.

Rates

To accommodate the replacement of obsolete equipment and the 2004 upgrade of the PBX core that is now enhancing reliability and bringing new technical capabilities to the University, the monthly service rate was increased by $0.50 per month during FY05.

The domestic long distance rate of $0.07/minute and the international rates of $0.10/minute to Canada and the United Kingdom continue to keep the University competitive in the marketplace. A drop in long distance usage during FY05 was attributable to increased cell phone usage, primarily within the student population.

During FY05, use of the Conference Bridge increased from 26 to 29 departments. The largest user realized savings of more than $80,000 during the year. Overall, the conference bridge saved the University more than $225,000 in FY05.

Cell Phone Loaner Program

The cell phone loaner program for faculty and researchers going on trips was again successful. During the year, Telecommunications Services loaned 50 cell phones for domestic trips and more than 120 cell phones for international travel.

During FY05, Telecommunications Services offered a new service to cell phone users who need to call international locations. A prepaid service supports calls to more than 80% of all international locations for $0.07 per minute. The prepaid service has a domestic long distance rate of $0.05 per minute. This new service is available to all members of the University community.

Voice over IP trial

More than 30 units are installed in a VoIP (voice over IP) trial. Technical issues remain. Telecommunications Services hopes to offer such service, including a wireless version, within two to three years.

Automatic Call Distributor Systems

Telecommunications Services purchased and installed new Automatic Call Distributor (ACD) systems for the Help Desk operations in OIT and in Human Resources. The new service will permit the two departments to provide increased levels of customer service. Later in the year, Telecommunications Services added a third user, the Admissions Office.

Student Computing Services

Student Computing Services (SCS) sustains access to public workstations and printers, manages the Residential Computing Consulting program that provides in-room IT assistance for students, and coordinates the Student Computer Initiative (SCI) that sells computers to students.

Highlights

Computer Clusters

During FY05, SCS maintained computing and printing facilities in 31 University buildings. At the end of the year, the University’s computer clusters contained a total of 266 Windows machines, 62 OS X Macintosh computers providing both Macintosh and Unix environments, 37 printers, and seven scanners. There were 616,828 logins to OIT cluster machines, a decrease of 13% from FY04.

Cluster upgrades

In preparation for the FY05 academic year, SCS upgraded 46 Dell PCs and installed eight new printers in the clusters. SCS replaced the Sun workstations in the Friend Center and Jadwin Hall with high-end OS X Macintosh computers that support both Macintosh and Unix environments.

In partnership with the Registrar’s Office, SCS replaced all of the 75 laptops in the Friend Center classroom/clusters. SCS moved the computer cluster for Wilson College out of Gauss Hall and into a newly designed cluster in 1937 Hall. The new Wilson College cluster includes a seminar room with data and power at every seat. SCS moved the computer cluster for the residents of the Lawrence Apartments from the tower to another location owing to renovations. In response to student interest in more computers in the upper class dorms, SCS added two workstations in the 1901 cluster. And in response to a
request from the Housing Department, SCS installed a printer in the new Bloomberg Dorm.

During FY05, SCS updated the cluster image and installed the software suite on all cluster machines in order to provide an up-to-date variety of academic and general purpose software applications to the University community. In addition to the OIT cluster facilities, 236 departmental student cluster machines in 13 departments rely upon the cluster image.

Print accounting
SCS implemented UnipiNT, a print accounting system in FY01. Requiring that students select their print jobs at the printer continues to save a considerable amount of paper. During FY05, a total of 6.9 million pages were printed on cluster printers, an increase of 5.12% over FY04.

Information Kiosks
In response to the University’s Health and Well-being survey, SCS partnered with the Department of Athletics and the Office of the Dean of Student Life to three additional information kiosks in the lobby of Dillon Gym.

As part of a project for the Recollector Exhibit at the Princeton Historical Society, SCS developing a kiosk that permits visitors to search back issues of their newsletter. Apple Computer loaned the equipment for this kiosk. In addition, SCS developed a CD that permits patrons to install and search the newsletter on their home computers.

Residential College Consultants
During FY05, 32 students worked as Residential Computing Consultants (RCCs). The RCCs provided network and computing support for their peers in the dormitories, including the Graduate College, Lawrence Apartments, and the Graduate Annexes. The RCCs participated in OIT activities during the fall Orientation week, and they provided help sessions at every Residential College during the first week of classes.

In addition to their outreach efforts, the RCCs responded to 1,656 tickets in OIT’s job tracking system.

Back to School
SCS coordinated the OIT back-to-school effort. With assistance from other OIT groups, SCS manned booths in the Residential Colleges during the New Student brunch, participated in the first-year-student and the Graduate Student sign-in events, and extended the office hours at the Solutions Center; TigerTV and Ethernet cable distribution booth.

Student Computer Initiative
Open to all University students, the Student Computer Initiative offers for sale aggressively priced, and highly capable computers customized for academic work at Princeton. During FY05, the SCI program sold a total of 1,333 computers: 998 Dell (75%) and 335 Apple (25%).

Customer Service
OIT’s Customer Service provides OIT’s first line of assistance for the University community. Established in FY04, the Solutions Center in the Frist Campus Center provides a centralized location for key IT services and front-line assistance. The OIT Help Desk continues to provide comprehensive e-mail, phone, and web assistance. The Documentation group assembles print and web documentation to assist faculty, staff, and students to make better use of existing resources. A new Communications group coordinates OIT’s communications with members of the University community.

The Solutions Center
During FY05, the Solutions Center continued to provide access to computing sales, computing support and hardware repair. The Clinic, the hands-on computing consulting area, assisted 8,018 customers. The major areas of support were helping customers whose computers were plagued with viruses and spyware infections, registering and configuring computers for the Princeton network, and working with customers who had experienced hardware failures. Sixty-six percent of the customers serviced in the Solutions Center were undergraduates.

The Help Desk
The Help Desk continued to serve as the single point of contact for all campus computing inquiries 24 hours/day, five days/week. Staff members continued to provide emergency coverage on the weekends. During FY05, the Help Desk staff responded to 46,201 individual customer phone inquiries and 24,889 e-mail inquiries. Help Desk staff continued to provide support and training for the SCAD/DCS members and maintained and supported the University’s Listserv e-mail service and OnTime calendar services. The Help Desk also supported the University’s web-based admissions and financial aid applications, SCORE, and all the University Business Applications and computer purchase programs.

Communications Services
During its first full year of existence the Communications Services group has become integral to OIT’s communications with the University community. Working closely with OIT operational units, the group coordinated customer communications about system and service upgrades and changes for more than two dozen projects.

Communications Services enhanced the OIT web presence through expanded announcements and regular technical information updates. In order to sustain an accurate archive of easy-to-read, up-to-date descriptions about all aspects of OIT’s support for the IT infrastructure, the group updated more than 1,000 KnowledgeBase solutions and created nearly 200 new solutions. Following the implementation of the new content management system for the University’s core web pages, Communications Services is working with OIT colleagues to redesign the OIT web site to align with the new University site.
The group also worked with Student Computing Services to create a series of publications for incoming students, including a new brochure on Information Technology Resources for Students. Communications Services also created printed publications to support academic and administrative systems, and publicizing OIT services in a variety of advertisements in the Daily Princetonian. For faculty and staff, the group produced a ‘Quick Start’ guide. For new hires, the group created a packet of publications that is now distributed at HR Orientation sessions.

**Documentation**
The Documentation Group continued to work closely with central University business offices, focusing on the deployment of the Student Records system. Major projects included the PeopleSoft 8 upgrade documentation, updates to the Labor Accounting User Guide, the PeopleSoft Financial upgrade documentation, CIS and SCORE updates, Undergraduate Admissions documentation, and documentation for EIS (the NAS and DoubleTake) and Support Services (PSR II).

**Desktop Support**
Composed of two groups, Hardware Support and Software Support, Desktop Computing Support (DCS) provides quality, timely walk-in and in-office hardware and software computing support as well as cable television services to the campus community. Related services include in-depth computing needs analysis and guidance on strategic planning. In addition, the group provides analysis and advice on new technologies and determines the best methods for providing ongoing support.

**Hardware Support**
Hardware Support provides a range of services, including renovation support, warranty and non-warranty equipment repair, installation and configuration of hardware, and maintenance of the University’s wireless and Tiger TV infrastructure. Throughout the year, Hardware Support set up, configured, and repaired computers and printing equipment in hundreds of campus locations. By request, the group activated network and cable television services and, on a daily basis, provided routine maintenance for the underlying telecommunications infrastructure. Given the growing size and complexity of the network, much of servicing is now carried out during off-hours.

**Highlights**

**Building renovation support**
During FY05, Hardware Support assisted the Facilities Planning Office during the renovation and new construction of campus buildings. The effort involved removing and later upgrading data cabling, network equipment, and computer clusters. In most sites, Hardware Support designed and installed hardwired and wireless cabling systems. During FY05, project sites included: 1901/Laughlin, Pyne, Henry, 1903, Lockhart, Holder Hamilton, the Boiler House, Aaron Burr, Clio, the Lawrence apartment additions, and the Engineering Quadrangle.

**Network Upgrades**
The project to upgrade network wiring and Ethernet switching electronics in all campus buildings continued during FY05. Several additional dormitories were rewired, as well as additional sections of the E-Quad, Jadwin Gym, and Dillon Gym.

The group completed all but the last segment of the redundancy fiber ring. They made preparations to implement the ring in the event of a failure of the primary fiber infrastructure or to restore computing services quickly to the ten buildings designated “most critical.”

Responding to requests, the group installed wireless services in several locations, including: 120 Alexander, Von Neumann Hall, Helm Hall, Bobst Hall, and a few of the common spaces in the Graduate College. By year’s end, Hardware Support had begun to install wireless systems throughout every campus dormitory.

**Cable Television**
During FY05, Hardware Support began a project to transition the campus TigerTV infrastructure from an aging broadband coaxial cable to a new fiber based system. In a significant accomplishment at year’s end, the group relocated the TigerTV head end from McCormick Hall to the Computing Center at 87 Prospect Ave.

**Special projects**
During FY05, Hardware Support became re-established as an authorized Hewlett Packard warranty service center. In support of the ongoing campus proximity card system, Hardware Support extended the Princeton Private network to many additional locations. The department also helped OIT’s Student Computing Services to replace many computers and printers in OIT clusters.

**Software Support**
Software Support provides proactive support for the University’s 2,500 DeSC machines as well as TSM backup and restore assistance for Windows and Macintosh computers. Software Support staff are involved in the creation of the software image for campus machines in DeSC, the computer clusters, and the Faculty Computer Program. Software Support also maintains the computers in the Armory and 120 Alexander Training room as well as the computers in the “cluster-in-a-box” program.
Highlights

Customer Contacts
During FY05, Software Support processed a total of 5,683 OPM incidents. Of those tickets, staff touched or updated a total of 12,328. The top five departments serviced were OIT (1,174 tickets, 20.66%), Mechanical and Aerospace Engineering (237 tickets, 4.17%), Woodrow Wilson School (215 tickets, 3.78%), Office of the Dean of Religious Life (170 tickets, 2.99%), Health Services (166 tickets, 2.92%), and the Residential Colleges (162 tickets, 2.85%).

Special Projects
During the year, Software Support improved TSM reporting, and tested several new software products including the Symantec Antivirus 9.1 Edition and the new SAV 10 antivirus client and server. Projects underway include assistance with the XP SP2 migration, support for the Resource 25 software, helping to maintain Keyserver for DeSC, and copyright infringements and network disturbances.

Software Sales
Located in the Tech Depot at the OIT Solutions Center since FY04, Software Sales continues to provide software to departments, faculty, staff, and students. In FY05 Software Sales sold nearly $350,000 of software, approximately the same volume as FY04.

Enterprise Software
A year ago, OIT introduced the Princeton Software Repository (PSR). This new online facility makes available third-party software packages that have been configured to work within the University’s computing environments. PSR also provides standard processes to register, distribute, update and decommission software packages.

During FY05, PSR provided the most up-to-date versions of 67 free software packages. OIT sponsored these initial core software packages. Individuals or departments may sponsor additional packages. Also this past year, a PSR Advisory Committee was established with membership from the University’s research community. The committee reviews policies and approves requests for software package sponsorship.

On January 10, OIT introduced PSR Webstore. All software sales are now processed through the web store. The new web store for software had an extremely successful first year and customer reaction was very positive.

The next phase of the project, an enhanced software web store, will permit members of the University community to purchase, and then download, software online. A few licensed software products including SAV, and Microsoft products are currently downloadable. The goal of PSR III is to make every product whose license permits, downloadable. Campus users will be able to purchase a product online through the web store, and when the transaction is complete, immediately download the product from a server. PSR III project plans also include adding the hardware currently sold in the Solutions Center Depot to the web store database.

Software Licensing
During FY05, OIT and the Library agreed to share the cost of a three year site license for EndNote. OIT will include EndNote on the image of the SCI computers beginning in FY06.

At year’s end, OIT was in the process of acquiring a site license for MATLAB and toolboxes. Usage of MATLAB continued to grow during the year, and OIT increased the current license to 200 seats.

During FY05, the group pursued licensing agreements for IDSynch (account provisioning), Proofpoint and Barracuda (span filtering/firewall), AT&T (internet protect service) and Verizon (enhanced wireless communication).

Special Projects
Among other projects during the year, the group prepared extensive documentation for an audit of Software Sales’ business practices with PPPL. The group prepared a detailed comparison of Sun vs. third party maintenance costs. And the group examined the licensing changes in the wake of the decommissioning of the University mainframe.

Copier Center
In February 2005, in order to centralize the campus administration of copiers, OIT took over the supervision of all Library copiers and the copy card systems used in all of those machines. OIT now oversees the purchase, lease, and general administration of approximately 200 copiers, as well as the purchase and sale of approximately 5,000 copy cards. In FY05, the Copier Center machines made 16 million copies (departmental copiers only), down only slightly from the 16.5 million during FY04.

Policy Advisor
The OIT Policy Advisor strives to enforce University policies related to technology use and copyright. The Policy Advisor serves as corresponding secretary to OIT’s computer and network emergency response team, acknowledging reports of network probes and abuses apparently originating at Princeton, and forwarding reports to appropriate personnel in other departments for investigation and resolution. The Policy Advisor also participates as a member of the University Institutional Review Panel for Human Subjects.

During FY05, the Policy Advisor resolved more than 200 official copyright infringement complaints filed with the University, contacted alleged infringers regarding more than 75 other allegations of infringement, and cooperated
with the Office of General Counsel in notifying 42 other students of pending subpoenas in lawsuits to be filed for alleged infringement. The office also collaborated with the Office of General Counsel and with a group of Computer Science students and faculty to increase awareness of the University’s policies regarding copyright and the technology.

**Special Projects**

During FY05, the Policy Officer cooperated with the Department of Public Safety regarding incidents involving criminal use of technology, theft of computers, locating missing students, and significant cases of electronic stalking. The Policy Advisor provided assistance to disciplinary authorities and distributed computing support personnel with interpretation of University IT policy to particular cases. In addition, the Policy Advisor provided assistance to victims of threatening or harassing e-mail, to those who perceived spam as originating within the Princeton.EDU domain, and to SCAD and distributed computing personnel who identified Princeton.EDU machines as attacking or infected.

The Policy Officer filed daily reports with the Director of Public Safety to supplement the campus crime statistics. The Policy Advisor acted as arbiter for those dissatisfied with algorithmically assigned University NetIDs. The Advisor also served as arbiter for requests from Class of 2004 and affiliated degree-completing graduate students who desired additional extension of account access. The Policy Officer also arranged for access for the new OIT employees housed in 87 Prospect. The Policy Officer also terminated access for student and casual employees who no longer worked in the building, and arranged special lock-up and extended open hours schedules with the TigerCard Office for the OIT units requiring such adjustments.

**Support for Computing in Academic Departments and Distributed Computing Support (SCAD and DCS)**

The SCAD and DCS programs complement OIT’s central support by providing University departments a higher level of individualized advocacy and attention. Members gain priority access to the OIT Help Desk and OPM tracking system, and special opportunities for training.

During FY05, departmental consultants participated in monthly meetings that addressed common concerns and issues related to campus computing. Both program continued to grow at modest rates. During FY05, six departments joined the SCAD program; nine departments joined DCS. By the end of the year, there were 42 members of SCAD in 53 participating departments. DCS had a total of 31 members in 40 departments.

**SCAD/DCS Security Meeting (SECOM)**

The Secom group met monthly working with OIT’s Security Group to help implement new ideas and to discuss concerns regarding campus security concerns. The group has a membership of approximately 20 people from the SCAD/DCS program and members of OIT.

**Departments participating in SCAD Program**

American Studies Program  
Applied & Computational Mathematics  
Architecture  
Art & Archaeology  
Astrophysics  
Atmospheric and Oceanic Studies  
Bendheim Center of Finance  
Center for the Studies of Religion  
Chemical Engineering  
Chemistry  
Civil Engineering  
Classics  
Comparative Literature  
Computer Science  
Council of Humanities  
Creative Writing  
East Asian Studies  
Ecology and Evolutionary Biology  
Economics  
Electrical Engineering  
English  
European Cultural Studies  
French and Italian Languages  
Genomics  
Geosciences  
German  
Hellenic Studies  
History  
Industrial Relations  
Jewish Studies  
Latin American Studies  
Mathematics  
Molecular Biology  
Music  
Near Eastern Studies  
Office of Population Research  
Operation Research Financial Engineering  
Philosophy  
Physics  
Politics  
Princeton Institute for International & Regional Studies  
Program in the Ancient World  
Psychology  
Princeton Environmental Institute  
Princeton Material Institute  
Religion  
Spanish & Portuguese Languages  
Study of Woman and Gender  
Sociology  
Society of Fellows in the Liberal Arts  
Theater & Dance  
Visual Arts  
Woodrow Wilson School
Non-academic departments participating in the DCS Program

Alumni Council
Athletics
Art Museum
Career Services *
Dean of the College *
Dean of Undergraduate Students *
Development
Environmental Health and Safety
Financial Systems Support
Friend Center
Firestone Library
Frist Campus Center
Facilities
Index of Christian Arts
Human Resources
Language Resource Center *
Nassau Hall
Office of General Council *
Outdoor Action *
Princo
Princeton-Blairstown Center *
Princeton University Press *
Program in Science and Global Security
Registrar's Office
Religious Life
School of Engineering & Applied Sciences
Study for Brain, Mind and Behavior
Telecommunication Services
Tiger Card Office *
Undergrad Admission
University Financials

* Departments that joined the SCAD and DCS program during FY05.
Pacesetter Management Consulting Sponsors a Senior Executive Forum on “Ensuring IT Project Success”

Pacesetter Management Consulting recently hosted its latest Senior Executive Forum, in this case targeted at the needs of CIOs and other senior-level IT professionals, at the Tournament Players Club at Jasna Polana in Princeton. The program attracted executives from a wide range of organizations including ETS, The Hillier Group, Johnson & Johnson, Merck, Princeton University, PSE&G, Wachovia and Wyeth.

Michael Hierl (President & CEO, Pacesetter Management Consulting) kicked off the session with the results of a Pacesetter research study that quantified the business impact of IT project failure rates, and discussed the results of a comprehensive literature review of IT project-related best practices.

Keynote speakers, Craig Lamb (Vice President & CIO, Johnson & Johnson Corporate Information Management), Betty Leydon (Vice President & CIO, Princeton University) and Frank Gatti (Vice President & CFO, ETS) then shared their insights on root causes of IT project failure, and outlined specific IT project-related best practices in three key areas: “Effective Strategic Alignment With Business Priorities & Governance,” “The Process of Successful Projects” and “Partnering with Finance to Proactively Manage IT Project Value.”

After the speaker presentations, participants had an opportunity to interact in small groups to discuss in greater detail the issues highlighted by the speakers. In addition, participants shared their challenges and experiences and generated a list of best practices that were then shared across groups. At the conclusion of the full-group discussion, keynote speakers summarized the major themes from the day and concluded with specific suggestions to ensure IT project success.

Pacesetter’s Senior Executive Forums are designed to facilitate the sharing of expertise, best practices and lessons learned among peer groups of senior level executives. This was the fifth Senior Executive Forum hosted by Pacesetter Management Consulting in the last few years.

Pacesetter is currently planning its next Senior Executive Forum for the October/November timeframe, which will be targeted at new topics of interest to CIOs and other senior-level Information Technology executives. For additional information, or to register for the upcoming forum, please contact Shirley Mae at 609-683-5225.
TigerCard office opens in New South

The University's TigerCard office is now open on the A level of New South and has launched a new Web site. The office, formerly called the OneCard office, was created earlier this year to provide centralized management of the operations and services that use the TigerCard. In addition to serving as the official photo identification card for faculty, staff, students and affiliates, the TigerCard allows admittance to the library, recreational facilities and McCosh Health Center. It also provides access to dining services' meal plans, authorized entry to campus buildings, borrowing privileges for the library and debit card spending.

The Web site, located at <web.princeton.edu/sites/tigercard/>, offers information on how to obtain and use the TigerCard, purchase and monitor declining balance points and replace lost or stolen cards. It includes a section on “frequently asked questions” that covers topics ranging from how to submit a photo image electronically to card eligibility for retirees. The site also provides information on the TowerCard (previously known as the Tiger Card), a departmental charge card that can be used at University dining facilities, and includes a variety of online forms to complete to request cards.

"We welcome all members of the University community to take a look at our Web site, visit our office, or call or e-mail us," said Elisabeth Dahlén, director of the TigerCard office. "Our goal is to be a 'one-stop shop' and to make everything as easy as possible."

Assisting Dahlén are Wayne Bayles, Kathleen Bozowski, Elizabeth Chase, Kasia Hertz and Dave Tierney. The office can be reached by telephone at 258-5436 or by e-mail at <TigerCard@princeton.edu>.
New library an example of Princeton's commitment to local community

Just before the Princeton Public Library opened this spring, its director sent a letter to President Tilghman thanking her for the University's contributions to the new $18 million facility.

"In short, we couldn't have done it without you," she wrote.

The University takes its responsibility to the local community seriously. Providing support for the library — through financial resources and other means — is just one example of how the University contributes to the overall health and vitality of its hometown.

"We're committed to enhancing the quality of life in our host community," said Pam Hersh, director of community and state affairs. "The library project is important because of its significant role in downtown redevelopment."

She noted that, in addition to paying property taxes and making unrestricted contributions to local community government (see "By the numbers" on page 2), the University annually provides support for nonprofit organizations like the library. According to Hersh, some 2,300 University faculty, staff and students hold public library cards and many have participated, along with alumni, in the enrichment and community service outreach activities sponsored by the library.

The new library was built on the corner of Witherspoon and Wiggins streets on the site of an outdated facility that was demolished in 2002. The University contributed monetary donations that totaled $500,000 to the library for the building's construction and another $150,000 to Princeton Borough for furnishing the outdoor square bordering the library and a mixed-use building under construction.

In her letter earlier this year, library director Leslie Burger also cited the other contributions made by the University: "Princeton University has been exceedingly generous in offering us the expertise of its staff and technological resources that have enabled us to move far beyond the reach of most public libraries."

She mentioned Robert Durkee, vice president and secretary of the University, who served on the library's newly expanded foundation board, and Hersh, who pitches in on everything from promoting the library's programs to helping with benefits.

Burger also praised the efforts of several members of the Office of Information Technology staff, including Anthony Scaturro and Mary Ng, who assisted in planning for the new technology at the library. Several other OIT staff members provided assistance in establishing Internet access to the new library through the University's server.

In addition, Burger recognized University Librarian Karin Tralner and Associate University Librarian for Administrative Services Dottie Pearson for the experience they shared in renovating and constructing facilities; and Susan Taylor, director of the University Art Museum, for her contributions as a member of the Library Art Committee in selecting works for the new building.

"The entire community built this new library but, without Princeton University's major gifts and ongoing collaboration, it would not have been possible," Burger concluded.
Create and Edit Your Own
Video Extravaganza

Wednesday, September 29, from noon to 1:15 pm
Multipurpose Room B, Frist Campus Center
Bring your lunch... and learn. Cookies and beverages will be provided.
Everyone is welcome to attend!

Simple software is now available on your own desktop (or on the desktops of the NMC) to create and edit video with special effects, sounds, and more with near professional quality. Learn how easy it is to do things with video that will amaze your friends - unless they attend this lecture too.

Speaker: David Hopkins

BLOG Week starts on October 5th. See www.princeton.edu/lnl/blogweek

Upcoming lectures - All Wednesdays at noon. All in Frist MP B (except 10/6, 10/27):

10/6 Blogs, Weblogs, Powerful web journals (Kati Lovasz)
   Location: Carl A. Fields Center - Liberation Hall
10/13 A computer deconstructed (Adam Re)
10/20 Better than Google: Find articles and more at the library (Nancy Pressman Levy)
10/27 Electronic election systems: e-voting security and paper trails (Michelle Mulder)
   Location: Dodd's Auditorium, Robertson Hall - No food or beverages allowed.
11/10 Technology in language teaching: Fitting new media into the classroom (Jamie Rankin)
11/17 Discussion of digital image resources and projects at Princeton (Janet Temos)
12/15 Our new web content management system (Reed Meister)
1/5 The new data warehouse (Ted Bross)
1/12 Intellectual property issues in technology (Clayton Marsh)
1/19 Open Source Software: The good, the bad, and the costly (Serge Goldstein)
1/26 From supercomputers to the OIT Beowulf cluster (Curt Hillegas)

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information technology seminars

Blogs, Weblogs. Powerful Web Journals
Wednesday, October 6, from noon to 1:15 pm
Liberation Hall, Carl A. Fields Center
Bring your lunch ... and learn. Cookies and beverages will be provided.
Everyone is welcome to attend!

Blogs have become the most popular new thing to hit the web. They started as personal web journals, but now they are being used as classroom collaboration tools as well. Learn why blogs are so popular and how to get blogging yourself. Some interesting information on blogs is at www.educause.edu/pub/er/erm04/erm045.asp

Speaker: Kati Lovasz

This is part of BLOG Week. See www.princeton.edu/inl/blogweek

Upcoming lectures - All Wednesdays at noon. All in Frist MP B (except 10/27):

10/13  A computer deconstructed (Adam Re)
10/20  Better than Google: Find articles and more at the library (Nancy Pressman Levy)
10/27  Electronic election systems: e-voting security and paper trails (Michelle Mulder) Location: Dodd's Auditorium, Robertson Hall – No food or beverages allowed.
11/10  Technology in language teaching: Fitting new media into the classroom (Jamie Rankin)
11/17  Discussion of digital image resources and projects at Princeton (Janet Temos)
12/15  Our new web content management system (Reed Meister)
1/5  The new data warehouse (Ted Bross)
1/12  Intellectual property issues in technology (Clayton Marsh)
1/19  Open Source Software: The good, the bad, and the costly (Serge Goldstein)
1/26  From supercomputers to the OIT Beowulf cluster (Curt Hillegas)

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SCI/TECH

Student Computer Initiative increases prices on laptops

By RAHUL MEHRA
PRINCETONIAN STAFF WRITER

Since the Student Computer Initiative was introduced in 1998, purchasing a laptop over the summer has become a rite of passage for sorts for most incoming freshmen.

After several consecutive years of stable costs, though, prices for this year’s models have increased by 15 to 30 percent.

The Office of Information Technology operates the program, which allows all students at the University to purchase computers at a lower rate than on the open market through special arrangements with the manufacturers.

This year, the prices for all four laptop models offered by SCI have risen by $150 to $360 over prices for similar models offered last year.

The costs of a Dell Latitude D600 basic and enhanced model are $1,389 and $1,589, respectively. Apple iBooks and Powerbooks cost $1,289 and $1,989 respectively. Prices are only available to members of the University community who log in to a restricted website.

SCI updates the configurations of each available model with its vendors, Apple and Dell, each summer in an attempt to provide the newest technology to students.

“The timing of the program was such that the technology we are selling to the students was very new at the time the pricing was set. Thus, our vendors had less flexibility in terms of pricing,” said Luke Bodenstein, SCI coordinator and technology integration specialist.

For the Dell computers, “the processors are a new class of Intel Centrino Pentium M745 processors, which is sup-

See SCI, page 3

SCI Apple, Dell laptop prices jump

CONTINUED FROM PAGE 1

posed to be a more efficient and more powerful processor than before,” Bodenstein said, adding that the processors in the machines sold last year were phased out by Dell and therefore were not available to students.

The new Centrino processor is largely responsible for the hike in price of the Dell computers, he said.

For Apple Powerbooks, though, the increase in price was over $400.

“The real issue is the Powerbook and why it went [up in price] just because the processor got a speed bump. I went back and forth with Apple, trying to get justification. And they were not able to provide any. It was a pretty contentious period with me and Apple,” Bodenstein said.

SCI has more leverage when negotiating with Dell because close to 80 percent of the computers sold to students are Dells, he added.

Despite the price increases, the more than 1,100 computers sold by SCI this summer and so far this academic year represents an increase from last year’s figure for the same period. Last year a total of 1,493 computers, including those purchased during the academic year, were sold.

Bodenstein noted another trend in the increasing popularity of Apple computers. This year 22 percent of the computers sold by SCI are Apples, compared to anywhere from nine to 15 percent in previous years.

Because of the sheer quantity of computers sold by SCI, students save more than $850 on Dells and up to $600 on Apple Powerbooks, Bodenstein said.
OIT draws varied workforce

CONTINUED FROM PAGE 1

Though most have some knowledge about computers, others lack any technical working experience.

"Sometimes the folks who are history majors or in politics or Woody Woo [make the best consultants because] they bend toward analytical thinking," Whiting said.

"I think that’s really what’s key. And it happens that good researchers make good consultants," she added.

Along with Whiting, Leila Shahbender, manager of student computing services, and Steven Sather, associate director of support services, are responsible for hiring applicants.

During the spring, OIT sets up a booth in Frist encouraging undergraduates to apply to be computer consultants.

Once hired in the spring, undergraduates go through an intensive training period that requires them to attend three days of classes.

Residential computer consultants, help desk members and solutions center staff meet late in August to go over the basics of the Princeton network.

After being primed with classes and quizzes, OIT staff members then stage mock scenarios of computer problems and ask, “O.K., what’s wrong with the computer? How are you going to fix it?”

Upon completion of the course, the undergraduate consultants can work in various OIT positions both on and off campus.

Some undergraduate consultants opt for the telecommunications center, while others respond to phone inquiries about computer problems.

There is also work available in the residential computing consultant program, helping students with problems in their dorms and in the solutions center working alongside full time workers.

Others work in the New Media Center on 87 Prospect Ave., helping students and faculty with graphic designs.

"We know that we have a variety of jobs for the students," Sather said.

"We’ll ask them, ‘Do you know what you want to do specifically?’ Then we’ll make the best match.”

Once the school year starts, undergraduate consultants are prepared to respond to the deluge of computer problems that arise over the course of the year — network configuration problems, viruses and hardware or software damage.

"By the time you’re a senior, you’ve got a bank of knowledge," Whiting said. "Students who are still working into their senior year are some of our best consultants."

"[The undergraduates] keep our support ranks young and fresh," she added. "[They] keep us in touch with the 5,000 students on campus and teach us the spontaneity of communication."
University to shut down, update e-mail Saturday

By BRETT AMELKIN
PRINCETONIAN CONTRIBUTOR

OIT will temporarily shut down the University's IMAP e-mail and Webmail Saturday to make long-overdue updates.

An e-mail sent on Monday to all students explained that the outage will take place approximately between 7 a.m. and 5 p.m.

Charles Kruger, manager of Unix operating systems at OIT, said the system may return to operation before the stated 5 p.m. deadline.

"This time period includes the chance for problems, and therefore, we don't expect it to really go for that long," Kruger said.

The three-and-a-half to four-year-old hardware, which Kruger described as "reaching the end of its life and capacity," is being replaced by hardware with more than double the capabilities.

Additionally, the current IMAP messaging system will be upgraded to the newest available version, and the ability to switch from one server (IMAP or Webmail) to another in case of a failure is being added.

In the e-mail sent to students about the outage, OIT officials stated that that they chose the first Saturday of fall break to minimize the impact of the outage on students' work.

Any e-mails sent during the shutdown will be held until the system is restored.
Recent graduates retain e-mail until December

By STEVE ARMENTI
PRINCETONIAN CONTRIBUTOR

University e-mail addresses for the Class of 2004 will not be closed until Dec. 1 instead of the former mid-October deadline. This extension will give the new alumni more time to save their messages that would otherwise be deleted.

Steven Sather, director of OIT’s support services, said in an e-mail that for the past several years the University has routinely set the expiration date for accounts to be in mid-October.

This was to give recently graduated students time to get settled and retrieve any valuable information from their Princeton accounts and network drives.

Sather also said that over the past several years, graduating students’ on-line intellectual property has become significantly more valuable to them and many wish to keep the information on their e-mail accounts.

The delay will give more time to students as well as to OIT, to help smooth the transition.

Rishi Jaitly ’04, member of the University Board of Trustees and a leading advocate of the extension, is very happy OIT has taken a proactive approach.

“I am thrilled that OIT has addressed what I believe is a critical step to take the lead in e-mail services,” he said.

As a student, Jaitly valued e-mails because they “amassed a record of his life.”

He compared deleting e-mail to destroying handwritten letters from the generations before electronic communication was possible.

“For a university that emphasizes a lifetime connection, it just didn’t make sense,” he said.

“How do we expect to be able to examine the record of our lives a

New alums keep e-mail longer

CONTINUED FROM PAGE 3

century from now when it’s all electronic?”

Previously, graduating classes received an e-mail from OIT regarding their accounts in the spring.

They were unable to make decisions about saving their files until it was too late, Jaitly said.

He approached Betty Leydon, vice president for information technology, and asked if there was any way OIT could help seniors with the transition. OIT said they would look into new options for University graduates.

Since then OIT has been working to make the move easier. For future graduating classes, they are looking into more services for saving students’ intellectual property, Jaitly said.
OIT

New server causes e-mail outages

By RAJ HATHIRAMANI
PRINCETONIAN STAFF WRITER

E-mail service is now functioning normally, but for individuals using the University's online e-mail service Webmail, problems may continue, according to the latest update from OIT.

Problems include downloading Microsoft Word documents, using the address book feature and filtering junk mail, OIT officials said.

Students barely had access to their e-mail for several days last week after OIT upgraded the University's messaging software on Saturday, Oct. 23.

Normal operations have resumed, but technology officials warned Friday that the University's IMAP and Webmail servers might continue to experience problems.

"We believe there is still some instability occurring on the undergraduate e-mail server," said Donna Tatro, manager of OIT's collaboration services group.

OIT announced a shutdown of the IMAP system for most Oct. 23 to upgrade the Sun Microsystems Corp.-provided server software to the newest version — Sun ONE Messaging Server — on faster computers.

The replacement hardware has more than double the capabilities of the University's almost four-year-old hardware.

OIT chose Saturday for the server upgrade to minimize the impact of the scheduled outage on student's work, since classes ended Friday for Fall Break.

During the upgrade period, University e-mail users were unable to read or send e-mail through programs such as Outlook and Eudora or through Webmail.

But unexpected problems occurred after the upgrade to the server that handles undergraduate e-mail accounts.

Students had difficulty sending messages, receiving attachments and writing e-mails.

In particular, a corrupt system configuration file led to the unexpected outage a day after the upgrade, Tatro said.

The file was fixed, but Sun and the University are still searching for the underlying cause of the problem, she said.

"I don't think we are out of the woods yet because we've asked Sun why this is occurring and have yet to receive an explanation from them," she said.

"It is not uncommon for databases to be tuned and tweaked and certain elements in them to be reconstructed."

Tatro could also not rule out future outages as software has a tendency to have bugs and careless coding even within the most stable programs, she said.

"Looking at our inbox and sent mail, everything seems like such a simple and wonderful system, but under the covers there is quite a lot going on managing many mailboxes," Tatro said. "Vendors strive to provide extremely reliable and robust software systems and we strive to, in turn, administer those systems and provide good service."

Status of the current problems can be found at helpdesk.princeton.edu.

OIT has said that any additional problems should be reported to the Help Desk at 609-258-HELP.
Ng leads OIT effort to protect campus computers

By SOPHIA AHERN DWOSH
PRINCETONIAN CONTRIBUTOR

Mary Prabha Ng was an undergraduate English major at the University of Buffalo until she accepted a bet from her then-boyfriend over whether or not she could learn how to work with computers.

Several years later, that boyfriend is her husband, and Ng is on the front line of defense in protecting the University's computer network from of hackers, viruses and worms.

Her expertise and skills in developing and enhancing computer security systems led OIT to hire her last year.

Ng previously worked at the Department of Defense’s Naval Undersea Warfare Center in Rhode Island.

There, she helped to design computer programs, research inscription methods, and enhance security systems on unarmed underwater vehicles.

At Princeton, Ng focuses on protecting the University's network security, improving intrusion protection systems and performing security risk assessments.

With the help of two Intrusion Prevention Systems — which examine traffic coming into the network, — Ng and her colleagues can detect harmful viruses and worms.

The mysql-slammer worm is especially problematic because it is, as Ng explained, “very prevalent in networks.”

“A big thing we’re working on now is spam,” Ng said. “We’re really trying to get a handle on that.”

Ng emphasized the importance of teamwork in protecting the University’s network. “It’s really a collaborative effort,” she said.

In an attempt to better understand vulnerabilities in computer systems and gather ideas about potential hacking methods and tools, the University sent Ng to the annual Defcon hacking conference in July.

The meeting in Las Vegas was attended by many members of the underground hacking community as well as federal officials and private citizens. Hackers met to exchange ideas and provide attendees with insight into future hacking techniques.

“[Attending Defcon] was a very valuable experience,” Ng said.

While the intrusion prevention systems she works with help to bar the entrance of millions of worms and viruses into the network, Ng stressed the astuteness of hackers and virus writers.

“A system will never be completely safe,” she said.

Ng had advice for students and other members of the University community for keeping their computers safe.

“Stay educated,” she said. “Keep your machine up to date and make sure you have current virus patches.”
Powerful Beowulf clusters aid computational research

By VIOLA HUANG
PRINCETONIAN CONTRIBUTOR

For a few weeks in October 2003, hundreds of Virginia Tech students congregated not for a protest, but to create "Big Mac," a supercomputer made of 1,100 Apple G5s. The group of computers, known as a Beowulf cluster, was ranked among the fastest supercomputers in the world. On campus, the University operates several of these clusters, but on a smaller scale.

A Beowulf cluster is "a bunch of commodity computers put together with open source software to create a supercomputer," said Curt Hillegas, OIT's research and academic applications support manager.

He explained that the Beowulf clusters on campus are used by a wide range of departments, including electrical engineering, the Wilson School, mathematics and astrophysics.

"The clusters are often coded to model scientific or engineering phenomena," Hillegas said. "Weather modeling has been used by the Woodrow Wilson School to model transport of pollution contaminants to see how stuff propagates across the country."

Most of the clusters are used for graduate work, but Hillegas estimated that 10 percent of Beowulf use is performed by undergraduates working on their theses. The most common work done by undergraduates is modeling biological phenomena.

Beowulf clusters are named after the classic novel from medieval times.

"The analogy is that the computer problems people are trying to solve are Grendel," Hillegas said. "It was a good image for the problems at the time, I guess."

The concept of clusters has been around for at least 20 years, but the first computer clusters at the University were owned by the geophysical sciences department.

Acquired in the late 1990s, these clusters were called Geowulf. Hillegas said. Now there are several of them scattered around campus.

Beowulf clusters are efficient because they are cheaper than an individual supercomputer, Hillegas said. "There are limitations on single images and on scalability. As computers get bigger and you double the processors, you don't necessarily double performance," he said.

The clusters are used extensively for research by the government, industries and labs and consistently garner high rankings on the top 500 supercomputer sites listed on www.top500.org.
SCI/TECH

Dangerous spam virus hits campus

By ROBERTO PENA
RINCETONIA CONTRIBUTOR

OIT has been working to stop the infection, which was detected around 3:00 p.m. on Monday.
To stop the virus’ spread and prevent the server from overloading, OIT began blocking spam.
“Were blocking mail from being sent from [infected] machines if it has critical tell-tale characteristics,” Oberst said, which may include strings of characters commonly found in spam e-mails.
Infected e-mails include text saying, “Hi! I am looking for new friends. I am from Miami, FL. You can see my homepage with my last webcam photos!” Others mention accounts with eBay, PayPal, Amazon or CitiBank, according to the OIT Help Desk website.

SEE OIT, PAGE 5

OIT detects viral spam

CONTINUED FROM PAGE 3

But blocking spam e-mails is just “attacking the symptom,” Oberst said. “We need to get to [infected] machines and make sure we’ve fixed them,” he added.
Oberst said OIT also cut off infected machines from the network and is contacting antivirus software providers to obtain a patch to protect non-infected computers.
“We will be preparing some set of instructions to help folks the folks that are infected and those who are not infected,” Oberst said.

OIT recommends that users visit the Help Desk website — helpdesk.princeton.edu — for more information on the virus and exercise caution when opening suspicious e-mail.
“arvice now is not to click on any links and to stay away from websites you wouldn’t normally go to,” Oberst said.
Some students are also concerned about the outbreak.
“I’m worried about [the virus] in that I don’t know what this type of stuff is going to do to my computer,” Jason Herron ’07 said.
STUDENT GOVERNMENT

USG website to launch Wednesday

By RAHUL MEHRA and ALEXIE ROTHMAN
PRINCETONIAN STAFF WRITERS

Point.Princeton.edu, a new website featuring a list of weekly campus events as well as additional services, will be available to University students starting Wednesday.

The new site will advertise student group events as well as departmental lectures, speakers and programs.

USG President Matt Margolin ’05 said the Projects Board gives money to fund many events that would be more successful with better publicity.

The site will list the most important events as well as rank the eight most popular ones.

The University maintains a similar site, calendar.Princeton.edu, which Margolin said was difficult to use.

“The [new] site is very organized and very self explanatory,” Margolin said.

Students can also customize the site to show events pertinent to their interests. In addition, more science-related events will be posted.

The site will include links to the University homepage, The Daily Princetonian, The New York Times and Princeton webmail as well as other academic links.

Other features will include a Dinkyn schedule, weather report, information on activities at the Street and the residential colleges, movie times and restaurant reviews.

Margolin said he hopes students will use the new site as their home page.

Point will also replace the old Salesline and Bookline links on the USG website, and Margolin said the group plans to add an online auction page as well.

A major feature of the site will be its ease of use for campus groups, which will be able to independently post information on events they plan to hold.
New online job resource to debut this month

A new online technology intended to streamline the recruitment process for administrative job applicants and hiring managers will be launched in mid-November.

"Jobs at Princeton," which will replace the existing paper-based recruitment process, is designed to provide efficient and accessible recruiting information for both hiring managers and job seekers. Its development represents a joint effort of the Office of Human Resources staffing team, the Office of Information Technology and other University departments.

"The new Jobs at Princeton technology contains modules for applicants, hiring managers and human resources," said Vice President for Human Resources Maureen Nash.

"For example, the applicant tracking system will allow HR staffing to improve the recruitment process end to end. This will help us better source, screen, interview and hire a qualified and diverse workforce."

Some of the most noticeable changes with the new Jobs at Princeton will be the ability for hiring managers or administrators to create a job requisition online and for candidates to apply online from any computer with Internet access, 24 hours a day, seven days a week.

Each page on the site, located at <jobs.princeton.edu>, will have links to content of interest for the targeted audience, making it easy to find related information. Other features include the incorporation of drop-down or cascading menus, which will aid in site navigation.

"One of the key goals of the redesign is to provide the greatest degree of accessibility to information, both for hiring managers and candidates," said Greg McGovern, senior manager for human resources staffing, who is managing the project. "Several departments across the University will participate in the modules for hiring managers in December, with University-wide rollout slated for early 2005. The Office of the Dean of the Faculty is assessing the capabilities of the technology and will participate by phase in the full rollout."

Jobs at Princeton is powered by technology from PeopleAdmin, which also is used by other members of the Ivy League including Brown, Columbia and the University of Pennsylvania.

New lecture series explores intersection of arts and technology

Faculty and staff members from across the University have organized a series of lectures on the interaction of technology and the arts. The series, called /@rts ("slash arts"), begins with a talk by video and installation artists Jennifer and Kevin McCoy at 4:30 p.m. Tuesday, Nov. 16, in the Stewart Film Theater, 185 Nassau St.

The /@rts series is being organized by faculty and staff in the School of Engineering and Applied Science, the Office of Information Technology, the Council for the Humanities, the Program in Visual Arts, the University Art Museum and the departments of computer science and music. Invited speakers will include visual artists,
No! Don’t do it!

It’s your identity; don’t just give it away.

If you get an official-looking e-mail asking for your private information, delete it. It’s from identity thieves ‘phishing’ for your personal information (like bank card numbers, Social Security Number, and date of birth). Businesses and financial institutions will never send unsolicited e-mail messages or make calls asking you for this information. Don’t give it away.

For more information on phishing, see:

www.princeton.edu/phishing

Office of Information Technology • www.princeton.edu/oit
December 6, 2004, Princeton Weekly Bulletin

Center offers high-tech resources for language learners

The students enrolled in Simone Marchesi’s “Advanced Italian” are among the 1,600 people who use the Language Resource Center in the 21st-century room.

A computer terminal sits at each desk, and at the front of the room is a touch-screen console for the professor to use. With a few clicks, he can monitor each student’s work from his computer. If one student’s work is too good, he can project what he sees onto a large screen on the wall.

The classroom has also improved the students’ ability to work with their professor and with each other in small groups. “The lab has shifted the perception of technology-assisted learning from a solitary, student/scren interaction to a communicative, student/student environment,” said Crisoni.

The room, known as the smart classroom, is part of the new Language Resource Center, which opened last fall in the basement of East Pyne following the building’s renovation. The smart classroom is just one of the technological gems at the center, which is run by Marianne Crisoni. “What we offer now is a very large improvement on what we had before,” said Crisoni, referring to the facility’s previous location in Jones Hall.

The center offers thousands of audio files, videos, DVDs, interactive CD-ROMs and word processing programs for the 17 foreign languages taught at Princeton, all housed in a cluster of rooms filled with state-of-the-art equipment.

The facilities have made it easier for professors and students to access more tools that help with the study of foreign languages. And students who are not in foreign-language classes also use the center extensively because it circulates the University’s video and DVD collection.

Students and faculty are flocking to the center. “The new lab is amazing,” said Crisoni. “The word is spreading among faculty members, and often it’s through the students. They tell their professor, ‘My friend is watching a video for class in a residential computer cluster,’ so the professor comes and asks, ‘Can I do that too?’”

Faculty are finding numerous ways to help their students by using the center, which is part of the Office of Information Technology’s Academic Services. At the center, I’m discovering a whole range of opportunities to enhance instruction,” said Shawn Marmon, associate professor of religion. “Marianne is one of the most helpful people on campus. She puts an immense amount of time into helping faculty members.”

It’s not just students and faculty who are benefiting from the center’s offerings. The materials also are available to staff members. “An employee who is taking a trip to Italy will come in to brush up on his or her Italian,” said Crisoni, who runs the lab with staff member Barbara McClain and about a dozen student workers.

VCs, DVDs, CDs and more

The center’s main room is equipped with 15 computers that each have a multistandard VCR, which can play videocassettes from anywhere in the world. Seven of the computers also have region-free DVDs, which can play any DVD. Faculty members often use these facilities to get acquainted with language’s colloquialisms.

Professor of English Larry Danson often shows clips from films during class to help students relate to the material. “I’m able to show clips without having to waste time searching for them, and best of all, I can show more than one version of a scene, so that students can see various possibilities for staging and interpretation,” he said.

In his Shakespeare’s course, Danson showed students excerpts from two film versions of “Romeo and Juliet” so they could contrast them. And he is using clips from Jolie Tymoff’s film “Titus” in his lecture on “Titus Andronicus.”

“It’s not a play that easily yields its riches on first reading,” Danson said. “Tymoff’s wonderfully inventive film helps make vivid some of the points I try to make in lectures.”

Marchesi’s Italian class meets in the center’s smart classroom about twice a month. The students watch film clips from Italian movies and TV shows, using them as a starting point for listening and comprehension exercises and for class discussions about the content and the cultural context. At their individual computer stations, the students visit Italian Web sites with chat rooms where they can practice their language skills in real-time with native speakers. The room also is used by students studying German, Spanish and other languages and non-language classes who want to watch DVDs or use the computers, as well as for various workshops.

“The upgrade of the lab’s facilities has greatly enhanced the tools that we offer to our language students,” Marchesi said. “But I would say that the most remarkable feature of the Language Resource Center is not directly linked to the new location. It is the exceptional people who work there, and their competence, helpfulness and plain understanding of what is involved in teaching a foreign language.”

Continued on page 2.

Marianne Crisoni (standing), manager of the Language Resource Center, works with senior Yuval Vardi and sophomore Becky Moulder in the East Pyne facility, which offers state-of-the-art equipment to assist in learning foreign languages.
FACULTY

Professors featured in new online facebook

By KAVITA SAINI
PRINCETONIAN STAFF WRITER

The undergraduate facebook has long been one of the most commonly used resources on campus, helping students look up telephone numbers, find addresses and refresh memories after fleeting introductions, especially those made under less-than-sober circumstances.

Now they can do the same for their professors — though not necessarily after interaction on the Street.

On Dec. 1, the Office of the Dean of the Faculty announced the launch of the online Faculty Facebook. Like the student version, the faculty facebook contains names and pictures of all faculty on campus, including visiting members as well as academic administrators.

According to former Dean of the Faculty Joseph Taylor, a professor in the physics department, the effort to bring back the faculty facebook of the 1970s has been going on since 1998 but ran into a few roadblocks.

“We were considering making a small booklet that could be kept handy on people’s desks, but the expense associated with that was fairly high,” he said. “Putting [the facebook] online was not a viable option back then.”

Sorted by name and department, the facebook lists the full academic titles of faculty members and provides search options. Students can now look up the contact information for specific professors or browse each department’s faces.

“This makes it easier for the students to not only find [the professors] but also to contact them,” said Kristina Miller, senior systems manager of the Dean of the Faculty’s office.

Some members of the faculty said they were pleased with the new directory.

“It’s a good thing that the faculty’s faces are available to the students. Why should the faculty be such a mystery?” said Karen Malatesta, senior lecturer in the molecular biology department.

University unveils new facebook community

CONTINUED FROM PAGE 1

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She added that it could create a new means of communication between faculty and students.

“It always helps to visually recognize someone,” she said. “If a student wants to find me, then it’s great that they can look online and find out what I look like before they come and talk to me.”

Students also welcomed the introduction of a revamped faculty facebook.

“Sometimes you remember a professor’s face but not their name,” Dan Meng Chen ’08 said. “So if you see them online, then you’ll recognize them.”

But Malatesta had some concerns about the site.

“I think it’s a good idea, but what I do not appreciate is the picture of myself that’s up there,” she said. “I’m glad that we have the option to change it.”
Feedback encouraged on new Web site

RUTH STEVENS

The University’s new online presence was unveiled for the campus community on Jan. 14, when a link to the University’s redesigned home page and core Web site was posted on the current site. Since then, campus users have been encouraged to take a look and provide feedback during a month-long preview.

“I am absolutely elated about the crisp visual appearance and newly written content you have created,” wrote one staff member in the online feedback form.

The core Web site—the top 200 pages—is intended to convey a better sense of Princeton through new and updated content and more pictures, while retaining an emphasis on frequently refreshed news content. The new design and navigational structure will make it easier for users—internal and external—to find Web content.

The new site represents the culmination of efforts started in 2001 by the Web Strategy Task Force, co-chaired by Robert Durkee, vice president and secretary, and Betty Leydon, vice president for information technology and chief information officer. The project was guided by input from the campus community through the work of the task force, an online survey, focus groups, individual discussions, vendor briefings and site testing. It represents a joint effort of the Office of Communications and the Office of Information Technology, with contributions from many other University departments and external consultants.

Continued from page 1

The campus-wide preview will enable the Web team to test new features, receive feedback and make changes before the public launch on Feb. 14. The preview site can only be viewed on computers connected to the campus network or by those with specific login privileges.

“We encourage students, faculty and staff to preview the site and send us specific comments—good and critical,” said Lauren Robinson-Brown, director of communications. “The beauty of the Web is that it’s an ever-changing form of communication. We’ll be able to take the feedback we receive during this initial phase and incorporate it to make the site even more responsive to the users.”

Each main section of the site—“About,” “Academics,” “Library,” “Research,” “Admission & Aid,” “Administration & Services,” “Campus Life” and “Visiting Campus”—now has a sub-navigation menu that provides direct access to each of the pages within that section. Each “Overview” page and many other pages include additional information about the University through text and pictures. For example, the “Overview” page in the research section describes the kind of research taking place at the University and shows a photograph of Princeton students conducting anthropological fieldwork in France.

The content of the site is meant to meet the needs of both external and internal audiences. Much of the new content (such as the text on the “Overview” pages) has been written to tell a compelling story about the University to external visitors. At the same time, many new features and sections are intended to improve access to information for internal audiences.

For example, a new section under “Administration & Services” lists resources available to help faculty and staff plan events on campus. Three new pages in the “About” and “Academics” sections should be of interest to both types of visitors: “University Governance,” “Departments & Programs” and “View of Campus.”

In addition to the main topic sections, the site incorporates new audience-specific sections—aimed at current students, prospective students, parents, alumni and faculty and staff—which act as springboards into the site’s main content as well as to other University sites.

The navigational structure and various tools have been built to better serve users. Visual elements clearly situate each page within the overall navigation scheme, making it easy to find the page again.

A “Search” box now appears directly on the home page, as well as in some audience sections and the “News” pages. The search page and several other tools—including redesigned A to Z lists and a “Site Map”—are also available on the top right portion of every core site page.

In addition, the site embraces the most current Web technologies, including advanced cascading style sheets and XML and XSLT programming languages. It is built on a powerful content management system, Roxen CMS, which improves the ease of keeping Web content up-to-date.

An explanation of how to use the new site as well as frequently asked questions about the project are available by clicking on the “About the University’s New Site” link under “Web Site Highlights” in the lower right corner of the home page. Included is a visual guide to the new navigation and sections.

To provide reactions to the new site or to request assistance, members of the campus community can use the Web page feedback form highlighted in the footer at the bottom of the home page. While the Web team cannot provide individual responses to every item, all feedback will be taken into account.

Answers to frequently asked questions will be added to the “About This Site” pages.

Since the campus launch, many viewers have responded with reactions, as well as suggestions. Two of the most frequent questions have been regarding the relocation of links from the old site to the new site. Those looking for the “WebMail” link, formerly the last link in the bottom left corner, can now find it as the first link in the upper right corner. Those

Continued on page 3
Princeton Software Repository Web Store

Princeton University’s software web store

OIT is pleased to announce the opening of the PSR Web Store—a convenient, online site for purchasing computer software.

As of January 10, everything previously offered through Software Sales will now be available for purchase online through the PSR Web Store. It’s easy to use and it’s always open!

www.princeton.edu/psrwebstore

Office of Information Technology • www.princeton.edu/oit
TECHNOLOGY

Apple computers gain popularity

By Belda Chan
PRINCETONIAN STAFF WRITER

The "cool factor" of Apple computers, with their sleek design and eye-catching ads, has barely chipped away at the market dominance of PCs nationwide. But if Student Computer Initiative (SCI) sales at Princeton are any indication, Apples may be on the rise.

SCI, which sells more than 1,000 laptop computers to University students annually, has seen a jump in the purchase of Apple machines over the past year.

Apples have accounted for 23.6 percent of SCI computers sold in the current school year, up from 14.8 percent last year, according to Leila Shahbender, who manages Student Computing Services for the Office of Information Technology.

When SCI sold them for the first time in 2001-02, only 10.7 percent of computers purchased were Apples.

SCI currently offers four laptop models: two from Dell

See APPLE page 5

Computers sold through SCI

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<th>02-03</th>
<th>03-04</th>
<th>04-05*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Percentage of Apples</td>
<td>0%</td>
<td>10%</td>
<td>20%</td>
<td>30%</td>
<td>40%</td>
</tr>
</tbody>
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*Four months remain in SCI year

Security concerns credited for increase

APPLE

Continued from page 1

and two from Apple.

Shahbender is unsure why Apples grew in popularity this year. She speculated that the susceptibility of PCs to security threats may be one reason for the change.

"I suspect it could be because the Apples don't get viruses and worms, so there aren't as many security issues," Shahbender said.

Dave Marcovitz '06, a student consultant for the OIT Helpdesk, agreed that computer consumers on campus might be swayed by the relative security of Apples.

"The PCs have been getting a lot more viruses and having more problems that are caused by traffic on the network," Marcovitz said. "The Macs seem to be less susceptible to that kind of stuff. So even though people may be more knowledgeable about the PCs, they may prefer Macs."

For Apple and PC adherents alike, purchasing decisions often came down to habit and loyalty.

Caitlin Sullivan '07, who purchased an Apple PowerBook G4 from SCI, said her longstanding familiarity with the Apple system was a critical factor.

"I really do prefer the user-friendly nature of Apples over PCs," she said.

Another sophomore, Joanna Friedman, purchased a Dell for the same reason.

"I have limited experience with Macs compared to Dells. Also, I like the interface of Windows more, even though I know Macs are better for a lot of other reasons ... I've used Windows since the beginning," she explained.

Students voiced differing assessments of the relative performance of Apple and PC computers.

Felix Huang '06, who is also a web staffer for The Daily Princetonian, said he prefers PCs partly because they make downloading easier.
New University website makes public debut

By Laurel Lathrop
PRINCETONIAN STAFF WRITER

The University will officially launch a new homepage Thursday, following a monthlong preview to accommodate feedback from the student body. It is the first major redesign of the website since 1998.

The new core website — consisting of the top 200 Princeton-related web pages — makes extensive use of school colors and has easy-to-navigate features like a home link, search link and webmail link on every page. It also has different sites for different audiences, such as students, alumni and faculty.

The home page also features a new system to make posting information easier and “universal accessibility” templates to make pages navigable with Braille keyboards or keyboard shortcuts.

“We have added consistent navigation and design features which give you a clear sense of place,” said Reed Meister, head of the Web unit of the Communications Office, in an e-mail.

The redesign was headed by the Communications Office and the Office of Information Technology (OIT). It is the result of a four-year process that began in 2001, when a Web Strategy Task Force began to analyze the University’s web presence.

The biggest change, Director of Communications Lauren Robinon-Brown By said, is a new content management system that will give student groups and departments greater control over their websites.

Anyone with knowledge of web programming language can now add content to the site once it has been approved by the Office of Communications. “This will help student groups [that] in the past might have had to hire web people,” Robinson-Brown said. “Now, any officer can just type in updates and post them online.”

About 70 students submitted feedback forms after viewing the website preview and the site is being updated accordingly, Meister said.

“Some people think [the site] is a little busy, [while] some people like the artistic flow.” Robinson-Brown said. “Some people absolutely love that we use the school colors; others have had enough of them.” Many comments resulted from users’ unfamiliarity with the site, Robinon-Brown said.

Some students suffered from “banner blindness” and could not find the search button, which is located in the banner at the top of each page, she said.

Students were particularly concerned when a weather link was removed from the initial design. “We heard very quickly from a lot of people that they wanted their weather back,” Robinson-Brown said.

The OIT Help Desk and the campus Residential Computer Consultants (RCCs) are familiarizing themselves with the new site so they can handle questions and complaints.

“We really think it’s going to be a lot better than the last site,” said Amy Malletz ’08, who works at the OIT Help Desk.

RCC Mike Lee ’07 said an RCC/OIT training session scheduled for next week should help improve familiarity with the site.

“The new site’s not quite so simple,” he said, adding, “It definitely looks nicer.”
Redesign draws mixed reactions

By Philip Lewitz
PRINCETONIAN STAFF WRITER

The new University website has elicited mixed reactions from students.

"Already here," said Bruce Halperin '08, noting the improvements to the admissions pages, which include additional images and links.

Yet Horace Greeley High School senior and current applicant Robert Cousins disagreed. "Aesthetically the new website is more orange and black, but functionally [the new and old sites] appear about equal," he said. "I think that since the change is predominantly aesthetic, those who will benefit most are those that use the website most, [that is] current students."

Director of Web Communications Reed Meister pointed out that a balance had to be maintained between audiences inside and outside the University. "One of challenges is that it's both a public Internet site and an intranet site," Meister said. He explained that some pages are intended for members of the University community, whereas others are aimed at an audience without previous contact with the University.

"One of the things that's very helpful to the outside world is the overview pages that tell a story about the University. That's not very interesting to the inside world," he said.

An additional student concern is the site's organization.

"I like the way the site was broken down before... it was a more logical organization," said Neta Levine '08, adding, "I feel like Blackboard and Webmail were a lot more accessible before." Her concern about Webmail being relegated to small print in the corner resonated with many of her peers.

Meister, though, called the new navigation "more intuitive."

University Director of Communications Lauren Robinson-Brown '95 acknowledged the concerns, saying that additional links would be created on the website in response to feedback from students unable to locate important features.

University web designers will devote at least a month of "intense focus on the site," she said.

Even as she recognized the validity of student complaints, Robinson-Brown said unfamiliarity with the new site may have prompted much of the discomfort.

Some students who voiced complaints agreed. Levanon qualified her concerns about the new site by calling herself "a creature of habit."

Jeffrey Wayne '07 also betrayed a hint of nostalgia. "Unfortunately, I'm so used to the old site that I don't really know where to find things now... there was something really pleasing about the simplicity of the old site," Wayne said.

But Meister remains confident in the new site.

"With any redesign, we have differences of opinion. I would say we have a majority that is very positive, and some that are still getting used to it," he said.

The transition may seem less daunting for students who prefer the new site to the old.

Sunshine Yin '08 said she found the new site's organization to be "more coherent" than before, adding, "I think [the new site] looks a lot more professional than the old one... it's more colorful and organized and more easily accessible."

And Gary Li '08 expressed a common opinion when he said, "It doesn't seem like there are any real benefits. It's the same stuff. It just looks better."

Though the old site will remain available for a brief transition period, the new site will soon be the University's sole online gateway.

Students and other visitors are encouraged to submit their own comments on the new site at http://www.princeton.edu/main/tools/feedback/.
OIT researches ways to combat spyware

Several free spyware removal programs, such as Spybot Search & Destroy and Spyware Blaster, are available on the Internet. However, they are only available to individual users and not for large organizations.

"The anti-spyware world is kind of immature at this point," Anthony Scaturro, OIT security officer said.

Anti-SpyWare. While the Microsoft software works well and is available for download by individual users, Scaturro noted that Microsoft has not reached a decision over whether to make a corporate edition of the product.

"They won't even have an answer for a few months as to what their plan is, and what they will charge," Scaturro said.

For students who want to solve their spyware problems immediately, Scaturro recommended downloading the Microsoft beta program from the Microsoft website in conjunction with other anti-spyware programs.

But Scaturro added that there is no complete cure to spyware right now. "There's no spyware product that gets more than two-thirds of [it]," he said.

OIT looks to fight spyware

OIT is evaluating commercial spyware-blocking products in an effort to rid computers on campus of spyware — unintentionally downloaded software that is often responsible for pop-ups and computer crashes.

"We'd like to have a product that will enable us to buy a copy of anti-spyware for every Windows user in the University," OIT security officer Anthony Scaturro said. "Rather than having one computer user sign for a subscription service, the vendor would send us an up-to-date version. Then, our central server would know and alert us to get new spyware definitions."

OIT began researching corporate versions of spyware programs in November for the purpose of installing a network-wide program like Symantec Antivirus.

The term "adware" describes legal programs that users have consented — even if unknowingly — to having on their computer. "Spyware" refers to programs that install themselves without a user's permission. Both kinds of software can slow Internet connections, generate pop-ups and send information about the user back to a company.

"For the most part, the system performance deteriorates when spyware or adware is put on them. They profile users and give that information out to marketing firms so they can target their advertising," Scaturro said.

About 20 people per day are blocked from the University network because their computers are infected with spyware and viruses, said OIT helpdesk employee Joseph Kovala '07.

"If we disallow a computer access to the network, it can't connect to UNIX, can't access the H drive. [This is because] spyware products try to infect other systems in the network," he said. "The new OIT policy is that the hard drive has to be reformatted before coming onto the network."

By Belda Chan
Princetonian Staff Writer

See SPYWARE page 2
CAMPUS LIFE

OIT ups e-mail quota to 40MB

By Chanakya Sethi
PRINCETONIAN SENIOR WRITER

Students plagued by swarms of e-mail and repeated "approaching quota" warnings are finally getting some relief.

Individual e-mail storage quotas will double to 40 megabytes (MB), USG President Leslie-Bernard Joseph '06 announced in an e-mail to students Monday night. Undergraduate students may see the change as soon as after spring break, while graduate students will have to wait until the summer.

In the past, if students desired additional server space to store their e-mail messages, they could purchase it. At current rates, an increase in e-mail quota from 20 MB to 40 MB would cost $2.40 per year.

While the change in policy brings Princeton's quota in line with some peer institutions, the quota is still dwarfed by those of other schools.

Students at Harvard and Yale universities receive 40 and 25 MB, respectively, but students at the Massachusetts Institute of Technology and Cornell University receive 250 and 300 MB each, respectively.

Class of 2007 Senator Alex Lenahan proposed the increase last month in response to student concerns.

"USG is the most powerful when change is initiated by the students," he said. "I sent out an e-mail to my class and told them to contact me if they had ideas, and a student e-mailed me about this."

Lenahan contacted OIT and received an affirmative response Monday.

Rob Hazan '06, a computer science major, welcomed the new quota, but added, "Disk space is so cheap — to the University it's nothing."

"I never seem to run out, but I usually clear my e-mails out onto my own computer," he added. "I guess if students want to keep every e-mail since I don't know."

U. behind some in e-mail quota

Continued from page 1

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fresh year, it would be useful to have 200MB."

Joseph said that the new quota is a welcome improvement. "We just had a 100 percent increase. Our inboxes are 20 MB better off than we were before," he said. "I'm proud of Alex's hard work and that he got an increase so quickly in the first place."

OIT officials could not be reached to comment on the change in policy.

Includes reporting by Princetonian Senior Writer Neir Eshel.
TELECOMMUNICATIONS

Cell use battles land lines

By Sam Stewart-Halley
PRINCETONIAN CONTRIBUTOR

As the number of students with cell phones continues to increase, some have wondered if the room phone may become just another part of the University's rich historical tradition.

Nearly nine in 10 college students now have cell phones, according to the Student Monitor, a market research firm in Ridgewood.

Instead of ignoring this trend, telecommunications at OIT is changing with it.

“We don't view the use of cell phones as a combative issue,” said David Wirth, the technical operations manager of telecommunications at OIT. “Many, but not all, students have cell phones and find them a convenient way to keep in touch with friends and family.”

In the past two years, the University has introduced several new programs to adapt to the new preference for cell phones among students.

CellConnect, which was launched this fall, allows students to check their Princeton voicemail on their cell phones for $4 per month.

CellularLD is a prepaid long-distance service that enables students to place international and long-distance calls from their cell phones at reduced rates.

The programs have yet to catch fire among the students.

See CELL PHONES page 3

Telecommunications adapts to cell usage

CELL PHONES
Continued from page 1

body, but Wirth said he expects them to draw cell phone users back into the University's telecommunications fold.

“We have a number of students using the service, but we feel more students could be involved,” Wirth said. “This is why we are still promoting it. Many people don't see the cost benefits of using CellularLD, especially for international calls. The savings can be very significant.”

Steven McCutcheon '07, who does not own a cell phone, has heard of CellularLD, but prefers the basic service.

“I only make around two to four long distance calls a week and my bill each month is usually around $10,” he said.

Though McCutcheon acknowledged that cell phones might be useful in emergency situations, he is otherwise satisfied with his room phone.

“The telephone rates are reasonable, and abstractly I have the feeling that I tend to pay more attention to people around me when I am out with people,” he said. “I think that people who have cell phones tend to be in their own world, and not having one is an easy way to stay away from that.”

At the opposite end of the spectrum, Bara Lane '07 uses her cell phone almost exclusively.

“I only use my room phone about once a month — I use it to make important calls because I know the reception will be good,” she said. “I get terrible cell phone service at Princeton.”

Bad service is a common complaint among cell phone users at the University. There are few cell phone towers in the vicinity of campus, and the thick-walled gothic architecture of Princeton’s older buildings blocks the already weak signal.

But many students, including Lane, believe the benefits of having a cell phone make it worthwhile.

“If you only use your room phone, you have to put in your pin number every time you make a call or place eight or nine or whatever,” she said. “It’s easier to have one number and you don’t have to stay in your room.”

Though the number of students who use cell phones will likely continue to rise, the University has no plans to phase out landlines. The lines will always be necessary for emergency situations when cell phone service shorts out, Wirth said.

“Technology is always changing. What may look like ‘land lines may become data or VoIP services in the future,” he said, adding that Telecommunications will continue to adapt.

“Whatever method is used, we always have to make sure that the needs of the entire university including students, faculty and staff — especially Public Safety — are always considered,” he said.
Lecture

Lansky discusses computer music

By Eric Meng
Princetonian Staff Writer

Only occasionally does an intelligible word emerge from the garbled sounds of “Idle Chatter,” the computer-created composition of music professor Paul Lansky GS ’78. Lansky played the recording in a Woolworth classroom Thursday as he kicked off his contribution to the /wits lecture series, which explores the intersection of technology and art.

Lansky is most famous for his composition “Mild und Leise,” which Radiohead incorporated into its 2000 album Kid A. He played a few minutes of the song yesterday.

“We had a sense we were taking part in a revolution.”

Paul Lansky, Music Professor

“I can’t listen to it anymore because it’s too ugly and boring,” he said jokingly. “People have emailed me saying they like the machine-like feeling of the song, but that’s actually what I’m trying to get away from.”

In “Idle Chatter,” as in many of Lansky’s computer music compositions, the lines of speech and sound blur, but the result is surprisingly musical. According to Lansky, music created with machines will soon be indistinguishable from ordinary tunes.

“In my [computer-created] music, I’ve tried to distance myself from the machine. Actually, the real challenge is making music with a machine that outlasts the first listen,” he said.

Lansky has used computer-based technology — especially linear predictive coding, a speech analysis technique used in cell phones — to create music which models itself on real-life sounds. Lansky has modeled his music on a variety of sounds, including everyday human speech, the purr of a car engine and a recitation of Shakespeare’s “The Tempest.”

Lansky interspersed clips of his contributions with a brief history of the development of computer music. He fondly recalled memories of the Columbia-Princeton Electronic Music Center of the 1960s and 70s, a collaboration between the universities in what was then cutting-edge artistry.

“The music department was the biggest user of the one computer on Princeton’s campus until 1985 or so,” Lansky said. “We had a sense we were taking part in a revolution.”

Perry Cook, a University professor of computer science and music, said the greatest challenge facing technologists and artists who collaborate today is to keep innovating. “During the decades that [Lansky] talked about, musicians were using these new technologies at the same time that engineers were publishing papers on them,” he said.

“What’s underway now is hopefully still as exciting.”

Though Lansky’s music is relatively traditional for the field of computer music, it includes some surprising elements as well. “If you’re a composer and want more mystery in your music, working with machines is the way to do it,” he said.

In the past, the /wits lecture series has featured speakers including the installation video artists Jennifer and Kevin McCoy and the multimedia artist George Lewis, a recipient of the MacArthur Fellowship, or “genius grant.”

“A place where technologists and artists can meet doesn’t really exist,” said Lorene Lavora, academic outreach director for OIT, which is co-sponsoring the series.

“There are pockets of this kind of collaboration, like what Lansky does, but there could be a lot more of this rightbrain, left-brain meeting.”

The idea for the lecture series emerged from a discussion on engineering and culture during a School of Engineering strategic planning meeting, according to Dean of the Engineering School that women in science and engineering compete very effectively once given the chance,” she said, noting that men who have children early in their career are “strikingly more successful” in earning tenure than women who do so.
Name: Laura Strickler.

Position: Coordinator of process improvement in the Office of Information Technology. Conducting assessments of how the office operates by working with staff and studying processes. Analyzing communication within the office and with customers. Finding ways to improve efficiency.

Quote: “I’ve had four completely different jobs since I started working at the University in 1996. I love having the stability of staying with the same employer while being able to move around and try things out. That’s been very positive for my personality and my desire to learn new things. There’s so much here to challenge me.”

Other interests: Playing mah jongg with a group of Princeton employees. Sea kayaking on vacations to an island off Maine. Playing golf.
U. to install wireless in all dorms

By Charlie Stone
PRINCETONIAN STAFF WRITER

All Princeton dorms will be wired with the new Ethernet network by the fall, providing for the first time an all-encompassing network to all indoor spaces in the residential colleges. In the past, the residents of the dormitories have had to buy their own wireless cards and other technology to use the Internet on campus, whereas students in other colleges and the off-campus students have had access to the Internet through their homes. The all-wireless campus, which is being continuously upgraded, is now complete with support from the Institute for Advanced Study, the University of Pennsylvania, and the Institute for Advanced Studies in the Behavioral Sciences.

Seth Sather, the Vice President of Information Technology, said that students are increasingly utilizing wireless technology as an important part of their daily lives. They like to surf the Internet from different places, e-mail professors, check their e-mail and search the web. Wireless technology has also become popular among students who have brought their own laptops and other wireless devices on campus. The all-wireless dorms will be able to accommodate the students' needs and provide them with the best possible environment.

The all-wireless dorms will be complete this summer and will provide Internet access from any place on the campus. The new network will be available all the time and will be accessible from any place on campus. The University will continue to provide Internet access to its students on campus and off-campus.

Perhaps most importantly, the all-wireless dorms will be a part of the University's effort to upgrade the campus's IT infrastructure. The all-wireless dorms will be one of the most important improvements to the campus's IT infrastructure, and will help to make the University more competitive in the global marketplace. The all-wireless dorms will also be an important part of the University's efforts to improve the quality of life for its students and faculty. The all-wireless dorms will be a part of the University's efforts to create a more inclusive and supportive campus community, and will help to make the University a more attractive place for students and faculty to live and work.
New anti-spam service gives users more control over their messages

RUTH STEVENS

A new anti-spam service that will significantly reduce the number of unwanted e-mail messages clogging inboxes and allow users to have more control over how messages are processed is slated to go live for the University community on June 7.

The service, called “Proofpoint,” has been in various stages of testing by the Office of Information Technology since last fall.

Currently, the University processes about 500,000 incoming e-mail messages each day (see “By the numbers” below). A total of 76 percent are screened as definitely spam or virus bearers and are stopped by a firewall, and the remaining 24 percent are delivered to people’s e-mail accounts — and a third of those are probably spam.

Two years ago, OIT introduced a filtering program called “Spam Assassin” that today is used by most people who have the University’s standard e-mail service called IMAP. With this system, suspect messages are filtered into a “spam” folder in the user’s e-mail account. It is the user’s responsibility to review and empty the spam folder to ensure that it doesn’t use up e-mail quota.

“With Spam Assassin, we started getting a handle on helping people separate out good mail from unwanted mail by moving those messages into the spam folder,” said Donna Tatro, senior manager for collaboration and systems services in OIT’s Enterprise Infrastructure Services. “But there was no easy way for people to keep track of messages that might appear spam-like but aren’t spam, or to flag those messages that are really egregious that you never want to get again. From a customer standpoint, the Spam Assassin solution was limited. We saw those limitations early on and started looking for ways to improve. And automatically moving spam messages to the spam folder worked only for IMAP users, not those using the Exchange e-mail service.”

Proofpoint will replace Spam Assassin, and it will screen e-mail for both IMAP and Exchange users. Instead of delivering the suspected spam messages to users’ e-mail accounts, Proofpoint will send a digest with information about those messages twice a day to users’ inboxes. The actual messages will be held in “quarantine” on a separate server. Users will be able to scan the digest, which will list the sender, subject and a score assigned by Proofpoint indicating the likelihood that the message is spam, and decide what to do with the messages.

If it looks like a legitimate message, users will be able to click on it and tell the system to release it from quarantine. The message will be released and delivered to the user’s inbox. If the message looks like spam, users need not do anything — the message will be purged from the quarantine after 30 days.

Users also will have the option of clicking on a link called “safelist,” which releases the message to the inbox and adds the e-mail address of the sender to a personal “safe-senders” list. Future messages from this sender then will not be sent to quarantine.

Continued on page 3

The Office of Information Technology is launching a new anti-spam service called “Proofpoint” for the University community on June 7 (see story above).

• The University’s system currently processes about 500,000 incoming e-mail messages a day.
• Some 76 percent of those messages are stopped at a firewall based on technical checks; 1 percent are stopped by the firewall because they are viruses or worms; and 24 percent are allowed past the firewall.
• With an average message size of 2 kilobytes, the firewall decreases the amount of data coming in from about 1 million kilobytes per day to 240,000 kilobytes per day.
• Based on data from the 400 people who have tested the new system, Proofpoint is quarantining about 33 percent of the messages it processes. That trend is likely to carry over to the larger University community population, decreasing the amount of data coming in from 240,000 kilobytes per day to 81,000 kilobytes per day. This will be a significant saving, in terms of server space for messages that won’t get to inboxes and messages that won’t have to be backed up, as well as important resources such as the time required for people to handle the messages and monitor the backups.

Spam

Continued from page 2

Tatro said that e-mail newsletters often have the characteristics of spam and are blocked by filters. This system allows users to make sure they receive those messages — if they want them — and to continue to receive them without having to search through a spam folder.

If the message flagged by the system is not spam, the user can report that to Proofpoint and the system will update its detection technology.

If a message is delivered to the inbox and is spam, the user can add the sender’s address to a blocked list, preventing any message from that address from subsequently appearing in the inbox.

At any time, users can edit their safe and blocked senders’ lists and request updated digest reports.

The digest reports will be sent at 8 a.m. and 4 p.m. weekdays. These times were chosen based on the populations served, according to Tatro — the earlier time for employees, who tend to read their e-mail in the morning, and the later time for students, who tend to read their e-mail in the afternoon and evening.

The way that Proofpoint processes messages addresses two important resource use considerations. Because the messages are held in quarantine and not sent to users’ e-mail accounts, the messages aren’t eating up quota space. And because the messages aren’t held on the same server, they are not backed up the way the University’s regular e-mail system is, saving time and server space.

Tatro said that Proofpoint also is much more effective because the University receives definition updates from the vendor multiple times a day. “Spammers change what they do almost on a daily basis,” she noted, constantly finding ways to circumvent even the best spam detection technologies. While those testing the system have seen a significant reduction in the number of spam messages in their inboxes, OIT staff members expect that some spam still will get through.

More information on Proofpoint is available through the OIT KnowledgeBase at <www.princeton.edu/spam>. Those with additional questions may contact the OIT Help Desk at <helpdesk@princeton.edu> or 258-4537.
Top Stories

Don Albury, media services manager and outdoorsman, dies

by Lauren Robinson-Brown - Posted May 24, 2005; 01:39 p.m.

Donald P. Albury, who as Princeton’s manager of media services witnessed and recorded nearly every major University event during the past 20 years, died of cancer May 22 at the University Medical Center at Princeton. He was 54.

Born in the Bronx and raised in New York City, Albury joined the University in 1986 after serving as audio-visual coordinator for Teachers College, Columbia University. At Princeton, he directed a media services staff of seven in the academic services unit of the Office of Information Technology, working with just about every University entity to capture Princeton life in video and digital media.

"In nominating Don for his [2001] President's Achievement Award, I wrote: ‘There are few people at Princeton of whom it can be said that the University simply could not function without them; Don Albury is one of those people,”’ said Serge Goldstein, academic services director. “Sadly, all of us will now have to function without his enormous good will, grace, humor and kindness. We are diminished as an institution by his passing, but have been enriched by his presence, which will continue unabated in our hearts and memories.”

Albury received a bachelor's degree from Empire State College in 1980 and a master's degree from Teachers College in 1982.

A lover of the outdoors and an expert paddler, Albury’s wilderness trips to the Algonquin Provincial Park area of Ontario as a young man gave way to yearly trips to Nova Scotia with his family. He loved the opera of Puccini, the ballet of Balanchine and the philosophy of "Monty Python." He was an active member of the chancel choir of the Princeton United Methodist Church.

Albury is survived by his wife of 23 years, LaVerna of Trenton; his daughter, Jennifer of Linden; his sister-in-law, Marilyn Albury of Bay Shore, N.Y.; and several nieces and nephews.

A memorial service is scheduled for 10 a.m. Saturday, May 28, at the Princeton United Methodist Church. Visiting hours are 7 to 9 p.m. Thursday, May 26, and 2 to 4 p.m. and 7 to 9 p.m. Friday, May 27, at the Mather-Hodge Funeral Home in Princeton. In lieu of flowers, the family requests that memorial contributions be made to Fox Chase Cancer, P.O. Box 42630, Philadelphia, PA 19161-0001.

The University flag above East Pyne will fly at half-staff in Albury's honor through Thursday.
Remembering Don Albury

My biggest decision on the “Princeton Saturday on Steroids Day,” which was May 28, concerned attire. How many changes of clothes would I have to bring to my office to accommodate all the town/gown happenings in which I wanted to participate?

The day’s events included the Memorial Day Parade going up Nassau Street to Borough Hall; the Princeton University Reunions page through campus; the Ralph Nader lecture at Nassau Presbyterian Church; the conversation with Princeton University President Shirley Tilghman at Richardson Auditorium; the Princeton Rotary Pancake Breakfast on the lawn in front of the Nassau Inn; the Princeton University Reunions Fireworks on the field next to the University Stadium, and, finally, a funeral service for a Princeton University colleague at the Princeton United Methodist Church on the corner of Nassau and Vandeventer streets.

I fretted over the hassle of spanning the color spectrum from red, white and blue, to orange and black, to black; the texture spectrum from lightweight to heavier weight, from sun-reflecting to rain-repelling, and the style spectrum from in-your-face and outrageous to conservative and respectful.

As I luged a suitcase of hats, scarves and jackets from my house to my office, I laughed at myself for feeling costume-challenged, while feeling teary-eyed over the realization that I no longer could turn to my friend and co-worker Don Albury for advice and help.

As Princeton University’s manager of media services, Don never offered me any wardrobe solutions, he seemed to have solutions every time I was in a bind due to multiple simultaneous events, generating a myriad of media and equipment demands.

Don was funny, charming, gracious, skilled at dealing with psycho-hysterical technological morons such as Pam, as well as never intimidating or condescending, even though he appeared to be at least double my height of 5 feet. During the past two decades this benevolent giant oversaw the operation that provided media coverage for every event of significance at Princeton University. He knew exactly how to deal with five events at once and probably could have solved my wardrobe problems, too, had I asked.

I never made it inside the United Methodist Church because the timing coincided exactly with the Memorial Day Parade. In my red, white and blue outfit, I did not cry, however, but waved as I marched in the church along with the bagpipers playing a respectful tribute and the other bands doing drum rolls.

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The Memorial Day Parade honoring war heroes serving the nation particularly reflected the essence of Don Albury. Don was a hero serving not only the Princeton University community, but also the town for those events that bridged the two communities, such as Communiversity and the New Year’s Eve Curtain Calls celebration.

Betty Leydon, university vice president for information technology, noted that Don “didn’t just do his job, he lived it.”

The day concluded with the fireworks, which were dedicated to Don’s memory, but my thoughts about him spilled over to the following day, which featured different outfits — the academic robes worn by those processing into the University Chapel for the university’s baccalaureate service.

At this interfaith worship ceremony celebrating the senior class, the featured speaker was Professor Toni Morrison, whose words honored the Albury ethic without ever mentioning his name. She spoke with mellifluous eloquence about never settling for the status quo and continually working at changing the things that needed changing — qualities which Ms. Morrison urged the graduates to carry into the world as they embarked upon the journey of writing their own stories.

I am so grateful for being witness to Don Albury’s story for many years, in many different circumstances and in many different outfits.

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