Cornell Information Technologies
Office of Information Technologies

Business Plan, Fiscal Year 2005

Cornell University
Our CIT/OIT Fiscal Year 2005 Business Plan presents comprehensive lists of our programs and services, outlines our planned enhancements to existing services, describes anticipated new services and initiatives, and explains how the campus community benefits from these efforts. Our plan also shows how CIT’s budget is distributed among our programs and services.

CIT is planning an active year. All of the programs and services slated for enhancement or development and introduction are traceable to customer requests, Workforce Planning Recommendations, and/or our own forecasting of technology that will be needed to keep pace with community expectations and needs. In this plan, we provide detail about how we will follow up on the goals cited in our 2004-2007 Strategic Plan as well as how we intend to develop and enhance many of our programs, services, and projects.

Many of our new services are based on community input. CIT is well on its way to becoming an organization that is skilled in listening to customers’ expressions of their needs and translating their wishes into technology that is secure, functional, timely, and cost effective. This business plan reflects services and activities our customers have asked for or defined as important to them. For example:

■ The IT and research communities have emphasized the importance of CIT’s role in supporting Cornell research. Our response: We have arranged for Cornell to join the National LambdaRail (NLR) initiative, and we are acquiring a fiber path to New York City in order to take full advantage of NLR and improve our connectivity with Weill Cornell Medical College.

■ In the spring of 2004, the Student Assembly, by a unanimous vote, requested an online music service at Cornell. Our response: CIT and OIT are partnering with the Student Assembly and the Dean of Students on a legal music trial with the Napster University Service that was in place when students arrived on campus this fall.

■ CIT has been encouraged to address common needs among campus units, especially for decision analysis and support tools. Our response: We have begun soliciting input from the College Officers Group (COG). Our consultations with this group will lead to key FY05 projects in support of distributed administrative activities located in colleges, divisions, and departments.

■ Customers look to us to maintain and improve general computing services and infrastructure. Our response: This year will see more e-mail enhancements, new file storage capabilities, behind-the-scenes upgrades and efficiencies for many services, and continuing attention to our complex infrastructure.

■ Security is a major concern for everyone—from the individual to the local technical support staff to the members of CIT’s Security Office. Our response: Our business plan calls for the deployment of sophisticated security technology, enforcement of security incident reporting, a new focus on the security of university data, and an array of identity management initiatives.
Financial overview: Distributing our resources

As responsible stewards of university resources, CIT devote a significant effort to determining the full cost of each of our services. We identify the direct costs of each service, and then allocate a share of general support costs to each service to determine the full cost. Whether a service is funded through a university appropriation or user fees, we are able to fully describe its cost components. This has greatly improved our understanding of service costs and helped us stabilize or reduce the costs of many of our services over the past several years.

The charts below present our costs in three ways:

- Chart 1 presents the direct costs of all CIT activities. Direct costs are expenses incurred specifically for a program or service, for example, the cost of equipment purchased for a service or the salaries for technicians who develop a service.
- Chart 2 presents service costs after all central support and general support costs have been distributed to them. Support costs include everything from HelpDesk and documentation support to systems support to costs for our financial, human resources, and management structure.
- Chart 3 shows the overall breakdown of CIT costs expended for salaries, capital, and general expenses.

Chart 1: Direct costs of CIT programs

How does CIT use its appropriated funding and income from fee-for-service? A large amount goes into maintaining and improving our technology infrastructure, which literally provides the backbone for the rest of our services. Rewiring the entire campus through EzraNet and building a fiber link to provide connectivity to National LambdaRail are costly but critical projects. Our administrative computing effort is large; support for Cornell’s major business units covers the continued migration to PeopleSoft and an array of necessary upgrade and maintenance activities. Delivery of core services—e-mail, calendar, backup, dial-up, phones, data connections, and the like—is an important part of our budget. It represents the part of CIT most faculty, students, and staff routinely interact with, and we are introducing several new services for them this year. The rest of our resources are distributed among our leadership and support services, outreach efforts, research and teaching programs, and our internal functions.

Chart 2: Total (full) costs of CIT services

Overview

OIT and CIT lead Cornell’s focus on IT security, policy, and architecture. We participate in emerging regional and national partnerships and keep abreast of up-and-coming technologies that are of strategic interest to the university. Our leadership role at Cornell often entails sharing our expertise with peer institutions that struggle with similar issues. Our stewardship role sometimes requires that we represent not just Cornell’s interests but our region’s interests, especially in establishing high-capacity networks for research. The initiatives presented in this section are fundamental components of the flourishing information technology environment we must nurture at Cornell, and they will benefit the entire university.

Budget for IT leadership projects

Financial support for OIT’s and CIT’s policy, security, and IT architecture programs and our participation in national initiatives such as National LambdaRail (NLR) requires five percent of our overall budget.

Our Cornell-wide initiatives

General

- Customer Service Strategic Review
  - New: High-level assessment and roadmap for enhancing customer service for our IT services over the next three to five years
- Distributed support
  - New: Activities aimed at integrating and coordinating Cornell’s IT support environment

Policy

- ICPL: EDUCAUSE/Cornell Institute for Computer Policy and Law (ICPL): Provides leadership to colleges and universities in developing technology policies
- UCPL: University Computer Policy and Law program: IT ethics education
On the drawing board for 2004–2005

In collaboration with Cornell Computing Center Directors and the Cornell University Library, CIT is conducting a Customer Service Strategic Review to gain a better understanding of the campus’ customer service expectations for technical services and to determine how to provide customers of technical services better service and a more positive experience.

A distributed support director, hired in early FY05, will begin working with many constituencies around campus to effectively implement a number of IT Workforce Planning Recommendations emerging from the recent IT Workforce Analysis. A priority for this year is to establish the recommended IT Manager’s Council.

Through increased awareness efforts and video streaming, CIT will leverage the University Computer Policy and Law program (UCPL) beyond campus to reach a state and national audience. UCPL focuses on information technology ethics education.

At Cornell, the IT Policy program will facilitate the implementation of several new policies and we will educate the campus community about them. Those that may come to fruition in FY05 include Authentication and Authorization of IT Resources, Privacy of Information Technology Resources, and a revision of the Responsible Use of Electronic Communications called Responsible Use of Information Technology Resources. As these policies are developed, CIT will be reaching out to stakeholders for suggestions and input.

I he Security Office is planning major initiatives to secure Cornell’s networks, systems, and university data. Monitoring and analysis—a Network Based Anomaly Detection tool (NBAD) will be introduced for very early detection of attacks and infected or breached systems that could endanger other devices on our network. Old technology permitted us to detect events associated with incoming network traffic, but once a security problem breached our borders we didn’t have a good way to detect it. NBAD will dramatically improve our monitoring capabilities.

Network quarantine—Upon identifying a security problem on a networked computer, our network quarantine capability will kick in to isolate that computer from the network until the security problem is resolved. People with isolated computers won’t be able to use them for network-related activity, either within Cornell or on the Internet, until the security problems are resolved, thus protecting our network and the security of other devices on our network. CIT will provide ways for computer owners to quickly remediate their systems and get back on the network. These remediation methods will be manual at first and become automated over a relatively short period of time.

Incident response—CIT is developing internal processes for CIT groups that cooperate in dealing with security incidents as well as standard procedural communications for members of the community whose computers are compromised.

Self-service assessment and remediation—This initiative is aimed at giving people the ability to scan their own systems for vulnerabilities, viruses, and up-to-date operating system patches and virus definitions. Included is delivery of antivirus software (already available) and firewall software for desktop systems. The thrust is to make tools and information easily available so that the average computer user can easily protect his or her own system. Tools developed for this initiative will become part of the automated remediation solution for people with quarantined computers.

University data—The Security and Policy offices will work with the university’s core business units (see page 7) to secure institutional and regulated data; validate that the networks, applications, architectures, and systems that support administrative computing are secure; establish standards for data security and respond to security incidents related to administrative computing. We are particularly interested in university data that is subject to federal regulation and that is housed in central and departmental data repositories but easily transferred to and used on individual desktops. The proposed authentication and authorization policy will complement an existing policy, Data Stewardship and Custodianship, by setting forth rules and expectations about handling administrative data responsibly.

The Security Office, in accordance with the new policy, Security of Information Technology Resources, will be encouraging each Cornell unit to name a security liaison to the Security Office, setting up a Security Special Interest Group for these people and others, and exploring how security training can be delivered to the campus.

Our identity management efforts are proceeding hand-in-hand with those in the security arena and include:

A Public Key Infrastructure (PKI) that will be prototyped this year, with the delivery of a production service planned by late FY06. This technology could be used to implement a secure e-mail capability and digital signing of grant proposals; it could be applied to other situations where a digital signature, encryption and non-repudiation are required.

A guest registration/authentication/authorization infrastructure for general campus use that will allow guests to use Cornell’s network and services.

CIT support for licensing and distributing Verisign server certificates.

CIT will continue its membership in National LambdaNet, an organization of higher education institutions that is creating a new, high-capacity network to support scientific research. This fiscal year, a newly acquired fiber connection to New York City will connect Cornell researchers to others on NLR, enabling them to much more easily share the huge amounts of data often generated by scientific experiments in fields such as high energy physics, astronomy, computational science, distributed systems research and networking research. The new fiber route will also enable new levels of collaboration between the Ithaca campus and Weill Cornell Medical College.

CIT will further define the functions of the very recently established Advanced Technology and Architecture group which was created to explore emerging IT technologies and architectures, investigate new uses for mature technologies, educate university units about creating integrated self-service environments, and to work across the university to optimize the return on the institution’s investment in information technology in keeping with IT Workforce Planning Recommendations.

In fiscal year ’05, CIT will take a step back to evaluate some of its most basic infrastructure choices. These choices potentially affect Cornell for years to come. Among the current ones facing our infrastructure experts is whether to support voice services over the data network. The implementation of EzraNet, which is a phased rewiring of campus buildings for data services, stretches from now through 2017. Cornell’s telephone switch has a seven-year life span and will need to be replaced or upgraded by 2008. Meanwhile, technology experts at large disagree over the economies and feasibility of Voice-over-IP technology which permits use of data networks for voice services. Obviously, the evolution of Voice-over-IP (VoIP) at Cornell must be tracked and coordinated with our campus rewiring project. Some fiscal year 2005 projects, such as studying the feasibility of VoIP over wireless and wired networks, will position Cornell to make this important and far-reaching technology decision.

A system called Shibboleth that will permit access to services offered by other universities or organizations via Cornell NetIDs and passwords.

Improvements to our NetID lifecycle management process, a complex procedure for activating and deactivating NetIDs based on the current status of community members.

Replacing SideCar and swapping out the Permit Server with a directory-based authorization service.

CIT is developing the infrastructure for the nation’s most basic infrastructure choices.
What these innovations mean for...

Students, faculty staff—

- Some new IT policies will have implications for the general community, requiring that everyone familiarize themselves with their new responsibilities.
- Automated self-service applications will help people disinfect their computers and get back online if CIT must isolate their infected computers from the network. In cases where people’s computers are hacked and used as SPAM servers, rapid isolation and remediation will protect the computer owner from extra charges for wide-area-network use.
- With the replacement of SideCar, everyone will be freed from its constraints. In particular, the replacement technology will work with Network Address Translators (NATS), which are popular with students as a means of sharing internet connections, and it will close some known security weaknesses.
- As Shibboleth is introduced, the Cornell community will begin to be able to use NetIDs and passwords to access databases and services at other universities and organizations.
- The research community will benefit from Cornell having access to a high-capacity network as well as improved linkages to the Well Cornell Medical College. For more benefits, see page 17.

Business administrators and unit heads—

- New IT policies may bring changes to the responsibilities borne by units, particularly in the area of entitlement (who gets to use a service).
- The PKI infrastructure will enable Cornell to use digital signatures and meet legal requirements for protecting data that are of particular concern to the medical and research communities. Initial customers include the Information Technology Security Office, Gannett Clinic, and the Office of Sponsored programs.
- The guest registration system will include a fully fleshed-out procedure for securely and gracefully assigning guest IDs so visitors can enjoy legitimate access to Cornell’s network.

Technical community—

Progress in the security arena will be meaningful to the technical community, which is often faced with spending large amounts of time coping with security compromises. NBAD will generate reports that colleges can use to analyze the health of their own networks. Eventually the Security Office would like to give local technical support access to the NBAD system to directly monitor their segments of the campus network. Infected machines will be isolated quickly, reducing the number of overall infections. Those that are affected will be more easily remediated by users who may require less intervention by local technical support or our own HelpDesk. In addition:
- When SideCar is replaced, CIT expects to supply its source code to campus UNIX developers, so they can customize it for their own use. Ultimately, this means IT developers across campus will be able to deliver their services on a broader set of platforms, including Linux.
- The guest authentication system will first be introduced in support of RedRover, our wireless network. Later in the year guest authentication will be available for other services.
- The proposed CIT service for distributing Verisign server certificates will make them easier for units to purchase and renew and thus encourage the secure implementation of web-based services.
- A production Shibboleth infrastructure will position Cornell to take advantage of services requiring federated identity capability, the “interdependent management of identities between” organizations that permits access to other organizations’ services by using the home organization's credentials (NetID and password at Cornell).

Supporting Cornell’s administrative computing needs

Overview

CIT maintains and develops new functionality for administrative computing applications that support the core business needs of the university. Our administrative computing effort specifically supports these business units:
- Human Resources/Payroll
- Student and Academic Services
- Budget and Planning
- Office of Sponsored Programs (OSP)
- Administration, Facilities and Finance (AF&F)

Some of the administrative computing applications we develop for Cornell’s business functions are delivered via a distributed environment and others are on our mainframe. No matter the platform, CIT is responsible for operational support and improvements for administrative applications as well as new functionality. We handle the necessary administrative computing infrastructure for them, and we recently folded CIT’s middleware and infrastructure teams into our Information Systems division, the home for CIT’s administrative computing operations and development efforts.

CIT participates in a 5-year planning cycle that determines administrative computing priorities and expenditures. This year’s priorities, as set by the Senior Management Group, are to:
- Investigate the implications of replacing the university’s core financial system, including how the replacement would impact our infrastructure.
- Continue work on all modules of the student implementation (admissions and records).
- Plan for and provide operational support for improvements to existing systems that support OSP, Budget and Planning, HR/Payroll, and Alumni Affairs and Development, while at the same time conserving funds for the eventual replacement of financial systems.
- Identify and reduce the number of shadow systems across the institution as suggested by the Workforce Planning Initiative.

Through our focus on business continuity planning and risk assessment, we ensure the university’s ability to conduct
Vantine CIT’s application for tracking requests for HelpDesk support, as well as problems and requests submitted to the Network Operations Center and Operations Support.

1. New applications development
Creation of new administrative applications and installation of vendor-supplied applications
2. Contributor Relations for Alumni Affairs and Development, phase 2
3. Student Admissions and Student Records for Student and Academic Services

On the drawing board for 2004–2005 Operational support: In the PeopleSoft arena CIT will do four upgrades to keep pace with federal tax changes and will provide ongoing support for Human Resources, Payroll, Benefit Administration, Admissions and student course listings applications.

On the mainframe side of the house, CIT will upgrade Cobol on CornellID and the ADABAS database. In both the distributed and mainframe environments, CIT will undertake other operational support tasks as they become necessary. We will keep casual access applications running smoothly, revising them as necessary as changes are made elsewhere. By fall 2004, CIT will complete migration to a new version of Brio, Cornell’s ad hoc query tool.

Operational improvements: To keep pace with changes in procedures and practices instituted by Cornell’s business units, we will make modest changes in functionality to existing systems. These changes tend to be ongoing and volatile, so they are not planned for in advance.

New functionality: Although not scheduled for deployment until 2006, CIT will begin working on a PeopleSoft-based student admissions module to replace a seasoned mainframe-based system. Additionally, we will be working on full replacement of Cornell’s student records system that supports everything from grading to transcripts. A Cornell ID project will provide a common student identifier across all student-related systems. This project is scheduled for completion in January 2005. The Cornell ID will be used by all information systems that interface with or use student data, resulting in an environment where records from one system can more readily be matched up with records in other student systems. Although the current emphasis is on implementing the Cornell ID before new systems are added, the project follows the enterprise data warehouse that will consolidate data from disparate sources, improving Cornell’s ability to analyze data and use it to make decisions. They are also working with CIT’s infrastructure specialist to migrate Brio, our ad hoc query tool, to version 8.21. People who use Brio will enjoy new features and CIT anticipates its support issues will be eased by moving the query service to a supported platform.

Investigations and long-term planning: CIT, in conjunction with its customers, will evaluate PeopleSoft’s self-service applications (a.k.a. e-apps) for use with our Human Resources, Contributor Relations, and Student PeopleSoft environments. We are also starting to plan the next major upgrade of PeopleSoft.

As a result of an IT Workforce Planning Recommendation validated by Garrett Consulting, CIT has developed a plan to eliminate Cornell’s mainframe computor. It will be less expensive to maintain a distributed computing environment instead of both a mainframe and distributed environment. CIT is currently targeting fiscal year 2009 for the mainframe retirement, so starting now, administrative system owners and CIT’s Information Systems Division need to plan for it in their five-year planning cycles. Information Systems is starting to remove certain program dependencies when we modify programs for other purposes, to make them platform independent.

Process development: We will develop the policies, procedures, and mechanisms necessary for constructing administrative web services created in Gold Fusion and Web Methods environments. We want every administrative unit that needs a web service to know how to request one and arrange for necessary permissions from data stewards. We want our developers to know how to create these services so that production web services are implemented in standard ways, so that developers can leverage others’ efforts, so that software components are reusable, and so that staff can maintain existing services without extensive cross-training. Our “best practices” methodology will be available to both departmental and CIT developers.

In the Enterprise application area, we will upgrade our billing system (Pinnacle) to support customer and department portals (web-based access to billing information) and the new reporting that will be available through them. The same portal system will provide a way for customers to submit requests to install, move, or change phones and data jacks directly to CIT. This new online request system will streamline CIT’s take-in process and allow us to respond quickly to requests. CIT will work to keep our HelpDesk’s trouble management system (Vantine) functioning until a planned study determines the best next-generation trouble management system for us. Additionally, we will work to establish a “ticket sharing” capability between RT (a more basic trouble management system used in other parts of CIT) and Vantine or its ultimate successor.

What these innovations mean for...

Students, faculty, staff—In the near term, the Cornell ID project will result in faculty and others having access to a richer set of data for decision making. Over the long term the Cornell ID project, along with various data delivery projects, will result in the stable technology foundation Cornell needs to create future services in the realm of academic advising and degree guiding.

Business administrators and unit heads—Student and Academic Services will see progress toward implementing its student records and admissions modules and Alumni Affairs and Development will see improvements to its Contributor Relations system.

The Enterprise Data Warehouse will meet departmental needs to manage and use distributed information. For example, data that provides faculty/student ratios to colleges is currently in two databases and ratios have to be manually calculated. The Enterprise Data Warehouse will directly provide this kind of information.

People who use Brio will benefit from the upgrade in these ways:

- Distributed publishing will allow for more rapid report development, testing, and delivery
- Availability of HTML reports will require no plugin and so will be easier for us. Additionally, we
- Improved performance and reliability
- Improved SQL functionality and performance
- Improved technical support and responsiveness to problems because of a change in the platform

We will continue to migrate administrative data repositories to CIT’s new storage farm, a move that improves their reliability and performance. The migration to the storage farm also means that increasing storage is easy for our customers. Instead of working with us to purchase and install disk space, it becomes a question of CIT allocating existing space.

The new web-based access to billing information will be a boon to department billing coordinators who won’t need to wait for paper bills to examine charges.

Technical community—

- The web services process and methodology effort will result in tools that will be available to department web services developers.
The new request–for–service form will provide local network administrators with a streamlined way to request services.

CIT will upgrade hardware associated with its print servers.

We will enhance our job-scheduling software, which permits automated job scheduling for machines and processes that support PeopleSoft.

The mainframe group will upgrade its operating system, vendor applications, and tape technologies, the latter of which will improve “batch windows” and backup.

Supporting Cornell’s commitment to teaching and learning

Overview
A quick glance through our list of teaching and learning services demonstrates that Cornell’s academic community has an increasing appetite for combining technology with teaching. Faculty who are unfamiliar with how to use technology in the classroom or as part of their overall educational approach will find that CIT can help them. Faculty who are comfortable with technology will find that CIT is putting more of it in classrooms and expanding access to everything from videoconferencing to course management software. Through our division of Distributed Learning Services, whose purpose is to help support faculty and others involved in the academic mission of the university integrate information technology and instruction, CIT is looking forward to launching many new services in fiscal year 2005.

Budget for teaching and learning
The cost of delivering teaching and learning services and infrastructure represents seven percent of CIT’s budget.

Our teaching and learning services
- Academic Technologies
  - Academic Technology Center
    Helps faculty integrate technology with instruction. Home for the LYNX (Student Assistant) Program
  - Faculty Development and Training
    Provides workshops and other forums for instructors to develop skills needed for teaching and learning with technology. Focus is on instructional goals and selecting appropriate technologies to support them.
    - Mobile computing lab
  - Faculty Innovation in Teaching Grant program (FIG)
    Provides overall coordination of the FIG program, specifically instructional design and production services for these faculty projects

Our teaching and learning initiatives will ensure progress on these 2004–2007 strategic goals:
- Develop Cornell’s capability to support distributed learning with appropriate infrastructure, facilities, and services.
- Identify opportunities and emerging applications for distributed learning and support both faculty and students in using a core set of distributed learning-teaching tools.
- Enhance the learning environment to more seamlessly deliver content on course web sites and develop mechanisms to help guide students to trusted scholarly resources available through the Cornell Library.
- Deliver the Provost’s Faculty Innovation in Teaching Grants program.
- Enhance usability and reliability of distributed learning technology to reduce barriers to acceptance and encourage routine use.
- Actively promote use of instructional technology among faculty by advocating and exploring its use with faculty who teach large classes.
- Collaborate with academic units to provide students with preprofessional experience.
- Enable collaboration through development of specialized learning centers equipped with advanced communication technologies.
- Build on experience and skills gained through supporting the Global Seminar to offer and deliver videoconferencing and streaming services to additional projects and programs across the university that seek to reach beyond the campus.
- Support Cornell’s efforts to enhance its image and reputation by delivering the media (web, video, satellite) central to message distribution.
On the drawing board for 2004–2005
Faculty Development and Training: CIT will raise instructor awareness about the Faculty Development and Training program to make the best use of its capacity. Major initiatives in this area include developing online materials that faculty can use for just-in-time training and a mobile computing lab that allows CIT to take training to faculty instead of faculty coming to us. We may deliver an intensive, project-based summer institute for faculty in 2005.

Course Technologies: Blackboard & Enterprise, which provides enhanced course management features and integration capabilities with other Cornell systems, was ready for the 2004–2005 academic year including migration of existing course sites to it. CIT will develop standard web statistics reports for course and special event web sites and make them available to customers. Evaluations of streaming media preparation software and assessment software will get underway. To ensure CIT’s teaching and learning initiatives are hitting the mark, we will continue to survey faculty to learn more about their needs and interests in the teaching technology arena. We will complement this with a parallel effort to understand needs and interests of students in this area. Another study will give us a view into services offered by comparable institutions.

We will develop standards for course web site clean up and status reporting and create policies for creating, reusing, and archiving them.

CIT Public Labs: Computers in Stimson, Dickson, and Noyes labs will be replaced prior to the start of the 2004–2005 academic year and the AV equipment in Tjaden will be upgraded soon thereafter. CIT will also support the Campus Life pilot computer lab in House 1 of the West Campus Residential initiative. CIT Labs will evaluate the idea of introducing server-based computing to its facilities. If eventually approved, it would permit Cornell students and faculty to access class-related software from any networked computer.

Classroom Design Consulting: CIT will bring its AV design and project management services front and center with projects in 27 buildings. The projects will enhance large lecture halls, one auditorium, a distance learning facility, residential living facilities, and other special purpose areas.

Classroom Technology Support: CIT will continue developing web-based collaboration services; develop a database of technology (audio/video) resources in classrooms for campus use; and evaluate, recommend, and implement polling system technologies. Polling systems allow students to use remote control devices to electronically answer questions posed by instructors. We will continue our focus on upgrading multimedia equipment in 15 large enrollment classrooms so that classrooms where the most students spend the most time are prioritized for upgrades. Improvements were planned for six rooms by the start of the fall 2004 academic year. Additionally, we will develop a database of classroom technology resources so that faculty can be matched to classrooms that meet their technology needs, and we will use it to make future decisions on which rooms to upgrade. We will work to introduce two faculty collaboration facilities, which will permit faculty to do remote multimedia collaboration with colleagues around the world, if facilities can be earmarked for development.

CIT will partner with the College of Engineering on a special collaboration facility called an Access Grid Node. Developing the site will enable multimedia collaboration with more than 150 institutions and corporations and enhance Cornell’s standing for NSF funding on selected projects.

By the end of the fiscal year, CIT will like to see two more distance learning rooms up and running at Cornell to facilitate interactive learning and collaboration with other institutions. Matching funds and space must be identified to make this happen.

CIT will continue developing its Internet-connected audio/video distribution and control infrastructure. Improvements we are working on include:

- Point-to-point transmission and multicasting of high-quality audio/video based on MPEG2 over IP.
- An upgrade to a multipoint conferencing unit to enable simultaneous multisite videoconferencing.

These improvements provide greater capability for multi-point videoconferencing and allow us to distribute high quality audio/video to more sites on campus for either academic or special-events purposes.

Faculty Innovation in Teaching: CIT will work with faculty to provide and complete 28 Faculty Innovation in Teaching Grant projects.

Instructional Design and Production: We will support Cornell’s continuing education program by developing more rooms for CyberTower. Several important evaluations will get underway including the feasibility of designing, developing, and hosting databases associated with web sites and participating with Course Technologies colleagues in evaluating streaming media preparation software. Together with new servers already purchased, we expect to see improvements in our streaming media environment.

What these innovations mean for...

Students, faculty, staff—Cornell’s faculty and the staff who support them will have access to an even greater variety of support and training options as they seek to integrate technology with instruction. Facilities for remote collaboration may be more plentiful. Technology in classrooms will be better and more widespread, benefiting both teachers and students. New technology solutions for educational challenges will be migrated more readily from the experimental to the everyday realm.

Business administrators and unit heads—Business administrators may be able to encourage staff and faculty to supplement or replace travel budgets in selected circumstances by using collaboration and video facilities as an alternative. Academic leaders will be able to point instructors to ever more resources designed to help them learn about using technology in education or sharpen existing skills.

Technical community—Faculty, administrators, and technical support staff will have access to the Classroom Technology Resources database. Faculty will be able to see the technology available in classrooms and prepare to use it before the start of a semester. Technical support providers will have access to more detailed information on the equipment in rooms, which will assist them with operating and maintaining it.
Supporting outreach

Overview
Cornell’s land grant mission means that the university functions as a public resource. For CIT, this translates into helping Cornell Cooperative Extension (CCE) in several ways:
- Addressing its network support, distributed learning, and video needs.
- Extending our IT policy education to staff in Extension offices.
- Working with CCE to provide a broader base of security for both central and remote offices.

Our outreach mission dovetails with our Cornell-wide initiatives that thrust us into national leadership roles, and it includes specific projects such as HeinOnline that benefits the legal community.

Finally, our outreach activities include supporting Cornell’s TV and web presence.

Budget for outreach programs and services
Outreach services account for four percent of CIT’s overall budget.

Our outreach programs and services
- Hosting Services (Hein Corp.)
  - Online delivery of legal journals and abstracts
- Policy
  - IT policies for Cornell
- Selected communications and distributed learning initiatives
  - CyberTower and selected TV and web services

On the drawing board for 2004–2005
- The OIT Policy director will facilitate discussions of IT policies and practices as appropriate with Cornell Cooperative Extension offices. CCE will receive announcements about University Computer Policy and Law events and speakers so staff can watch streamed coverage.
- The IT Security Office will work with CCE to conduct security assessments and provide follow up recommendations. Planning will begin this fiscal year for a security outreach program between our Security Office and each CCE office. This effort is in its early stages.
- Our Educational TV crew will continue to provide video field production, distribution, and post production editing for commencement, convocation, speeches by major visitors, and other major events. Through CIT’s satellite uplink and studio, this group also makes it possible for faculty and other Cornell experts to participate in nationally broadcast television and radio interviews. Our Educational TV group also supports CyberTower Forums.
- For members of the larger Cornell community and the public, CIT, in collaboration with Communications and Media Relations, is presenting a new cornell.edu. It is a rich source of information about Cornell that highlights the university’s strengths and gives Cornell virtual visitors an exciting and positive experience. The site continues in active development.
- CIT recently migrated to a new, more cost effective wide area network that CIT helped to engineer. Now that it is in place, CIT’s Network Operations Center is providing round-the-clock monitoring of the phone lines that comprise the network, and it takes evening and nighttime calls from CCE staff that experience off-hours network problems. The NOC makes appropriate contacts for needed network repairs and generates a monthly report to confirm all NOC interventions with CCE’s wide area network provider. The report helps CEE verify its bill. CCE is using CIT’s dial-up modem pool as another cost-saving measure.
- CIT will continue to make our videoconferencing services available to CCE as there are additional sites that need to implement audio and video streaming and conferencing.
- CIT will continue to support CyberTower for Cornell Adult University; CyberTower rooms are open to everyone, not just the Cornell community.

What these innovations mean for...
Cornell Cooperative Extension—Taken together, the policy, security, network support, and videoconferencing consulting services we offer CCE help create an IT environment that more closely mirrors and is more closely connected to the IT environment on Cornell’s main campus.

The public—Anyone can learn more about the breadth and depth of knowledge and expertise at Cornell through the cornell.edu web site, televised events, and CyberTower.
Supporting Cornell’s focus on research

Overview
Our research-related support and services are designed to make sure the network and collaboration needs of Cornell’s scientific community are anticipated and met. Cornell researchers need nothing less than the best network and the most convenient collaboration tools we can give them. Consequently, we are focusing on connecting Cornell to dedicated, high-capacity networks intended for the scientific community and on creating facilities that support collaboration.

Budget for research-related programs and services
Delivery of research-related programs and services requires six percent of CIT’s overall budget.

Our research-related programs and services
- Deployment of a world-class communications environment Internet2 and National LambdaRail
- Cornell Digital Commons
  - Facilitate flow of digital asset management projects
- Collaboration facilities
  - Tools that facilitate collaboration between groups
- Direct support and assistance to research entities
  - Server hosting and video-web-TV support of events

Our continuing focus on research-related technology needs will ensure progress on these 2004–2007 strategic goals:
- Connect to both Cornell off-campus locations and peer higher education institutions by building additional high-speed connections.
- Actively work to create a world-class communications environment to support research by leading regionally and partnering nationally in data communications initiatives such as Internet 2, National LambdaRail, NYSERNet and other broad IT programs. Assure envisioned technologies benefit Cornell students and faculty.
- Identify, deliver, and promote tools and services that facilitate rich collaboration and communications between groups.
- Provide direct support and assistance to specific research initiatives, such as
  - The Laboratory of Ornithology’s Citizen Science program and its audio and video database projects
  - Videoconferencing and video streaming for the NanobioTechnology Center to facilitate ongoing collaboration with other universities and the annual project review with the National Science Foundation.

On the drawing board for 2004–2005
- Cornell’s connection to the National LambdaRail high-capacity network for scientific research will be put in place this year. For more detail, see Cornell-wide Initiatives, page 5. Dave Vernon, our director of Network and Communications Systems will continue to sit on both the NLR and NYSERNet (New York State Education and Research Network) boards. Polley McClure, vice president of information technologies, will continue her service on the Internet2 board.
- The Access Grid Node for the College of Engineering will be pursued as will faculty collaboration facilities and videoconferencing rooms.
- We will continue our direct support for research entities including the NanobioTechnology Center, which regularly uses CIT’s distributed learning capabilities, and the Laboratory of Ornithology, which houses 22 servers in our server farm.
- We will continue to showcase Cornell research activities via explore.cornell.edu, an award-winning web-based magazine that highlights a selection of fascinating investigations conducted at Cornell. The explore.cornell site is developed in collaboration with Cornell faculty whose work is featured.

What these innovations mean for...
Researchers—When Cornell is connected to the National LambdaRail network, researchers who need to share very large amounts of data that the regular Internet cannot handle will be able to do so with access to virtually unrestricted bandwidth. In cases where funding agencies are interested in Cornell’s collaboration capabilities, our participation in NLR should be viewed as a plus. Likewise, the Access Grid Node, by providing a facility Cornell must have to qualify for some National Science Foundation funding, will help researchers compete for grants. Other collaboration facilities will provide options, beyond physical travel, for maintaining the partnerships and scientific relationships that are important to the research community.
Supporting general campus computing

Overview
CIT supports the campus at large by delivering and supporting an array of services and by maintaining a widespread IT infrastructure. Our extensive offering of core and support services is designed to meet the needs of Cornell technology consumers who need standard Internet and information delivery or collaboration services. Cornell’s IT infrastructure consists of the communication networks that form our data and telephone systems; the servers and storage devices that process and store data; and applications that integrate a variety of systems, devices, and processes.

General campus computing—core services

Overview
CIT’s core services are those that many of us use every day: Oracle Calendar (CorporateTime), EZ-Backup, and e-mail, for example. Core services also include videoconferencing, TV, and satellite services; a sophisticated web development operation; CIT’s servers; the telephone and data connections that service most offices and residence hall rooms; and ancillary services such as voicemail (AUDIX) and the EZ-Remote dial-up service. Most CIT divisions participate in the delivery of our core services to the campus.

Budget for general campus computing—core services
The cost of delivering core services to the campus represents 13 percent of CIT’s overall budget.

Our new and enhanced core services will ensure progress on these 2004–2007 strategic goals:
- Execute the current portfolio of services with a high level of performance and reliability while improving CIT’s efficiency and responsiveness.
- Identify, deliver, and promote tools and services that facilitate rich collaboration and communications between groups.
- Support Cornell’s efforts to enhance its image and reputation by delivering the media (web, video, satellite) central to its message distribution.
- Focus resources on projects that provide economies of scale for Cornell infrastructure, core technologies, and central services.
- Identify opportunities and emerging applications for distributed learning and support both faculty and students in using a core set of distributed learning/teaching tools.
- Lead investigation and selection of new cost-effective technologies and services, such as web hosting and server administration, that are of interest to multiple campus constituencies.
- Build on experience and skills gained through supporting the Global Seminar to offer and deliver videoconferencing and streaming services to additional projects and programs across the university that seek to reach beyond the campus.
- Implement IP delivery of “cable television services” over the existing network.
- Expand Cornell’s wireless network (RedRover) to enable widespread mobile computing.
- Data Services
  - LAN connectivity
  - WAN connectivity
  - Wide Area Network connectivity—off-campus connections
  - Cornell Area Network (CAN)
  - Campus data network infrastructure (including wireless)
  - Wireless
  - RedRover—Cornell’s wireless network
  - Public ports
  - Internet access data ports available to all Cornell community members. Most in computer labs, electronic classrooms, and kiosk locations.
- Network News
  - Also known as Usenet, it is a global system for sharing views and information on a variety of topics
- News & PR
  - CIT program that informs campus about CIT events and service
- Packaging and Delivery of Campus Applications
  - Includes Bear-Access, uPortal, Cornell, operating system support, and software delivery to desktops
- CIT OnsiteSolutions (formerly Rent-a-Tech)
  - Technical support service for units
- Server Farm
  - CIT’s secure environment for housing departmental servers
- Software Acquisition Service (SAS)
  - Procures campus software licenses, makes volume software purchases, provides software acquisition consulting to units
- Storage Area Network (SAN)
  - Data storage for CIT servers in server farm
- Systems Support
  - CIT program responsible for servers, system administration, and systems engineering. Currently supports only CIT servers.
- Voice Services
  - Analog and digital phones
  - AUDIX
    - Cornell’s voicemail service
  - Local and long distance calls
  - Call management
    - Call center administration
  - Leased lines
- Web Production Services and CUinfo
  - Design and content maintenance for web sites
- Hosting
  - Server space, monitoring, and system administration for web sites
On the drawing board for 2004-2005

Desktop/network services: EZ-Backup hardware will be punched up to respond to the growth in demand for the service. Along with improved performance, customers can expect a rate decrease, and when they need customer support they will work with the HelpDesk, a move that frees up CIT’s engineering staff to focus on system improvements.

CIT has introduced a new version of Oracle Calendar with search features. We will pursue an array of e-mail improvements including a scalable solution for WebMail, alternate e-mail addresses (vanity addresses), a time-away notification system, a new mailing list system, and a number of “back office” improvements that focus on reliability, smooth delivery of e-mail that is sent and received inside Cornell, and spam protection.

A new service slated for FY05 is the planning and initial deployment of a personal storage system (tentatively called CUDisk) that will permit people to store files centrally so they are accessible from any networked computer. For example, a student working in a CIT Public Lab could store her file on CUDisk and then get to it easily from her personal computer in her residence hall room. A professor could access his centrally stored files while attending a conference or traveling for collaboration purposes. This year will be largely devoted to planning the details of the service, with implementation coming toward the end of the year.

Bear Access as a method for delivering many of these services is evolving, and this year we expect to see and encourage the continued migration from Bear Access Runway to Bear Access on uPortal. Cornell. CIT will also take some time to evaluate the future of Bear Access in our services lineup. uPortal/Cornell is picking up steam with more than 25,000 users, and it will become an even more attractive resource to the campus as CIT continues working on content and offers training to channel developers. Meanwhile, a new front is developing in our delivery of services and information, so to what extent do we need to deliver it on PDAs, cell phones, and hybrids? This year, CIT will investigate delivery of some of our services on these devices.

In response to a request from Cornell’s Student Assembly, the Napster online music service has been licensed to Cornell for a one-academic-year trial of legal music streaming and downloading for all registered students. The music originates from Napster’s Internet library of more than 750,000 songs, but most music requested by students will be served to them through CIT’s server farm. Because the Napster service is only available for Windows 2000 and XP platforms, the Student Assembly will investigate music-delivery services for other computing platforms, and the Dean of Students and OIT/CIT will assist. During this academic year, all stakeholders will evaluate Napster and other services to select one or more providers for a continuing service.

CIT OnsiteServices (formerly Rent-a-Tech) will be an option for units that need technical support but do not employ a local technical expert or that have needs that from time to time exceed the capacity of the local technical support. It can be tailored to a unit’s support needs.

Information delivery: Cornell’s traditional television operation, oriented toward support of university public relations as well as instruction, will be reviewed in this fiscal year. The university’s use of television as an internal and external communications medium, and the anticipated introduction of IPTV, will inform a business plan for this service. In concert with business planning we will work on finding a permanent location for the TV studio (currently off campus), obtaining funding for and experience with high definition equipment, and analyzing how to match transmission options (satellite, fiber, IP) with different needs.

IPTV will bring widespread cable TV to Cornell for the first time, enabling students and faculty to view entertainment television on networked PCs and specially-equipped TVs. The IP TV infrastructure also provides a platform for distributed learning. CIT will maintain its commitment to supporting the increasing demand for contemporary network-based video services—videoconferencing, video streaming, and web conferencing.

In fall 2004, CIT helped bring a new web face to Cornell thanks to the efforts of the Web Production Group (WP.G) which is redesigning www.cornell.edu. WP.G will support other paying customers in FY05 who need its sophisticated web design capabilities. This year, WP.G will expand its new for-fee web hosting services and continue planning a new content management service offering aimed at customers who will benefit from the ability to control their web site’s look and feel while distributing content development.

A change to CIT’s web face could come along this year too. CUniverse will evolve along with the new Cornell web presence. Computing at Cornell, www.cit.cornell.edu, is on the drawing board, and CU People may reap space benefits when the centralized personal storage service is introduced (see above.)

Behind the scenes: Systems Support is working on a menu of services for CIT service owners and Cornell units that need server support. In addition to server farm and system administrators already available, CIT will continue in FY05 to build the functionality and capacity of its storage area network (storage farm) with an eye toward offering data storage services to our server farm customers in fiscal year 2006. CIT is investigating new technologies that offer the potential of limiting the amount of spam that reaches our e-mail system (spam composes 25-40 percent of our daily mail traffic), thus increasing the performance of the whole e-mail system. We are also taking more steps to protect our e-mail systems from various security-related events.

In the Software Acquisition Program is poised to broaden the number of products it supports. We plan to work with the community on FileMaker and Bro purchases this year. CIT will provide gigabit service to the desktop in buildings with contemporary wiring. As EzraNet is deployed (see page 25), this higher bandwidth service will become the standard.

Our wireless network service (RedRover) will be upgraded with higher speed equipment that has increased security and more network management features. We expect to see the size of the wireless network increase to four times its current size.

The existing Call Management System platform (CMS) will be upgraded in order to provide enhanced functionality for call center environments and customer service centers. The content of the Public Apple Share Servier will be moved to the CU File Server this year and the Public Apple Share Server will be removed from service.

What these innovations mean for...

Students, faculty, staff—People who use CIT’s desktop and network services will get a search feature on Oracle Calendar, experience better performance because of “back office” improvements to e-mail, have the opportunity to use growing services like uPortal, Cornell, and try out new services like CUDisk. In addition to file accessibility, CUDisk could provide an alternative to email attachments for sharing large files, and it might be used to increase storage space available to CU People users. Students will be able to enjoy entertainment TV in their rooms. Those using Cornell’s e-mail system should enjoy reduced spam, customized e-mail addressing, and the ability to notify their correspondents when they are away from e-mail for extended periods. Information about Cornell will be easier to find online. Members of the campus community who use wireless networking will benefit from greater accessibility as the size of RedRover is greatly expanded.

Business administrators and unit heads—Departments and units will be able to come to CIT for its new web hosting and content management services and improve collaboration and communication through CIT’s proven and growing videoconferencing, video broadcasting and streaming, and webcasting capabilities. New web conferencing will provide an excellent way for administrators to converse and collaborate on documents.

Technical community—CIT’s web hosting service will take pressure off units that do not want to run and secure their own servers. EZ-Backup performance enhancements and rate decreases may encourage technical support providers whose units are not yet served by EZ-Backup to consider it and thus free up technical support resources for other local purposes. “Back office” e-mail improvements will include operating system upgrades to servers, establishing a full-scale test environment, an upgrade to the bulk e-mail system, improved monitoring, a server farm mail hub, and improved internal mail routing. Systems Support improvements will revolve around building system administration tools, developing server/storage system configuration and support standards, and understanding customer needs through an integrated planning process.
General campus computing—support services

Overview
CIT’s customer support is concentrated in three parts of CIT:
- The Customer Service and Marketing division (CSM), which houses the HelpDesk (Contact Center), Marketing and Account Management; Training and Documentation Services, and Software Acquisition Services
- Systems and Operations, which houses the Network Operations Center and CIT’s internal technical support
- Network and Communications Systems, which houses Field Operations and Operations Support.

The Network Operations Center is associated with our network services infrastructure, page 24, and Field Services and Operations Support are part of our core services, page 19. Please see those sections for definitions of these services.

CSM supports CIT’s wide variety of products and services by fielding calls for assistance from the Cornell community—identifying the cause of technical problems experienced by customers and resolving them is its business. CSM is also in the “how to” business—it publishes documentation and general communications to help people use CIT services. CSM offers some technical training and is gearing up to offer more. Product marketing, including CIT’s mechanisms for gaining customer feedback and understanding customer needs, is based in CSM.

Budget for support services
The cost of delivering support services to the general campus represents five percent of CIT’s overall budget.

Our new support services and enhancements to existing ones will ensure progress on these 2004–2007 strategic goals:
- Continue the development and implementation of a trouble management process.
- Improve our internal business processes.
- Lead the development of a model for a broad and effective end-user support system that addresses customer needs for assistance with applications, operating systems, and browsers.
- Make it easier for the campus community to engage CIT for its IT needs.

Our support programs and services
Programs in blue text primarily support other programs within CIT:
- Customer Service
  - Help with technical problems (HelpDesk), special computer accounts and NetIDs, sign up for selected services
    - Trouble Management
      - Process for resolving all reported technical issues
  - Marketing and Account Management
    - Product/service awareness and positioning, business and product planning for selected services, account management for selected clients
    - CIT Commons
      - Evaluation of and response to large, complex customer requests
      - Product Service List
        - Comprehensive list of CIT products and services
  - Training and Documentation
    - Technical training and end-user documentation
    - Technical training for IT professionals
  - Technical Support Services
    - Hardware, software, and networking support for workstations, servers, and LANs across CIT

On the drawing board for 2004-2005
- During fiscal year 2004, CIT completed the first comprehensive inventory of the products and services we offer the Cornell community. CIT offers the campus 226 unique technical products and services on an ongoing basis. Our goal for fiscal year 2005 is to make this inventory easily accessible to our customers and supplement the inventory with more information such as points of contact, types of support available for each product or service, and key features of each service.
- CIT needs a process for analyzing complex, cross-divisional projects that do not have apparent owners within the organization. Planning and evaluation of a possible central service is expected to occur in FY05. CIT Commons is envisioned as a way to:
  - Provide CIT management teams with a strategy for fielding complex, cross-divisional requests from customers
  - Provide customers with faster, clearer turnaround on their CIT requests without the risk of those requests falling through the cracks.
- In the training arena, CIT expects to develop a training offering for Cornell’s IT professionals, both those in CIT and those in units across the university. A technical training offering for the novice and intermediate level will also be evaluated, particularly for those services where other training options are not readily available. Because our training group also develops documentation for CIT services, we have opportunities to make training materials and documentation consistent. Cornellians who are familiar with CIT’s documentation library will see it evolve toward more interactivity, and they will see service changes more readily reflected in all related documentation as we apply database and specialized web technologies to our documentation efforts.
- I thorough use of current tools or acquisition of new ones, CIT will increase the quality of its Trouble Management operation by resolving issues faster, closing all reported issues, tracing complex issues to their root causes, and providing management reporting.
- Our Customer Service Strategic Review (page 4) will reveal specific areas for improvement.
- In FY05 Technical Support Services will focus on replacing loaner pool equipment and printers, completing a staff software inventory for purposes of license reconciliation, and start submitting hardware reports to management for budgeting and replacement/upgrade planning.

What these innovations mean for...
Students, faculty, staff—At their core, the Product Service List initiative, Trouble Management, and CIT Commons all have the same objective in mind: to make it easier for our customers to do business with CIT. Each effort tackles a different aspect of how our customers interact with us.

The Product Service List will make it easier for customers to answer these questions. What does CIT do? How do I get a particular service? What does this service really do and what are its limitations?

Trouble Management will make it easier for customers to get help when they have issues with our services. CIT has multiple issue-management processes and systems for addressing customer concerns. Although there may be some services that require specialized handling, we think we can simplify and streamline our issue-management processes so that customers do not have to keep track of so many.

Business and unit heads—CIT Commons is intended to help CIT more quickly marshal resources from across the organization to respond to large, complex customer requests. If implemented, it will provide a way for customers to submit projects to CIT that don’t already have logical owners or for which the logical owner isn’t known.

Technical community—Cornell IT professionals will have access to technical training via a CIT-sponsored initiative.
General campus computing—campus IT infrastructure

Overview
Cornell’s IT infrastructure comprises the campus voice and data systems that allow all of us to communicate and the monitoring systems and processes that track their status. Infrastructure technology also binds our layers of technology into a smoothly functioning whole and protects Cornell’s data via authentication and authorization strategies. These crucial infrastructure services require ongoing evaluation, development, and maintenance.

Budget for campus IT infrastructure
The cost of delivering the campus IT infrastructure represents 34 percent of CIT’s overall budget.

Our infrastructure programs and services
- Developer Tools and Environment, Middleware
- Middleware allows communication between user interfaces, servers and databases
- Data Delivery Infrastructure
  - Database administration
  - Support of administrative computing databases such as Informix and Oracle
  - Data administration
  - Tools and practices that support database administration
- Identity Management
  - Directory
  - Electronic repository of data about community members
- Network Services Infrastructure
  - Common infrastructure, data infrastructure, voice infrastructure
  - The wiring in the ground, air, and walls of buildings. Includes pathways, racks, conduits, and cable trays and spaces such as manholes, wiring closets, and building distribution frames
  - Network project management
  - Management of large, complex wiring or rewiring projects in Cornell buildings
  - Network Operations Center
  - CIT organization that monitors the network and computers in the server farm and notifies community of service troubles
- EzraNet
  - Long-term rewiring of campus to create a modern data network

Our infrastructure projects will ensure progress on these 2004–2007 strategic goals:
- Expand Cornell’s wireless network (RedRover) to enable widespread mobile computing.
- Implement IP delivery of “cable television services” over the existing network.
- Provide an enhanced application infrastructure to manage interapplication communications in a more reliable and secure manner.
- Upgrade network capabilities for selected buildings each year through the multiyear campus-wide rewiring initiative known as EzraNet.

On the drawing board for 2004-2005
Middleware: CIT has scheduled an array of middleware updates in support of administrative and general computing, including upgrades that support the web services initiative in administrative computing, see page 9. Although changes are not expected this fiscal year, we will evaluate Salsa (also called Agent Harry), our Cornell-developed version control software that many Bear Access users are familiar with, to see if we should put resources into it for developing needed upgrades or if we can replace it with a vendor-supplied solution.

Data delivery infrastructure: Activities we are planning in this area include:
- Developing an Oracle hosting service. Accounts and space in Oracle databases will be available to customers to develop and run applications.
- Evaluating and researching the new version of Oracle to assess its features and functionality and make recommendations about upgrading current campus Oracle installations.
- Completing deployment of Oracle Enterprise Manager (OEM) and using it as a primary tool to monitor databases.

Identity Management Infrastructure services: We will deploy improved directory search functions, providing more search options for both simple and advanced searches. For example, the new directory search capability will provide a friendlier interface for the departmental search, making it more accessible to the average person.

Network services infrastructure: We will complete 40-50 special network services projects, most of which involve wiring for new construction projects or renovations. CIT will review and make recommendations with regard to centrally coordinating contracted cellular services. As part of our Voice-over-IP evaluation, CIT will identify and work with selected departments whose experience with the technology will yield informative results. CIT expects to evaluate a technology that will enhance existing voicemail services. The same technology could ultimately be used as part of a unified messaging strategy, which would allow people to access voicemail, email, faxes, etc. through a single account.

What these innovations mean for...
- Students, faculty, staff—People in newly wired and rewired buildings will experience faster networking. Cell phone initiative includes an effort to bridge desk and cell phones so that calls to desk phones can ring on cell phones and vice versa.
- Business and unit heads—Business unit heads will appreciate the possibility of cheaper cell phone service that may grow out of centrally coordinating cellular services in partnership with Purchasing. The ability to pull certain chunks of information from the electronic directory, such as department listings, will be useful to unit administrative staff.
- Technical community—Application developers will have access to the new Oracle hosting service.
Supporting development of Cornell Information Technologies and the Cornell IT community

Overview
With a staff of almost 350 regular employees who are spread among four buildings, a large array of functions, and a variety of programs, CIT must maintain organizational support functions focused on finance, facilities, and human resources. We have achieved efficiencies in aggregating these functions for all of CIT. Beyond establishing organizational efficiencies, we are looking to improve ourselves as leaders and to ensure each project mentioned in this plan produces the intended results. To this end we are investing in leadership training for all staff and developing a project management methodology to be used throughout the organization.

Our administration and finance staff maintain a dual focus, partnering with CIT’s other divisions to plan and track financials for each program but also ensuring CIT meets its “big picture” financial obligations as imposed by the university budget process, market conditions, and the outcome of special studies, such as the Workforce Planning Analysis.

Budget for development of CIT and Cornell IT community
Our CIT central support programs require four percent of our overall budget.

Our CIT central support programs and services
Programs in blue text primarily support other programs within CIT.

- Administration and Finance
  Provide financial management and guidance, business support, and facilities and asset management for CIT.

- Human Resources
  Oversee hiring, compensation, and staff development programs for CIT.

- Project Management Consulting Practice
  Develop project management methodology for CIT. This program is piloting project management for Cornell.

- Special functions
  Include special studies, such as the Workforce Planning Analysis.

CIT’s development projects will ensure progress on these 2004–2007 strategic goals:

- Develop CIT staff by providing learning experiences in project management, customer service, supervisory skills, leadership, PeopleSoft, and other technical disciplines.
- Strengthen CIT’s planning processes by engaging staff at all appropriate levels in strategic goal setting, annual business planning, and ongoing operational planning.
- Continuously enhance financial planning, decision support, management reporting, and business services to optimize CIT’s resources.
- Continuously evaluate our work environment, including physical space, benchmark best workplace practices, and implement workplace programs, as appropriate, to ensure a positive work environment.
- Improve our internal business processes.

On the drawing board for 2004–2005
Administration and Finance: This group will support the organization’s new businesses, existing programs that are increasing in scope, and our ongoing programs by providing:

- Financial planning, economic decision support, and rate development
- Monthly financial reporting and annual asset inventory reconciliation
- Business support for procurement and accounts payable and receivables
- Workplace and facilities support.

New and developing services will receive additional attention. Administration and Finance will be:

- Working with Distributed Learning Services to develop funding strategies for the Web Production Group and Educational TV group that joined CIT from Media and Technology Services more than a year ago.
- Developing and implementing our fee-for-service model with new offerings such as CIT OnsiteSolutions (formerly Rent-a-Tech).
- Developing financial plans for Voice–over–IP, IP-TV, and NLR (see “General Campus Computing” and “Cornell-wide services”) and server-based computing initiatives.
- Reconfiguring physical spaces to enhance our staff’s work places and to accommodate a security lab.

While tackling these particular FY05 projects, Administration and Finance will continue its overall focus on budget and metrics and will look to improve internal systems in support of its basic mission.

Human Resources: CIT specialists will be focused this year on delivering the Employee Leadership Program to CIT staff. The program emphasizes organizational values, cultural change, and personal responsibility and is designed to increase work effectiveness.

Project Management Consulting Practice: CIT is devoting substantial effort to the establishment of its project management program. Pilot projects using the new methodology have been underway since summer 2004 and many CIT staff are participating in training. The goal of the practice is to significantly increase CIT’s project management capabilities by developing and implementing a methodology and tools; providing expertise, mentoring, and other learning experiences for CIT’s directors, supervisors and staff members who manage projects; fostering the development of a shared project management culture within CIT; and ensuring the methodology/tools CIT adopts will be acceptable to CIT’s various project partners across campus. CIT’s administrative computing area has allocated staff to help with training.

What these innovations mean for...
CIT program and service owners—They will have access to increasingly sophisticated financial planning and support, exposure to leadership concepts tailored for CIT’s environment, and use of tools and processes that will enable them to use CIT’s developing project management methodology.

The Cornell community—It will benefit from CIT’s experience with a project management methodology as Cornell applies lessons learned at CIT to project management initiatives in other campus organizations.
## Total cost of CIT programs and services

<table>
<thead>
<tr>
<th>Program</th>
<th>FY05 Costs ($1000)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Administrative Computing</strong></td>
<td></td>
</tr>
<tr>
<td>Central Applications: HR Payroll, Student Services and Contributor Relations</td>
<td>$3,966</td>
</tr>
<tr>
<td>Data Administration, Data Delivery Applications, and Data Operations</td>
<td>3,270</td>
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<tr>
<td>Self Service Applications (for example, COLTS, PEDL)</td>
<td>1,168</td>
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<tr>
<td>Mainframe, Production Control, and System Support</td>
<td>3,059</td>
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<tr>
<td>Middleware and Tools</td>
<td>1,461</td>
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<tr>
<td>Systems Project Management and Administration</td>
<td>744</td>
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<tr>
<td><strong>Subtotal</strong></td>
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<tr>
<td><strong>General Campus Computing</strong></td>
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<tr>
<td>Calendaring</td>
<td>226</td>
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<tr>
<td>CUinfo</td>
<td>343</td>
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<tr>
<td>Customer Services (eg. HelpDesk, Publications)</td>
<td>1,160</td>
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<tr>
<td>E-mail</td>
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<tr>
<td>EZ-Backup</td>
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<tr>
<td>EZ-Remote</td>
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<td>Identity Management</td>
<td>1,559</td>
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<tr>
<td>IP-TV</td>
<td>271</td>
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<tr>
<td>Lastproc, News and Public Relations, and Other Services</td>
<td>492</td>
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<tr>
<td>Middleware and Tools for General Campus Services</td>
<td>992</td>
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<tr>
<td>Net-Print</td>
<td>308</td>
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<td>Packaging and Delivery (for example, Bear Access, uPortal.Cornell)</td>
<td>785</td>
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<td>CIT OnsiteSolutions (formerly Rent-a-Tech) and Technical Support Services</td>
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<td>Server Farm</td>
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<td>Software Acquisition</td>
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<td>Storage Farm</td>
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<td><strong>Subtotal</strong></td>
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</tr>
</tbody>
</table>

### (continued)

| **Teaching and Learning** | |
| Academic Technology and Training Center | 821 |
| Classroom Design and Technology Support | 371 |
| Faculty Innovation Grants | 1,891 |
| Hein Hosting Service | 156 |
| Instructional Design and Production Services | 592 |
| Public Labs | 1,129 |
| **Subtotal** | 4,960 |

| **Leadership and Outreach** | |
| Educational TV and Satellite Services | 889 |
| National Programs, IT Architecture, and Policies | 1,796 |
| Security | 808 |
| Web Production Services | 993 |
| **Subtotal** | 4,486 |

| **Campus IT Infrastructure** | |
| Voice and Data Services | |
| Voice Services | |
| Analog | 3,862 |
| Digital | 1,522 |
| Usage | 1,107 |
| Data Services | |
| Data Ports | 2,475 |
| Internet | 1,391 |
| Infrastructure and Other Services | |
| Campus Intranet | 4,742 |
| EzraNet | 5,000 |
| Moves, Adds, and Changes | 1,444 |
| National LambdaRail | 3,588 |
| Other Network Services | 393 |
| **Subtotal** | 25,348 |

**Total** $59,750

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### Questions and feedback

Questions and feedback about our business plan can be directed to the CIT/OIT leadership team.

**Vice President for Information Technologies**, Polley Ann McClure  
**Assistant Vice President and Director of Strategic Projects**, Jim Lombardi  
**Director, Administration and Finance**, Rohit Ahuja  
**Director, Advanced Technology and Architecture**, Mark Mara  
**Director, Customer Service and Marketing**, Wes Kable  
**Director, Distributed Learning Services**, Eric Fredericksen  
**Director, Distributed Support**, Sunny Donenfeld  
**Director, Human Resources and Organizational Development**, Linda Croll  
**Director, Information Systems (formerly Business Information Systems)**, Dave Koehler  
**Director, IT Policy and University Computer Policy and Law**, Tracy Mirrano  
**Director, IT Security**, Steve Schuster  
**Director, Network and Communications Systems and Strategic Vendor Relations**, Special Assistant—Office of the Vice President, Dave Vernon  
**Director, Systems and Operations**, Rick MacDonald

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* CIT’s Integration and Delivery division was disbanded in early FY05, and its personnel reassigned to Information Systems, IT Security, and the newly formed Advanced Technology and Architecture group.

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