ACCOMPLISHMENTS AND PLANS
FISCAL YEARS 2008–09

Cornell University
Cornell Information Technologies
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Five-year Strategic Goals

**IT Infrastructure Goals**
1. Lead the creation of Cornell's cyberinfrastructure.
2. Implement collaboration tools and facilities. Link all Cornell units together and to scholars around the world.
3. Provide a cost-effective and robust information technology infrastructure to include data center services, data storage, computational resources, and seamless networks.
4. Deliver a dynamic comprehensive security program that protects Cornell data, reputation, and IT assets, and limits liability.

**Academic Technology Goals**
5. Identify successful, innovative uses of technology for instruction from various parts of the university, and harvest them for broader use in a variety of learning environments.

**Administrative Systems Goal**
6. Streamline administrative operations and provide access to a rich data repository by executing the five-year capital plan for administrative systems.

**Enabling Goals**
7. Fulfill goals in the CIT Diversity plan and continue to improve quality of work life.
8. To support university and the above CIT goals, we must provide appropriate financial, facilities, and human resources, specifically:
   - Consolidate CIT into a single building to facilitate a collaborative working environment for CIT staff and to create university computing facilities.
   - Ensure competitive compensation to attract and retain high-performing talent.
   - Implement a sustainable funding model that creates the right incentives, accommodates growth, captures efficiencies, and promotes the best use of campus resources.
   - Provide high-quality products and services in response to community need, supported by an effective communication program and a service-oriented culture and efficient priority setting.
Supporting Our Strategic Goals in FY08 and FY09

This chart and the detailed chapters to follow provide insight on what we are doing to make progress on each of our five-year goals.

<table>
<thead>
<tr>
<th>OIT/CIT Five-Year Strategic Goals</th>
<th>FY08 Goals</th>
<th>FY09 Goals</th>
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<tr>
<td><strong>IT INFRASTRUCTURE GOALS</strong></td>
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<tr>
<td>1. Lead the creation of Cornell’s cyberinfrastructure.</td>
<td>Lead the creation of Cornell’s strategic plan for information technology (to include plans for “cyberinfrastructure”).</td>
<td>Complete Cornell IT strategic plan, including a well-developed cyberinfrastructure element.</td>
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<td>Page 10</td>
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<tr>
<td>2. Implement collaboration tools and facilities. Link all Cornell units together and to scholars around the world.</td>
<td>Ensure that Weill Cornell Medical College/Ithaca videoconferencing services meet objectives.</td>
<td>Partner with all Cornell units to effectively implement collaboration tools, including SourceForge, WordPress, and Confluence as production services and upgrade/create reliable facilities for video- and web conferencing, and meet or exceed service objectives for related video- and web conferencing services.</td>
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<td>Pages 11 - 15</td>
<td>Pages 15 - 16</td>
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| 3. Provide a cost-effective and robust information technology infrastructure to include data center services, data storage, computational resources, and seamless networks. | • Harden Ithaca and commodity network.  
• Improve storage alternatives.  
• Ensure that short- and long-term Exchange/Blackberry services meet executive expectations. | Implement initiatives to provide a more robust information technology infrastructure, including improved server farm network hardening with security tiers, Linux support in VMware, an offsite data backup service located at Weill, and a detailed project plan for Cornell’s next generation of messaging – the Ensemble project. |
|                                   | Pages 17 - 21 | Provision wireless in 18 residence halls. |
| 4. Deliver a dynamic, comprehensive security program that protects Cornell data, reputation, and IT assets, and limits liability. | Increase security awareness and implement standards and best practices for data security. | Deliver an IT security handbook, policy-driven compliance practices (including PCI), and security incident metrics to better protect Cornell data, reputation, and IT assets, and to limit liability. |
|                                   | Pages 26 - 28 | Page 28 |
| **ACADEMIC TECHNOLOGY GOALS**     |           |           |
| 5. Identify successful, innovative uses of technology for instruction from various parts of the university and harvest them for broader use in a variety of learning environments. | Identify successful, innovative uses of technology for instruction from various parts of the university and harvest them for broader use in a variety of learning environments. | Implement at least one innovative instructional technology service piloted in FY08 (i.e., blog, wiki) as a supported central campus service and pilot at least one new innovative application of technology for instruction identified during FY08. |
|                                   | Pages 29 - 30 | Page 31 |
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### OIT/CIT Five-Year Strategic Goals

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<th>Administrative Systems Goals</th>
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<td>6. Streamline administrative operations and provide access to a rich data repository by executing the five-year capital plan for administrative systems.</td>
<td>Develop a 10-year project plan for administrative systems and secure funding for the plan, while executing the FY08 components of the plan. Pages 32 - 33</td>
<td>Continue to execute the five-year capital plan for administrative systems by securing necessary resources/funding, incorporating new initiatives with approved projects into the FY09 project plan, successfully completing project deliverables and sixteen ASPC small projects, enhancing existing applications, and revising the ten-year capital project plan Pages 34 - 36</td>
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<table>
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<tr>
<th>Enabling Goals</th>
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<td>7. Fulfill goals in CIT diversity plan and continue to improve quality of work life.</td>
<td>Translate the university diversity plan and quality of work life results into specific, measurable steps. Pages 37 - 38</td>
</tr>
</tbody>
</table>
| 8. To support the university and the above CIT goals, we must provide appropriate financial, facilities, and human resources. | • Secure approval to move forward with CIT building design.  
• Secure funding for top CIT priorities as presented in the CIT operating budget request and straighten out other funding and “colors of money” issues with CIT’s budget. Pages 40 - 41 | • Participate effectively in building design to support construction starting in spring 2009 and building completion by spring 2011.  
• Effectively manage CIT’s resources through securing funding for top priorities (especially staff compensation), improving upon business processes, and designing an effective financial architecture and financial systems. Page 42 |
This year we are combining our annual report on progress toward our strategic goals in FY08 with a preview of plans toward those same goals in FY09. We hope that it will communicate a clearer picture of our efforts to move the university’s IT facilities, support, and services forward.

As you review this I hope you see how much is being accomplished. Yet at the same time, you’ll also appreciate how much remains to be done. Those who claim, “IT is just boring these days,” clearly live somewhere other than Cornell University!

Major Accomplishments

1. DESIGN OF THE NEW EAST HILL DATA CENTER. The university engaged Weiss/Manfredi Architects to design the building to consolidate CIT staff, the TV studio, and servers into one building. In addition, the building will be the home for research computing clusters operated by the Center for Advanced Computing and other research programs. East Hill was selected as the site, and initial attention focused on engineering the server rooms and associated utilities. Because the process uncovered unanticipated utilities and data center costs, as well as difficulties with municipal approval, and because the university halted all new capital projects not already in construction due to global financial issues, the project is currently on hold, and we are evaluating alternatives.

2. ADMINISTRATIVE COMPUTING. The STARS project is almost complete! Bringing this whole suite of student administration applications online successfully in just a little over a year, on time, and within budget is an amazing achievement for Cornell, and, while there are data delivery and some faculty advisor issues we are still working on, by and large it is a major step forward for student administration at Cornell.

3. COLLABORATION TOOLS. Several years ago the use of videoconferencing to link classes held in Ithaca and Weill Cornell Medical College in New York or Qatar was hampered by incompatible systems and support structures not attuned to each other. Over the last year, we have addressed these issues and now see steadily increasing use of the systems. Other online tools for collaboration support have sprouted in great numbers, and experiments with them have helped inform future plans.

4. INFRASTRUCTURE. This year has seen major efforts to harden and mature our computing and communications infrastructure. The old description of our location as “centrally isolated” no longer applies with the redundant commodity and research Internet connections we’ve enabled, including the 10-gigabit connection to the Geneva experiment station, giving researchers there needed high-capacity connectivity. This year has seen amazing increases in wireless communication on both the voice and data sides, and the converging of those two previously separate worlds. Change management through the CIT Change Advisory Board has taken off as a new technical business process, connecting workgroups and becoming an operational norm. Another very important milestone was implementing Microsoft Exchange-based calendar and email services for executives with support for mobile devices.

5. COMPUTERWORLD’S 100 BEST. It makes me very happy to have Cornell listed among progressive IT employers for the second year in a row. We focus on organizational improvement because we believe that satisfied and productive employees lead to satisfied and productive users, which is what it is all about!

Priorities for Next Year

1. EAST HILL DATA CENTER. This project is on hold, but we must get it “unstuck.” We have less than three years before we exceed the capacity of the Rhodes Hall server room, and so finding a way to move ahead in an affordable way is critical.

2. IT STRATEGIC PLAN. We began developing Cornell’s overall strategic IT plan this past year, working with each college and major administrative unit to plan for how IT could support their missions. As soon as the new provost is at work in January 2009, we will begin to integrate the individual plans into a comprehensive view of priorities for the university.
3. **ADMINISTRATIVE COMPUTING.** With the major work on STARS behind us, we are turning our attention to the Kuali Financial and Research Administration implementations. These community-source projects have been in development for several years with major investment from Cornell and other institutions, and it is very exciting to see them come to completion and to be readying campus for deployment.

4. **COLLABORATION SUPPORT.** Last year we saw the campus experimenting with several wiki, blog, and document management tools to support individual work, administrative collaboration, instructional innovation, and research. This year, we will bring several of these tools into our supported portfolio and make them widely available. We should see videoconferencing mature as individual users begin to use the services to support smaller scale collaboration.

5. **INFRASTRUCTURE.** A major emphasis this year is the Ensemble project, which will almost completely overhaul our calendar, email, and personal productivity toolset. By this time next fall, the entering class will receive their cornell.edu email from Google or Microsoft, and faculty and staff will be moving to the set of tools supported by the Microsoft Exchange architecture. Along with these, CIT will bring up a new campus-wide Active Directory and possibly SharePoint services. The server farm will have been redesigned with security tiers, and the residence hall networks will have been converted to wireless throughout, with all but emergency telephones removed. These are just a few of the major milestones ahead of us next year.

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**About OIT and CIT**

About OIT and CIT

confluence.cornell.edu/display/OIT
confluence.cornell.edu/display/CIT

The Office of Information Technologies (OIT) provides strategic leadership and advocates for the informed use of these technologies at Cornell. OIT:

- Develops, communicates, and implements the integrated strategic plan for information technology use.
- Develops models that effectively manage information technology resources on the Ithaca campus.
- Creates, communicates, and implements rational funding models for information technology initiatives and services.
- Promotes communication and collaboration on information technology issues across campus and throughout higher education.
- Provides leadership in policy development; the legal and ethical uses of information technology; new technology architectures; and coordination of and education about campus-wide information technology security.
- Coordinates information technology-related activity across the campus through its service delivery organization, Cornell Information Technologies (CIT).

**Cornell Information Technologies (CIT)** is Cornell's central information technology organization, responsible for supporting the business infrastructure, informational software, and instructional and operational needs for video, data, and telecommunications services at Cornell. CIT’s six operating divisions are:

- Academic Technology Services and User Support
- Advanced Technology and Architecture
- Information Systems
- IT Security
- Network and Communication Services
- Systems and Operations

**Our Mission Statement**

Cornell Information Technologies (CIT) is committed to partnering with the Cornell community to provide excellent information technology products and services. Our IT leadership and support enable the university to uphold its high standards in teaching, research, and outreach.

**Our Values**

We will accomplish our mission through each and every one of us living our values. These include:

- **Innovation**: Think differently, deliver better.
- **Community**: Working together we all will succeed.
- **Results**: We are responsible for what we do and say.
- **Respect**: We care about each other, and we show it.
- **Integrity**: We say what we mean and do what we say.

**Our Annual Business Communication**

confluence.cornell.edu/display/OIT/Reports-and-Presentations

We provide a complete picture of our long-term goals and near-term plans and accomplishments through our annual CIT Accomplishments and Plans report.

Organized by our strategic goals, this report covers the previous fiscal year, detailing the progress made on both our strategic goals and our specific plans, and the current fiscal year, laying out our plans, priorities, and timelines for enhancing OIT’s and CIT’s services and products.

**Dedication**

The IT professionals at Cornell deserve a great deal of credit for the effective ways they have come to work together to facilitate “our” work rather than “mine” vs. “yours.” This sharing of goals and decisions among the divisions of CIT and between that organization and the IT operations distributed within the university does not exist at every campus. It makes a huge difference in our ability to efficiently implement coherent solutions for the campus. We could not have accomplished all that is identified in this report and certainly not all that is planned for FY09 without that broad, shared, collaborative approach. I want to thank each and every one of you for making this the reality.
CIT is responsible for partnering with Cornell colleges and units to develop a strategic plan for IT at the university. A major component of this plan is “cyberinfrastructure,” a term that can and should be defined uniquely by a given institution based on its own requirements. The EDUCAUSE Quarterly, citing a 2003 National Science Foundation report by Daniel Atkins, broadly defines the concept for higher education as follows:

“Cyberinfrastructure includes computing cycles and broadband networking, massive storage and managed information, observation and measurement tools, and leadership on shared standards, middleware, and common applications for scientific computation. It also focuses on sharing, efficiency, and making greater capabilities available across the science and engineering research communities. It facilitates new applications, collaboration, and interoperability across institutions and disciplines. It can be summed up as follows: Cyberinfrastructure is the IT infrastructure that enables scientific inquiry.”

FY08 Objective: Develop the Cornell IT strategic plan.
We developed a process that will lead to the creation of a university-wide strategic plan for information technology. Our first step was to ask all university deans and department heads to submit their plans for the strategic uses of IT needed to accomplish each of their missions. We received their plans at the end of May 2008 and later met with each of them, along with their IT leaders, to discuss their requirements.
Anticipated uses of technology range from providing remote viewing of lectures from Ithaca for distance learning programs to large-capacity networks capable of linking Cornell researchers to national data repositories. Our next step is to understand these diverse requirements so that we can form a cohesive university plan in FY09.

FY09 Objective: Complete the Cornell IT strategic plan.
In early FY09 we examined each of the strategic IT plans submitted from across Cornell units and colleges, and then categorized the requirements. Next, we will form study groups with CIT senior leaders and nominees from all over campus to delve deeper into each category. These teams will meet in FY09 to flesh out the issues and recommend what Cornell should be doing in each area to help propel the university forward in academic and research areas, and to stay competitive among its peers. Together, these recommendations will crystallize the concept of cyberinfrastructure for Cornell and inform the university’s strategic IT plan, including the attendant financial requirements and the experts proposed to lead each technology initiative.

Our original aim was to deliver the IT strategic plan to President Skorton by January 2009. Our new target is late FY09. The next university provost, who will be a critical representative of the academic community during this effort, needs to be in place before the study groups are convened.
Supporting Remote Collaboration for Ithaca and Weill Teams

FY08 Objective: Train new support staff and mature processes for collaborating with Weill campus via traditional videoconference systems and Adobe Acrobat Connect web conferencing.

With two dedicated staff members supporting video- and web conferencing services at each campus, new and upgraded audio-visual systems installed in Ithaca, and design completed for additional Weill Cornell Medical College distance learning classrooms, the Ithaca-Weill collaboration link is gaining momentum and becoming a vital tool for cross-campus research teams and other groups.

From our meetings with research team leaders, we see a pattern developing for videoconferences scheduled at least monthly or even more frequently between the Ithaca and Weill campuses. In between, individuals may use Adobe Acrobat Connect web conferencing tools for daily informal collaborations on specific topics.

Groups as diverse as the campus Audit Office, the libraries, and our IT Security group are using videoconference services to work closely and dynamically with remote teams in a way that saves both university and natural resources. Collaborators grade our service highly, with a satisfaction rate of 92 percent.

The following programs also support our five-year strategic goal for collaboration tools and facilities.

Supporting Multi-Site Videoconferencing

FY08 Program: Upgrade videoconferencing technology, including the bridging system used to connect multiple sites, and invest in a videoconference management and monitoring system.

A new video bridging system and management suite installed this year are allowing Cornell teams to use video collaboration to inform their projects in brand new ways, linking sites using both high and standard definition video, connecting up to 20 video nodes at a time, and providing CIT the ability to remotely manage and support up to 50 conference systems simultaneously.

These new systems underlie 20 multimedia conference installations on campus, including those used for Ithaca-Weill collaborations and new multimedia meeting rooms in Mann Library and Weill Hall.

Consulting and Managing New Classroom Technology Projects

FY08 Program: Provide project management, consulting, and design for audio-visual presentation and collaboration systems in classrooms and meeting rooms.

Roughly 25 management and design projects for audio-visual collaboration systems are in progress throughout a given year, but two standout projects for FY08 are the multiple installations done for Weill Hall (Life Science Technology Building) and Mann Library, culminating work done over the past two years.

We designed and managed installation of new audio-visual systems in 16 meeting, class, and public computing rooms inside Mann, challenging assignments coinciding with the overall library renovation. For the Weill Hall Learning Center we finished installation management for a 30-seat multimedia conference center that, with its three
Webcasting and Web Conferencing

FY08 Program: Investigate emerging classroom technologies—audio-video capture systems used for webcasting lectures and other presentations. Provide customer training for Adobe Acrobat Connect, a web conferencing system being leveraged for Ithaca-Weill collaborations and Faculty Innovation in Teaching (FIT) projects.

This year we began to offer instructors, lecturers, and business teams two new systems using audio, video, and the web to present and share academic and research content with remote sites. We began installation of audio-video capture systems in several campus classrooms and seminar rooms that allow presentations to be streamed to any computer on the Internet.

Ithaca-Weill Campus Collaborations

Distance Learning Courses
• Psychology 101, Jim Maas, Bailey Hall: Classes are recorded, encoded, and archived as video stream files for viewing at the medical college in Qatar. Videoconferencing may also occur with Qatar during the semester. CIT and Weill support this effort.
• Biophysical Methods, AEP 470: Multiple instructors, led by Fred Maxfield at Weill and Manfred Lindau at Ithaca in 162 Hollister, use videoconferencing for classes. Presentations are particularly rich, incorporating movies of experiments and live navigation of application web sites.

Videoconferences for Research in Progress
• Nanobiotechnology Conferences: Conferences were held throughout fall 2007 in Biotech G01, sometimes including Weill as a site.
• Tri-Institutional Program in Chemical Biology: Fred Maxfield at Weill and Bruce Ganem at Ithaca held conferences during fall 2007 in 125 Baker Hall and CCC in spring 2008.
• Computational Biology & Medicine: Carly Ferguson hosted several conferences at Ithaca during fall 2007.

Ongoing Videoconference Support by CIT and Weill
• Global Health Program: Rebecca Soltzfas at Ithaca and Dan Fitzgerald at Weill held various videoconferences during fall 2007 and spring 2008.
• Security Ongoing Collaborations: Network security staff at Ithaca and Weill regularly make use of videoconferencing from CIT facilities.
• Administrative Conferences: Several campus administrative groups hold regular videoconferences from CIT facilities on a variety of subjects.

Research Team Interactions
• Robin Davisson’s and Paula Cohen’s labs at the College of Veterinary Medicine and at Weill: These research teams hold regularly scheduled meetings, seminars, and special events via videoconferencing facilities in the Vet Research Tower.
• Biomedical Engineering, Surgery Research Program: CIT provided support for videoconferencing in the fall 2007 and spring 2008.
• Applied Physics, Multiphoton Endoscopy Working Group: Watt Webb in Ithaca and members of the Weill Urologic Oncology Group held discussions in fall 2007 and spring 2008 via videoconferences, using the system to view images of biopsy samples.

Classroom Uses for New Web Conference Services

Acrobat Connect made it possible for professor of material science and engineering Christopher “Kit” Umbach to share presentations and lecture slides with distance learners at Binghamton University during his spring 2008 session of Bioelectronic Technology Development (MSE 567). He plans to use it again for that course in 2009 and said that his experience convinced him that Connect would work for a course being taught in fall 2008 that involves students from Binghamton, MSE 542, Flexible Electronics.

Professor of art history Petrine Archer-Straw used Connect and other technologies we support to create virtual classrooms for two art history courses—a distance course, Caribbean Dialogs; Online (ARTH 4526), and a similar course called CD Live!, based on campus but co-taught with a professor in Jamaica, who logged into the virtual classroom and participated live. For these conversational seminars offered through Cornell’s School of Continuing Education and Summer Sessions, Dr. Archer-Straw relied on podcasts for weekly lectures, a wiki for project work, and the virtual classroom for online meetings to deliver the course. She reports, “the virtual classroom offered a space where we could meet, see, and converse with students by just visiting the URL and providing a password.” Though the new technology was at first a challenge, CIT assistance allowed her to conduct classes with increasing confidence.

She plans to use Connect and virtual classrooms in more distance courses, convinced that it “demonstrated an ability to support online dialogs that were dynamic and cost effective. In the end, it became an invaluable tool that provided weekly audio-visual contact and reassurance for both professors and students, taking away the remoteness regularly experienced with distance learning.”

“It became an invaluable tool that provided weekly audio-visual contact and reassurance for both professors and students, taking away the remoteness regularly experienced with distance learning.”

- Dr. Petrine Archer-Straw
Instructors of an Ithaca-Weill distance-learning course, Molecular Epidemiology and Dietary Markers of Chronic Disease, first experimented with the capture system during spring 2008. Additional systems will be ready for use during the fall 2008 semester.

Adobe Acrobat Connect web conferencing software allows the creation of virtual meeting spaces in which to share and mark up documents, brainstorm on a whiteboard, ask and answer questions, poll audiences, and collaborate almost as if face to face. The system enables collaborators with different computer operating systems to work well together. Teams from Cornell Cooperative Extension have been using the system regularly in dedicated seminar rooms; Ithaca-Weill researchers have experimented with it; and Christopher “Kit” Umbach, professor of material science and engineering, and Petrine Archer-Straw, professor of art history, used Acrobat Connect in spring 2008 courses to share material with students at remote locations.

**Linking Cornell Teams with Collaboration Tools**

**collabtools.cornell.edu**

**FY08 Program:** Administer and manage the technical collaboration tool suite, present its advantages, and mainstream support.

We migrated Mann Library’s Confluence data into our central Confluence web/wiki service for streamlined management and support, and we added the JIRA issue-tracking application to the suite. We launched a front page for the Collaboration Tools suite at [http://collabtools.cornell.edu](http://collabtools.cornell.edu) to help interested faculty, staff, and students decide which of these tools suits their needs, whether for version control, discussion forums, a web presence, a wiki, a team space to share resources, or a combination of features.

**Providing Digital Broadcasting Capability and Redundancy**

**FY08 Program:** Roll out to production a new video transmission path and assess its effectiveness.

We have installed a digital video link to complement and provide redundancy to Cornell’s satellite video transmitter, used for live television broadcasts of high-profile events on campus. The new link positions us well to take advantage of current and emerging digital transmission systems, especially important because some television networks already prefer digital transfer.

**Bringing Cornell IT Groups Together at the IT Forum**

**FY08 Program:** Host the third annual Cornell University Information Technology Forum.

This year’s IT Forum replaced a traditional keynote speaker with the “Survival of the Geekest” game show, a fun change of approach that got IT staff members from around Cornell laughing and joining in to kick off a day of making connections.

Each year we invite Cornell IT groups that provide a service or are otherwise interested in sharing what they do to give seminars, and 26 groups hosted sessions throughout the day, complemented by a table on the main forum floor for ad hoc discussions. Forum participants could speak to any of 24 vendors, ranging from wireless service providers to educational technology companies.
Collaboration Tools and Facilities Metrics

Ithaca-Weill collaborative events hosted: 229
Hours logged in Ithaca-Weill support: 318
Average number of conference rooms used for video and web collaboration on both Ithaca and Weill campuses: 6
Courses using audio/video streaming: 287 …number of instructors: 292
SourceForge—number of users: 2,089
SourceForge—number of projects: 484
Confluence—number of users: 7,568
Confluence—number of spaces: 1,075
JIRA—number of users: 186
JIRA—number of projects: 48

Enabling IT Research through the Gartner Portal
gartner.cit.cornell.edu
FY08 Program: Encourage better use of Gartner research earlier in projects.
To promote IT research and streamline acquisition of Cornell-owned content at gartner.com, we implemented the Gartner Client Internet Portal. Users log into the portal with their NetID, and then proceed with authorization to a gartner.com site customized for Cornell members.

Connecting Support Providers for Better IT Service: Remedy
FY08 Program: Increase the number of Remedy campus partners, implement Knowledge Management, and implement Service Level Agreements and Operational Level Agreements.
Our original FY08 goals reflected the intentions of the Remedy team to have launched the Remedy phase two project during the fiscal year. Phase two is now scheduled to begin in FY09 with a revised goal set.
This year we achieved all of our stated objectives for Remedy phase one, implementing a support structure and workflow process for the Remedy production environment, and rolling out the Incident Management module to eight campus partners, well above our goal of five. By June 2008, 335 unique IT support providers were online, including CIT and these units:
- College of Agriculture and Life Sciences
- College of Human Ecology
- School of Industrial and Labor Relations
- Alumni Affairs & Development
- Gannett Health Services
- Cornell Cooperative Extension
- College of Architecture, Art, and Planning
- Center for Advanced Computing

Notable Uses of Collaboration Tools at Cornell
More than 100 groups at Cornell are using Confluence spaces to help communicate project management, outreach, business, research, and instructional endeavors within and beyond campus. Other teams are using SourceForge behind their projects to track issues, document project releases, or follow discussions.
These are several notable examples (please note that some require a Cornell NetID to log in):

CIT Change Advisory Board (CCAB)
ccab.cit.cornell.edu
Using the SourceForge API and ColdFusion, CCAB created an online “Request for Change” tool that has become an integral part of the process improvement initiative to track and approve weekly change requests to deployed systems. The form tool, which submits requests to a database, automated a tedious manual process, and supports participation from staff across CIT in this effort to improve our performance, communication, and understanding of changes to products and services across the organization.

Business @ Mann Library
confluence.cornell.edu/display/AEMLibrary
The Confluence space for Applied Economics & Management at Mann Library is an outreach and instructional site that multiple content contributors at Mann will use to upload information speedily; no HTML required. It’s an attractive example of how the Adaptavist ThemeBuilder plugin can customize the look and feel, and includes friendly features like an embedded “Chat with a Librarian” widget and links to a CIT-hosted blog.

Agua Clara
confluence.cornell.edu/display/AGUACLARA/Home
The AguaClara Confluence space is the online presence and team hub for an open-source engineering project in the Department of Civil and Environmental Engineering at Cornell University. The project is improving water quality and building water treatment plants in communities in Central America. The site stores design methods, progress reports, meeting minutes, and a knowledge base, and advertises events in an embedded Google calendar.

PeopleSoft Application Support
The SourceForge project supporting Cornell’s PeopleSoft installation is the most active in the CIT central system, used extensively to track issues, manage documents, and promote discussion inside forums.

STARS
The team for STARS, the PeopleSoft System for Tracking Administrative Records for Students, uses SourceForge to track issues and tasks, and manage documents.

Facilities Programming Services
Facilities Programming Services migrated their source code repository from the Concurrent Versioning System to SourceForge, which they now use exclusively for source code management.

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Using the SourceForge API and ColdFusion, CCAB created an online “Request for Change” tool that has become an integral part of the process improvement initiative to track and approve weekly change requests to deployed systems. The form tool, which submits requests to a database, automated a tedious manual process, and supports participation from staff across CIT in this effort to improve our performance, communication, and understanding of changes to products and services across the organization.

Business @ Mann Library
confluence.cornell.edu/display/AEMLibrary
The Confluence space for Applied Economics & Management at Mann Library is an outreach and instructional site that multiple content contributors at Mann will use to upload information speedily; no HTML required. It’s an attractive example of how the Adaptavist ThemeBuilder plugin can customize the look and feel, and includes friendly features like an embedded “Chat with a Librarian” widget and links to a CIT-hosted blog.

Agua Clara
confluence.cornell.edu/display/AGUAclARA/home
The AguaClara Confluence space is the online presence and team hub for an open-source engineering project in the Department of Civil and Environmental Engineering at Cornell University. The project is improving water quality and building water treatment plants in communities in Central America. The site stores design methods, progress reports, meeting minutes, and a knowledge base, and advertises events in an embedded Google calendar.

PeopleSoft Application Support
The SourceForge project supporting Cornell’s PeopleSoft installation is the most active in the CIT central system, used extensively to track issues, manage documents, and promote discussion inside forums.

STARS
The team for STARS, the PeopleSoft System for Tracking Administrative Records for Students, uses SourceForge to track issues and tasks, and manage documents.

Facilities Programming Services
Facilities Programming Services migrated their source code repository from the Concurrent Versioning System to SourceForge, which they now use exclusively for source code management.
Working with IT directors from across campus, we created a sustainable licensing model for Remedy IT Service Management products, positioning us well for phase two. We have created a user community around the Remedy suite to lend momentum to these initial successes and help build an IT Service Management methodology at Cornell.

The user group meets monthly to propose and vote on changes and discuss uses for the tools, with one representative from each organization attending. When the Remedy web client experienced a series of performance problems during FY08, our user community showed strong support and helped us resolve the issues.

FY09 Goals
Partner with all Cornell units to effectively implement collaboration tools, including SourceForge, WordPress, and Confluence, as production services and upgrade/create reliable facilities for video- and web conferencing, and meet or exceed service objectives for related video- and web conferencing services. Develop programs, policies (specifically security and accessibility), and practices to create better collaboration within Cornell’s IT community, including Weill Cornell Medical College.

FY09 PLANS
• Mainstreaming Collaboration Tools
• Audio-Visual Collaboration Resources
• IT Forum
• IT Policies
• Remedy Phase 2
• Web 2.0 Tools

Mainstreaming Collaboration Tools
FY09 Objective: Upgrade collaboration products, transfer operational support, and pilot software development collaboration tools. Support educational blogs.

We will upgrade the Confluence, SourceForge, and JIRA applications and research complementary development tools with the goal of integrating them into the suite. In response to the increasing number of teams making use of collaborative tools, we will expand support in FY09, engaging our users to inform the product expansion.

As discussed in the Innovative Instructional Technology section (page 29), the FY08 Blog Service Pilot project using Wordpress MU software demonstrated the need for supported blogs for education, research, and communications. We have contracted a vendor to host this service, and it is now fully operational. CIT offers training and guidance to faculty who want to use blogs for teaching.
Developing Audio-Visual Collaboration Technology Resources and Facilities

FY09 Objective: Develop a plan to upgrade campus audio-visual collaboration facilities.

Our audio-visual system design and support team will meet with administrators in colleges and departments to identify what collaboration technology resources they need most. After gathering requirements, we'll develop a plan for upgrading campus facilities to accommodate them. We'll focus especially on enhancing audio-visual collaboration capabilities with the Weill Cornell Medical College campuses in New York City and Qatar and the university's various remote campuses and sites.

Supporting Collaboration in Cornell’s IT Community

FY09 Objective: Host the IT Forum to bring Cornell IT groups together.

We will continue the successful IT Forum in FY09, inviting Cornell IT groups that provide a service to share their work in seminars and on the forum floor.

We plan to lengthen the forum to one and a half days this year, expanding opportunities for campus IT staff to meet and learn from each other. Since the game show format in FY08 was such a hit, we’ll make it a regular feature along with a speaker of note.

Completing the IT Policy Framework

www.cit.cornell.edu/policy/framework/chart.html

FY09 Objective: Complete the IT Policy Framework.

As discussed in the Support for the University IT Policy section (page 53), we are aiming to complete the Cornell IT policy framework in FY09, including the promulgation of policies 5.11 Web Accessibility and 5.10 Security of Electronic Administrative Information, along with 5.1 Responsible Use of Information Technology Resources.

The following programs also support our five-year strategic goal for collaboration tools and facilities.

Maturing IT Service Management at Cornell: Remedy

FY09 Program: Increase the number of campus partners using Remedy, harden the infrastructure, and improve reporting.

The Remedy Advisory Board requested that the original objectives for Remedy phase two be changed to focus on adding more campus partners rather than additional functionality. Having a licensing model secured prepares us well for this effort, and we will continue to add new campus partners to the Incident Management component, forecasting more than 400 unique IT support providers using the system by the end of phase two.

We will write a cohesive business case and roadmap for the implementation of Remedy’s other components, comprising Problem, Change, Configuration, Knowledge, Asset, and Service Level Management, aligning our vision with CIT process improvement initiatives as appropriate. We will continue to strengthen the Remedy infrastructure, focusing on improving fault tolerance and offering more sophisticated business reporting.

Fostering Community Participation Online with Web 2.0 Tools

FY09 Program: Partner with University Communications and other campus stakeholders in the design of Web 2.0 tools for the university.

Working with University Communications, we will help identify the kinds of next-generation web tools we should develop for Cornell. We are investigating how blogging platforms, social networking tools, and other template-based, consumer-content-driven solutions can enable easy web site publishing for the university's various constituents. Our goal is facilitating web tool use for any Cornell user, fostering rich online participation from our involved community.

CIT Forums

In addition to the annual IT Forum, we host forums throughout the year for CIT divisions to share their work and connect with technical support providers across the university.

Technical Support Provider Forums
confluence.cornell.edu/display/TSPFORUM/Home

Division Forums
confluence.cornell.edu/display/CIT/Forums

IT Architecture Forums
confluence.cornell.edu/display/CITATA/ATA+IT+Architecture+Forums
Five-Year Strategic Goal
Provide a cost-effective and robust information technology infrastructure to include data center services, data storage, computational resources, and seamless networks.

FY08 Goals
- Harden the Ithaca and commodity network.
- Improve storage alternatives.
- Ensure that short- and long-term Exchange/Blackberry services meet executive expectations.

FY08 PROGRESS
- Campus Network Hardening
- New Storage Solutions
- Microsoft Exchange Pilot and Mobile Messaging
- Ensemble
- Campus Research Network Prototype
- EzraNet
- Wi-Fi Networks
- Recovering Wi-Fi Network Costs
- Assisting Campus Partners
- Voice and Data Services
- LAMP: Supporting Web-Based Development

Hardening the Campus and Wide Area Network
FY08 Objective: Build additional redundancy between campus node rooms; establish fiber connectivity between Ithaca and Rochester to ensure redundant Internet access and support disaster recovery plans; improve phone and data access for Geneva.

We are near the completion of triply connecting our geographically dispersed campus network nodes to eliminate single or even double points of failure and finalizing the second phase of hardening the Ithaca campus network. Radio frequency (RF) technology was deployed to create distinct network links in locations lacking enough fiber diversity, and outdoor installations were done with care to protect the historic campus environment. Final RF connections were placed in July 2008.

To harden our wide area network (WAN), we created physical route diversity and established a relationship with a second Internet service provider (ISP), resulting in a new, discrete commodity Internet connection.

We also completed construction of a fiber network from Ithaca to the Geneva campus and through to Rochester. The project connects Geneva at a 10-gigabit Ethernet (GbE) connection to vastly improve research and business processes. The 1 Gb connection to Rochester backs up the NYSERNet Research and Education connection (Internet2), and remains dormant unless there is an outage on the primary Internet2 link via Syracuse.

Replacing Data Storage Solutions in the Server Farm
FY08 Objective: Retire older technologies and migrate to a single-vendor system to reduce complexity. Explore high-capacity, low-use, low-cost storage options for the library’s Large Scale Digitization Initiative.

We selected a Compellent storage array as the new solution for our lowest cost and mid-range storage options and placed it into production in August 2007. The new solution’s increased flexibility and efficiency has saved our staff time, enabled storage
growth, and is enabling the retirement of older storage devices, operations that are transparent to campus users.

For tier 4 storage, which serves the library’s Large Scale Digitization Initiative, we selected a Digi-Data storage array, placing it into production in April 2008. The solution enables massive data storage capability at low cost, serving the effort by the Cornell University Library to digitize large numbers of Cornell volumes.

Piloting Microsoft Exchange and Supporting Mobile Messaging Devices

**FY08 Objective:** Put an Exchange service in production to support new messaging services for senior members of Cornell’s administration and for optional use by interested units.

In September 2007 CIT went live with a limited deployment of Microsoft Exchange with BlackBerry support to meet the need for mobile messaging and calendaring by Cornell senior administration and members of Alumni Affairs & Development. The project serves roughly 500 staff and has been successful both from user and technical standpoints.

In the pilot effort, we examined how Exchange functions in the Cornell environment, and our findings are informing development for the much wider Ensemble project to integrate email, calendars, and contacts for faculty and staff. That larger campus Exchange deployment will not be an extension of this pilot, but a new one, and pilot users will roll into the larger system over time.

Planning to Integrate Campus Personal Productivity Services: Ensemble Project

**FY08 Objective:** Understand Cornell users’ needs with respect to email and mobile access to email. Participate in discussions and consider impact of outsourcing email service for part of the Cornell community. As members of the university’s senior administration migrate to Exchange for calendaring, determine implications for the overall calendaring service.

Technologies widely used for email, calendaring, tasks, and online address books have matured and converged, but Cornell’s various open-source, in-house, and vendor-provided solutions leave noticeable gaps that can negatively impact collaboration and communication among the campus community. Further, they don’t adequately support the increasing demand for mobile messaging.

In response, vice president for information technologies Polley McClure convened two separate task forces comprising CIT leaders and members of the Cornell community: one charged with evaluating current personal productivity applications for faculty and staff and recommending an alternative if necessary; and one charged with evaluating options for student email, calendar, and collaborative tool services.

In researching options that would best meet the complex needs of campus constituents for collaborative and personal productivity tools, both task forces employed limited local testing, conversations with peer institutions, and demonstrations provided by vendors. Student task force members experimented with test accounts for proposed services. The results of their analyses were consistent with the findings of most of Cornell’s peer institutions that undertook similar efforts, along with reporting in the technical press.
The Student Personal Productivity Services Task Force (SPPS) determined that two products had the potential of meeting Cornell's requirements: Google Apps for Education and Microsoft Live@edu (with Exchange Labs). They recommended implementing both products, as some peer institutions have done, preserving Cornell's ethic of freedom of choice, providing students the tools most relevant to them, encouraging vendor innovation through competition, and limiting risk to Cornell. In fall 2008, CIT was negotiating with both vendors, with the target of providing test accounts in early 2009.

The Task Force on Personal Productivity (TFPP) limited the scope of its charge to an integrated email and calendaring solution to support faculty, staff, and, optionally, graduate students, and closely compared two products that had the potential of meeting Cornell's requirements. The recommendation was to implement a central Microsoft Exchange Server environment for campus, with the further suggestion that all units running local Exchange environments be encouraged to move to the central service in order to obtain the maximum benefit from the university's common email and calendar products.

Since Exchange depends upon Active Directory (AD) for directory services and authentication, and this requirement dovetails with a developing need for a centralized Cornell AD service, implementation of a fully functional AD was brought into the scope of the project. More information about Active Directory activities in FY08 is in the Security section (page 27).

Together, the findings of the task forces resulted in a large new project for CIT, named Ensemble, which encompasses developing Exchange in the Cornell environment; identity management and security; and rollout, communications, and training. Ensemble’s five major components may be phased independently over the 18- to 24-month schedule:

1. Implementing a campus Active Directory service
2. Implementing a campus Exchange and file-sharing service
3. Migrating students from a local messaging service to an outsourced solution
4. Deploying the Outlook/Entourage suite of tools to campus staff and faculty
5. Deploying Office 2007

The following programs also support our five-year strategic goal for IT infrastructure.

Prototyping a Powerful Research Network

FY08 Program: Design and deploy a 10-gigabit Ethernet service to meet the high-bandwidth requirements of Cornell scientists.

CIT partnered with the Cornell University Center for Advanced Computing (CAC) to begin providing 10-gigabit Ethernet (GbE) connections to Cornell scientists with demanding bandwidth needs. The Space Sciences building was the first to be connected.

We are working with CAC to identify other large-scale data users as candidates for 10 GbE, and then evaluating their existing infrastructure to establish priorities for new implementations. Working with these early adopters lays the engineering foundation for our community’s ever-growing bandwidth and processing requirements.
Reaching Further with Wi-Fi Networks

FY08 Program: Roll out next generation Wi-Fi equipment across the Ithaca campus to improve service and security.

We installed a powerful new Wi-Fi network system to upgrade and replace nearly 1,300 campus nodes, bettering wireless Internet service, security, and oversight. The system will scale to nearly double that number of nodes in support of the Wi-Fi initiative for residence halls in FY09, and it can support the faster 802.11n protocol when it goes mainstream. We are testing code that includes the features required for near-ubiquitous campus Wi-Fi coverage.

Rich program diagnostics can help us isolate and shut down malicious activity and troubleshoot where ad hoc networks or even leaky microwaves impair service. An embedded test network allows us to assess and implement new code but roll back to production versions quickly if necessary.

Recovering Wi-Fi Network Costs

FY08 Program: Create a wireless usage-based billing system.

In June 2008 we extended the existing wide area network (WAN) usage-based billing system (NUBB) to include students’ WAN usage on Cornell’s Wi-Fi network, RedRover. The Wi-Fi network has become the dominant means students use to get online, totaling 89 percent of campus RedRover usage in April 2008. That volume will only increase as residence halls move to an exclusively Wi-Fi network over the next several years and as networks permit ever larger data transfer rates. As part of this project, we increased the monthly WAN usage allocation for students from 5 GB to 10 GB.
IT Infrastructure Metrics

CUinfo—average hits per month: 3 million
CU Hosting—average hits per month: 1.6 million
(15 sites, including Dear Uncle Ezra, ViewSource, and the OWC Student Blogs, excluding CUinfo)
CU People web sites—4,986 current websites/accounts (10.7% faculty; 18.1% staff; 64.6% student; 6.2% other); average hits per month: 3.9 million
CU Search—48,509 hits per month
Email—messages routed in a year: 1.4 billion ...spam rejected: 444 million
Email—mailing lists: 5,119 lists; 754,896 subscribers (327,002 unique addresses; 88,079 Cornell addresses)
EZ-Backup—269.4 terabytes of data (compressed) backed up on 3,735 systems
NetNews USENET service—articles read: 9.6 million ...posted: 11,809 ...number of users: 5,000+
Network—active data ports: 32,576
Network—unique devices connected: 101,673
Network—RedRover Wi-Fi network access points installed: 1,126 ...number of buildings containing some RedRover coverage: 163 ...systems registered to utilize RedRover: 31,425 ...number of registered users: 23,413
Network—number of campus active connections using the higher-capacity CAT6 standard: 14,436 (58%) ...number of ResNet active connections using CAT6: 2,759 (38%)
Network and voice—trouble ticket average completion time: 1.9 days
Network and voice—work orders (moves, adds, changes, disconnects, swaps) average completion time: 4.4 days
Network and voice—linear feet of fiber cable installed: 28,870 ...linear feet of outside copper cable installed: 12,150 ...linear feet of interior copper cable installed: 339,547 (not including capital projects or EzraNet)
Network Operations Center—complaints made about alleged computer policy violations, electronic copyright violations, and other types of computer-related abuse: 2,364
Network Operations Center—manual DNS entries: 1,293
Network Operations Center—phone calls: 17,674
Network Operations Center—problem reports opened: 3,119
Phones—assigned numbers: 20,878
Phones—assigned phone jacks: 22,896
Phones—AUDIX: 8,016 subscribers
Phones—AUDIX messages in a week: 112,929
Phones—average calls made in a week: 45,098
local; 32,651 long distance; 857 international; 21,020 toll free
Phones—reliability of phone system: 99.9%; planned upgrade in June 2008 interrupted the system for 12 minutes
Storage Farm—managed systems: 450; host storage networking connections: 477;
Tier 1: 83 GB ...Tier 2: 71.5 TB ...Tier 3: 24.8 TB ...Tier 4: 40 TB ...Mainframe: 840 GB

Assisting the Cornell Cooperative Extension WAN Initiative

FY08 Program: Manage the vendor migration for Cornell Cooperative Extension’s WAN.
We acted as consultants for Cornell Cooperative Extension (CCE) to help decide on the infrastructure, contracts, and vendor that would help meet their requirement to provide connectivity to the Internet and Cornell for 57 CCE offices statewide. We managed the project from the request for proposal process, through vendor selection and equipment migration, to a strong and successful go-live.

Converging Campus Networks

FY08 Program: Pursue a voice service that operates over the data network.
The June 2008 upgrade to the campus Avaya Communication Manager phone system successfully updated over 21,000 ports in less than 30 minutes, and without touching a single phone. Teams from CIT and Avaya put new hardware and software in place that support not only Cornell’s robust, reliable phone service, but also enable the university to further evaluate and adopt voice over Internet protocol (VoIP) capabilities that may make sense in our growing, distributed environment.

Putting phone service over a data network in the future can provide efficiencies and cost savings, particularly in cabling infrastructure. Maintaining a robust network that supports voice, data, and video services is our long-term vision. Besides saving money and handling high traffic loads, it can create a stronger connection to the Ithaca campus for faculty and staff in Geneva, Manhattan, or Qatar by enabling video- and web conferencing and permitting remote use of the same 5-digit dialing codes used to call from within the Ithaca campus.

LAMP: Hosting Environments for Web-Based Development

FY08 Program: Develop and offer the LAMP environment for hosting web-based applications based on Linux, Apache, MySQL, PHP, and Python.

Providing a central hosting environment where CIT manages the security, backup, hardware, and software requirements for web-based development applications will fulfill requests from several campus administrative units. Resource constraints required us to extend our target release date for the LAMP hosting environment to October 2009. We’ll hold focus groups early in FY09 to interview potential customers about their expectations of a hosting service, providing valuable input into our next steps and subsequent releases.
Establishing a New Network Security Structure in the Datacenter

FY09 Objective: Establish network and security tiers in the datacenter for protection of data and payment card industry compliance.

In complement to emerging data protection standards and policies at Cornell, we will improve datacenter network security in FY09. A three-tiered approach will move servers into progressively more restrictive zones, a structure designed to satisfy differing security requirements for campus data. The highest security tier will contain information such as Social Security numbers, Family Educational Rights and Privacy Act (FERPA) data, Health Insurance Portability and Accountability Act (HIPAA) data, payment card information, and personal data.

In addition, we will add routers to provide a redundant path to all the servers in the datacenter, enabling constant uptime in the event of router maintenance or other network interruption.

Our target to have the new infrastructure in place is January 2009. Follow-on projects will move data and services into these structures, which will underlie many campus systems, and address developer access issues introduced from the enhanced security.

Virtualizing Servers to Conserve Space and Resources

FY09 Objective: Add Linux support to the virtual server service.

In FY08 we piloted a service to virtualize servers in the datacenter, using VMware software to allow us to provision up to 25 virtual servers on one physical machine. Employing virtual servers allows us to use each physical machine to full capacity, and at the same time it saves on needs for power, cooling, and space requirements as the demand for servers continues to grow.

Virtualization allows us to run different operating systems on each virtual server, but the pilot was limited to Microsoft Windows. In early FY09, we added Linux and Solaris as available operating systems on virtual servers that CIT manages. If a group elects to manage a virtual server on their own through our co-location service, they can run any operating system that VMware allows.

We’ll fully support the virtual server service in FY09, allowing more campus groups to secure their servers in our constantly monitored datacenter while helping them achieve goals for conserving resources through shared power and cooling.
Backing Up EZ-Backup in Support of Disaster Recovery

FY09 Objective: Deploy EZ-Backup to Weill Cornell Medical College to create geographically separate storage for Ithaca campus EZ-Backup files.

Based on a recommendation from the university’s Disaster Recovery Planning Task Force and requests from campus departments, we received funding to locate and maintain an additional copy of EZ-Backup data off-site at a secure facility at Weill Cornell Medical College in New York City. The project will protect Cornell’s data assets in the event of a major disaster in the Ithaca area.

Making use of the existing high-speed network connection between the campuses along with Cornell-owned machinery at the Weill campus results in a more efficient and cost-effective solution than would hiring a third-party vendor to provide the service. By not physically transporting backup tapes to a storage site, we’re keeping backup data more secure, saving expenses, and making better use of staff time. Most of the data management will occur from the Ithaca campus.

We project that EZ-Backup off-site storage will be fully functional by the end of FY09. The project entails moving a copy of 300 terabytes (TB) of compressed legacy data to Weill and establishing a new tape library there. Then we will begin redundantly storing more than 5 TB of Ithaca campus data moving through EZ-Backup each day. The project includes exploring data de-duplication technology to ease network load and save time during backups.

Integrating Campus Personal Productivity Services: Ensemble Project

www.cit.cornell.edu/ensemble

FY09 Objective: Roll out student services by spring 2009. Prepare to launch the initial Active Directory phase in summer 2009. Prepare to complete Exchange for campus in FY10.

We plan to have finalized negotiations by fall 2008 with both Google and Microsoft to provide both Google Apps for Education and Microsoft Live@edu with Exchange Labs, respectively, to Cornell students for integrated email, calendars, contacts, and other collaborative tools. Our goals are to begin providing test accounts in late 2008, invite current students to migrate to the new products in spring 2009, and provide new Google Apps or Exchange Labs accounts to new students in fall 2009.

For the planned campus-wide implementation of Active Directory (AD), we engaged campus units with existing AD systems in order to leverage our existing knowledgebase and develop a system offering maximum security while retaining flexibility and control for local administrators. Our goal is to launch phase one of the central AD service for campus in mid-2009.

High-level planning, scope setting, and requirements gathering began for the Exchange portion of Ensemble early in FY09, with design and development occurring throughout the year toward an initial rollout in fall 2009. We forecast the Ensemble project to finish no later than April 2010.

Going Wi-Fi in Residence Halls

FY09 Objective: Implement Wi-Fi infrastructure in 18 North Campus buildings.

With Campus Life as a partner and co-sponsor, we launched the Res Hall Wi-Fi initiative to design and build Wi-Fi network infrastructure for 32 residence halls on campus, scheduled to finish by the end of FY10. In this project we will install about 1,253 Wi-Fi access points, doubling the number of Wi-Fi nodes on campus. At the request of Campus Life, we will also remove all 4,000 room phones due to declining use and replace them with 194 hallway phones.

We have scheduled 18 buildings in North Campus for completion in FY09, with the first six buildings finishing by fall 2008. The remaining 14 halls on West Campus and in Collegetown will finish in FY10.

Our work includes wireless site surveys, infrastructure design, project and construction management, cabling, Wi-Fi access point installation, and service activation. Facilities Services’ Project Design and Construction will complete all pathway installations.
The following programs also support our five-year strategic goal for IT infrastructure.

### Improving Campus Bulk Email Services

**FY09 Program:** Modify the bulk email service offering to improve customer service while reducing support skill levels and cost.

By enhancing our bulk email system to automate certain functions, we will provide a better, more self-service approach to campus users of this service, both giving them more powerful functionality and control over their messages while lessening the need for us to manually process many daily mailings.

The service will remain free for campus bulk email senders, who look to this service for messaging needs as diverse as internal system notices to alumni announcements. We process 45-50 messages a month and send them to an average of several hundred thousand destination addresses.

Phase one of the project will automate certain manual and time-intensive functions, and phase two will provide users with a web interface to create their messages and confirm content prior to sending. We will document best practices to help ensure messages are constructed to avoid triggering spam filters.

### Moving EzraNet Forward

**www.cit.cornell.edu/ezranet**

**FY09 Program:** Complete network infrastructure upgrades on seven buildings; continue planning and design as scheduled.

By fall 2008, we will complete the infrastructure upgrades in Clark Hall, Rhodes Hall, Vet Medical Center, and Vet Research Tower, a major milestone for the EzraNet program due to the scope and complexity of these buildings.

At the same time, we will begin construction for Schurman Hall; Vet Education Center; Diagnostic Lab; and Bard, Kimball, and Thurston Halls. Construction for Riley Robb Hall will follow, and we anticipate completing all these buildings by the end of FY09.

The EzraNet team is working on planning and design of Snee Hall, Wilson Synchrotron, Newman Lab, Emerson, Bradfield, and Olin/Chem Baker Lab. A total of 21 buildings remain in the scope of EzraNet, and we estimate completing the program in FY17.

### Taking Wi-Fi Outside

**FY09 Program:** Provide a Wi-Fi network for members of the Cornell community and guests.

We will leverage the mesh networking capability of our new Wi-Fi system to extend its reach across open campus spaces, providing service in areas particularly important to the community and student life. The first target locations are Libe Slope, Alumni Field, Schoellkopf Field, Hoy Field, and Rawlings Green. We are exploring methods to provide power for outdoor access points and are working with campus stakeholders and stewards on unobtrusive, low-impact installation models that preserve campus aesthetics.

### Linking Distributed Workspaces Wirelessly at Low Cost

**FY09 Program:** Make available a low-cost wireless network for distributed and temporary buildings.

CIT will make use of point-to-multi-point technology, different from Wi-Fi, to provide a low-cost wireless method of connecting to the campus network and the Internet for the many construction trailers, barns, and similar buildings around campus. The solution closes the connectivity gap in these locations where a wired connection would be difficult or cost-prohibitive.

### Enhancing Cell Phone Service Quality and Choice

**FY09 Program:** Facilitate new infrastructure from cell phone service providers.

We will give technical advice to and partner with multiple Cornell University Finance and Administration divisions, departments, colleges, and Cornell Real Estate to allow access by all cell service provid-
Greg Marvin, Vicky Dean, Rick Barry, and Dan Miller of the production control group

ers to build the infrastructure needed to support highly reliable services. Installed discreetly to protect historic buildings and campus views, new cell sites will allow our community a choice of voice cellular services, extend signal strength over the challenging campus terrain, allow cell signals to penetrate more buildings, and support emergency mass notification. We plan to double the number of cell sites on campus property in the next one to two years.

Improving Cell Phone Coverage Inside

FY09 Program: Evaluate and model a distributed antenna system for better in-building cell coverage.

This year we will work with cell providers and industry experts to evaluate and install the technologies that will bring better cell phone coverage inside buildings. The Cornell University Hospital for Animals, the new Life Sciences Technology Building (Weill Hall), and Mann Library have asked CIT for assistance with indoor coverage, especially where work spaces lie underground. These sites are serving as pilot locations where CIT and wireless carriers are building models to learn how to solve this technical challenge cost effectively.

Strengthening Virtual Private Networks

FY09 Program: Deploy and support VPN phase two by the second quarter of FY09.

We will extend Cornell’s virtual private network (VPN) service to provide an additional layer of security verification for individual departments. Departments will be able to grant their members exclusive remote access to data, protecting sensitive material while keeping mission-critical business moving in the event that extreme weather or other disaster prevents staff from reaching campus. Deployment is planned for fall 2008.

Increasing Administrative Efficiency through Automation

FY09 Program: Implement a production control scheduling tool.

Today, many PeopleSoft jobs that are run daily in the CIT datacenter require an individual to oversee and manually enter job parameters. In FY09 we will implement a multiplatform tool to schedule, automate, and streamline production control, freeing CIT staff for more complex work. The planned tool will create efficiencies not only for us, but also for PeopleSoft and future Kuali users, who will gain an interface to check their jobs and generate reports against job data. Our target delivery date is early 2009.

Expanding Hosting Services with LAMP

FY09 Program: Implement a set of tools and infrastructure to support dynamic web pages.

We will release a new LAMP environment to provide infrastructure, backup, and security for projects based in Linux, Apache, MySQL, PHP, Perl, and Python. LAMP gives colleges and departments the freedom to develop dynamic and database-driven web pages and web-based tools without concern for maintaining that infrastructure. We’ll hold focus groups to inform subsequent releases, engaging hosting customers about their needs for administration and other services we can provide.

Once the environment has been released for production we will begin a follow-on project to include migrating existing CUHosting customers to the LAMP infrastructure. Current customers provide services such as CUinfo, Dear Uncle Ezra, Daily Crime Logs, Student Blogs, and Campus Information and Visitor Relations.
Five-Year Strategic Goal

Deliver a dynamic, comprehensive security program that protects Cornell data, reputation, and IT assets, and limits liability.

FY08 Goal

Increase security awareness and implement standards and best practices for data security.

FY08 PROGRESS

- Data Protection Standards
- IT Policy to Secure Institutional Data
- ID Provisioning
- Security Awareness Program
- Removal and Storage of Confidential Data
- Emergency Mass Notification Initiative
- Campus Active Directory Service
- Secure Web Authentication: Kerberos 5
- Group Membership Management

Standardizing Protection for University Systems and Data

www.cit.cornell.edu/security/requirements

FY08 Objective: Define data classifications and security standards for policy purposes.

With significant input from the campus community, we established two sets of data protection standards as mandated by University IT Policy 5.10 Security of Electronic Administrative Information, currently in draft. Any computer used to conduct university business or that connects to Cornell campus networks will be required to adhere to the baseline requirements set forth. Computers storing confidential data such as Social Security, driver’s license, or bank account numbers; credit card information; or patient treatment information must also conform to the more stringent confidentiality requirements.

Formalizing IT Security: University IT Policy 5.10 Security of Electronic Administrative Information

FY08 Objective: Promulgate policy 5.10 Information Security of Institutional Data (name has been revised).

We made significant progress on IT Policy 5.10, which will provide custodians of electronic administrative information the rules governing its storage, disclosure, access, classification, and the associated minimum information security and privacy standards. We will present Policy 5.10 to the Executive Policy Review Group for approval in December 2008.

Improving ID Provisioning Processes

FY08 Objective: Provide applicant provisioning services in support of Student Admissions and a new means of updating the directory with data from the PeopleSoft records database. Propose an automated approach to NetID lifecycle management.

Each year we improve the creation, distribution, and management of electronic credentials (NetIDs, GuestIDs, ApplicantIDs) and identity data. Highlights for this year include the following:

- Implementing the ApplicantID service for undergraduate admissions applicants
- Implementing a daily batch process for creating and mailing NetIDs and activation codes for fall incoming students as soon as they have committed to attending Cornell
- Marketing a self-service password reset utility that uses security questions pre-established by the user
- Delivering a new and improved means of updating staff, faculty, and student directory entries from a single data source

As part of a new security awareness campaign, we mailed a postcard to all faculty and staff to let them know to set their NetID security questions.
In FY09 we will further streamline the process of sending NetIDs and activation codes to new students, particularly international students and students committing late in the cycle. Another high priority will be adjusting access more promptly when an individual’s relationship to the university changes.

Making IT Security an Everyday Priority

FY08 Objective: Develop a security awareness and training program for Cornell University.

Outreach efforts intensified this year, with the goal of making all campus constituencies more aware of the wide range of computer and data security issues. We updated security information in the Travelers of the Electronic Highway computing orientation for new students and began developing a general IT security handbook to guide faculty and staff in security best practices and issues. The IT Security Office continues to work closely with campus IT support leaders and promotes a security special interest group for IT support staff.

Locating and Cleaning Up Confidential Personal Data

www.cit.cornell.edu/security/tools

FY08 Objective: Deliver Spider for confidential personal data management.

As part of CIT’s ongoing effort to secure confidential personal data, we developed and made the Spider application available to help campus users and system administrators locate Social Security or credit card numbers on individual computers. An estimated two-thirds of Cornell’s administrative computers contain Social Security numbers (SSN), and approximately 90 percent contain the SSN or credit card number of the primary user, potential risks that proactive system scanning can help to limit.

We will guide faculty and staff in how and why it’s important to use a system like Spider via the Security Awareness Program, the IT security handbook, and other methods to assist all Cornell computer users in better managing and securing their personal data.

The following programs also support our five-year strategic goal for IT security.

Responding to University Priorities for Emergency Mass Notification

FY08 Program: Upgrade Who I Am to collect emergency contact information for students, faculty, and staff.

When Cornell prioritized the Emergency Mass Notification initiative, CIT responded quickly, conducting a vendor search and implementing a rapid communication system for voice and text messages. We reallocated staff resources to complete modifications to the Who I Am application on schedule and began capturing emergency contact information from the community. A second project moved the captured emergency information into the PeopleSoft self-service applications for students, faculty, and staff. With the system tested and in place, we will focus on improvements in FY09.

Implementing a Campus Active Directory Service

FY08 Program: Plan for a campus-wide Active Directory service, addressing how Cornell units would migrate their existing domains to a central service.

We completed preliminary requirements for a centrally managed Active Directory service, assisted by a steering committee of campus customers who manage Active Directory for their local units. This project, which stems in part from campus requests, leverages the considerable Active Directory knowledge existing at Cornell to provide a foundation for the planning and implementation of a campus service offering.

With a central service, CIT will manage enforcement of user profiles, further centralization of electronic IDs, and the implementation of additional services such as Microsoft Exchange services to all Cornell staff and faculty. Local units will be able to retain administrative control without the heavy requirement of managing authentication.

Securing the Login with a Web-based Single Sign-on Service

identity.cit.cornell.edu/authn/K5Project/

FY08 Program: Migrate to Kerberos 5; offer improved infrastructure for web single sign-on.

As part of the project to migrate to the current, more secure version of the technology underlying CIT’s authentication service, we released the early versions of CUWebAuth 2.x and CUWebLogin 2.x in spring 2008.

IT Security Metrics

CUWebLogin authentications in a year: 24.5 million
NetIDs created: 11,627
Permits for application authorization: 1,513
Service IDs (servtabs) issued: 149
SSL certificates issued for application data encryption: 352
and production versions in early FY09 in an open-source model. We will work with campus service providers to migrate their services by December 2008. The new products streamline software configuration for individual service owners and significantly improve the performance of this critical service on which increasing numbers of campus web-based applications depend.

Managing Group Membership and Access to Resources

FY08 Program: Roll out Grouper to replace the permit server for creating and maintaining group authorizations.

An important goal in identity management is providing better tools to help manage user access to online resources, and we worked toward a new standards-based tool for managing group membership. In the coming year we will implement a version providing authoritative pre-populated reference groups in the first release. The project team is working with campus units to develop a means to automate group membership maintenance for institutional- and departmental-level groups, based on data in PeopleSoft. An example is all Cornell faculty vs. all faculty in the College of Arts and Sciences.

FY09 Goal

Deliver an IT security handbook, policy-driven compliance practices (including PCI), and security incident metrics to better protect Cornell data, reputation, and IT assets, and to limit liability.

FY09 PLANS

- IT Security Handbook
- Cornell Community Data Committee
- Incident Response Tools and Training
- Disaster Recovery and Business Continuity Planning

Offering Tools to Keep Data Secure

FY09 Objective: Deliver a security handbook for faculty and staff.

In early 2009, we will roll out an IT security handbook for all faculty and staff, offering practical steps to ensure that personal data stays secure whether on Cornell networks or at a remote Wi-Fi hotspot. We will develop a more technical follow-on handbook for IT support staff.

Setting Guidelines for Cornell Community Data

FY09 Objective: Establish guidelines for community data at Cornell.

CIT is leading the Cornell Community Data Committee, established to address issues surrounding stewardship for data when it is shared by multiple data stewards, having no single owner, such as a Social Security number or emergency contact information. We will help define community data types, develop consistent practices around them, and work toward establishing a policy to govern their use.

Identifying Potential Security Risks and Responding to Incidents

FY09 Objective: Implement new incident response tools and training.

Over the past two years, we have worked to understand the many ways Cornell systems and data could be compromised, and to develop tools and processes for responding to incidents. By summer 2009, we will deliver an expanded campus-wide incident response program, including a training component for technical support staff.

We are currently building a central log processing infrastructure that will facilitate analyzing server and database logs for inappropriate or unauthorized activity.

The following program also supports our five-year strategic goal for IT security.

Planning for Disaster Recovery and Continuity of IT Operations

FY09 Program: Develop the plans, practices, and mechanisms for responding to emergencies, and enhance IT operations to help ensure that critical university business can continue.

In the upcoming fiscal year, CIT will devote increased effort and resources to emergency planning and disaster recovery, both in the context of our own organization and in support of the overall campus emergency response program.

We will be reviewing and revising the formal plans and processes for our organizational response to any significant emergency or disruption, and we will work to improve the stability and resiliency of the IT services we provide to campus.

We will look for opportunities to broaden our contributions to Cornell’s emergency response efforts. We are currently increasing the scope of our technical support for the campus Emergency Mass Notification Service. We will be working closely with the Office of Emergency Planning and Recovery, as well as participating in the Cornell Emergency Management Committee and the Emergency Operations Center.
Instead, we identified EduBlogs, as a host after vetting its terms of service and FERPA considerations with Cornell counsel and CIT’s policy office.

Faculty who participated in the pilot discovered that students preferred blogs to traditional discussion boards and found that they learned from students who raised issues and brought new resources to class via the blog. Two-thirds of student participants responded that course blogs stimulated their thinking about class topics and were worth the time they spent reading, commenting, and posting.

The pilot for using wikis as course web sites was successful on many levels: providing a “more flexible and comfortable environment” as an online course hub, according to one faculty participant; “a good administrative way to deliver course content,” according to another; and bridging “the formal to informal teaching” to “get to the teachable moment,” as other instructors commented.

The joint Blog Service Pilot project between Cornell University Library and CIT provided instructors and students with Wordpress MU blog software, nine blog templates using Cornell identity guidelines, customized security features, user and technical support, and training. We guided users in blogging best practices for teaching and learning as we created more than 150 blogs for pilot users. We considered internal hosting options but determined that configuration issues, costs, and staffing to support a dedicated server would be considerable.

The following outcomes resulted from 2007-2008 FIT projects:

- Supporting collaboration and increasing student engagement
- Encouraging critical thinking, enabling students to share their analyses and reflections
- Building students’ self-expression and dialogue skills
- Connecting students with experts
- Bringing a large and varied quantity of interactive multimedia and imaging into classroom teaching
- Faculty and students collaboratively creating multimedia content collections

Supporting Faculty Innovation in Teaching
innovation.cornell.edu

FY08 Objective: Develop 19 projects selected in the 6th Call for Proposals. Announce and administer the 7th Call for Proposals.

During FY08, CIT supported the 6th cycle of Faculty Innovation in Teaching (FIT) projects with planning, instructional design, programming, and video production in collaboration with campus partners such as the Cornell University Library and the Center for Teaching Excellence. We helped develop and implement instructional and innovative projects in the following areas:

- Web 2.0 collaborative technologies
- Interactive audio-video technologies
- Learning repositories and student-generated content
- Interactive and 2D video
- Enhancements to classroom and science lab environments
- Interactive tutorials and web-based collaborative learning environments
- Digital case studies

Five-Year Strategic Goal

Identify successful, innovative uses of technology for instruction from various parts of the university and harvest them for broader use in a variety of learning environments.

FY08 Goal

Identify successful, innovative uses of technology for instruction from various parts of the university and harvest them for broader use in a variety of learning environments.

FY08 Progress

- New Instructional Technologies: Blogs and Wikis
- Supporting Faculty Innovation in Teaching
- Exploring Virtual Worlds

Mainstreaming Blogs and Wikis as Instructional Technologies

FY08 Objective: “Productionize” support for wikis and blogs and select one new tool to develop for broad use in FY09.

Two programs we piloted during FY08 verified the need for CIT-supported academic wikis and blogs, and we will provide both services in the 2008-2009 academic year. The new tools help engage students individually and at the same time allow for wide collaboration from classes and research teams.

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Continuing to help turn faculty ideas into projects and courses, the FIT program awarded 20 projects in its 7th cycle for 2008-2009. We support innovation in teaching throughout the year by hosting the FIT lunchtime speaker series, where faculty can share their innovations in an informal setting. A list of events is online at www.innovation.cornell.edu/events.html.

Exploring Virtual Worlds with Second Life

FY08 Objective: Participate in projects that explore the use of social networking technologies, such as blogs and Second Life, for learning.

As part of CIT’s explorations into how virtual environments can enhance teaching, community building, and outreach, we became a virtual landowner in Second Life. The Cornell island is an experimental space inside the higher education archipelago, managed by the New Media Consortium.

After researching the technical aspects of the virtual environment, we sculpted the Cornell island and began to populate and inhabit it to begin exploring its possibilities. In spring 2008, the Faculty Advisory Board for Information Technologies accepted the Faculty Innovation in Teaching program proposal to explore the use of “Virtual Worlds for Ethics in Engineering” by Carol Grumbach, the associate dean of students and senior lecturer for the Program on Ethics and Public Life; Park Doing, visiting assistant professor for Science and Technology Studies; and Michelle Moody-Adams.

In a 2007 FIT project with Erich Mueller and Philip Krasicky from the Department of Physics, we installed a 2-dimensional digital video capture and analysis system for use in a large introductory course, Physics 112. Students filmed lab experiments involving 2-D mechanics, including pendulums, spheres, and projectiles, then created and analyzed digitally enhanced stroboscopic diagrams depicting each object’s range of motion. Pre- and post-evaluation activity suggest a measurable increase in students’ understanding of 2-D mechanics and a reported higher level of engagement. Faculty and teaching staff concurred that using the innovation helped students gain intuitive and quantitative understanding of some of the most challenging concepts in introductory physics.

Facility Innovation in Teaching Program 2008 Awards

Agriculture and Life Sciences
Barbara Eaglesham, “Integrated Approach to Microscopy Teaching”
Tarleton Gillespie, “Merged Individual Blogs to Bring Students Together”
Deni Ruggeri, “Virtual Drawing Board for Landscape Arch & Design”

Architecture, Art and Planning
Patricia Phillips, “Integrating New Technologies”

Arts and Sciences
Peter Gierasch and Don Banfield, “Rotating Fluids in Astronomy and Earth Sciences”
Sabine Haenni, “At the Intersection of Internet and Cinema”
David Patel, “Helping Students Evaluate Islamist Moderation”

Computing and Information Science
Andrew Myers, “Computer Science Course Management System”

Engineering
Rajesh Bhaskaran, “An Online Learning System for Engineers”
Jonathan Butcher, “Natural Engineering - Development and Regeneration”

Hotel Administration
Tony Simons, “AV Clip Collection for Organizational Behavior”

Human Ecology
Kathleen Gibson and Jan Jennings, “Interior Architypes Project | Expanded”

Industrial and Labor Relations
Christian Miller, “Interactive Model for Teaching Research Skills”

Johnson Graduate School of Management
Angela Noble-Grange, “SimUWrite, Inc.”

Law School
Sital Kalantry, “Collaboration on Legal Documents”

College of Veterinary Medicine
Susan Fubini, “Videos to Enhance Surgery Training”

Faculty Advisory Board on Information Technologies (FABIT)
Park Doing and Carol Grumbach, “Using Virtual World Technologies to Teach Ethics”
Elvira Sanchez-Blake, “Spanish Applied to Latin American Studies Courses”
M. Todd Walter, “Putting Watershed Education on the Map”
Kelly Zamudio, “Literature and Digital Organims in Evolution”
Engaging Students through Digital Case Studies

Recent FIT projects used digital case studies as a reality check, enabling students to contrast theories learned in class with the nuances of applying them to a real-world situation. CIT provides technology that enables faculty to build and present cases by combining individual resources from multiple formats into one learning environment, a foundation upon which new cases can be added over time.

In one law course, case studies used multiple sources of information, news clips, and other media to create a context in which students could review decisions and the reactions to those decisions from key stakeholders. In another law course, case studies enlivened what might have been considered dry material with contentious applications of the law in real cases.

According to one participant, with case studies, “courses became richer, more realistic, and more deeply imbued with the challenges of professional practice.” In both law courses, case studies gave students a realistic view of skills and practices and stimulated discussion about the subtleties and consequences of how the law was applied. Seeing practical applications deeply engaged them in learning and contributing to the collaborative development of content, independent of course assignments.

Supporting Campus Blogs and Wikis

FY09 Objective: Support blogs and wikis as central campus services.

As discussed in the FY08 Progress section (page 29) and in the Collaboration Tools and Facilities section (pages 13-14), we now fully support blogs and wikis for education, research, and communication. Hundreds of wikis are being put to use by diverse Cornell teams for education, remote collaboration, research, information repositories, and discussion.

The central campus blog service is already in full operation. We offer training and guidance in blogging best practices to faculty who want to use blogs for academic work.

Participants in the Moodle pilot meet weekly to discuss issues and progress. From left are Paul Velleman, associate professor of social statistics at the School of Industrial and Labor Relations; Tony Cosgrave, librarian and instruction coordinator for collections, reference, instruction, and outreach at Olin and Uris Libraries; and Jami Carlacio, lecturer in the Department of English.

Piloting Innovative Instructional Technologies: Open Source Portfolio

FY09 Goal
Implement at least one innovative instructional technology service piloted in FY08 (i.e., blog, wiki) as a supported central campus service and pilot at least one new innovative application of technology for instruction identified during FY08.

FY09 PLANS
• Supporting Campus Blogs and Wikis
• New Instructional Technology Pilot: Open Source Portfolio
• Blackboard Alternative Pilot: Moodle

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Piloting Innovative Instructional Technologies: Open Source Portfolio

FY09 Objective: Pilot the Sakai Open Source Portfolio application and determine whether to deploy it for broad use.

In the fall 2008 semester, we will pilot the Open Source Portfolio (OSP) application with the International TA Teaching Program. As part of the Sakai learning and collaboration environment, OSP enables students to collect audio, video, and other work in a portfolio during a course or over connected courses, helping fulfill programs that require a representative body of work. Instructors can review and provide feedback, with the potential of tying assignments and feedback to a student’s portfolio.

Though the application can be structured flexibly, our pilot implementation will be per-course. Faculty recruitment and preparation efforts will occupy us in fall 2008, with the pilot and evaluation to take place in spring 2009.

Testing Alternatives to Blackboard for Course Management: Moodle

FY09 Objective: Pilot the Moodle course management system as a Blackboard alternative based on a balance of technical, support, functional, and user considerations.

CIT has supported the Blackboard course management system (CMS) since 1997, but, as we do with all our systems, we must evaluate whether it continues to meet the changing needs of Cornell instructors. To guarantee we are providing the best possible service, we will pilot the Moodle CMS during the 2008-2009 academic year with current faculty users of Blackboard. Moodle is an open-source CMS used by many institutions.

For the pilot, we will migrate existing content for up to 50 courses into the system and evaluate faculty and student satisfaction alongside Moodle’s support, cost, and infrastructure requirements. By the end of the pilot, we expect to make a decision on which content management system CIT will support. Blackboard support will continue throughout this process.
Making Progress on the Ten-Year Capital Plan

FY08 Objective: Implement the highest value administrative systems based upon institutional priorities recommended by the Administrative Computing Advisory Committee (ACAC).

In FY08 CIT made significant progress toward the completion of capital projects included in the ten-year capital plan. The replacement of the student system suite of applications (including Registration, Admissions, Bursar, and Financial Aid) was substantially completed in FY08. In addition to the operational functionality provided by the Oracle/PeopleSoft software, CIT provided data warehouse capabilities for campus groups that need access to student data to accomplish their mission. FY09 will see two smaller releases of the system and a transition to a steady-state production support model.

As described in the ten-year plan, resources were also provided to Kuali community-source project initiatives, including Kuali Financial System, Kuali Coeus Research Administration, and Kuali Rice (infrastructure and workflow). The Kuali Financial System software being developed by the Kuali Foundation consortium will be available for Cornell in March 2009, thus allowing the beginning of the Cornell Financial System replacement project.

Resources from the Student (STARS) project are being redeployed to other projects on the ten-year plan, including Enterprise Learning Management to track Cornell staff’s training and skills, Coeus Institutional Review Board to help manage our research administration needs, and the Cynergy project (Kuali Rice at Cornell) to implement the infrastructure needed to run the Kuali Financial System.

Supporting Community Source Development of Business Applications

FY08 Objective: Monitor, support, and mentor Cornell efforts associated with the Kuali Foundation. Supply resources to the development of the Kuali core code base.

As a member of the Kuali Foundation, we contributed to setting the technical direction and building the core code for Kuali Rice, the infrastructure required to develop a community-source administrative suite of applications for academic institutions. The foundation released three versions of Rice to support the Kuali Finance, Kuali Coeus Research Administration, and Kuali Student applications, and released a separate version to the public for general software development.

Independent of its role as the supporting infrastructure for the Kuali applications, the Rice effort has the potential for wide adoption among colleges and universities. Six,
Administrative Systems Metrics

STARS student records conversion—
number of students converted: 267,873
...number of enrollment records
converted: 5.9 million; new lines of code
written: 32,000

Employee Essentials—average visits
per month: 5,407 ...number of unique
visitors per month: 3,427

COLTS III—number of payroll
representatives served: 726 ...number
of supervisors: 4,518 ...average number
of time cards per pay cycle: 8,327
...number of employees: 7,707 ...number
of paygroups: 482

including Cornell, already plan to use Rice
to underlie their independent development
efforts for administrative applications.

Transforming Cornell’s
Student Information
Architecture with STARS

FY08 Objective: Roll out the remaining
modules for STARS, including
Admissions Applicant, Bursar, Financial
Aid, and Records.

Four implementations for STARS, the
System for Tracking Administrative
Records for Students, were completed in
FY08, providing the major functionality
and new data warehouses for all the student
modules: Admissions Applicant, Student
Records, Financial Aid, and Student Finan-
cials. STARS makes student data input,
storage, management, and retrieval across
the university more consistent, reliable,
scalable, and efficient. Staff from across CIT
divisions partnered with functional team
members to help the entire campus move to
an integrated PeopleSoft Student Adminis-
tration system with distributed access.

We are now providing operational support
for the new student system, and STARS
performed with great success during the
heavy spring load. In the spring pre-
enrollment period, 85 percent of each class
completed enrollment in the first hour of
registration, which is a new record. Grades
for spring 2008 courses were entered into
the new system in what was also a record
time, with no staff being required to work
beyond normal hours to complete the grad-
ing process.

These four new projects allowed us to retire
customized applications and legacy student
data warehouse infrastructure that have
been in use at Cornell for a decade or lon-
ger. Among those retired were Undergradu-
ate Admissions, Graduate Admissions, and
Bursar legacy applications. Financial Aid
and Student Records legacy applications
are largely retired, but are still available for
limited historical work. The STARS project
also enabled retirement of the Student
Employment System, Just the Facts (retired
but in use as an archival system), Warning
and Termination Letters, Graduate Special
Committee, Graduate Registration Units,
and Graduate Field Reports.

The following programs also support our
five-year strategic goal for administrative
systems.

Leveraging Existing Systems

FY08 Program: Fulfill projects selected
by the ASPC to meet the needs
of colleges and ensure existing
administrative systems keep pace with
the businesses they support.

Work we perform for the Administrative
Systems Planning Committee (ASPC) goes
on year-round to refine and improve our
large administrative applications so they
work better for Cornell. In FY08, 19 APSC
projects ranged from exploiting PeopleSoft
capabilities for Human Resources and
Payroll departments to providing metrics,
reporting, and analysis tools to the College
Officers Group.

Improving COLTS for
Employee Time Recording

FY08 Program: Provide ongoing
support of existing administrative
applications for Cornell business units
and for online self-service applications:
Upgrade Colts II.

COLTS II, the Cornell online time collec-
tion system for employees, relied on aging
technology and was not compliant with
recent changes in Daylight Saving Time.
We replaced it with a platform-independent
web client, COLTS III, so Cornell users
can access time cards remotely over the
Internet, secured with a NetID. The change
significantly reduces support costs and time
while streamlining access and usability for
more than 10,000 employees.
FY09 Goal
Continue to execute the ten-year capital plan for administrative systems by securing necessary resources/funding, incorporating new initiatives with approved projects into the FY09 project plan, successfully completing project deliverables and sixteen ASPC small projects, enhancing existing applications, and revising the ten-year capital project plan.

FY09 PLANS
- Ten-Year Capital Plan
- Cynergy
- STARS
- Business Intelligence System
- ASPC Small Projects and Planning
- Managing Campus Metadata
- Business Analysis
- Data Administration and Data of Record
- SCRUM for Application Development
- Address Cleansing Replacement

Revising the Ten-Year Capital Plan
FY09 Objective: Revise the ten-year capital plan annually.
In conjunction with the Administrative Computing Advisory Committee, we will revise the rolling ten-year capital plan for administrative systems. This process allows the review of new capital requests, prioritizes all capital requests, and provides a schedule that works within the budget constraint provided by the university.

Building Business Applications and Fostering New Development: Cynergy
FY09 Objective: Implement Cynergy 1.0.
Cynergy is the Cornell effort to implement Kuali Rice as the foundation for two large business applications, Kuali Finance and the Kuali Coeus Research Administration system, and as a platform for local custom application development outside the Kuali scope.

First, we will integrate Rice with Cornell’s institutional infrastructure, using our authentication methods, directories, and data to prepare for layering new applications and incorporating workflow and notification features to applications we already use. We released Cynergy phase one to production in July 2008 and plan to pilot a version of Coeus 1.0 in fall 2008.

Completing STARS for Integrated Student Information Management
FY09 Objective: Complete the STARS project and retire remaining legacy applications.
The STARS project will end December 31, 2008, a culmination that completely transforms the IT architecture for Cornell’s student information. The remaining deliverables include several financial aid customizations for New York State award processing that will go live in early FY09. We will also implement Student Financial regulatory and tax functionality and some delayed functionality into the Student data mart.

We have entered a system stabilization period that will last for several months. During this time, we will continue working on ASPC small projects to enhance the application functionality, and retire legacy applications.
Transitioning to a New Business Intelligence System

FY09 Objective: Implement a new, robust suite of business intelligence tools.
Cornell has licensed Oracle Business Intelligence Enterprise Edition (OBIEE+), a suite of tools encompassing products from both Hyperion and Siebel. The suite includes Hyperion’s Brio tool that the campus community uses extensively today along with other products and technology that will allow Cornell to leverage data more flexibly and efficiently. The license includes current and future versions, permitting us to support both product lines for the next three years or more. The new license provides support for Brio indefinitely, but Hyperion will stop releasing Brio after version 9.5.

Transitioning to the new reporting system will be guided by a roadmap to be developed by a committee encompassing college units, central business units, and CIT.

Planning for an Increased Workload of Administrative Systems Planning Committee (ASPC) Projects

FY09 Objective: Accomplish ASPC small projects at a 60% increased annualized run rate.
The request to increase by 60 percent the number of ASPC small projects we complete will require smart planning, and we’ll be putting new processes in place this year to help accomplish this effort. The planned projects fall into seven ASPC categories, all tracked separately: Metrics, Extend Local Solutions, System Enhancements, Imaging/Workflow, Exploit PeopleSoft, CUFA, and Student STARS enhancements.

The work in progress to improve our strategies for planning prioritized ASPC projects includes better resource management. We’ll make connections between project and resource managers to avoid staffing conflicts. To build on these gains, we’ll look for opportunities to mentor and coach project managers who oversee this type of work, and provide staff with formal training in project management methodology.

Managing Campus Metadata for Better Business Intelligence

FY09 Program: Create a metadata model for all data marts in CIT.
The outcome of this project is essential to moving forward with an enterprise view of Cornell’s institutional data. To report accurately on the same data in 15 different data marts, we must consistently manage the definitions and context of those data elements across all functional areas. Metadata (data about data) management is the key enabler in making data entries consistent, no matter which model they derive from, and our goal is to create a consistent enterprise metadata system.
Since data are entered, maintained, and stored in numerous systems across campus, our challenge has been to combine this diverse, non-integrated data into meaningful relationships and then present the relationships in an intelligible format. Metadata lets us map the relationships in a consistent and thoughtful manner, enabling better business intelligence capabilities for Cornell. As part of the project, we will review and analyze existing metadata deployments on campus in order to create a coherent model for all CIT data marts. We’ll undertake the project in two phases: phase one includes analysis of current environments and recommendations for future actions; phase two includes implementing phase one changes, developing a consistent data model to be used by all data marts, and developing a consistent and distributed maintenance application.

Formalizing Business Analysis for CIT and Finding Project Synergies

FY09 Program: Refine and test the methodology developed thus far for business analysis. During FY08 we began to standardize our approach to a business analysis (BA) methodology. We’ll complete draft development of the BA User’s Manual in FY09 along with a training curriculum, formalizing a BA framework for CIT. Long-range BA goals include offering mentoring to CIT staff and other campus organizations.

The business analysis we perform for large administrative projects and the ongoing ASPC small projects queue keeps us in close touch with customers as we collaboratively identify business requirements and work to meet their computing needs. These relationships offer us a wide view of the types of work the university requires, and in FY09 we’ll take a more integrated perspective toward planning, looking for potential synergies and making recommendations to combine resources and functionality when our analysis demonstrates that project requirements intersect.

Guiding Institutional and Shared Data Development

FY09 Program: Provide analysis, review, and consulting for institutional and shared data development, design, and use, especially when involving data of record determination.

Data of record determination—identifying the location of the sole authority for a piece of data—is key for any large administrative system and will be critical for the Kuali project. Developing a coherent, predefined architecture for the Kuali data of record will occupy us early in FY09, ahead of larger Kuali development slated to begin in the third quarter. The advance work will provide for much more efficient data management as time goes on.

Speeding the Delivery of Working Software with SCRUM

FY09 Program: Pilot the SCRUM software development methodology. As we develop Cornell’s administrative applications, we are investigating SCRUM, an iterative software development process that partners developers directly with product owner-users with the shared goal of quickly delivering working software. We piloted SCRUM approaches successfully during FY08, and many of our developers have attended SCRUM training.

The SCRUM method brings a dedicated team together that includes an engaged product owner who prioritizes work from the user’s point of view. The team meets daily to discuss the work in each development “sprint,” usually a 20-30 day period targeting a working deliverable. The features of each development iteration are taken from the “product backlog,” the set of high-level product requirements defined by the product owner.

Our goals with SCRUM are to work with software users and optimize development cycles to deliver working software to campus more efficiently. We will continue to pilot SCRUM and promote it at the university, arranging training and access to the methodology.

Replacing Address Cleansing Tools

FY09 Program: Determine a new approach to mailing address cleansing due to the current vendor ending support.

The software CIT uses to check for valid mailing addresses—a utility that saves on the number of campus postal mail pieces returned—was purchased by a PeopleSoft competitor, and the new owner has opted to cease product support at the end of 2009. Our task is to research and deploy a new option, whether from a new vendor or as a result of exploiting PeopleSoft to keep mailing data clean.
Analyzing and Improving Our Quality of Work Life

FY08 Objective: Analyze the 2007 CIT Quality of Work Life (QWL) Survey and work with each CIT director to develop targeted plans to address specific QWL issues in their units.

In our annual CIT Quality of Work Life survey, we ask our staff their views on the general work climate, relationships among unit members, opportunities for job growth, job value and satisfaction, compensation, and perceptions of trust and fairness in management. In the 2007 survey, 85 percent of respondents said that working at CIT was a good deal for them.

After carefully analyzing all the 2007 results, Polley McClure, vice president for information technologies, and Linda Croll Howell, the director for strategic planning and organizational effectiveness, met with each CIT director to discuss survey outcomes and review the director’s plan to address specific quality of work life concerns in their respective units.

The Quality of Work Life Committee also reviewed the results and focused its efforts on improving cross-divisional communications through social events such as the second annual CIT Wafflemania and the 100 Best Companies for IT Professionals celebration luncheon. We also began the Director Career Development lunch-and-learn program, where every couple of months we invite a CIT director to talk about his or her career path.

Targeting Hiring Goals in Under-Represented Job Families

FY08 Objective: Set specific, targeted hiring goals for all open positions in under-represented job families. Expand postings to targeted sites/venues to increase exposure and expand the candidate pools.

We examined the organization to identify areas where populations are underrepresented and shared this information with managers. At the same time, we offered managers techniques and assistance with finding a larger pool of candidates for open positions.

In support of our goals and the diverse staff who work at CIT now, we piloted a program called “Respect in the Workplace,” educating teams about Title VII law. Supervisors and employees attended courses detailing the behaviors consistent with our value, “respect,” and learned about the impact to individuals when these behaviors are not met. We’ll offer this again in FY09 for all employees and supervisors who haven’t yet taken the course.

Polley McClure spoke to the Girls Tech Camp, a BOCES project that introduces girls in middle school to different technologies. Campers spent a day at CIT and met with six women who have made technology their career.

Barbara Friedman demonstrates web conferencing during the BOCES Girls Tech Camp.
The following programs also support our five-year strategic goal for diversity and quality of work life.

**Encouraging Students Interested in IT**

**FY08 Program: Participate in the BOCES internship program by placing five high school students at CIT.**

We participated in the Board of Cooperative Education Services (BOCES) program during the spring 2008 semester, offering high school interns a chance to work with our staff in different areas, and giving them exposure to the working life and an entry-level experience in IT.

In July 2008, we participated in another BOCES project, their second annual Girls Tech Camp, designed to introduce girls in middle school to various technologies as they prepare to enter high school and start to focus on areas of interest. Campers spent a day at CIT hearing from six women who have made careers in technology, including Polley McClure, vice president for information technologies. We plan to join in again next year, helping educate and encourage young women to think about IT as their vocation.

**Ranking High in National IT Surveys**

[www.computerworld.com/spring/bp/detail/82](http://www.computerworld.com/spring/bp/detail/82)

We received national recognition when Computerworld magazine named us one of the “100 Best Places to Work in IT” for the second year. We ranked 82 out of 100 companies and were among just five universities to make the list. Survey respondents again cited CIT staff development programs like the Technology Scholarship Program and the “Effectively Managing Your Career” course.

Since developing a high quality of work life is one of our strategic goals, making the “100 Best” list was an exceptional honor, reflecting efforts throughout all levels of management and the participation of every employee to help us reach and maintain a level of excellence and a gratifying balance at work for Cornell.

Our overall position in the list was lower than in 2007. This drop may be partially due to an overall increase in the number of organizations considered, and our not having a formal bonus program in a time when employees increasingly focus on compensation as a measure of employer satisfaction. Offering competitive salaries is an issue facing many IT groups in higher education. We’re researching the characteristics of the top achieving organizations on the list to find the ones most relevant to CIT, and will implement programs to help strengthen our performance in FY09.

**FY09 Goal**

Continue to focus efforts on improving CIT’s quality of work life to both attract and retain a talented, diverse workforce, and to make Computerworld’s 2009 top 100 employers for IT professionals.

**FY09 PLANS**

- 2008 Quality of Work Life Survey
- Career Development Support
- New Staff Leadership Programs
- Women in Technology Special Interest Group
- Outreach

**Surveying CIT Staff about Quality of Work Life**

FY09 Objective: Analyze the 2008 CIT Quality of Work Life Survey and work with each director to develop targeted plans to address specific QWL issues in their units. Continue to work with the QWL Committee to identify and address overall CIT QWL concerns.

In our annual survey of CIT staff concerning their feelings about working here, 87 percent of respondents in 2008 said working at CIT was a good deal for them, up 2 percent from last year. Top improvements over last year include improved perceptions of director leadership performance, with scores rising an average of 6 percent over
2007 in this category. Responses show a general upward trend in a feeling of balanced workload, in finding work rewarding, and in overall satisfaction.

Establishing a community and cultural fit is key to a high quality of work life, and we added four new questions to the 2008 survey to discern “organizational embeddedness,” or why people stay at CIT. In reply to the topic, “I really love living in this area,” 76 percent of staff agreed, with only 5 percent disagreeing. Understanding the needs of employees beyond job functions and work relationships will help us improve recruitment and development of new employee programs.

The preliminary analysis of survey results became available in early FY09, and we’ll work with directors and the Quality of Work Life Committee throughout the year on continuing to improve on areas of concern and build upon our strengths.

Continuing to Support Career Development

FY09 Objective: Identify and implement programs to improve CIT quality of work life.

In August 2008 we held the first of three “Effectively Managing Your Career” workshops to be given in FY09, discussing job dimensions, the concept of cultural fit, and how individuals can identify their interests and strengths and then create a career roadmap to build on them.

Knowing what skill sets and credentials are necessary for a particular kind of job is crucial in moving a career forward. We are working on creating job family career maps to provide our staff with a clear understanding of the skills and knowledge they need to prepare for new opportunities. These roadmaps will include recommendations for specific training programs and development experiences to obtain the needed skills and knowledge. We are currently working on career maps for project management and IT tech support and plan to target other specific IT job families this year.

Launching New Leadership Programs

FY09 Objective: Pilot a new program for supervisors. Launch a new employee leadership program (ELP).

Supervisor training sessions we will pilot in FY09 will give managers a positively focused education in identifying employee strengths and helping develop them. Separately, we’ll pilot a supervisory feedback tool that one CIT unit has already used.

A new employee leadership program will build on our original ELP. Titled “Creating Positive Relationships,” it will focus more on the so-called “soft skills” of facilitation and communication, as critical in the IT realm as in any other, especially as CIT moves toward a more service-oriented approach.

The following programs also support our five-year strategic goal for diversity and quality of work life.

Keeping Women in Technology

FY09 Program: Develop programs to attract, develop, and retain women in IT.

To help address the dropout rate of women from the IT force, we will launch the Women in Technology on Campus special interest group, providing a forum for women to work together to actively recruit, retain, and support women in IT. More than just a speaker’s forum, the group is intended to focus on all aspects of bringing and keeping women in the field of IT. We’ll set broad categories that the group will further define as it gains momentum.

Reaching Out to Our Community

FY09 Program: Propose plans for outreach.

Several CIT members engaged in community programs on their own in FY08, bringing good ideas and positive results to adult learning and community centers, as well as after-school programs. As technology professionals, we have expertise—and sometimes refurbished computers—that can make a difference to many without the resources to purchase the equipment we find essential. Our proposed plans for outreach in FY09 will bring more of these skills to bear in service to the community, in particular addressing the lack of exposure to computers in lower-income environments.
Five-Year Strategic Goal
To support university and CIT goals, we must provide appropriate financial, facilities, and human resources.

FY08 Goal
Secure approval to move forward with CIT building design.
Secure funding for top CIT priorities as presented in the CIT operating budget request and straighten out other funding and “colors of money” issues with CIT’s budget.

FY08 PROGRESS
• New CIT Building
• Overall Funding
• Administrative Funding

Planning a New CIT Building
FY08 Objective: Secure approval to move forward with CIT building design.
We received authorization from the university administration and the Board of Trustees to pursue the design for a building that will house all CIT staff and equipment under one roof, including a data center to be shared by the Center for Advanced Computing (CAC). The architecture firm of Weiss/Manfredi was selected, who designed Ithaca’s Museum of the Earth.
Together we have been working through design iterations that include 132,000 square feet of offices for CIT and CAC, a 10,000-square-foot video and audio recording studio, and 28,000 square feet of raised floor space dedicated to the data center, giving us room to grow. A total of 65,000 square feet will support mechanical spaces.
Since recent design iterations added essential functional spaces but changed the proposed cost, we will make a new request for building budget approval. Additional progress is dependent on decisions made during Cornell’s recalibration of its capital budget in late 2008.

Securing Overall CIT Funding
FY08 Objective: Secure funding for top CIT priorities as presented in the CIT operating budget request and resolve other funding and “colors of money” issues with CIT’s budget. Finalize CIT’s funding request by the end of 2007.
In response to CIT’s annual strategic financial plan, we received a funding enhancement of approximately $2 million, effective FY09, to support new or broadened strategic initiatives. In particular, we received new funding to support initiatives for disaster recovery, wireless/mobile support for hand-held devices, and a campus site license for Microsoft Office. Enhanced funding was also received to augment staffing resources, principally in IT Security.
After FY09, approximately $1.1 million will continue as regularized funding to meet the ongoing commitments of these new initiatives.

Funding Administrative Systems
FY08 Objective: Secure funding to meet needs of the five-year plan for administrative systems enhancements before July 2008.
The university has increased its annual institutional investment in new campus information systems from $10 million to $15 million. The 10-year strategic plan for administrative information systems, jointly developed by CIT and central office business partners, is updated annually to prioritize systems development, implementation, and support initiatives.
Financial, Facilities, and Human Resources Metrics

Average years of service by our staff: 12.14 years at the university, 9.14 years with CIT

Staff with 10 or more years of service: 94
...with 20 or more years of service: 86

Total number of staff: 406
Staff hired: 56 (20 new to Cornell)

University Computer Purchases
Fiscal Year 2008

- Gateway (0.2%)
- Lenovo (1.0%)
- Sun Microsystems* (1.1%)
- Compaq/HP (5.7%)
- IBM (6.1%)
- Apple (36.2%)
- Dell (49.7%)

* Sun Microsystems includes Serverware Corp (Sun Reseller)

IT Funding: Fiscal Years 1999-2008 in 1999$
(in $1,000's)

- Special Funding (EzraNet, PAR’s, Distributed Learning)
- Mainframe, Administrative Systems Development and Maintenance
- Cost Recovered Services (Voice and Data, EZ-Backup, Server Farm, etc.)
- General Appropriations (General Campus Services)
Designing a New CIT Building

FY09 Objective: Secure budget approval and begin design in detail.
This fiscal year we will seek validation and approval from the Campus Funding and Planning Committee and the Board of Trustees on the revised budget for a high-level building design. Once a budget is agreed upon, we will be able to commence design in detail with Weiss/Manfredi Architects.

We will continue working with the Office of the University Architect, Project Design and Construction, and other stakeholders to decide on the building site and then request municipal approval to proceed. Our current request is that the building sit between the East Hill Office Building and Pine Tree Road.

Funding Our Top Priorities

FY09 Objective: Secure funding for CIT’s top priorities.
Each fall, along with other CUFA divisions, CIT submits an incremental funding request to the University Budget Office. This request includes costs necessary to sustain the growth of existing services, as well as to meet the growing demand for developing and supporting new services. These requests are considered for funding by the Budget Office and the Operations and Planning Committee, which consists of deans, vice presidents, and college business officers.

Additionally, we are engaged in a regular ongoing dialog with the University Budget Office to discuss funding for services that remain unfunded, such as staff compensation, as well as to discuss the ongoing funding requirements for large-scale projects such as administrative systems and EzraNet.

Planning for Modifications to CIT Budgeting and Reporting Practices

FY09 Objective: Plan for the development of a comprehensive solution capable of supporting CIT’s budget preparation and financial reporting requirements.

Partially automating CIT monthly financial reports will streamline what is still largely a manual effort to prepare detailed, complex financial results for nearly 200 CIT accounts. This project will expedite delivery of monthly reports along with forecasting we do throughout the year, as well as reports for Cornell University Finance and Administration (CUFA), Sarbanes-Oxley, the annual budgeting cycle, and other needs.

We will implement a solution for the near term, which will make monthly financial and management report production routine, and then enter a discovery phase for a more comprehensive internal solution capable of supporting our budgetary and financial reporting requirements. We expect the project will extend into FY10.

Improving Internal Business Processes

FY09 Objective: Evaluate major internal administrative processes and identify improvements to make.

In FY09 we’ll focus on our internal business processes to find out how we can perform better as an organization to benefit CIT employees, our business, and our service to the university. Successes like centralizing CIT billing in FY08 demonstrate the far-reaching effects of making our administrative function more proactive, and we’ll look for similar projects that streamline our day-to-day work with a direct benefit to Cornell.
Support for the University

Providing high-quality products and services to the Cornell community is always our working goal. A vast amount of what we do happens in response to the campus’s daily needs, in creating a more service-oriented culture at CIT, and in setting the priorities to deliver on the university’s requirements for computing infrastructure and systems, robust and reliable networks, and data security. This section represents our high-profile programs to support Cornell every day.

FY08 PROGRESS

- IT Managers Council
- Bailey Hall Technical Upgrades
- Media Production Services
- CyberTower
- Web Accessibility
- Web Sites for Cornell Partners
- Research Computing in CIT Labs Pilot
- Cornell Optional Email Alias
- IT Policy Framework
- Digital Copyright Education
- CIT Change Advisory Board
- Central Microsoft Office Licensing
- New Billing Office
- CIT Customer Survey

Connecting IT Leaders with the IT Managers Council

confluence.cornell.edu/display/ITMC/The+IT+Managers+Council

The IT Managers Council (ITMC) remains a vital forum for IT leaders across campus to share ideas and exchange information in support of the ongoing goal to make Cornell’s IT function more effective and efficient. The 16 members of the ITMC meet monthly, with one representative from each major college, administrative unit, and CIT area with university-wide scope.

ITMC members participated in important advisory groups in FY08, notably the Task Force on Personal Productivity, whose recommendations help inform the Ensemble project. Other ITMC committees focus on best practices, software acquisition, professional development, and disseminating information across IT boundaries.

Managing and Supporting Bailey Hall Technical Upgrades

FY08 Program: Continue to manage and support technical improvements in Bailey Hall.

CIT manages the ongoing technical upgrades and support for Bailey Hall that have made it the most state-of-the-art audio environment and advanced teaching auditorium on campus. In addition to supporting the distance learning components of the Psychology 101 course (see Ithaca-Weill Campus Collaborations in the Collaboration Tools and Facilities section, page 11), we have also begun webcasting high-profile events, starting with the live high-definition/digital surround sound multicast of the Philadelphia Symphony Orchestra performance in spring 2008.

In response to requests and plans for future events, we will install rigging equipment in FY09 to enable more difficult lighting and staging options, as well as equipment to record performances in high-resolution formats.
Becoming Cornell’s First Choice for Video Production

FY08 Program: Increase the Cornell community’s awareness of the Media Production Group and its services with the goal of becoming Cornell’s first choice for video production, retool MPG’s consulting services, and offer clients multiple levels of service.

Requests for our video production work come from all around campus, from groups who want DVD copies of events we cover annually, such as Commencement, to departments needing full-fledged documentary-style productions, shot on campus or in the field. We manage all audio and video production for CyberTower forums and study rooms as well as for Faculty Innovation in Teaching projects.

Signature campus productions for FY08:
• East Hill Notes, a monthly program for the Office of Community Relations, airing on the local cable access channel
• The Cornell Quick Tour: Basic Tips for New Students, produced for Risk Management, a menu-driven DVD shot during the year for inclusion in student enrollment packets
• The New Student Reading Project Panel Discussion, a yearly live webcast with a lingering reach: we deliver the production on DVD to secondary schools that join the project, it’s shown on local access cable, and it remains on CornellCast for the community
• The majority of taping for key lectures and other CornellCast events delivered over www.cornell.edu/video, including the Cornell Close Up series, offering thumbnail views of professors speaking about their interests, and In the Classroom, a weekly webcast of classroom lectures
• The annual Cornell Commencement, webcast live
• The ILR School video featuring Dean Harry Katz speaking about the school’s mission, shown on the ILR News Center web page

Happenings in CyberTower cybertower.cornell.edu

FY08 Program: Create ten study rooms and eight forums and partner with University Communications to implement a new Provost Series, which will present video of selected special lectures along with commentaries and related links.

We ended FY08 with six new study rooms, five new forums, and three new Views & Reviews segments. Other important changes included increasing the video size on the Forum and Views & Reviews pages, revising the CyberTower application to perform on a new server, and moving to a new database configuration for better support at a reduced cost.

In advance of next year’s CyberTower redesign, we removed the login requirement, lowering the barrier for entry and use, although subscription remained high. Nearly 1,600 new subscribers have joined since 2006, for a total of 31,200 subscribers and 1,864 active users as of October 2007. For an educational service with such a diverse user base, we are happy to note that we received only one request for support through the Contact Center (HelpDesk) in FY08.

FY08 New Study Rooms

Six new study rooms were completed in 2008, making a total of 45 in CyberTower:
• Billie Jean Isbell, Anthropology, “From Serfs to Political Actors: Were Cornell’s Changes in an Andean Community for the Best?”
• Yervant Terzian, Astronomy, “Cosmology and Anthropic Principle”
• E. D. Intemann, Theater, Film, and Dance, “Poetry of Light”
• Rachel Bean, Astronomy, “The Puzzling Light of the Universe”
• Tarleton Gillespie, Communication, “Wired Shut: Copyright and the Shape of Digital Culture”
• Jim Self, Theater, Film, and Dance, “N2 Da Fu Cha: A Celebration of Abstract, Pop and Dada Dance forms”

FY08 New Forums

Five new forums were produced:
• December 2007: Jefferson Cowie, associate professor, discussing “Last Days of the Working Class”
• March 2008: Ken Hover, professor, discussing “Crossing Bridges: A Conversation with Structural Engineer Ken Hover”
• Andy Noel, Cornell’s Director of Athletics, “A Conversation with Andy Noel”
• June 2008: Freshman Book Project, Lincoln at Gettysburg
New Views & Reviews
Three new Views & Reviews segments were created:

- Joe M. Regenstein, “How the Oreo Became Kosher and Other Jewish Food Adventures,” part of Cornell Hillel’s Jewish Faculty Lecture Series
- Ross Brann, part of Cornell Hillel’s Jewish Faculty Lecture Series
- Richard Polenberg, part of Cornell Hillel’s Jewish Faculty Lecture Series

Promoting and Formalizing Web Accessibility at Cornell
FY08 Program: Introduce the Web Accessibility Compliance curriculum to assist web developers in employing web accessibility standards.

Once the draft IT policy for Web Accessibility goes into effect, new and redesigned web sites will be required to comply within a year, course sites in up to two years, and other types of sites will be given longer to comply. To aid in achieving the requirement that sites be accessible to people with visual, hearing, or other disabilities, we provide a free Web Accessibility Primer and advanced accessibility courses for Cornell designers and developers. Our web designers have built up expertise in the last year so that new sites are being designed to comply.

Building Web Sites for Cornell Partners
FY08 Program: Focus on growing strategic partnerships across the university in order to address Cornell’s rising web design and development needs.

Key web projects we did in FY08 helped our Cornell partners fulfill their goals for outreach and admissions. In the process we created inviting new web presences for a variety of audiences with functionality that makes it easy for Cornell contributors to add content to sites for their programs.

www.cornell.edu/outreach
The new Cornell Outreach portal, requested by the Associate Provost for Outreach and sponsored by University Communications, was built to address the need for faculty and researchers to easily upload program content to a single location where schools, businesses, government agencies, and interested community members can find it. We provided tools to let content contributors upload their materials in three simple steps, overcoming a previously slow and labor-intensive process. Now anyone can search or browse among more than 160 programs that were added by the end of summer 2008. More than a web site with an efficient back end, the Outreach portal is helping fulfill Cornell’s mission as the land grant university for New York State.

Admitted Students Web Site
The Admissions Office requested a web site that would serve undergraduate students deciding whether to attend Cornell after receiving an offer of admission. We delivered “Welcome to the Hill,” a rich multimedia site that helps answer questions on topics from Cornell financial aid to sports and the Ithaca lifestyle, including a video message from President Skorton welcoming prospective students and speaking about the essence of a research university. With its animated style and broad informational foundation, the new site helps keep Cornell competitive with peer institutions in the effort to recruit the most qualified students.
Piloting Research Computing in CIT Labs

FY08 Program: Together with the Center for Advanced Computing (CAC), explore the potential of using CIT public computer lab systems to provide computing cycles that can be used by CAC for research computing. This experimental pilot started in FY08 to explore and identify the technical requirements, logistics, potential benefits, and sustainability model of making CIT public computing lab systems available as a computational computing resource for the Cornell community. We provided a limited number of systems for testing that are managed and maintained according to standards befitting a public computer lab. The project is not intended to create a service but assists a campus partner in exploration of the process.

Providing Choices in Cornell Email Addressing

www.cit.cornell.edu/computer/email/alias

FY08 Program: Launch the Alternate Email Alias Service to give selected Cornell community members the opportunity to choose and use customized email addresses. Early in FY08 we made the Cornell Optional Email Service available to Cornell members with academic appointments, allowing them to request a name-based email address in addition to the standard NetID-based address. For example, an address could look like ezra.erwin@cornell.edu rather than the less descriptive ewe1@cornell.edu.

We incorporated users of the former email fuzzy matching system if their aliases were name-based and actively in use. Close to 1,500 users were using new email aliases by the end of FY08, and we expanded the service to all Cornell staff and Trustees in early FY09.

Educating Our Community about Digital Copyright

FY08 Program: Introduce the Copyright Education Program to broaden understanding of the law, policies, and politics of digital copyright.

As a way to educate students who receive Digital Millennium Copyright Act (DMCA) notices for allegedly violating copyright laws, we introduced the Copyright Education Program, written by the IT Policy Office and produced by eCornell. We piloted it in a program for first-time student offenders of copyright with no previous record with the Office of Judicial Administration. After receiving a DMCA notice, the student must take this automated, fee-based tutorial on copyright law and file sharing technologies and then pass a test (12 out of 17 questions).

Setting the IT Policy Framework

FY08 Program: Promulgate policies 5.8 Authentication to Information Technology Resources and 5.10 Information Security of Institutional Data (name since revised); revise policy 5.1 Responsible Use of Information Technology Resources; and continue to advance policy 5.11 Web Accessibility.

The revision process is nearly complete for policies 5.1, the foundational policy regarding electronic communication, and 5.2 Mass Electronic Mailing, revised to reflect emergency messaging changes in support of the University’s Emergency Mass Notification Initiative.

We are moving toward promulgating policy 5.10 Security of Electronic Administrative Information, with plans to present it to the Executive Policy Review Group for approval in December 2008. Policy 5.11, jointly sponsored with the Office of Web Communications, is a new policy governing how Cornell web pages should comply with standards that make them accessible to people who have the more common sensory, motor, and cognitive disabilities.
In the coming year we will offer a streamlined version online and free to parents, students, the higher education community, and any person interested in the business models and technologies involved in peer-to-peer networks, file sharing, and digital copyright.

In addition, we created a three-minute video to address the risks and liabilities of using peer-to-peer file sharing programs for copyright infringement on the Cornell network, and introduced it to students in FY09. The video is online at http://traindoc.cit.cornell.edu/copyright/vidPlayer480.html.

**Top Ten Pages Requested on www.cit.cornell.edu**

(Fiscal Year 2008)

<table>
<thead>
<tr>
<th>Page Requested</th>
<th>Requests</th>
</tr>
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<tbody>
<tr>
<td>Computing at Cornell home page</td>
<td>300,000</td>
</tr>
<tr>
<td>How to uninstall Norton Antivirus*</td>
<td>200,000</td>
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<tr>
<td>WebMail</td>
<td>200,000</td>
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<tr>
<td>CUWebLogin</td>
<td>200,000</td>
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<tr>
<td>Bear Access</td>
<td>200,000</td>
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<tr>
<td>Anti-virus software downloads</td>
<td>200,000</td>
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<tr>
<td>Net-Print</td>
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<tr>
<td>Email home page</td>
<td>200,000</td>
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<tr>
<td>Desktop student survey image in public computer labs</td>
<td>200,000</td>
</tr>
<tr>
<td>Cornell Email Away from Ithaca</td>
<td>200,000</td>
</tr>
</tbody>
</table>

This list counts only pages on CIT’s main web server, www.cit.cornell.edu. It does not include the lab desktop browser image that all CIT lab users see.

* Most of these hits originate from outside Cornell, via Google.

**Support Metrics**

- Academic Technology Center—requests for help: 5,867 total; 2,773 automated (email or web form); number of support hours by walk-in consultation and student assistant program: 935; number of projects: 165 projects for 562 hours
- Academic surveys—482 users in Checkboxes with 500 surveys
- Academic polling—6,954 iClicker student users (46% of undergraduate students)
- BlackBoard—number of course web sites: 1,460; active sites: 2,805; active users: 19,060; total users: 70,220
- CIT Labs—class sessions hosted in CIT’s instructional computer labs: 1,232; number of hours of instruction: 2,864.5 (not including STARS training)
- CIT Labs—number of computers supported by CIT’s lab group: 433
- CIT/Rhodes Hall High Speed Laser Printing—jobs printed: 44,828; pages printed: 4 million (average 92 pages per job)
- CyberTower—estimated total yearly hits: 1.6 million; average hits per week: 30,458; per month: 131,984; estimated yearly visits: 53,673; average monthly visits: 4,472
- Faculty instructional technology—consultations: 184 for 1,010 consulting hours
- Faculty instructional technology—workshops: 22 with 207 participants
- Net-Print (CIT’s lab-based laser printing service)—pages printed in CIT labs: 2 million on 32 printers; pages printed in non-CIT labs: 7.9 million on 139 printers
- Software licensing—number of centrally managed software titles and major contracts: 27
- Training—500 classes and workshops with 3,247 participants

**Changing for the Better with Change Management**

confluence.cornell.edu/display/change/ccab

**FY08 Program:** Implement a CIT change notification/management and approval process.

The Process Improvement Initiative for FY08 was a signal of CIT’s maturing from a technology-driven working method toward a service-based approach. Our central goal in this is to introduce and improve processes that successfully link the complex and interdependent activities that span CIT’s many workgroups. We aim to improve communication, efficiency, productivity, and, ultimately, service to our community.
Our first step was to introduce a process for change management and create the CIT Change Advisory Board (CCAB), whose mission is to examine and approve proposed major modifications to technical environments, especially when they affect user experience. Discussing changes across divisional lines removes the need for repeated decision-making and can reduce unplanned outages and prevent conflicts occurring when a change in one component inadvertently affects other components.

With an industry standard, the IT Infrastructure Library, as a guide, we created the change management framework and held the first CCAB meeting in August 2007. The board is made up of permanent members from across CIT, but all staff members are invited to attend the weekly meetings or participate via conference call or web conference. Average weekly attendance numbers 28 people.

In CCAB’s first year, over 100 CIT members submitted over 1,000 proposed changes. As we vetted proposals together, we began to reap a collective understanding about how changes across CIT should be made. Most participants have enthusiastically called the new process a big step forward for CIT. The experiences documented during this first year, including findings from a focus group of regular CCAB attendees, are helping us improve change management and communication among CIT colleagues, all toward a stronger organization providing the best possible service.

More about CIT process improvement is online at https://confluence.cornell.edu/display/CITITPI/CIT+IT+Process+Improvement+Home+Page.

Providing a Central Microsoft Office License for Campus

www.cusoftware.cornell.edu

FY08 Program: Select and arrange for software licenses that benefit a broad slice of the university.

We accomplished a shared goal with campus and the Cornell Computing Directors to provide central funding for Microsoft Office licenses for faculty and staff computers, lab computers, and Cornell-owned computers used at home for work. In July 2008 we rolled out Microsoft Campus Agreement, a licensing model that covers all faculty and staff and all their computers, numbering in the tens of thousands. The new model saves over licensing computers individually and eases an administrative burden for campus groups. Compared to academic retail licensing costs, our volume licensing agreements with Microsoft and other companies save the university approximately $2.6 million in annual software licensing fees.

The previous Microsoft Select Agreement, which licenses software per computer, is still offered and may make sense for groups that have specific needs for applications such as Visio or MS Project.

The primary benefit to campus users is the assurance that their software is in compliance without the considerable time spent to manage licensing and distribution on their own. We manage license compliance and take care of distributing both Office software (Mac and Windows) and Microsoft operating systems. All software is downloaded from our central server, with no fee to departments for the service. Users can request the software from their department IT support person or contact us through our web site.

Streamlining Billing for CIT Services

www.cit.cornell.edu/billing

FY08 Program: Establish the CIT Billing Office and present various CIT services bills in a single invoice as well as provide a centralized billing support function.

We opened the CIT Billing Office in December 2007 to provide one location to handle all billing-related inquiries for CIT phone and network services and provide users one online bill. Beyond consolidating
bills and providing a year of statements online, we’ve created automated online reports for department billing administrators.

Our staff is versed in the business, pricing, and service plans for all billed services in addition to the university accounting system. As a result, the office is a source not only for traditional telecom and network billing questions but also a new contact for campus accounting and Business Service Center staff who need to make account number changes or discuss issues from an accounting perspective.

Essential services went into the online billing system first, including ResNet, Audix, phone jacks and equipment, CUTV, and data ports. All other all fee-based CIT services will be billed through the new office by the end of 2008.

Seeking Feedback about CIT Products and Services

FY08 Program: Conduct a survey of CIT customers to evaluate their satisfaction.

We conducted our annual CIT Customer Survey completely online for the first time in 2008, sending invitation emails to a random sample of 6,300 faculty, staff, graduate and professional students, and undergraduates associated with the Ithaca campus, excluding CIT and CIT employees. The benefits of the all-electronic survey were immediately apparent in that the response rate was our best yet: 37.9 percent as compared to a typical response rate over the previous seven years at around 9 percent.

Interestingly, our 2008 satisfaction numbers dipped across the board. Given the much-improved response rate, it is difficult to compare these results with previous years. After next year’s survey, we’ll be better able to compare data and find our benchmark.

Another benefit of the excellent response rate is that we received many responses to our open-ended question, “Please list a service or technology you want CIT to offer.” The answers are helping us focus on planning and improvements for FY09.

Cataloging Cornell’s Information Technology Architecture

FY09 Program: Continue to catalog the existing technical architecture.

This three-year project will provide different IT groups at Cornell insight into the relationships and dependencies of the many software components the university uses. We have listed more than 100 lines of technologies to date. The results of this project will help inform decisions about software management, planning, and investment.

Redesigning the Computing at Cornell Site with a Service-Based Architecture

www.cit.cornell.edu

FY09 Program: Create a new look and feel and navigation structure for the Computing at Cornell web site home and top-level pages. Provide a web interface for product and service owners to enter and maintain content for their products and services.

During FY08, we initiated a project to design and develop a new Computing at Cornell web presence. By improving back-end architecture and front-end usability, we will fulfill our goal of providing the right information to the Cornell community and CIT staff in the moment it is needed.

In the last two quarters of FY08, a cross-divisional team assessed the needs of stakeholders and the campus community, planned the new site architecture, and determined the tools and development methodology we will use to overhaul one of the most important channels students and faculty use to find our services.

The scope of this project includes overhauling the underlying database architecture, improving navigation, and updating the look and feel for home and top-level pages. We will connect the site to CommonSpot, our content management system, enabling multiple authors to easily contribute page content and make timely updates as services change. Associated templates will help enable design consistency across the site as product and service owners revise their content.

Our approach to the redesign takes the user’s perspective as the foundation, rather than the traditional technology-based approach. We realigned our concept of CIT products and services, reorganizing our portfolio to shape the site’s new database structure and give two views into our offerings: one for Cornell users and one for our Contact Center (HelpDesk). Through a simple web form, a product or service owner will be able to manage attributes directly in the database, including ordering information and support procedures. Contact Center staff will access all this through a new internal web site, while visitors to www.cit.cornell.edu will find the information they need with less technical detail. Our target release date for the new public site is early 2009.
We released a brochure in FY08 to let faculty and instructors know about the many services and resources offered to help them use technology in teaching.

Capturing Cornell Lectures for Online Audiences

FY09 Program: Install webcast systems in a designated number of class and seminar rooms to demonstrate proof of concept to capture seminars for archived web distribution.

Due to increasing interest on campus, primarily in Engineering and Computing and Information Science, to easily record classes and seminars and then distribute them online with minimal post-processing, and in response to a supporting initiative by the Faculty Advisory Board on Information Technologies, we will begin the Classroom Capture pilot to test the feasibility of the selected technology and potentially roll out this service to Cornell.

We will use the tools to record various types of presentations, in large auditoriums and small seminar rooms, to explore their capabilities. Our evaluation will be further informed using vendor-supported reporting tools along with input gathered from users.

Centralizing Audio-visual Systems Management

FY09 Program: Develop and implement a plan for a central audio-visual management and monitoring system that will communicate with control systems in classrooms across campus.

Moving toward a standardized set of audio-visual systems on campus would allow CIT to offer remote centralized support for these services, giving colleges and units autonomy to manage their systems with the security of constant automatic monitoring with built-in support alerts should a system falter. We will work with the colleges in FY09 toward commonly adopting audio-visual infrastructure standards for optimal functionality and support.

Making Available Campus Audio-visual Resources Visible

FY09 Program: Update the R25 classroom audio-video technology resource database.

During summer 2008, we cataloged and evaluated audio-visual technologies available in classrooms managed by the University Registrar to update a database that supplements the Resource 25 (R25) system. Students, administrators, and other campus constituents use R25 and the database to find rooms with the equipment they need for courses and meetings, and then make scheduling requests.

Upgrading the Blackboard Course Management System

FY09 Program: Implement the Blackboard application version 7.3.

Continuing technical issues with the initial upgrade to version 7.3 of Blackboard that we performed in late FY08 forced us to roll it back. It was in the best interest of faculty and students to continue using the proven previous version during the fall 2008 semester. After examining, correcting, and testing the issues discovered, we will attempt to redeploy the upgrade in January 2009.

Updating CyberTower with a Front Door Redesign

FY09 Program: Continue to produce new content and identify new sources of content; revise design to accommodate new features and infrastructure improvements. Add ten new Study Rooms, eight new Forums, and four Provost Series segments.

Having performed well for almost a decade, CyberTower requires an upgrade to keep pace with evolving web technologies, allow for new multimedia and user participation tools, and improve performance. We surveyed our users, and their responses are helping inform the redesign, which will first combine the login and lobby pages to reduce the number of clicks to content. The new front door will include 30-second video previews for featured content and link efficiently to all content areas. Pages will include RSS capability so users can pull content to feed readers, and a blog will provide a way to engage users and receive their feedback.

Planned application and back-end revisions will improve the experience for users, make it easier to upload content to the site, and allow us to leverage the features of a new Flash server to take more interesting approaches to developing study rooms.
Opening a New Academic Technology Center

FY09 Program: Provide a satellite location for the Academic Technology Center.

Since part of providing technical services to faculty means being accessible and available, we are building a satellite Academic Technology Center (ATC) to complement our primary center in the Computing and Communications Center building. One of two CIT instructional labs in Stimson Hall on central campus will be refurbished to include new scanning and multimedia stations in inviting consultation and instructional spaces where faculty can work on their own or ask our staff for assistance. Grand opening is scheduled for late 2008.

Enhancing CIT Labs for Better Learning and Collaboration

www.cit.cornell.edu/labs

FY09 Program: Upgrade CIT labs based on reports analysis.

Two reports we released in spring 2008 will inform substantial upgrades to six of the instructional labs CIT operates. One report was based on a focus group designed to explore the lab of the future, and one analyzed a student survey examining how the labs are used today. Together with other surveys we’ve done, they provide a rich view of CIT labs, including how we might provide

Not Just Flashy: Using Web Technologies for Teaching

FY09 Program: Support teaching with leading edge web technologies.

Flash software is widely used on the Internet to create and play animations, interactive page items, games, and streaming video. We’re putting these same capabilities to work for instructors at Cornell and eCornell, building interactive games and learning pieces for Hotel Management and Human Resources courses. Flash games tested students’ abilities to maximize revenue and occupancy in a hotel, and interactive pieces guided them through HR best practices.

We support eCornell in its Flash development through staffing and training, and plan to expand all our Flash offerings in FY09.

Enabling a Cornell Presence in iTunes U

FY09 Program: Support University Communications in placing Cornell content on iTunes U.

We are working with University Communications and other constituents to help design Cornell’s presence in iTunes U, the area inside Apple’s iTunes Store where anyone can listen to and watch free educational content supplied by universities, museums, and similar institutions. After the process of curating the videos, lecture recordings, animated presentations, and other materials selected for each program is complete, we will assist with posting and creating the Cornell presentation on iTunes U.

Appealing to Early Admissions Students

FY09 Program: Deliver a website for early student admissions by the end of 2008.

CIT has begun the design process for a website dedicated to Cornell’s early admission students. We are partnering with the Undergraduate Admissions Office and members of the target audience to identify ways in which we can improve upon the “Life on the Hill” site in order to meet the specific needs of early admission students.
IT Policy Education and Outreach

UCPL: Furthering IT Ethics Education

www.ucpl.cornell.edu

UCPL, the University Computer Policy and Law Program, furthers IT ethics education through discussions surrounding complicated legal and policy issues, respecting and inviting diversity and debate. We sponsor speakers who study topics such as digital copyright and libraries, Internet privacy and security, disability access technologies, logging and monitoring of network flow data, compliance strategies with relevant laws, and campus IT policies and policy development.

Sept. 2007: “Protecting the University from Copyright Bullies” and “Righting the Copyright Balance” with Wendy Seltzer, visiting assistant professor at Northeastern University School of Law and a fellow with the Berkman Center for Internet & Society at Harvard Law School.


Jan. 2008: “On-Line Access to Court Records: A Study of the Interaction of Technology with Law” with Peter Winn, attorney with the U.S. Department of Justice, law professor at the University of Washington School of Law, and senior fellow at the University of Melbourne.


April 2008: “Data Dilemmas: Privacy, Security and Propriety of Electronic Information” with Fred Cate, professor of law at Indiana University, and Beth Cate, associate university counsel at Indiana University.

ICPL: Guiding IT Policy Development in Higher Education

www.sce.cornell.edu/exec/cpl

ICPL, the Institute for Computer Policy and Law, co-sponsored by EDUCAUSE and Cornell, is a healthy and growing program, with a 60 percent increase in attendance at the 2007 three-day seminar. In its thirteenth year in 2008, the institute supports professional development of information technology, policy, and legal professionals within higher education toward the creation and administration of effective information technology policies. It monitors and analyzes changes in technology and law to assess the impact of those changes on academic information technology policy.

Reaching Out to Exchange Perspectives

Our Inside Outreach Program, sponsored by the IT Policy Office, invites interested higher education professionals to contact us to ask questions, inquire about speaking engagements, and create individualized exchange programs.

IT Policy, Outreach, and Education Links at a Glance

IT Policy Framework at Cornell University

www.cit.cornell.edu/policy/framework/chart.html

Cornell Undergraduate Information Competency Initiative

infocomp.library.cornell.edu

Family Guide to Computing at Cornell

www.cit.cornell.edu/computer/families/policy.html

ICPL – Institute for Computer Policy and Law

www.sce.cornell.edu/exec/cpl

UCPL – University Computer Policy and Law Program

ucpl.cornell.edu

Upgrading Our Web Site Content Management System

FY09 Program: Migrate all current CommonSpot web sites to version 5.

Upgrading to the latest version of the CommonSpot content management system for web sites will fix known issues, enhance productivity for web authors, provide new tools for developers, and allow us to better leverage the latest industry standard technologies, like easily incorporating RSS feeds to make Cornell content more accessible. In a four-month project we will update the hosting and production environments, migrate and test 30 sites with more than 5,000 pages to run on the new version, and communicate the change to users and IT support staff.

Providing a Managed Desktop Solution

FY09 Program: Develop and offer a centralized patch management service to campus.

Not all campus departments have the staff, financing, and resources to centrally manage essential patches for computer operating systems, anti-virus tools, and certain applications. This fee-based service will fill that gap, providing units the assurance of managed updates for all their machines from CIT offices along with reports that accompany a centralized solution. The managed desktop service will not only relieve the strain on departments to perform this work themselves, but also help enable a more secure environment across Cornell.

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Completing the IT Policy Framework for Cornell

www.cit.cornell.edu/policy/framework/chart.html

FY09 Program: Complete the IT Policy Framework, promulgate policies 5.1, 5.11, and 5.10; and finish revisions to policies 5.2 and 5.6.

Our primary focus this year will be to complete the Cornell IT policy framework. To do so, we will promulgate policies 5.1 Responsible Use of Information Technology Resources, 5.11 Web Accessibility, and 5.10 Security of Electronic Administrative Information. We will finish revisions to policy 5.2 Mass Electronic Mailing and policy 5.6 Recording and Registration of Domain Names.

Expanding Information Literacy with New Programs

FY09 Program: Create an online information literacy program.

In FY09 the IT Policy Office will create an online information literacy program to complement the Cornell Undergraduate Information Competency Initiative, co-sponsored by the Cornell University Library and the office of the Vice Provost for Undergraduate Education. The program will aid the Cornell community in better researching and understanding issues of online privacy, copyright and the concept of fair use in academics, plagiarism, how copyright infringement impacts online business models, how and why some Internet phenomena occur, and how to make choices about using web sites and web businesses.

Educating Students about Online Piracy

FY09 Program: Introduce the Copyright Education Program to broaden understanding of the law, policies, and politics of digital copyright.

In FY09 we will introduce the three-minute video, “Risks and Liabilities of Peer-to-Peer Copyright Infringement,” to be required watching for new students living in residence halls. Its aim is education about the legal and policy risks associated with illegal file sharing when using the Cornell network. We intend that watching the video will become a requirement for NetID activation. The video is online at http://traindoc.cit.cornell.edu/copyright/vidPlayer480.html.

Managing Incidents with a Process for Better Service

confluence.cornell.edu/display/CITINCNTMGMT/CIT+Incident+Management+Home+Page

FY09 Program: Develop and implement an Incident Management process for CIT.

An incident management process paves a smoother customer service path when an unplanned outage or disruption to a service occurs, then gets the service back up and running as quickly as possible. In developing this process for FY09, we’ll create consistencies in how and what information we capture during an incident and develop a clear escalation process, including metrics and timing limits.

We are alerted to incidents through a number of channels, from the Contact Center (HelpDesk) to unique support teams for networks and major applications. These various groups communicate well now, but we can improve service by ensuring they use the same practices regardless of the product, giving our community a pattern of good service no matter which service they need help with. A process specifically to handle major incidents is in place but will be refined to speed communication and response from members across functional areas.

A critical aspect of managing any sized incident is clear communication to the university community about its status. We’ll focus heavily on improving how we manage that communication, especially in urgent and high-impact situations.

Planning for Configuration Management

confluence.cornell.edu/display/SACM/CIT+SACM+Home+Page

FY09 Program: Design and begin implementing a configuration management database for CIT and begin developing CIT processes associated with configuration management.

A shortcoming of the change management process appears when groups lack a common vocabulary for the same product or service and its associated data. Configuration management bridges that gap, defining IT products and services, showing
the relationships and dependencies among them, and, ultimately, housing them in a central database.

At its essence, a configuration management database (CMDB) is an IT inventory showing the real-world business use that software and hardware runs and affects. Designed and used well, it shows the products and people who would be impacted by a change to another product or service.

Building a fully functioning CMDB for CIT will take several years, after extensive collaboration with data owners from across the organization. In these early stages, we are creating a central taxonomy for CIT products and services and aligning it with an IT service model, efforts that will support the Remedy toolkit. Requirements gathering and further planning for a CMDB will follow.

Defining and Implementing Quality Assurance

FY09 Program: Define “quality assurance” for CIT and adopt its principles, implement pilots in IS, develop quality metrics, and define a testing program.

In FY08, a cross-divisional CIT committee took the first steps in a quality assurance initiative and examined the question, “What does “quality assurance” (QA) mean to CIT?” In these discussions, we identified the concept of testing as an integral yet standalone function from QA. Testing emerged as the way to answer the question, “What can I do to improve the quality of whatever I am delivering to our customer?” and to give visibility into how CIT work affects the daily needs of the people who use our products and services.

As such, defining and unifying the way CIT tests our products will be an important initiative in FY09. We will develop best practices—for both hardware and software—and make testing a feature of every deliverable. Developing and implementing a testing methodology is likely to be a 12- to 18-month initiative, and a pilot is already planned, but we will address it in the context of a larger quality assurance process.

Managing the CIT Project Portfolio

FY09 Program: Deliver the FY09 CIT project roadmap.

As Cornell adapts to meet the needs of our community and the requirements of evolving technologies, CIT’s project load grows in number and complexity. Approximately 200 CIT projects are planned to take place over the course of FY09, and project managers across CIT will be leading these endeavors. We’ll focus on prioritizing projects while considering how to improve resource utilization, aiming to improve CIT’s ability to deliver projects successfully. In the process, project managers are proposing methods to better manage the incoming project flow and formalizing the process used to start and approve projects.

Spreading the Project Management Methodology

FY09 Program: Kick off a project management special interest group.

The Cornell Project Management Methodology (CPMM), which sets out the consistent practices CIT uses to manage projects, is now broadly used here and in other campus departments, helping improve our ability to successfully deliver projects. In FY09, we will work with those using the CPMM to learn from our experiences and improve upon it. In particular, we’ll work on how to streamline the methodology for smaller efforts.

Our Project Management Office will work to broaden our relationships with campus by forming a project management special interest group, its charter to bring project managers from all areas of campus together to share experiences and best practices, collaborate on improvements to the methodology, provide educational opportunities, and foster stronger relationships among peers.
FY09 Direct Costs of CIT Programs ($78.2M)
This chart 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 technical staff who develop a service.

FY09 Total (Full) Costs of CIT Programs ($78.2M)
This chart presents service costs after all central support and general support costs have been distributed to them. Support costs include everything from the Contact Center (HelpDesk) and documentation support to systems support to costs for our financial, human resources, and management structure.

FY09 Expenses by Category ($78.2M)
This chart shows the overall breakdown of CIT costs for salaries, capital, and general expenses.
This chart presents costs of services after all central support and general support costs have been distributed to them.

Note: This chart groups OIT/CIT programs differently from the sections covering CIT’s five-year strategic goals.

<table>
<thead>
<tr>
<th>Program</th>
<th>FY09 Plan Actuals ($1,000’s)</th>
<th>FY08 Actuals ($1,000’s)</th>
<th>FY07 FY09-FY08 ($1,000’s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrative Computing and Infrastructure</td>
<td></td>
<td></td>
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<tr>
<td>Central Applications: HR Payroll, Student Services, and Contributor Relations</td>
<td>8,608</td>
<td>6,293</td>
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<td>Data Administration, Data Delivery Applications, and Data Operations</td>
<td>3,391</td>
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<td>Mainframe, Production Control, and Client Support Systems</td>
<td>3,118</td>
<td>2,883</td>
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<td>Infrastructure: Middleware and Tools, Security, and Identity Management</td>
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<td>4,041</td>
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<td>Systems Project Management and Administration</td>
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<td>599</td>
<td>588</td>
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<tr>
<td>SEF Operational Support</td>
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<td>General Campus Computing</td>
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<td>Calendaring</td>
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<td>CUinfo</td>
<td>101</td>
<td>117</td>
<td>218</td>
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<td>Customer Services (e.g. CIT Contact Center, Communication and Outreach, Training and Documentation)</td>
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<td>754</td>
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<td>Messaging Services</td>
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<td>EZ-Backup</td>
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<td>EZ-Remote</td>
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<td>Listproc (Lyris), News, and Other Services</td>
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<td>384</td>
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<tr>
<td>Middleware and Tools for General Campus Services</td>
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<td>Net-Print</td>
<td>288</td>
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<td>Hosting Services</td>
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<td>CIT OnSite Solutions</td>
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<td>Technical Support Services</td>
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<td>Client Systems Support</td>
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<td>Server Farm</td>
<td>525</td>
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<td>Software Acquisition</td>
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<td>Network Storage Services and Business Continuity</td>
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<td>FY08 Actuals ($1,000's)</td>
<td>FY07 Actuals ($1,000's)</td>
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<td>Teaching and Learning</td>
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<td>Academic Technology and Training Center</td>
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<td>Classroom Design Consulting</td>
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<td>Faculty Innovation Grants</td>
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<td>Video Collaboration Services</td>
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<td>Instructional and Web Services</td>
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<td>Leadership and Outreach</td>
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<td>Media Production Group</td>
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<td>National Programs, IT Architecture and Policies</td>
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<tr>
<td>Advanced Technology and Architecture</td>
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<td>Network Services</td>
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<tr>
<td>Voice and Data Services</td>
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<td>Voice Services</td>
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<td>Infrastructure and Other Services</td>
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<td>Campus Intranet</td>
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<td>Moves, Adds, and Changes</td>
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<td>CU TV (DirecTV)</td>
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<td>Other Network Services</td>
<td>512</td>
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<tr>
<td>Contributions to CIT Services*</td>
<td>898</td>
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<tr>
<td>Total</td>
<td>$78,158</td>
<td>$71,049</td>
<td>$61,744</td>
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</table>

* Represents subsidies from appropriations to cost-recovered services. Related expenses are also included as a cost of CIT services.
Questions and Feedback

If you have questions about the major undertakings in this report, please contact a member of our OIT/CIT leadership team. Your questions and comments help us better understand the needs of everyone at Cornell who uses our services.

**Vice President for Information Technologies**
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**Academic Technology Services and User Support**
Jim Lombardi

**Advanced Technology and Architectures and Chief Technical Architect**
Mark Mara

**Finance**
Rohit Ahuja

**Information Systems**
Dave Koehler

**IT Policy and University Computer Policy and Law**
Tracy Mitrano

**IT Security and Chief Security Officer**
Steve Schuster

**Network and Communication Services**
Dave Vernon

**Strategic Planning and Organizational Effectiveness**
Linda Croll Howell

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