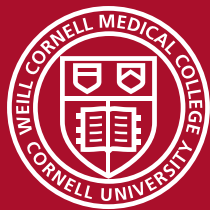


Annual Report & Plan FY2012-2013



Weill Cornell Medical College

Information Technologies & Services
Samuel J. Wood Library

Annual Report & Plan FY2012-2013

Information Technologies and Services Samuel J. Wood Library

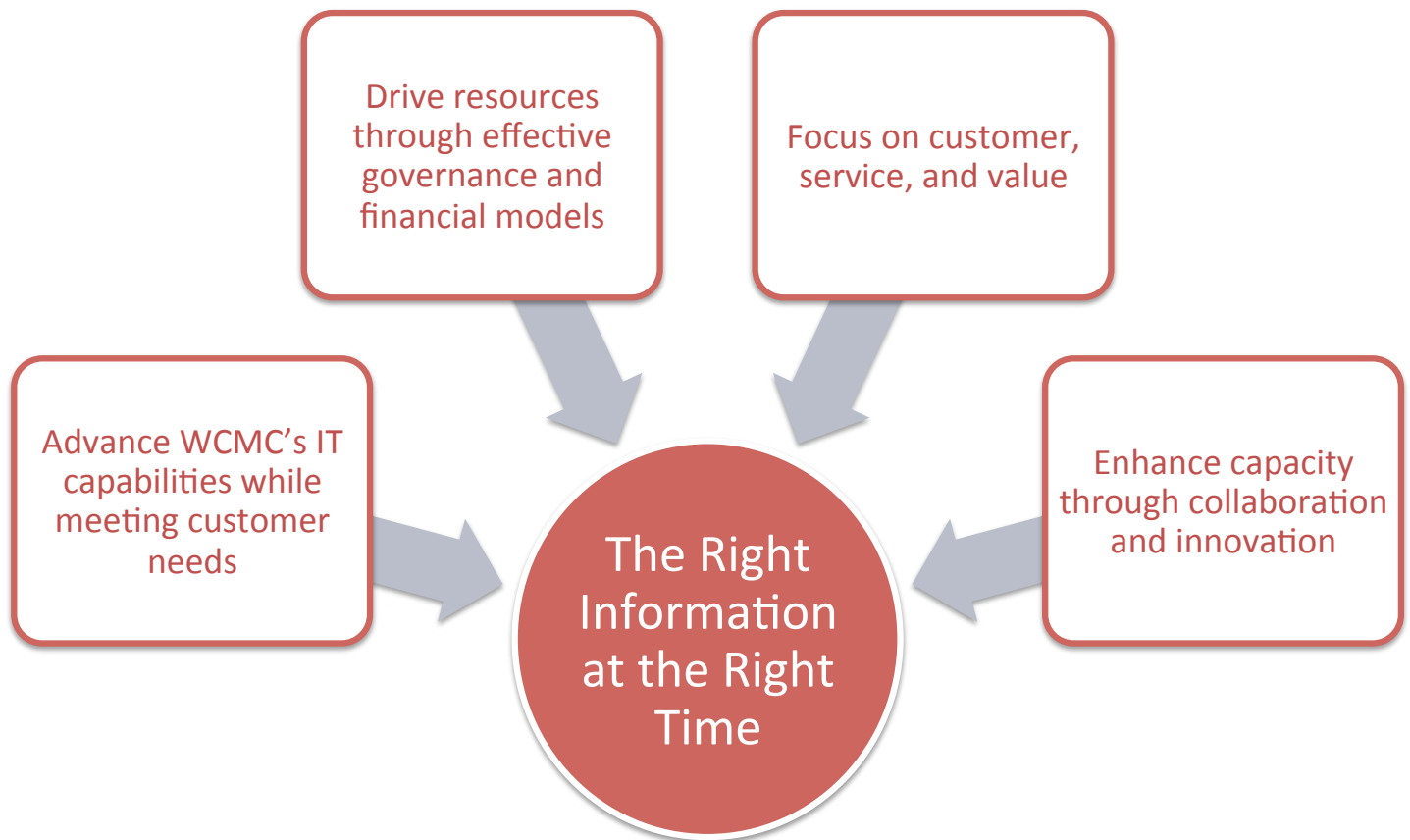


Table of Contents

Message from the CIO	4
Summary	5
Score Card for 2012 – 2013	8
Goals for 2013-2014	13
Appendix A: ITS Divisional Reports	15
Operations and Infrastructure	16
Network and Communications Services	17
Operations and Enterprise Services	26
Security, Identity Management and Compliance	32
Disaster Recovery	37
User Support	39
Administrative Computing Group	45
Project Management Organization	52
Web Communications	56
Education Technology	62
Research Computing	66
Samuel J. Wood Library	72
Administration	76
Appendix B: POIS Annual Report	78
Appendix C: Inside ITS	90

Message from the CIO



Curtis L. Cole, M.D., F.A.C.P.
Chief Information Officer, ITS

This report reflects the progress against a multi-year plan to reinvent IT at Weill Cornell to better meet the ambitious plans laid out in the third Strategic Plan, SPIII. As we approach the opening of the Belfer Research Building (BRB), the centerpiece of that plan, we are very pleased to report on how we have been closing the gap between where we were and where we need to be.

In the past year we have dramatically changed our approach to research computing, delivered major advances in educational and administrative computing, supported a major expansion in clinical computing, and launched the largest overhaul of our core IT infrastructure in the history of the College. All of these changes will forever be works in progress. But the accomplishments and plans this report describes make clear two things; we are on track delivering dramatically improved services and that we still have a long way to go.

ITS defines its goals both externally by mission, as well as internally against our process improvement plan we call “Operational Excellence.” The next few pages summarize accomplishments and plans in these areas. The bulk of the report then provides more detail organized by functional area, rather than mission.

Last year’s report was our first to use this format and was well received. We did receive feedback that we have tried to incorporate to make this year’s report even more informative. As always, we are very eager to hear ideas on how to improve our communication with users as well as improve any of our services or technologies.

Curtis L. Cole, M.D., F.A.C.P.
Chief Information Officer
Associate Professor of Clinical Medicine and Public Health

Research

Research Director

Last year, the Dean created a faculty committee – the Research IT Liaison Committee – to study and report on the status of research IT support. Their recommendations have resulted in a large number of changes and plans for many more that are actively being executed. Organizationally, management of the core research administrative systems has now been consolidated in ITS. A new Director of Research Administrative Computing is being recruited.

Administrative Systems Redesign

A small committee of faculty, staff, and administration is meeting to design the process for updating or replacing the core research administrative systems. At this point, we have defined which systems, functions, and business units are in and out of scope. We are now defining the work groups that will meet to write the functional requirements and workflows that will make up the RFI that we send to potential vendors.

eIRB

At the end of FY12, several research administrative systems previously managed elsewhere were brought together into ITS for management under a newly created Research Administrative Systems group. The most visible of these system was the eIRB, which had just gone live and was poorly received by users. Once ITS began managing the system, we spent six months stabilizing the core to reduce database errors, downtime, and the most crucial functional problems. While it still has serious functional limitations, the

eIRB (continued)

system is now much more technically stable and the most prominent usability problems have been resolved. We will now move on to planning a long-term upgrade or replacement of this system.

Conflicts of Interest

As with the eIRB, ITS took over this system and stabilized it technically and is now actively managing the vendor. Several upgrades have been performed and we are on track for the annual upgrade in August. This system will also be reviewed for a likely replacement.

Clinical Trials

The new clinical trials management system, CREST, went live in June. We also developed an unscheduled online system to support the Clinical Study Evaluation Committee (CSEC).

Clinical Research Databases

As part of the JCTO, we launched a new program to support building clinical research databases called ARCH (Architecture for Research Computing in Health). We have hired the first staff, contracted with the main vendor, and engaged with the first pilot sites.

Faculty Evaluation and Profiles

The VIVO research profile system was put on hold while we developed the Faculty Evaluation System. That system has gone well, so we are now revisiting VIVO with the goal of having the new profiles live before the opening of Belfer.

Clinical Care

Lower Manhattan

The merging of New York Downtown Hospital (NYDH) – now Lower Manhattan – has been a huge challenge. The IT services at NYDH were weak. Coordination with the hospital has been even more complex than on the main campus. However, the conversion has largely gone well. There remains much more to do to streamline support and fully integrate the practices into WCMC and NYP.

Epic

The big news is the Epic Practice Management go-live. Pilot practice go-live was this summer in preparation for the conversion of the entire PO in October.

Summary

Clinical Care (*continued*)

PO Network

We continue to make progress at the network sites, but there is frustration with external vendors. We need to go through other companies, like Time Warner and Verizon, to connect these sites to the campus network. These companies, in turn, need to work with the city

to lay cable, which means digging up the street, and other infrastructure issues. There are a huge number of variables that we do not control. As a result, this makes everyone a bit anxious as reliable time lines cannot be projected. The expansion is largely successful to date, but perhaps more work than was originally estimated.

Education

Student Information System/Jenzabar

This system roll out continues to go very well. Recent work has focused on planning the second phase of Jenzabar modules, which should be implemented this fiscal year. This includes financial aid (for the New York campus), student retention (for the Doha campus), student life services, document workflow, and a mobile application to give students and faculty better access to their data in remote locations.

Event Services

A host of new audiovisual and other event service enhancements have been in planning along with the BRB, though this should improve services everywhere on campus.

Learning Management System (LMS)

The new LMS, Canvas, was successfully launched for the medical school in New York and Doha. It is well received and will be a major asset in support of curriculum reform. Next year, we will expand Canvas' role to include staff training. This requires implementation of a new module of SAP, which we are designing now and plan to pilot in early 2014. As part of the LMS launch, we also kicked off our new instructional design service to assist in developing pedagogically-sound digital content for our students.

iPad Mini

Our iPad project was expanded to the third-year using iPad Mini. We also had a successful Gross Anatomy deployment. We are also now using iPads for one of the Graduate School programs at CHIP.

Library

Renovation

The biggest change to the Library is our new 24-hour study room. We also renovated the training room, doubling the capacity, and added a new public conference room.

Bibliometrics

The Library is providing an expanding number of bibliometric services for the Dean and other academic leaders, as well as developing the VIVO Dashboard that will make these kinds of reports widely available.

Systematic Reviews/EBM

The library continues to expand support for Systematic Reviews and Evidence Based Medicine training.

IT Enhancements

Infrastructure

One of the largest projects this year has been planning for the new data center in the Belfer Research Building (BRB). This will enable most of the major service and technology enhancements we have planned for the next several years. Included will be upgrades to several network infrastructure components that will help the entire campus, such as higher speeds, more widespread wireless, improved disaster resistance and recovery, and enhanced telephony services.

Web

Our multi-year plan to overhaul our website, technologies, and services is on track. We began implementing a new content management system, launched a new Web governance committee, developed new design standards and outsourcing procedures, and created a variety of new sites and redesigns for various departments.

User Support

This year, we launched our new walk-up SMARTDesk service in the Wood Library based on the Apple Genius Bar concept. This has been so well received that we are increasing hours. We also created a Departmental Liaison Program and a new Training and Communications Group. Our new service management system went live and will allow us to add major new services and enhancements as we continue to deploy more modules.

Telephony

Our telephone vendor, Nortel, was purchased by Avaya, so we are midstream in a multi-year conversion to a new platform. We are testing new services such as “softphones” that allow users to carry a WCMC phone on their cell phone or at home on a laptop.

Project Management Office

Our PMO continues to mature with improved project tracking, vastly improved stakeholder communication, better resource planning, and markedly improved capacity planning. The PMO now has an established training program, published Project Dashboard, and Service Lifecycle. This fiscal year, 190 new projects were started, up from 176 last year.

Core Services

We have made a variety of incremental improvements to all our core systems, such as larger free email boxes, improved eFaxing, better network connectivity, upgraded WebVPN, and improved desktop management services for Macs. We are also testing new easy-to-use audio conferencing services, and a major new service called Virtual Desktops that will allow you to access your desktop from anywhere on any networked device.

Disaster Recovery

The dramatic events surrounding Hurricane Sandy provided a live stress test of our ever-improving disaster recovery plans. Other than flooding at the telephony provider’s main switch, WCMC did very well. However, Sandy has also given us new impetus to update our disaster recovery plans and testing.

Score Card for 2012-2013

In last year's report, we laid out a series of goals for the coming year. Below we describe how well we did against these goals, then update them for the coming fiscal year.

Develop new IT services and enhance the IT infrastructure to support the biomedical science and clinical research needs of the faculty

- » Design and plan IT services for the Belfer Research Building, including further development of the research network

Status: *This work was done and we are well into the implementation.*

- » Launch the new clinical research administrative system; enhance and improve other workflows and processes in research administration

Status: *The new clinical trials system, CREST, went live. In the middle of the year, ITS took over the eIRB system, closing hundreds of cases and stabilizing the system. A new workgroup is actively reviewing all the research administrative systems and developing a comprehensive plan for their replacements or upgrades.*

- » Enhance access to advanced computational resources in Ithaca and expand partnerships with our CTSC affiliates, Qatar, and the Methodist Hospital

Status: *The partnership with the Center for Advanced Computing (CAC) and WCMC-Q has led to expanded storage and high performance computing (HPC) options for WCMC faculty. A new partnership with MSKCC was started to investigate a novel clinical sequencing information system.*

In consultation with the user community, develop new IT services and enhance existing services using cost-efficient financial models

- » Implement lower cost tiers for data storage

Status: *ITS dramatically lowered the cost of existing storage and with CAC is launching a new very low-cost archival storage option. We upgraded the now free WebVPN service, piloted femtocells to expand cellular coverage areas, and tested new softphones that allow users to access their WCMC phones at home.*

- » Design and plan for WCMC to migrate to a lower cost cloud-based email, file sharing, and collaboration platform

Status: *Negotiations with Microsoft to move to their cloud-based Office 365 platform are nearly complete, keeping us on track for a predicted migration to begin in the next fiscal year.*

- » Provide a new standardized virtual desktop service

Status: *The new Virtual Desktop Infrastructure (VDI) service piloted this past spring and launched this summer.*

Enhance our ability to effectively select and manage a portfolio of projects that will provide the greatest benefit to our user communities

- » Consult with faculty advisory groups, such as the Research Liaison Committee, to plan for future initiatives
Status: A new Director of Research Administrative Computing is being recruited now. Planning for a complete overhaul of research administrative services is now underway with the definition of work groups, which include faculty, staff, administration, as well as IT.
- » Further mature the Project Management Office's (PMO) services and outreach to the user community
Status: Progress in the PMO is summarized on the Gartner Maturity Model discussed below. We fell a bit short of our goal of 2.9, reaching only 2.7, but this still reflects significant progress.
- » Proactively solicit IT requirements for future research, education, and clinical projects
Status: With the new Department Liaison program, expanded faculty outreach, and other new communication forums, ITS has received more input from users than ever before. This feedback has directly shaped our plans and operations.

Partner with administrative departments to develop more efficient IT-based business processes; implement self-service applications to make data input and data access easily and securely available

- » Pilot eTime for online time entry
Status: This has been delayed, but is on track to pilot this fall.
- » Implement a grant administration dashboard and other central administrative data reporting services for the NYC and Qatar campuses
Status: The research dashboard was piloted with a small number of administrators and faculty. Further enhancements are required for an expanded pilot.
- » Launch a central document management service and online forms to reduce paper-based workflows and processes
Status: The new SharePoint document management system went live and several new self-service features were implemented in SAP. However, we fell significantly short of our plans in this area.

Expand the use of new learning management and curriculum delivery technologies to enhance the educational experiences of students, staff, and faculty on both the NYC and Qatar campuses

- » Implement a new Learning Management System (LMS) for students, staff, and faculty
Status: The new LMS, Canvas, went live for the medical school this spring. "Blueprinting" and other configuration planning is underway for the staff version to pilot in 2014.
- » Enhance the use of classroom-based technologies, including mobile devices and advanced audiovisual services
Status: The iPad project continues to advance with the iPad mini distribution and gross anatomy deployment. New services to support the updated curriculum, flipped classrooms, the graduate school, and new online teaching services were rolled out and very well received.

Score Card for 2012-2013

Expand the use of new learning management and curriculum delivery technologies to enhance the educational experiences of students, staff, and faculty on both the NYC and Qatar campuses (*continued*)

- » Further develop Jenzabar's admissions, registration, and advising functionality

Status: The rollout of the new student information system has been very successful on both campuses. Phase II modules were delayed at the request of the business units, but will launch in the next fiscal year.

Implement collaboration tools to enhance faculty, staff, and students' abilities to communicate and deliver information within the institution and outside it

- » Implement a new Web content management system to allow departments to manage their websites (including research lab websites)

Status: We have re-architected our Web services around Drupal, an open source content management system. A cloud hosting agreement was signed, and all new Web projects are being built out using the new platform.

- » Deploy self-service online meeting, webcasting, and webinar services; expand our Event Services Office to include the ability to host online, on-premises, and hybrid meetings

Status: The new Event Guest Wireless system went live, the new Lync and WebEx webinar systems were successfully piloted, and the core planning for new services based on the model architecture is on track for the first launch in the BRB.

- » Expand the use of VIVO to publish and share faculty profiles

Status: VIVO was delayed to accommodate the new, unexpected, Faculty Evaluation System. Despite the short time frame for development, this ITS-developed system was very well received. VIVO is now back on track for a go-live in early 2014.

Provide expanded training, support, and consultation to enable faculty and staff to effectively utilize technologies and services

- » Provide expanded online and in-person user training services

Status: ITS reorganized its Training Group and developed several new services, but has primarily been planning for significant additional services next year. This program is a bit behind schedule.

- » Implement a new help desk system with enhanced self-service features

Status: ServiceNow is the new service management system that went live this year with very few problems and no significant service interruptions. The system still has many more modules to implement, but is already delivering value to end users through better communication, transparency, and ease of use.

- » Hire department liaisons to manage departmental IT relationships

Status: New liaisons and a communications specialist were hired, leading to a very successful first year of the program. We have also standardized and improved the quality of our systems communications and made them more uniform across divisions.

Improve internal ITS work management policies and procedures

- » Implement Industry-Standard Technology Management (ITIL)

Status: *This is a multi-year program and ITS is very much on track with the adoption of a number of new Standard Operating Procedures (SOPs), launch of the ITIL-based ServiceNow system, and record amounts of internal training of ITS staff.*

- » Improve ITS documentation, training, and knowledge management practices

Status: *While some progress was made here, especially through the use of ServiceNow, we are behind in this area. A major overhaul of the ITS website will include many of these features in the coming year.*

- » Maintain an up-to-date service catalog documenting all ITS services

Status: *Our website content was updated and an outline for our new site was planned. The new service catalog will be driven by ServiceNow. Implementation of this system this year was the first, necessary step to achieving this goal, though most of the changes will not be visible to users until next year.*

Further strengthen the security and accessibility of our data and infrastructure, balancing usability with risk mitigation

- » Enhance identity management services to allow for easier access to inter-institutional systems and directory information

Status: *ITS has purchased and started implementing a new directory system from Hitachi. This project is behind schedule, though the pilot is complete and go-live is expected this fall. This project has many phases and will continue for several years.*

- » Expand use of Data Loss Prevention (DLP) systems to protect institutional data

Status: *The DLP system was deployed to end user devices and now provides alerts to users when they encounter likely security problems.*

- » Implement Mobile Device Management (MDM) system to secure data on smartphones and tablets

Status: *MDM is now being deployed on all iPhones and iPads tagged by ITS. Expansion of this system for other device types is planned for 2014.*

Continue evolution to a ubiquitous digital library, supporting translational science and evidence-based medicine (EBM)

- » Continue to create library faculty experts in EBM, systematic review, and data services

Status: *Nine librarians are now trained in systematic reviews and the number of EBM workshops increased by two-thirds (to more than 40).*

Score Card for 2012-2013

Continue evolution to a ubiquitous digital library, supporting translational science and evidence-based medicine (EBM) (continued)

- » Expand bibliometric and data services

Status: *The library continued development of the new VIVO dashboard, which is expected to deploy in 2014 after the VIVO go-live (currently delayed as mentioned above).*

- » Expand embedded librarian program and walk-in support services

Status: *Joshua Richardson, from the Department of Public Health, joined the library as our new Clinical Services Librarian. Our SMARTDesk walk-up service program launched and has been so successful that additional hours and staffing have been allocated to expand this service.*

Support the expansion of WCMC patient care services and clinical research

- » Assist in the Epic upgrade and in the conversion of GE to the Epic Practice Management module

Status: *Epic Practice Management went live in several network sites and at pilot locations on campus July 1. While some expected problems have occurred, this has been a very successful pilot to date.*

- » Expand and enhance the ITS Wide-Area Network (WAN) infrastructure and support services to bring online new physician practices in the metropolitan area

Status: *We upgraded the WAN to five remote offices, opened or moved 10 practices, adding four new locations to the WAN, and successfully connected Lower Manhattan Hospital physicians to WCMC. We also established a disaster recovery capability in Ithaca.*

- » Design and prototype a new clinical research database and enhance other informatics services; continue to grow partnership with NYP to enhance joint patient care and clinical research initiatives

Status: *Architecture for Research Computing in Health (ARCH) is the name for the new program to support clinical research database development and other related resources. The first staff and primary vendor have been hired, and the first pilot sites engaged.*

Goals for 2013-2014

Develop new IT services and enhance the IT infrastructure to support the biomedical science and clinical research needs of the faculty

- Activate the Belfer Research Building, and launch new campus-wide services enabled by the Data Center, including further development of the research network, expanded wireless throughout campus, and add 10G connectivity to Ithaca
- Hire a new Director of Research Administrative Computing
- Collaborate with research faculty, administration, and the new Dean of Research to plan for enhancement or replacement of core research administrative systems such as eIRB, eGrants, Conflicts, and the CREST system

In consultation with the user community, develop new IT services and enhance existing services using cost-efficient financial models

- Implement advanced computational resources such as RedCloud Secure, low-cost archival storage, and the new HPC Co-op.
- Begin migration to a lower cost cloud-based email, file sharing, and collaboration platform; launch the Lync conference system
- Expand new Virtual Desktop (VDI) services

Enhance our ability to effectively select and manage a portfolio of projects that will provide the greatest benefit to our user communities

- Expand our research advisory working groups and make permanent a Research Liaison Committee to plan for future initiatives
- Further mature PMO services to include resource and task management and expand outreach to the user community with improved web-based status reporting
- Utilize IDEAS.med.cornell.edu to engage the user community in prioritizing service improvements

Expand the use of new LMS and curriculum delivery technologies to enhance educational experiences of WCMC community in NYC and Qatar

- Pilot the new learning management system with staff and expand use of the system for additional student programs
- Enhance the use of classroom-based technologies, and advanced audiovisual management tools to support curriculum reform and faculty collaboration
- Begin implementation of Jenzabar Phase 2 modules; financial aid (for New York campus), student retention (for Doha campus), student life services, document workflow, and a mobile application

Partner with admin. departments to develop more efficient business processes; implement self-service applications to improve data input

- Pilot eTime for online time entry
- Expand access to the grants administration dashboard and other central administrative data reporting services for the NYC and Qatar campuses
- Expand central document management services and online forms to reduce paper-based workflows and processes

Implement collaboration tools to enhance faculty, staff, and students' abilities to communicate and deliver info within and outside WCMC

- Convert 25 percent of WCMC websites to the new Web content management system, enabling departmental management and improved search
- Launch SharePoint as a service for team sites, document management, and collaboration
- Launch VIVO, integrated with the Faculty Evaluation system, to publish and share editable faculty profiles

Goals for 2013-2014

Provide expanded training, support, and consultation, enabling faculty and staff to effectively utilize technologies and services

- Expand online and in-person user training services with longer SMARTDesk hours and more online training tools
- Continue implementation of ServiceNow support system with improved self-service, a knowledge portal, and better asset management
- Implement various fee-based Enhanced Support Services to offload high intensity support calls and improve support for urgent demands

Improve internal ITS work management policies and procedures

- Major upgrade to ITS service catalog and website
- Revamp internal training and onboarding processes
- Implement new Task Management and Resource Tracking

Further strengthen the security and accessibility of our data and infrastructure, balancing usability with risk mitigation

- Complete pilot and launch new institutional directory and core identity data synchronization
- Complete current Data Loss Prevention system, data encryption, and network monitoring to better protect institutional data and reputation
- Complete deployment of remote management software for desktops, laptops, and mobile devices to improve security, simplify software deployment, improve support, reduce downtime, and speed service delivery

Continue evolution toward a ubiquitous digital library supporting translational science and Evidence-Based Medicine (EBM)

- Recruit a new Library Director to continue and build upon the strategic plan
- Expand EBM, systematic review, embedded librarian, and metadata services programs both as services and subjects of academic analysis
- Implement VIVO Dashboard and related data services

Support the expansion of WCMC patient care services and clinical research

- Assist POIS with completion of Epic Practice Management install
- Continue supporting growth of PO Physician Network
- Pilot the new ARCH clinical research database

Appendix A: ITS Divisional Reports

Operations & Infrastructure



Ben Nathan
Director

Operations and Infrastructure (OPS & INF) is comprised of teams responsible for building, maintaining, and enhancing core technology foundations:

- » Network and Communication Services
- » Operations and Enterprise Services
- » Security, Identity Management, and Compliance
Includes Disaster Recovery
- » User Support

Associate Directors



Eugene Chen
Network
Communications and
Services Group



Ramon Segarra
Operations and
Enterprise Services
Group

Edgar Tijerino
Security, Identity
Management and
Compliance



Christine O'Connor
User Support Group



Network & Communications Services



Eugene Chen
Associate Director

The Network and Communications Services Group (NCSG) provides telecommunications services to support Weill Cornell's educational, clinical, and research objectives. These include Internet services and connectivity to the WCMC network, as well as telephony services.

Accomplishments

Wide-Area Network (WAN) expansion and upgrades

This past year there was a tremendous growth in both new practice facilities, as well as bandwidth upgrades, to almost all existing and supported office locations. From September 2012 to May 2013, NCSG was able to upgrade the network connectivity uplinks back into the main campus across five offices. These locations include 100MB uplink connection upgrades to:

- » Weill Cornell Medical Associates – East Side (CMAE)
211 East 80th Street
- » Clinical Epidemiology and Evaluative Sciences Research (CEESR)
338 East 66th Street
- » Weill Cornell Medical Associates – West Side (CMAW)
12 West 72nd Street
- » Practice of Dr. Louis J. Aronne
1165 York Avenue
- » Radiology
416 East 55th Street

NCSG was also able to establish new networking infrastructure within seven new practice locations which are now being managed by ITS. They include three newly-deployed office locations as part of the Epic Initiative project. In July 2012, we established network presence to support the Burke Research Institute for WCMC faculty at this facility. In October 2012, NCSG completed the year's highlight project, the PO Westside Practice building at 2315 Broadway. The three-floor facility extended the institution's dark fiber presence to incorporate areas of the Upper West Side and now runs north of Central Park. May 2013 marked the year's final network completion with the network/telephony infrastructure build into New York Downtown Hospital at 156 William Street on the 12th floor.

Network & Communications Services

Remote Access via WebVPN and Event Guest Wireless services

In October 2012, NCSG migrated to the new service platform for WebVPN remote access capabilities. Concurrent user connectivity increased from 50 to 500 and now includes remote desktop, as well as department file share features. We introduced Event Guest Wireless services along with Aruba Networks technology as the preferred vendor, which will now be providing wireless functionality for the Medical College.

Telephony

Over the past year, we have fully upgraded our legacy Nortel VoIP system to the latest software version at the time (Version 7.5), and implemented the necessary supporting systems required by Avaya as part of their roadmap for integrating Nortel systems. This has led us to achieve the Avaya Aura platform, which will allow us to employ additional features. Since releasing Version 7.6 in May, Avaya has stated that there are no major updates for the platform in the near future. Therefore, this upcoming year will give us time to detail a transition plan on our future growth.

There are several ongoing projects that are tied to the planned transition. The Call Detail Reporting project will apply to any future system we plan to implement. The emphasis on the Session Initiation Protocol (SIP) over Wi-Fi project needs to be defined based on what core system we choose moving forward. Another important project will be integrating Microsoft Lync with our existing systems to provide a full-featured unified communications platform. We are also in the process of implementing carrier SIP trunks to reduce our dependency on legacy telecom infrastructure and improve our disaster recovery options, as well as provide hardware redundancy for essential services, such as our voicemail/voice menu system and Contact Center. In terms of the institution, we have maintained growth on the VoIP system as we continue to add users from various department and medical practice migrations. This past year, we have added 300 VoIP endpoints, and we look to increase our user base by another 1,000 in the upcoming fiscal year.

Other Operational Milestones

- » 10 departmental moves, including:
 - 2315 Broadway
 - 156 Williams Street
 - 754 Brooklyn
 - 1165 York Avenue
 - Pulmonary Migration
 - Global Health Migration
 - Infectious Diseases Migration

- » New network service location deployments
 - 123 West 86th Street
 - 160 East 72nd Street
 - 210 West 10th Street
 - 162 East 78th Street
 - 156 Williams Street
 - 315 East 62nd Street



- » Dark fiber loop redesign improving high-speed networking across WCMC Manhattan locations (see map)

Projects Completed in 2012-2013

- » New network carrier vendors to support WCMC remote offices for future expansions. Introduced Optimum Lightpath and Time Warner Cable to provide metro Ethernet services for WCMC
- » Created cost recovery model to increase revenue related to metro Ethernet services to support remote office locations
- » Increased NYSERNet dark fiber presence for WCMC within Manhattan area
- » Decreased costs associated to primary Internet connection with Cogent Communications
New network carrier vendors to support WCMC remote offices for future expansions. Introduced Optimum Lightpath and Time Warner Cable to provide metro Ethernet services for WCMC.
- » Created cost recovery model to increase revenue related to metro Ethernet services to support remote office locations
- » Increased NYSERNet dark fiber presence for WCMC within Manhattan area
- » Decreased costs associated to primary Internet connection with Cogent Communications
- » Upgraded five remote offices from 3MB to 100MB WAN connections
- » Deployed network/telephony infrastructures to seven new office locations. This includes the new PO West Side practice at 2315 Broadway and WCMC presence within NYDH at 156 William Street.
- » Performed network infrastructure upgrades for eight departments at the 1300 York Avenue main campus with higher desktop connectivity speeds, as well as Power over Ethernet (PoE) capabilities
- » Established WCMC's first disaster recovery network location within Cornell University Ithaca
- » Completed negotiations and procurement for BRB's networking, institution wireless solution, and low latency research networking infrastructures
- » Completed negotiations and procurement on new WCMC edge firewall and Internet router hardware for increased throughput and capacity
- » Expanded network presence within 425 East 61st Street DV building areas
- » Implemented Aruba Networks ClearPass appliance for Event Guest Services over wireless
- » Implemented new network server core environment into 1305 York Avenue sub-basement data center; now supports the WCMC VDI environment

Network & Communications Services

Projects Completed in 2012-2013

- » SSLVPN secure web remote access solution in place on new hardware and with increased user capacity
- » Implemented VoIP VPN phones to support User Support Group's work from home program
- » Implementation of supporting VoIP applications to enable easier technology enhancements
- » Upgrade Network Routing Service (NRS) to Avaya Session Manager
- » Enhance call recording capability from 30 to 250 concurrent calls
- » Replace Contact Recording and Quality Monitoring (CRQM) with Avaya Workforce Optimization
- » Pilot femtocell cellular reception enhancement in Dean's Office

Plans for 2013-2014

Current Status of Projects Continued from 2012-2013

- » Enhance Infrastructure monitoring capabilities
 - Set to begin 2014
- » Enhance dark fiber infrastructure for additional off sites
 - Completed with addition of new 2315 Broadway office location
- » Convert 11 major offsite locations to preferred Ethernet connectivity
 - Completed network bandwidth upgrades to 90 percent of all remote office locations
- » Extend guest wireless to dormitories
 - Completed by broadcasting WMC Guest Services SSID into dorms
- » Expand network to 425 East 61st Street
 - Completed with new network infrastructure on the 4th floor for both data and telephony services
- » Expand network support to Burke Rehabilitation Center
 - Completed with new network infrastructure now supporting all WCMC staff within facility
- » Implement Avaya Aura VoIP core telephone management system
 - Completed

Plans for 2013-2014 (continued)

Current Status of Projects Continued from 2012-2013 (cont.)

- » Upgrade Aura Contact Center from 6.0 to 7.0
 - Completed
- » Enhance call recording capability from 30 to 250 concurrent calls
 - Completed
- » Replace CRQM with Avaya Workforce Optimization
 - Completed
- » Upgrade our telephone conferencing system
 - Updated version, 7.0 came out and we delayed upgrading until this year
- » Replace NMC with Avaya Aura Conferencing
 - Updated version, 7.0 came out and we delayed upgrading until this year
- » Enable third part SIP telephone functionality
 - Work in progress
- » Upgrade NRS to Avaya Session Manager
 - Completed
- » ITS BRB Data Center Design
 - Initiated in both planning and strategic design as part of the Gartner engagement for services
- » NetFlow network analysis solution design
 - Not initiated – To be conducted as part of Security analysis for new product solution
- » Network forensics: enhance deep packet inspection, replace WildPackets
 - Not initiated – To be joined with NetFlow product overview
- » Expanded NYSENet dark fiber loop to support PO West Side expansion
 - Completed with new network infrastructure supporting 3 floors for both data and voice services
- » Expand WebVPN capability to 250 concurrent users
 - Completed – Increased concurrent user capability to 500
- » Pilot femtocell cellular reception enhancement in Dean's Office
 - Dean's office deployment completed

Network & Communications Services

Plans for 2013-2014 (continued)

Current Status of Projects Continued from 2012-2013 (cont.)

- » Upgrade NetIQ phone system monitoring software from Version 6.0 to 7.5
 - In progress, was waiting for completion of phone upgrade
- » Investigate SIP trunking to replace traditional PRI method of making and receiving calls
 - Completed and implemented First SIP trunk into 1300 York Avenue
- » Investigate e911 solution for WCMC VOIP phone system
 - Work in progress

Projects in Progress for 2013-2014

- » Enhance Infrastructure monitoring capabilities
- » Expand and enhance on guest wireless services throughout institution
- » ITS data center design
- » NetFlow network analysis solution design
- » Enhance Infrastructure monitoring capabilities
- » Expand and enhance on guest wireless services throughout institution
- » ITS data center design
- » NetFlow network analysis solution design
- » Network forensics: enhance deep packet inspection, replace WildPackets
- » Network implementations for both data and voice services as part of the Epic Initiative with remote office expansions
- » Implement new WCMC Internet edge topology for new firewalls and Internet edge routers that will accommodate increased throughput for institution
- » Enhance wireless services for both guest and secure campus access throughout the institution
- » New network connections and upgrades in bandwidth into FIT colocation facilities down in NC for SAP systems
- » Upgrade NYP network connections to 10GB uplinks

Plans for 2013-2014 (continued)

Projects in Progress for 2013-2014 (continued)

- » Implement a Standby Contact Center server for redundancy
- » Upgrade our telephone conferencing system
- » Replace Network Management Console (NMC) with Avaya Aura Conferencing
- » Enable third part SIP telephone functionality
- » Upgrade NetIQ phone system monitoring software from Version 6.0 to 7.5
- » Implement SIP Trunks to replace traditional Primary Rate Interface (PRI) method of making and receiving calls
- » Investigate e911 solution for WCMC VoIP phone system
- » Replace Telemanager call reporting application
- » Link with WCMC-Q and Ithaca telephone systems
- » Implement Voice Over SIP so that cellular reception is expanded via the Wi-Fi network

New Projects for 2013-2014

- » WCMC capital planning initiative to build out two new office locations. New CMAE practice within 210 East 86th Street and the new Psychiatry practice operations at 315 East 62nd Street
- » 10GB uplink connections across dark fiber backbone from 1300 and 1305 York Avenue facilities into 32 Avenue of Americas.
- » Expansion of WCMC presence within NYDH locations at both 156 William Street and 40 Worth Street
- » Complete network bandwidth upgrades to the remaining three WCMC-supported remote offices
- » BRB research network implementation
- » BRB building network implementation
- » BRB data center network implementation

Network & Communications Services

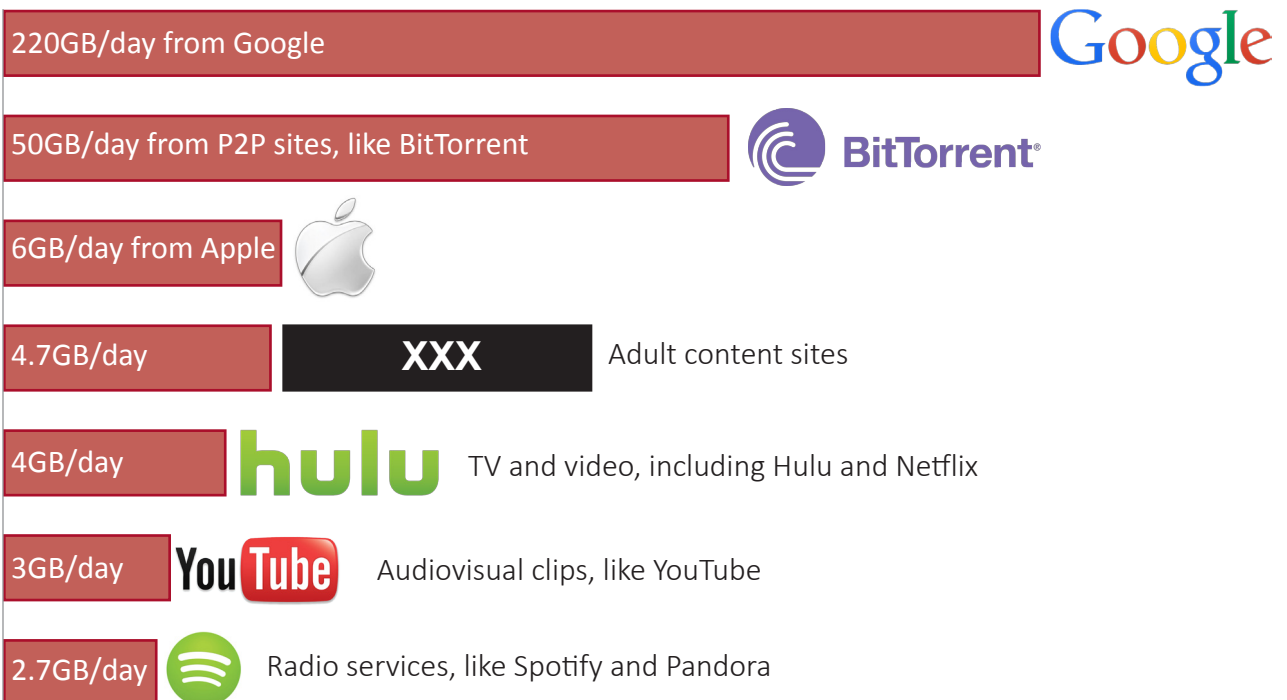
Plans for 2013-2014 (continued)

New Projects for 2013-2014 (continued)

- » BRB wireless network implementation
- » Increase network bandwidth for Internet connectivity with Cogent Communications to 10GB capabilities
- » Increase network bandwidth for direct connectivity into Cornell University to 10GB capabilities
- » Implement Session Border Controllers (SBCs) to provide border security on the new SIP trunks.
- » Replace traditional PRI connectivity to NYP phone system with new SIP Trunks
- » Implement Microsoft Lync unified communications system (includes instant messaging and video conference)
- » Develop service plan and then deploy softphones for telecommuters
- » Migrate RightFax implementation to a cloud-based solution
- » Routine departmental moves and service additions

Key Statistics

- » ITS manages 2,750 phones on our VoIP telephone system (distinct from NYP)
 - Increase of 300 phones for FY2013
- » We process about 7 million calls a year, or 19,178 per day (up from 6.6 million last year). Total talk time came to 20 million minutes. This does not include internal five-digit calls or calls to NYP.
- » There are 1.5 million Automatic Call Distributor (ACD) calls per year, with an institutional abandonment rate of 6.1 percent. Average time to answer was 37 seconds.
- » We have 120 clinical voice menus (e.g. Press 1 for...), up from 80 last year
- » 900,000 faxes sent and received
- » ITS manages 350 Cisco & HP network switches and routers (up from 300 last year)
- » ITS manages 700 wireless access points (100 more than last year) with more than 4,400 attached devices
- » There are more than 20,000 devices on the ITS network
- » There are 20 remote offices connected via metro Ethernet or dark fiber
- » ITS provides 2 Gbps of Internet bandwidth to WCMC
- » Average utilization is around 500MB (about 25% of total available):



Operations & Enterprise Services



Ramon Segarra
Associate Director

The Operations and Enterprise Services team is responsible for the operations, continuity, availability, and enhancement of over 50 services that span 650 servers, three data centers and over 600TB of storage on six arrays. These services range from non-critical to highly critical services that are key to the success of the institution. Below are highlights of what we support and the status of initiatives taken in FY2013:

- » Storage/File Sharing
- » SAP Sandboxes Authentication (AD/LDAP)
- » SharePoint
- » DNS & DHCP
- » Epic Infrastructure (100+ servers)
- » Virtual Infrastructure
- » Email & Calendaring
- » Citrix XenApp
- » GE CB Infrastructure
- » Coeus/eIRB
- » Databases (Oracle/MS SQL/MySQL)
- » Desktop/Device Management
- » WWW
- » Backups
- » Angel & Pinopto
- » Data Center Components
- » And many other services

Accomplishments

Virtual Desktop Infrastructure (VDI) Pilot

Early in the year, we piloted a locked version of the Virtual Desktop that had multiple technical problems. Based on user feedback, we revamped the service as an unlocked version while we resolve issues with the locked model. This second pilot was more successful and the product was ready to launch at the end of the fiscal year.

Measure System Availability

ITS has a long term goal of constantly improving both service levels and the visibility users have into those service levels. This year, our goal was to maintain a service level of 99.5 percent and above for all our key systems. Improving visibility involved new monitoring tools that we hope to make even more transparent in the coming year. We achieved the main goal that all critical systems had an uptime above the defined SLA of 99.5 percent (see table on following page).

Accomplishments (continued)

System Availability from July 2012 - June 2013

Service	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Average
VoIP	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99.9%	99.99%
Internet	100%	100%	100%	100%	100%	100%	99.6%	99.4%	99.6%	99.6%	100%	100%	99.85%
Network Infra.	77.4%	100%	100%	100%	100%	100%	99.9%	96.6%	96.8%	100%	100%	100%	98%
Wireless Access	100%	100%	100%	100%	100%	100%	100%	99.9%	99.9%	100%	100%	100%	99.98%
Remote Access	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
File Sharing	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Angel	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Active Directory	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
VMWare	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
Exchange	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99.98%	99.99%
Epic	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
GE CB	100%	100%	100%	100%	100%	100%	100%	100%	98.96%	99.34%	100%	N/A	99.85%
Web	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	N/A	100%
Oracle DB	98.8%	100%	100%	100%	100%	100%	99.6%	100%	100%	100%	100%	100%	99.88%
MS SQL DB	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%
YAB TSM	99.7%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	99.98%
Lex TSM	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Skill Gap Closures

Last year, ITS identified that several of our key services were dependent on only one person. Therefore, we established a program to expand training and cross coverage to improve our ability to maintain our high uptime record – while still letting employees take a vacation. The chart at right summarizes some of the key systems that had coverage gaps that were closed in the last fiscal year. This program will continue with more systems and in an ongoing way as new staff is added.

Service	FY12 Coverage	FY13 Coverage
3Par Storage	1	3
Active Directory	1	2
Citrix Netscaler	1	2
Citrix XenDesktop	1	3
eIRB	1	2
Scripting	1	5
GE CB	1	2
Biztalk	1	2
Radius	1	1
Jabber	1	1
NetApp	1	1
VMWare ESX	1	1
SCCM (App Distribution)	1	2

Operations & Enterprise Services

Accomplishments (continued)

Other Accomplishments

- » **Epic Infrastructure upgrade:** Upgraded over 60 systems with no unplanned downtimes
- » **Lync Pilot:** As of July, there were over 400 Lync enabled users
- » **Central Management of Mac desktops with Central Authentication:** Over 400 computers currently managed
- » **Central Management of mobile devices:** Over 400 devices now managed
- » **Improved SAP & Coeus application supportability** on desktops using Citrix
- » **Co-location Kick-off:** Roadmap and associated budget developed
- » **Storage Migration at 575 Lexington Avenue:** All critical services are currently using the new 3Par F storage unit. The older unit was repurposed for less critical applications and will sunset with the closing of 575 Lexington's data center.
- » **Exchange Migration Phase II:** All WCMC and NYP users have been migrated to Avande Managed Services. Started repurposing more than 50 servers from the old email system to lower the cost of other services
- » **Backup infrastructure improvement:** Increased performance by 50 percent. Required reconfiguration of 650 servers.
- » **Sunset of Mac and Sun Server operating systems:** Out of the 100 Sun servers, 28 have been retired and 11 have been migrated to Linux on VMWare, allowing us to meet our 30 percent goal. Out of the 15 Mac Servers, five have been retired, again meeting our 30 percent goal.
- » **Improve operational efficiencies through standard operating procedures:** The operations team is now managing 65 standard operating procedures that were once being conducted by higher salary staff
- » **Maintain data center footprint (no growth):** The goal is to maintain consumption of power at 1300 York Avenue and cooling at 575 Lexington Avenue by maintaining load to the data centers. Through the use of virtualization and consolidation, we have only grown by two physical servers to 350 total.
- » **Staff retention:** Improved equipment, training, mentorship, and compensation with demonstrated higher morale in self-appraisals and zero turnover in the last year
- » **Citrix XenApp upgrade** from 4.5 to 6.5 with no service disruption

Plans for 2013-2014

- » 3-year roadmaps for improving key services:
 - Roadmap for Epic Infrastructure
 - Roadmap for File Sharing
 - Roadmap for Database Services
 - Roadmap for virtualization

- » Increase automation of repetitive tasks:
 - Automate monthly patch deployment (Gain 25% of operations admin's time)
 - Automate 20 Standard Operating Procedures (Gain 10% of an admin's time)
 - Automate provisioning of virtual servers (Gain 10% of Subject Matter Expert's time)
 - Automate self-heal for known problems while working on root cause

- » Improve upon the Windows Application Delivery Systems: Upgrade System Center Configuration Manager to the latest release. This will improve upon our success of application deployment. There are current issues with the existing system that prevents us from effectively deploy software to all clients.
 - All Windows clients managed by System Center Configuration Manager 2012
 - Decommission old SCCM (Client error rate no greater than 5%)

- » Reduce Data Center Footprint: Continue consolidation initiative
 - 50 servers virtualized
 - Shutoff of 2 storage systems

- » End of life for Windows 2003 Server by July 14, 2015 deadline
 - Upgrade 30% of 2003 Servers to 2012 this FY

- » Sunset of Mac and Sun Server Operating Systems:
 - 43 Sun servers remain
 - 10 Mac servers remain

- » Virtual Desktop Phase II:
 - Add locked option with and without thin client

Active Directory Security:

- All activity is being logged
- Changes have approval workflows
- Anomalies are being alerted
- Restoration of objects and entire directory
- Reduce domain administrative rights to less than 5 people

Global Loadbalancing: Enable geographical load balancing to enable site resilience of critical services such as Epic, Web applications, and other key services.

- Decommission legacy F5 system
-

Operations & Enterprise Services

Plans for 2013-2014 (continued)

- » BRB Move-in: Enable the BRB data center with the necessary infrastructure to start the transition out of 575 Lexington.
 - Migrate 10% of all systems out of 575 Lexington
- » Documentation Improvements:
 - 25% of all systems are documented
 - Information is either linked or in ServiceNow
- » Process Improvement:
 - Problems are managed from ServiceNow
 - Change are managed from ServiceNow
 - Configurations are managed from ServiceNow

Key Statistics

- » Amount of physical servers: 350
 - FY2013 Added: 18
 - FY2013 Removed: 16
- » Amount of virtual servers: 310
 - FY2013 Added: 66
 - FY2013 Removed: 31
- » Amount of servers per data center:
 - 575 Lexington: 370
 - 1305 York: 40
 - 1300 York: 250
- » Amount of physical storage arrays: 6
 - In progress removal: 3
 - Added: 1
- » Total raw storage: 600TB
- » Amount of cases closed by operations: 1,034
- » ITS supports 19 enterprise-class systems, all with uptimes above 99.5%, and most with 100% uptime

Key Statistics (continued)

- » We process 5.3 million email connections per week (each with up to 100 messages)
 - 2.8 million are blocked based on IP reputation
 - 1.4 million are identified as medium or high probability spam
 - 1.1 million are identified as legitimate email and sent to users

- » 100 departments (up from 68) use ITS file sharing services and store over 50 terabytes of data

- » Epic
 - Maximum Concurrent Sessions: 1,781 (up from 1,542 in Jan 2012)
 - Total User Count: 9,042 (up from 5,250)
 - Total Storage Used: 15.2TB (3072GB last year)
 - Hardware/Operating System Changes: 3

- » GE CB
 - Maximum Concurrent Sessions: 85 (down from 1,055)
 - Total User Count: 3,467 (down from 3,572)
 - Total Storage Allocated: 1.6TB (up from 2048GB)
 - Hardware/Operating System Changes: 3

- » Exchange (WCMC)
 - Maximum User Count: 8,500 (down from 8,850)
 - Total Storage in Use: 13,500GB (down from 16,725GB)

- » TSM Backup
 - Total Clients: 674 (up from 314)
 - Tape Library Slots Used: 340 (up from 294)
 - Size of Database Allocated: 500GB (up from 168GB)

- » Active Directory
 - Total AD Users: 19,300 (up from 17,187)

- » File Sharing
 - Total Storage in Use/Allocated: 53GB/61GB (up from 36GB/40GB)
 - Average IOPs/Sec: 3,500 (up from 3,000)
 - Total Departments/Divisions/Labs with File Shares: 110 (up from 75)

Security, Identity Management & Compliance



Edgar Tijerino
Associate Director

The Security, Identity Management and Compliance group uses proactive and reactive technologies and best-practice processes to ensure a safe and secure computing environment for all faculty, staff, students, and guests of WCMC.

Accomplishments

Online Directory Beta (White Pages)

The team focused extensively on Online Directory Beta, which is part of the overarching Identity and Access Management (IAM) project. A product was selected and implemented, and a “beta” directory is currently being tested. The directory delivers key functionality, such as self-service, downloadable search results, merged NYP and WCMC phone system numbers, and Outlook address book integration.

Penetration Testing

ITS Security completed an external penetration test against WCMC’s network. This was a significant undertaking as it involved hiring highly skilled hackers to attack our network as if they were malicious. The penetration test required a great deal of coordination and planning. As a result of these tests, we learned a great deal about the institution’s overall information security posture and how to improve it.

Security Infrastructure Upgrades

In 2012-13, the Security team extensively worked on and completed key security infrastructure upgrades. NeXpose, the system used to scan servers for misconfigurations or vulnerabilities that can lead to a breach, was upgraded with a much more powerful and effective system. Network visibility and intrusion detection was greatly improved with the deployment of network aggregation devices and a major code upgrade to our Intrusion Detection and Prevention Systems. Workstation Security Systems (Symantec Endpoint Protection and Symantec PGP) were also upgraded to ensure operability with newer operating systems such as Windows 7 and 8.

Improved Password Distribution Process

Early in 2012, ITS Security overhauled WCMC’s password distribution process to ensure that new employees are changing their given password. This was done to increase security as well as meet audit requirements.

Projects Completed in 2012-2013

- » System upgrades
 - Symantec Antivirus Management System
 - PGP Management System
 - Sourcefire IDS/IPS System Code Upgrade
 - DLP Version Upgrade

- » Federation Authentication expanded
 - 12 systems now using Shibboleth

Projects Completed in 2012-2013 (continued)

- » Improved vulnerability scanning and remediation
 - Critical vulnerabilities reduced by more than 20% on ITS-managed servers
- » BitLocker Encryption analysis
 - Eventual PGP replacement found
- » Firewall policy review
 - First firewall policy review since ITS, then known as OAC, deployed the firewalls about a decade ago
- » Penetration testing completed
- » Revised HR account termination process
- » Added Security Analyst to the team
- » Compliance Manager presented to 50% of clinical departments
- » Online Directory Beta (White Pages)
- » Stayed out of the news (for breach notification)
 - Over 400 breach reports since 2012 (e.g. privacyrights.org, HHS.gov) and we were not mentioned
- » Increased collaboration with Security and Privacy offices
- » Successful testing of a PCI Compliant Card Reader for Epic PM
- » Data Loss Prevention System was enhanced to send automated alerts to users
- » Data Loss Prevention Email Servers were integrated with Avanade systems

Plans for 2013-2014

Projects in Progress for 2013-2014

- » Deployment of a new RADIUS authentication and authorization system
 - » Border Firewall Replacement (NCSG Joint Project)
 - New powerful 10Gbps firewalls
 - Rule-set cleanup
 - » Secure Data Archiving
-

Security, Identity Management & Compliance

Plans for 2013-2014 (continued)

Projects in Progress for 2013-2014 (continued)

- » Desktop Compliance Project
 - JAMF (Central Mac Management)
 - Laptop Encryption
 - Continued PCI Compliance

- » Identity and Access Management
 - Implement Strong Authentication for Epic, VPN and Email
 - Next phase of the Online Directory (Yellow Pages)
 - Access Certifications
 - Account Provisioning with ServiceNow
 - Migration of Shibboleth to Managed Services

- » Office for Civil Rights (OCR) Readiness
 - HIPAA Security and Privacy Program Review
 - HIPAA Assessment and Methodology Development

- » Health Information Trust Alliance (HITRUST) Program Development

- » ITS Infrastructure Improvement Initiative (I4) Security Infrastructure and Identity Management Architecture Redesign
 - Zoned Networking Infrastructure
 - Simpler device onboarding
 - Research Network/Science DMZ
 - EduRoam Participation

- » BRB Data Center Design (Multi-team Project)

- » Internet Edge Redesign (Firewalls, DLP, IDS, Proxys)

- » Improved Security Metrics

New Projects for 2013-2014

- » BitLocker Encryption pilot, which will eventually replace PGP for newer Windows Systems

- » Personal Password Management software

- » Active Directory, assess current issues and fix

Plans for 2013-2014 (continued)

New Projects for 2013-2014 (continued)

- » Improve access for users traveling between NYC and Qatar
 - Shibboleth deployment/Integration for Qatar
 - Password syncing
- » Enhance wireless services
 - Secure Wireless and Guest
- » NetFlow network analysis and forensics solution design
- » Improve device and user onboarding
- » Integrate security assessments/reviews into PMO project intake process
- » Data Loss Prevention (DLP) improvements, major version and hardware upgrades
- » Encryption for colocation Generic Routing Encapsulation (GRE) Tunnel
- » DLP for SharePoint
- » Improved Log Management and Logging Capabilities
- » Security Incident and Event Management Tool Assessment and replacement

Exploratory Projects for 2013-2014

- » Rapid7 RAZOR Beta Project Account Fraud Detection and Prevention
- » Big Data Analytic Tools for Security; Splunk Sumo-Logic, AlienVault,
- » FireAmp network-based anti-malware system to replace traditional anti-malware software on virtual systems
- » Internet Service Provider (IPS)-based URL filtering to replace current web proxy systems

Key Statistics

- » Security team reviews 470 ArcSight Security alerts a month
- » Security Team responds to an average of four copyright infringement notices (DMCA) per month
- » ArcSight Security Incident and Event Manager correlates 10.2 million log lines a day
- » Security Infrastructure blocks approximately 50,000 attacks per month
 - 31,000 malicious websites are blocked by our proxy servers per month
 - 18,000 network attacks are detected by our Intrusion Detection Systems per month
 - 46% malicious network traffic, such as recon scanning, exploit attempts and other malicious traffic
 - 37% viruses, Botnet, and other malware related traffic
 - 10% denial of service attempts
 - 4% user account attacks, brute force attempts, password guessing and other identity attacks
 - 3% targeted attacks against our Web applications (SQL injections, cross-side scripting or other attacks)
- » ITS Security performs approximately 1,200 vulnerability scans on ITS systems a month
- » Since January 2013, ITS has encrypted over 500 laptops
- » Data Loss Prevention (DLP)
 - Over 5,000 DLP agents were deployed this year to supported workstations
 - DLP System scans 1.5 million email messages a month
 - DLP System detects more 13,900 events a month on average
- » 77% of Windows workstations have up-to-date managed antivirus and malware software installed

Disaster Recovery

Disaster Recovery (DR) function, part of the Security, Identity Management and Compliance group, supports the delivery of enterprise services to our customers. This process includes mitigating known risks and testing documented recovery plans, and checking our resiliency and preparedness in advance of real outages. Two aspects drive our efforts:

- » Minimize the business impact during outages, and;
- » Keep recovery objectives in line with business expectations

In FY2013, along with Hurricane Sandy, a handful of service outages did occur with significantly mitigated business impact.

Accomplishments

- » **Business:** Met with nine departments to update 2009 BIA (Business Impact Analysis)
- » **Audit:** Passed DR audits associated with SAP and GE CB
- » **Exercising:** Performed annual ITS-POIS Desktop Exercise and first 575 Lexington data center shutdown exercise (both completed just weeks before Sandy)
- » **Planning:** Finalized six new DR Plan documents. Now 97% of all critical services (Tiers 0 and 1) have been documented.
- » **Testing:** Completed eight new DR tests with documented results. Now 80% of all critical services (Tiers 0 and 1) have been tested.
- » **Awareness:** Integrated DR program with Emergency Planning (Ready tool), Emergency Notification System (SWN) and WCMC Emergency Management Committee (EOC)

Plans for 2013-2014

- » Update 15-20 DR plans or test per quarter
- » Achieve and maintain 80% DR policy compliance on existing DR plans
- » Implement co-location site (diversify data center geographic risk)
- » Create supportive BRB data center DR plans and test before go-live
- » Perform Post Sandy report: One-year review

Disaster Recovery

Plans for 2013-2014 (continued)

- » Integrate DR program into ServiceNow incident management tool
- » Audit and enforce DR assessment on enterprise-wide host providers
- » Reassess existing recovery times (i.e. driving more stringent objectives)

Key Statistics

- » 72% of all critical services have DR Plans
- » 56% of all systems have DR Tests (all Tiers)
- » 100% of Tier 0 services have DR Plans and 93% are tested.
- » 100% of Tier 1 services have DR Plans and 75% are tested.

User Support Group



Christine O'Connor
Associate Director

In June 2012, the User Support Group (USG) began a realignment to rethink the organizational structure and support models from the ground up. This realignment consisted of:

- » Aligning both Service Desk and Desktop Support group – both under one Support Service Manager
- » Creation of Teams
 - Changed manager-to-employee ratio from 1:14 to 1:5
 - Maturation and update of USG job descriptions
 - Improved end user support
 - Created better career paths to improve retention and employee satisfaction
- » Implemented Departmental Liaison, Quality Assurance, and VIP Service Teams managed by Jason Fried
 - ITS Liaisons (also known as Business Relationship Managers) work with users to understand how we can improve our services, as well promote services ITS currently offers
 - The Quality Assurance/testing team provides specialized support in areas such as Mac, mobile, and windows technical support specialists
 - The VIP team offloads high utilization users
- » New Training and Communications team managed by Juliet Brocki. This group consists of ITS Training, SAP Training, and a newly hired Communications Specialist.

Additionally, USG has implemented a modern incident management tool, ServiceNow, as our new ticketing system. This system is comprised of optimized incident ticket tracking and includes mechanisms for continual improvement via customer satisfaction surveys and real-time analytics.

The ongoing refinement of the Incident Management process supports a data-driven approach to providing the best technological experience possible for the WCMC community. Each issue reported to the ITS Service Desk is documented using an automated incident or request ticket database in ServiceNow and is then assigned a priority level based on business impact and urgency. Each priority level will eventually have a supporting Service Level Agreement (SLA) that authenticates our target goal for timely incident and request resolution.

User Support Group

Accomplishments

Improved Education of ITS Services

In order to bridge the gap and educate our clients on our services, we have aligned our ITS Department Liaisons with the four missions of the college: Education, Research, Clinical, and Administration. Each of the liaisons are now actively attending monthly Department Administrator meetings, both academic and administrative, building relationships, and participating in department projects and initiatives.

Streamlined Support

USG has partnered with the Administrative Computing Group (ACG) and Education Technology (Ed Center) to streamline services by routing all calls to the USG Service Desk for centralized support, handling all first level support for WBG and Education Technology such as Jenzabar and Canvas.

Projects Completed in 2012-2013

- » Replaced HEAT with new IT service management tool, ServiceNow
- » Microsoft Exchange email/calendar migration completed
- » Process improvements:
 - Queue Management
 - Call handling
 - Collaboration & hand-off
- » Staff Training and Development
 - Information Technology Infrastructure Library (ITIL) overview for all USG Support & Desktop: Approximately 30 staff are part of the ServiceNow implementation
 - 5 USG team members received ITIL training and certification
 - Help Desk Institute (HDI) training and certifications completed for the following USG positions:
 - Support Center Analyst
 - Desktop Support Analyst
 - Support and Desktop Manager
 - Team Lead
- » SMARTDesk implementation, located in the Wood Library (see photo at right)
- » New remote help desk tool, Bomgar, implemented
- » USG remote work-from-home ability – used during Hurricane Sandy



Projects Completed in 2012-2013 (continued)

- » ITS Training and Application Support
 - Key training programs offered for the following applications: ESS (Employee Self-Service: Benefits Open Enrollment, New Hire Benefits Enrollment), eTime, BI Reporting for HR, Fixed Assets, WebVPN, VIVO, and ServiceNow
 - Fully implemented Weill Business Gateway (WBG) Level II Support
 - WBG Orientation Program for Service Desk
 - ACG Orientation Program for new hires
- » New offices and service offerings
 - Burke Rehabilitation Center with new shared support service
 - Harvard Labs / Dr. Cantley Lab
 - Providing separate IT services to Angiocrine Bioscience, first co-location of a biotech company inside WCMC space
- » Changed from Dell to HP as our standard desktop and laptop, providing cost savings about \$350 per desktop alone, with better configuration combinations (e.g. desktop plus monitor)
- » New support services for Mobile Device Management, Encryption, and Mac Management tools
- » Improved process for communication of outages and scheduled maintenance

Plans for 2013-2014

Projects in Progress from 2012-2013

- » ITS training and communication programs in development for:
 - Learning Management, Virtual Desktops, New Directory, PaperCut print services, and more
- » New closure satisfaction surveys
- » Onboarding of new clinical sites for Lower Manhattan and the West Side
- » Desktop and Mobile project (DAMP), Laptop encryption, Mac management, and Mobile Iron implementation
- » Faculty onboarding
- » Voluntary Faculty service offering
- » Password synchronization and Shibboleth support for Qatar sites
- » Community Connect for Physicians Organization

User Support Group

Plans for 2013-2014 (continued)

Projects in Progress for 2013-2014

- » Roll out Enhanced Service option to offload high intensity support calls
- » Expand ITS Training and Communication services
- » Expand the Service Now ticketing system for asset management, service requests, self-service portal, knowledge base, Service Level Management, and Metrics and Dashboards.
- » Windows XP to Windows 7 upgrade
- » Office 2010 upgrade
- » Online Directory Replacement
- » Wi-Fi Campus Enhancement

New Projects for 2013-2014

- » Expand hours for USG Service Desk and the SMARTDesk walk-up service in the Wood Library to include nights and weekend coverage
- » Developing ITS Educational Program for ITS services
- » Communication optimization
- » ITS website redesign

Key Statistics

Number of Tickets Received	FY11-12	FY12-13	% Difference
Total ticket volume*	60,000	71,451	17.4%
Tickets since ServiceNow implementation**	N/A	51,476	N/A
SMARTDesk ticket volume***	N/A	1,427	N/A
Service Desk Calls	FY 11-12	FY12-13	% Difference
Average calls per month	5,300	4,900	- 7.8%
Average abandonment rate	14.24%	10.6%	- 3.64%

*Total volume includes HEAT and ServiceNow data from July 2012-June 2013

**Total represents only ServiceNow data from December 2012-June 2013

***SMARTDesk data since inception in December 2012. Based off of ServiceNow data.

Key Statistics (continued)

- » Each month, ITS User Support receives up to 5,954 tickets per month
 - Maximum abandonment rate: 27.6% in July 2012 (same month as last year)
 - Minimum abandonment rate: 4.4% in February 2013 (same month as last year)
 - Monthly average hold time (maximum): 7.4 minutes in July 2012 (same month as last year)
 - Monthly average hold time (minimum): 1.1 minutes in February 2013
 - Longest hold time: 91 minutes in February 2012
 - Improved communication and SMARTDesk service may have led to fewer calls this year

Our most aggressive goal for FY 2013-14 is to reach a First Contact Resolution (FCR) Rate of 70 percent. According to the Help Desk Institute (HDI), the average industry FCR was 68 percent and the target set by help desks in higher education was 74 percent. Research available online shows that the FCR is one of the most important customer-facing metrics because it represents a customer getting an issue resolved with a minimum amount of effort on their part. Anecdotally, FCR also benefits ITS since resolving issues at the Service Desk frees time for developers and system administrators to perform their core functions.

Tickets by Source	2012 HDI Annual Survey (Benchmark)	FY12-13 WCMC
Email	28%	31%
Phone	55%	44%
Auto-logging (Integration)	14%	21%
SMARTDesk (Walk-up Service)	8%	4%
Self-Service (Web)	20%	N/A
Other (Chat, Social Media, etc.)	18%	N/A

*Partial year calculations only based on 7 months of ServiceNow data. New ServiceNow ticketing system live since December 2012.

- » ITS supports more than 20,000 devices attached to our network
 - Roughly 1,049 (15%) of desktops are locked
 - 2.1% are research network desktops
 - 13.4% of desktops/laptops are Macs, 61.1% are Windows

Supported Devices	2012	2013	% Difference
Desktops/Workstations	7,985	8,866	11.0%
Laptops	2,810	3,152	12.2%
Printers	2,949	3,134	6.3%
IP Phones	2,574	2,934	14.0%
Smartphones	1,355	2,123	56.7%
Tablets	573	914	59.5%

* Table above represents all ITS and POIS devices that USG supports.

User Support Group

Key Statistics (continued)

Other Statistics

Supported Areas/Services	2013
Locations	90
Business Services	234
Exchange Accounts	7,918
WCMC Accounts	18,363
WCMC-Q Accounts	1,259
NYDH Users	414

- » Desktop support averages 445 connects, replacements, and disconnects per month (67% increase from FY 2012)

- » Training and Communications
 - Administrative Computing/WBG Training
 - Users trained: 544
 - Content developed: 6 new courses added to the WBG Course Catalog
 - User inquiries: 1,187
 - ITS Training
 - Users trained: 120
 - Content developed: 35 user support guides
 - ITS Communications
 - Service announcements* (e.g. maintenance, emergencies, service hours, etc.): 63
 - Project communications* (e.g. new service announcements, ITS website updates, brochures, surveys, etc.): 20
 - Newsletters: 4

* Data only available from March 2013 (when new Communications Specialist was hired) to June 2013.

Expansion of the ITS Training and Communications group to provide support for all ITS services and technologies will allow us to establish customer service models, a shift from a narrow, technology-based focus to a broad, customer service focus. A comprehensive Training and Communications group will offer services such as change readiness/awareness activities, and training and communication for all ITS offerings. Clearly defined communication standards and processes are being established. Finally, we are also spearheading an effort to review, update, and maintain all of the service and support documentation on the ITS website. The goal is to transform the documentation in a way which will better meet our customer's needs and wants, while also working with our internal support partners to ensure technical accuracy and timeliness of the available documentation.

Administrative Computing Group



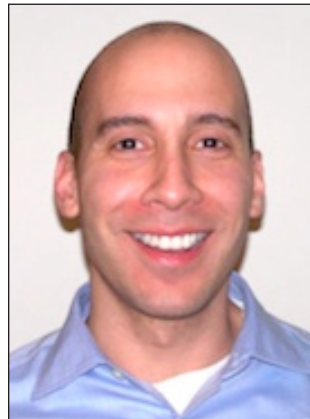
Vipin Kamath
Director

The Administrative Computing Group (ACG) supports the core administrative computing needs of the Medical College through the operation and support of the Weill Business Gateway (WBG). WBG is the College's implementation of SAP's Enterprise Resource Planning (ERP) software, including Public Sector Financials and the Industry Solution for Higher Education and Research. WBG provides central administration and the departments with real-time business functions, including financial accounting, procurement, human resource services, payroll, student accounting, and enterprise reporting, and supports both the NYC and Doha campuses.

Leadership



Robert Smith
Sr. Director
Enterprise Applications



Jose Garcia
Associate Director
SAP Application
Development &
Reporting

Harish Chava
Associate Director
WBG Program
Management &
Operations



Carlos Cerro
Associate Director
Enterprise Computing
Group



Administrative Computing Group

ACG Teams

ACG supports WBG with the following teams:

- » Business Analysis
 - Financials
 - Human Capital Management

- » Development & Reporting
 - ABAP Development
 - Portal Development
 - Enterprise Reporting

- » Operations
 - BASIS Administration
 - Security
 - Testing

- » Training & Communications
 - Training
 - Application Support

Accomplishments

- » The goal this year was to partner with administrative departments to develop more efficient IT-based business processes, and implement self-service applications to make data input and access easily and securely available.
 - Successfully completed the rollout of eTime (using the product TimeLink), the College's new time reporting application, to pilot departments - ENT, Finance, and HR
 - Developed the grant administration dashboard that was piloted with a number of basic science department administrators and rolled out several central administrative data reporting services for the NYC and Qatar campuses
 - Completed the prototype of a central document management service and online forms to reduce paper-based workflows and processes

- » Additionally, during FY2013, ACG completed a number of significant enhancement projects providing new or enhanced user functionality:
 - Worked with POIS to develop financial interfaces between WBG and EPIC to support the migration of patient scheduling and billing from GE CB to EPIC
 - Delivered a new application to support the billing of Managed Services Agreements to affiliated hospitals by the clinical departments
 - Completed redesign of the Change of Funding application
 - Implemented Benefit Open Enrollment and New Hire Enrollment using WBG's Employee Self-Service (ESS) functionality

Accomplishments (continued)

- Upgrade the Procurement Card application to a new release providing improved functionality

- » Completed Weill Cornell's re-certification for another two years as an SAP certified Customer Center of Expertise (CCoE) based on our proficiency in how we support our SAP systems. ACG scored in the top 10 percent of all CCoEs on our re-certification
- » In addition to the project activities, ACG provided operational support to our primary users Finance and Human Resources to ensure that production activities, such as bi-weekly payrolls, month-end closings, fiscal year closings and calendar year-end closing activities, occurred as scheduled
- » In conjunction with the Web Communications group, the ACG Training team developed and delivered a series of User Experience training sessions to all ACG staff aimed at improving our ability to understand our users' requirements and, based upon that understanding, deliver better systems

Projects Completed in 2012-2013

- » Completed the interfaces between Epic and SAP for billing, patient refunds and cash reconciliation
- » Regular billing of Medical Service Agreements via SAP Accounts Receivable
- » Change the fiscal year for CenterFund from January-December to July-June cycle
- » RAJV Accounts Payable System for Physician Organization
- » Completed setup of the Cornell Book Store in SciQuest to enable faculty, staff, and students to place orders via the WBG shopping cart
- » Proof of concept for integrating the College's document management system (SharePoint) with SAP using ERPLink
- » Set up the new structure of the Joint Clinical Trials Office in WBG
- » Set up the new structure for Office of Sponsored Research Administration (OSRA) in WBG
- » Set up the new structure for the new Cancer Center in WBG
- » Changes to WBG to support the switch over to the new JPMorganChase P-Card
- » Changes to the iLab interface to support additional cores
- » Completed redesign of the Change of Funding application

Administrative Computing Group

Projects Completed in 2012-2013

- » Implemented the core functions of SAP Employee Self-Service (ESS) as a foundation to the New Hire Open Enrollment rollout
- » Implemented the New Hire Benefits Enrollment in WBG
- » Completed cleanup of master data records in WBG related to Qatar to facilitate improved reporting
- » Completed Weill Cornell's re-certification for another two years as an SAP certified Customer Center of Expertise (CCoE) based upon our proficiency in how we support our SAP systems. ACG scored in the top 10 percent of all CCoEs on our re-certification
- » Completed Phase 1 of the integration of ServiceNow with Solution Manager to streamline handoff of support issues between the Service Desk, WBG's Application Support Group and business analysts
- » Completed proof of concept to manage master data across various enterprise system at the College using SAP Master Data Management (MDM) tools
- » Changed the authentication mechanism in WBG to support Shibboleth to conform to ITS' standard for enterprise authentication and to facilitate single sign-on with TimeLink for the eTime implementation
- » Completed the setup allowing distribution of SAP via Citrix

Deferred Projects

- » Management Dashboard
- » Qatar Research Reporting
- » Qatar HSBC banking interface
- » Employee Self-Service and Manager Self-Service (ESS/MSS)
- » CTMS interface
- » Jenzabar Course Management System Interface
- » Database application for HR to track Employee Relations cases

Plans for 2013-2014

Annual Operational Projects

- » SciQuest upgrade Versions 12.2, 12.3 and 13.1
- » Fiscal year end and calendar year end activities
- » Effort reporting
- » HR Benefits Changes for 2013
 - Interface updates for UHG, Aetna, CIGNA and Eye Med
 - New dependents/benefits plans related to New York spouse laws
 - New benefits rates for various plans
- » Tax updates and HR calendar year-end activities
- » Merit increases
- » Disaster recovery test
- » SAP Support Packs upgrade – Enhancement Pack 6 (EHP6)
- » Upgrade infrastructure to support WBG login via Citrix
- » BI Training to HR team to enable them to support operational reporting needs independently
- » Technical upgrades to BusinessObjects and BizApps

Projects in Progress from 2012-2013

- » Fixed Assets Inventory Verification System
- » Qatar Finance organization changes to support Research
- » Data synchronization (SAP/Coeus)
- » Research Visibility (Dashboard)
- » eTime enhancements and rollout to additional departments
- » Reconfigure the space inventory system in WBG to accommodate tracking of space down to the benches within labs

Administrative Computing Group

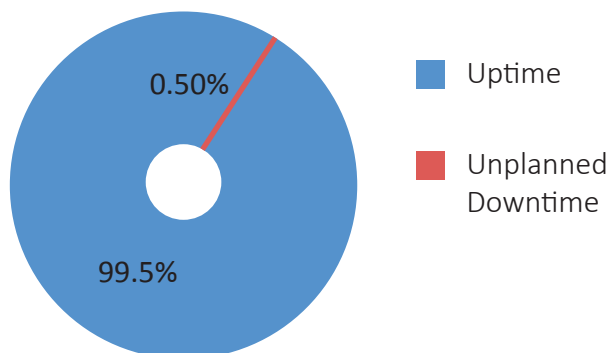
Plans for 2013-2014 (continued)

Projects in Progress from 2012-2013

- » Convert Paper Finance Forms to eForms and Workflow
- » Automate NYPH Billing, application of cash receipts and associated reporting
- » Improve the cash flow reporting within the SAP system
- » The SAP learning solution setup as part of the Learning Management System (LMS) Project
- » Correct the mapping of Funds and Grants to the Fund Centers; and employees to organization units
- » Changes to Open Enrollment in ESS for 2014
- » Phase 2 of interface to ServiceNow to enable bi-directional flow of ticket information between SAP and ServiceNow
- » Document scanning and cataloging into the document management system for Finance and HR paper documents
- » Redesign the WBG home page to facilitate the management of content by central administrative units

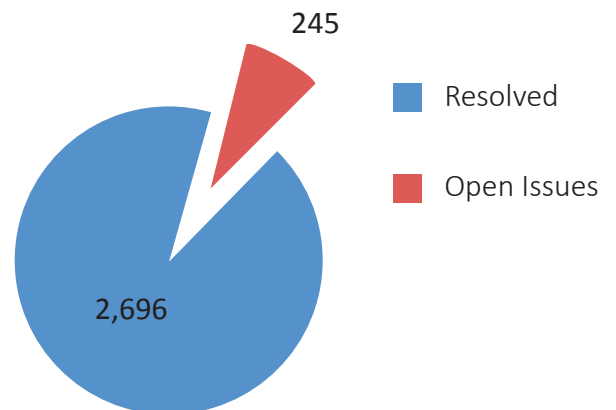
Key Statistics

System Availability



Met goal of 99.5% system uptime as we did last year.

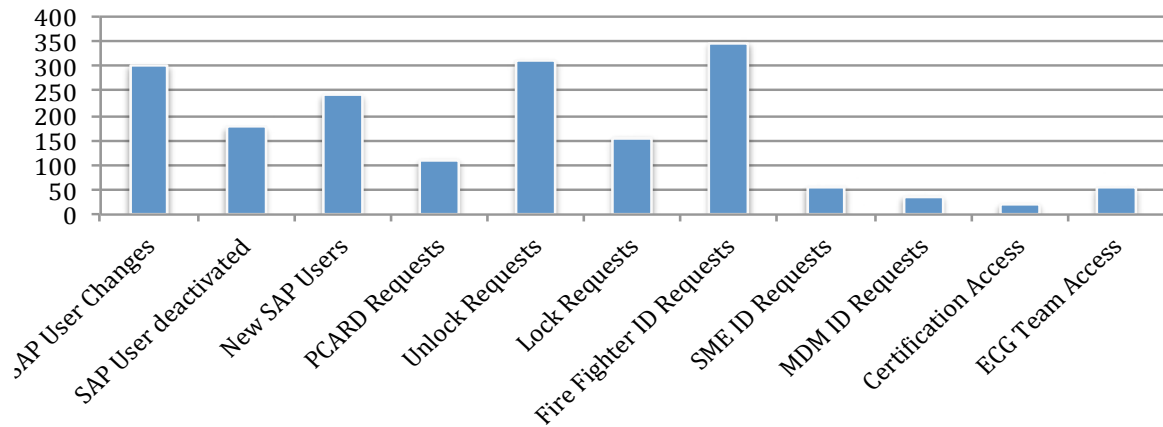
Support Issues



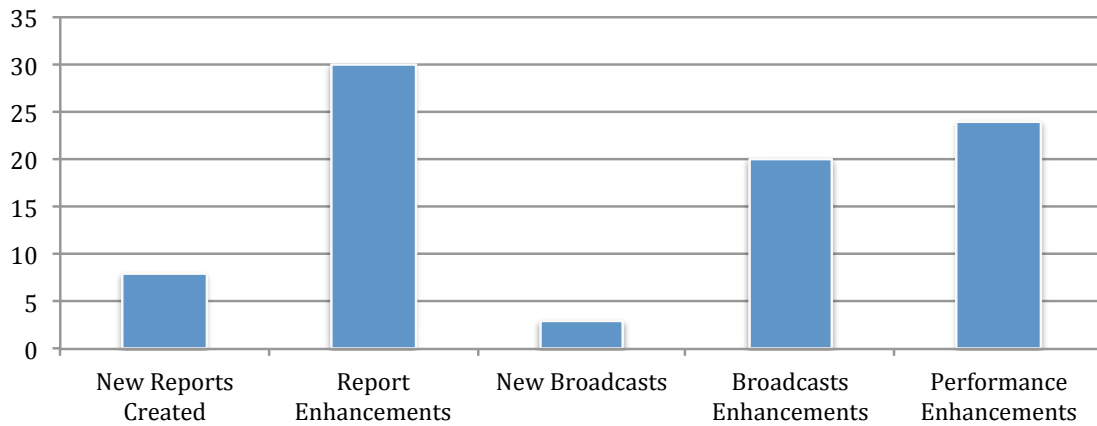
FY2012: 2,367 issues resolved; 187 open

Key Statistics (continued)

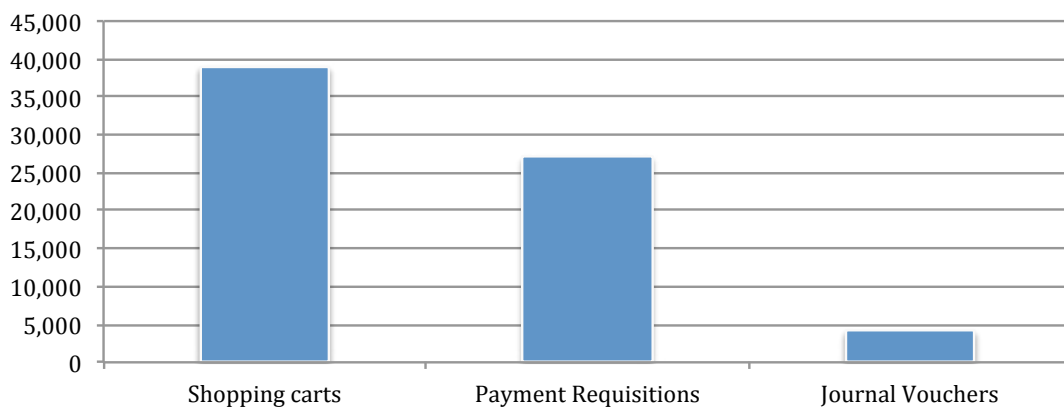
WBG Access Requests Provisioned



BI Reporting



Transaction Statistics



Project Management Office



Vipin Kamath
Director

The Project Management Office (PMO) strives to create a foundation for consistent project success by controlling and assisting the WCMC ITS project portfolio. Project management is defined as the discipline of planning, organizing, securing, and managing resources to achieve specific goals. In the context of WCMC ITS, it means applying the PMO methodology and practices to a project of work in order to increase the chance of project success.

Associate Director



Arun Budhwani
Project Management
Office

Accomplishments

- » PMO has matured from 2.24 to 2.66 on the Gartner Project Portfolio Management (PPM) Maturity Model with improvements mostly across the board – most notably within the technology dimension
- » Created PMO training program for inside and outside ITS in an effort to harbor a staff skilled in improved techniques of project management and technology software (available at weill.cornell.edu/its)
- » Implemented office hours in order to further support staff playing the role of Project Manager (PM)
- » Created weekly Project Dashboards summarizing status and missed milestones in order to improve transparency, raise accountability, and overall tracking efficiency
- » Created Service Lifecycle for all projects in order to standardize methodologies across ITS
- » Converted ITS portfolio management from SharePoint to ServiceNow in an effort to condense and standardize all portfolio processes
- » Enhanced planning and QA processes for high risk (Class 2) projects

Accomplishments (continued)

- » Operationalized and expanded existing metrics:
- » Resource reports defining capacity
- » Performance metrics to measure if targets are being met
- » Categorization reports to determine why projects are being worked on
- » Compliance reports to measure adoption of standard methodology
- » Normalized resource management as a part of project intake and created guidelines for tracking

Plans for 2013-2014

- » Enhance and incorporate Resource Management as a part of all routine projects into the PPM tool set (ServiceNow)
 - Develop resource capacity reports and dashboard reports in ServiceNow
- » Expand and standardize more meaningful metrics with trending
 - Customer service metrics
 - Expand performance metrics
- » Enhance the integration between architectural review and PMO processes by fully integrating vendor evaluations, RFPs, and project risk assessments into the newly defined service delivery lifecycle.
- » For projects with budgets: tracking planned vs. actual costs
- » Continue PMO Training within and outside ITS
- » Develop sample institutional portfolio for review outside ITS
- » Unify Project Management processes across ITS and POIS
 - POIS Integration
 - ACG Integration
 - ETG Integration
- » Create, document, and implement flexible processes to plan and manage projects across ITS by building upon what we have
- » Continue maturation of PMO to target of 2.9

Project Management Office

Key Statistics

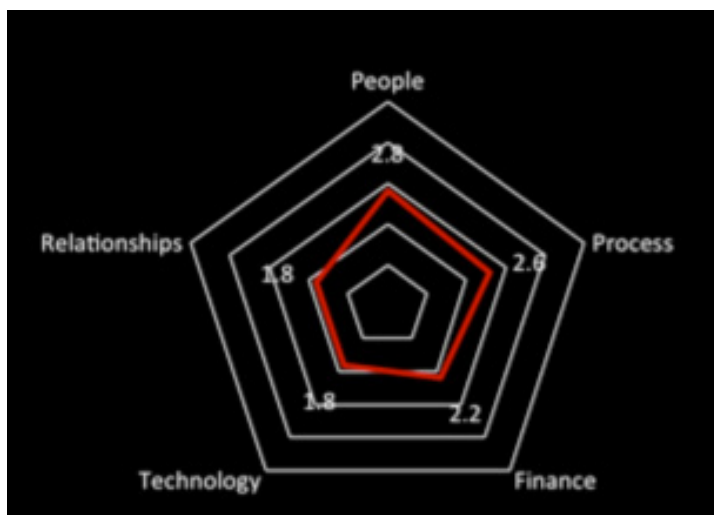
- » New Projects: 190 (up from 176)
- » Planned vs. Actual Completions: 150:105, or 70% [from 185/145 (78%)]
- » Projects Placed On Hold: 21 (from 25)
- » Projects Cancelled: 31 (from 14)
- » Projects Completed with PM: 29 (from 46)
- » Projects Completed without PM: 76 (from 103)
- » Class 2 Projects Managed: 37

The PMO has seen meaningful growth throughout the last year, according to the Gartner PMO Maturity Model as the primary external benchmark for development, The PMO has seen improvement in almost all five Gartner model areas of measurement: people, processes, technology, financial management, and typical tasks performed. On this five-point scale, the PMO ranks as 2.66. The highest scores of levels 4 and 5 are only achieved at organizations that embrace PMO methodologies across the enterprise. That is rare to non-existent in academic settings and many other organizations as well; the model accounts for that.

That being mentioned, ITS has seen major improvement in terms of optimizing the PMO. After advancing from a 2.24 on the five-point scale at the end of FY2012, the PMO's increased score indicates improvement across almost all fields. This underscores the level of growth that has taken place during a short period of time, despite the initial difficulty of progress during organizational infancy (see comparison below).

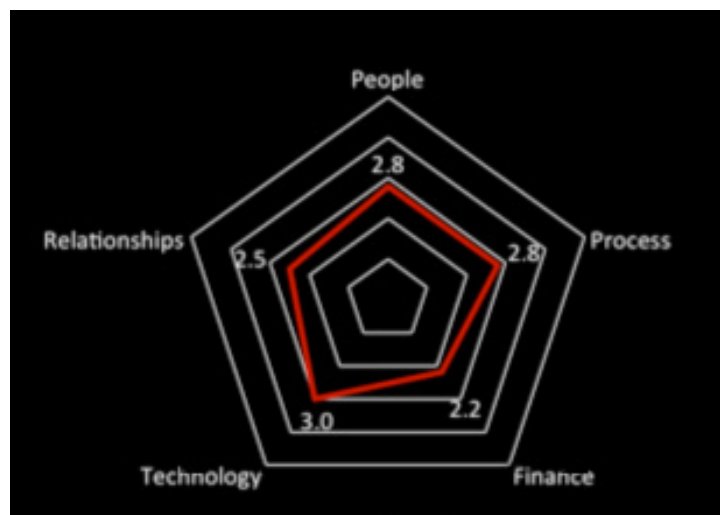
Gartner PMO Maturity Model

July 2012



Overall Score: 2.24

June 2013



Overall Score: 2.66

Key Statistics (continued)

The People dimension reflects the interdependencies among people in terms of their availability, skills, and contribution to the work that needs to be accomplished. At higher levels of maturity, the leadership ability of the individuals involved in supporting PPM activities becomes critical. In respect to the PMO, it indicates a shift from more individually managed projects to projects managed through the scope and direction of PMO guidelines. Our PMs now have the right skills to manage the ITS project portfolio. Projects with a high level of risk receive appropriate PMs, and prior to project approval, the portfolio is aligned to resource capacity.

Multiple processes are in place to accommodate project diversity, including initial processes for program management, and the availability of an up-to-date portfolio allows for effective decision making. Consistent review of on-hold projects, projects that need escalation, and initial review of projects that have high impact risk or high severity issues, have helped mature the processes dimension from 2.6 to 2.8 in the last year.

The most significant improvement this year has been in the maturation of technology from a score of 1.8 to a 3.0, which reflects portfolio management through reporting dashboards that report actionable information (i.e. visibility into projects with high impact risks/high severity issues; the beginning stages of scheduling & task management, and the integrated platform for project collaboration).

There has been little progress in the financial dimension because many of our projects are unfunded mandates. Despite this, we are able to develop benefit statements as a part of each project charter, and are in the beginnings of creating a formal process for modeling costs for projects. We are able to increasingly perform some cost-benefit analysis for projects before they are started, formally estimate total costs including operating costs prior to initiation, and occasionally stop projects that lack adequate funding to proceed (though this remains one of the hardest problems we face). In addition, we are focused on tracking costs throughout the project life cycle.

The relationship dimension has increased significantly from 1.8 to 2.5 for various reasons. Project Managers are selected based on their expertise and knowledge of projects, as well as their pre-existing relationships with stakeholders. Business process analysts have the right expertise to play larger parts in projects and help determine to-be states. In addition, the head of the PMO allocates a significant percentage of his time with project sponsors and stakeholders – all of who have improved the relationship dimension of the PMO.

Overall, the PMO now has vastly more formal and flexible processes, tools and templates, a formal training program, and increasingly supports the WCMC project management community.

Web Communications



Dan Dickinson
Associate Director

Over FY2013, Web Communications has been focused primarily on three multi-year initiatives: improving the infrastructure and standardization of WCMC websites; improving policy and practices surrounding the Web; and a larger role in the development of research administrative systems.

Accomplishments

- » The close of FY2013 signaled the end of the 18-month period for the Web Communications Strategic Plan. All five goals put forth in the plan were successfully executed:
 - **Completed team restructuring** and reconstruction of management team
 - **Created Web Governance Committee**, a new faculty/staff committee focused on setting and enforcing Web-related policy for WCMC
 - **Tools & Services**: Overhauled services surrounding hosting, content management, application development, analytics, and design standards
 - **Business Model**: Created an ITS-managed RFP service to assist departments in finding external vendors for time-sensitive projects without losing key central oversight
 - **Innovation and Learning**: Over 50 mini-projects have been explored as part of our “10% Time” program, helping to increase employee satisfaction, teamwork, and retention rates

- » New sites and applications launched:
 - Department of Cardiothoracic Surgery (cornellheartsurgery.org)
 - Cornell Dermatopathology (weillcornelldermpath.com)
 - Board of Overseers Extranet (overseers.weill.cornell.edu)
 - Weill Cornell Dermatology (cornelldermatology.com)
 - Office of the Dean (weill.cornell.edu/about-us/dean)
 - Faculty Appraisal Tool (facultyreview.med.cornell.edu)

- » New standards, policies, and practices related to the Web:
 - Standards for External Web Vendors
 - Digital Logo Usage Addendum
 - WCMC Site Search Implementation

Accomplishments (continued)

- WCMC Web Footer Standards
- Web Maintenance Policy

» Service & System Expansion/Enhancements

- **POPS**: Integration with Columbia Doctors data feed to provide better data sync for NYP faculty profiles.
- **SharePoint**: Small-scale document management pilots executed, with a larger scale implementation in SharePoint 2013 underway for beta launch in early FY2014.
- **eIRB**: After taking over development responsibilities from RASP, stabilized the recently launched eIRB system. Improved performance, reduced errors, and added necessary functionality through a standard release cycle.
- **Web Maintenance**: Now offering analytics training and content strategy assistance as part of regular ticketing operations
- **Drupal Hosting**: Cloud-based, scalable, affordable hosting for WCMC Drupal websites. Agreement signed in May 2013.
- **WCMC Drupal**: A customized Drupal framework for use in WCMC websites going forward. Includes 104 modules, including six custom developed for WCMC. Initially released in June 2013.
- **Site Development Services**: Re-architected our site building processes to incorporate Drupal so that all site builds beginning in FY2014 will utilize Drupal

Plans for 2013-2014

High-Level Goals

- » Convert at least 25 percent of the WCMC Web presence (by traffic) to the Drupal content management system by the end of FY2014
- » Complete separation of services and infrastructure with NewYork-Presbyterian without impacting the delivery of Web content for either institution
- » Evaluate and restructure Art & Photography services to achieve better recovery and better alignment with similar business units, such as Duplicating
- » Provide a more robust search with better user experience for the WCMC Web presence
- » Launch SharePoint document management services
- » Assist in the formalizing of the Research Administrative Computing team within ITS and planning for future Research Administration systems
- » Create new 24-month Web Communications Strategic Plan (FY2014-15)

Web Communications

Plans for 2013-2014 (continued)

Detail Goals

- » Release new versions of the WCMC Drupal distribution on a quarterly basis
- » Transition from Subversion to Git for version control.
- » Re-implement key existing central websites in Drupal:
 - weillcornell.org + POPS
 - WCMC News / External Affairs
 - Information Technologies & Services
 - Cornellemergency.org
- » Create “charter rider” to better protect our ability to execute on projects from long client delays or departures
- » Create WCMC Media Repository services to facilitate departments using rights-managed photography and images
- » Foster a better Drupal and Web community at WCMC, including better outreach to Web professionals and regular community SIG meetings

Stretch Goals

- » Re-implement the primary WCMC website into Drupal
- » Draft and implement comprehensive Web accessibility strategy

Key Statistics

WCMC Search (Google Search Appliance)

A total of 139,255 searches were executed in FY2013.

Top 10 Search Queries To WCMC Search Collection, July 1, 2012 – June 30, 2013

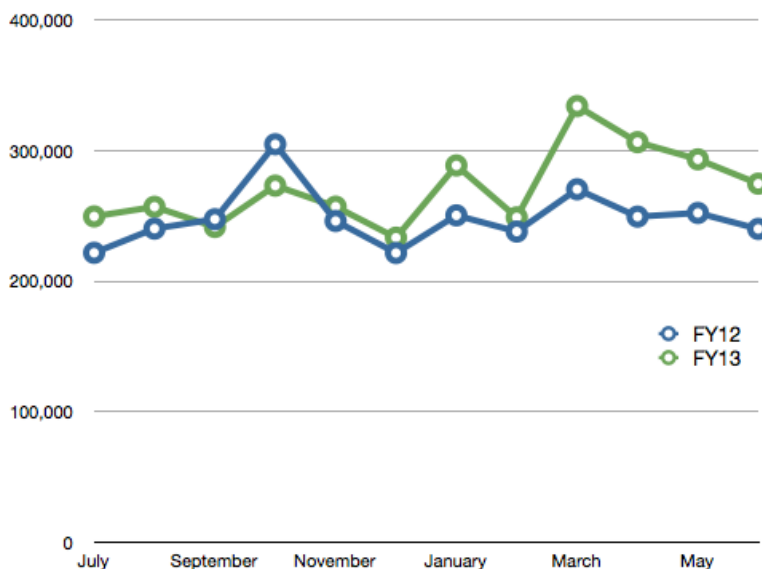
- | | |
|------------------------------|----------------------------|
| 1. "human resources" (1,630) | 6. "email" (679) |
| 2. "jobs" (953) | 7. "employment" (492) |
| 3. "library" (852) | 8. "intranet" (460) |
| 4. "volunteer" (826) | 9. "medical records" (458) |
| 5. "careers" (726) | 10. "parking" (444) |

WCMC Search (Google Search Appliance)

Top 10 Individual Search Keywords To WCMC Search Collection, July 1, 2012 – June 30, 2013

- | | |
|------------------------|-------------------------|
| 1. "medical" (3,152) | 6. "department" (2,008) |
| 2. "human" (3,123) | 7. "patient" (1,999) |
| 3. "resources" (2,750) | 8. "cornell" (1,938) |
| 4. "email" (2,240) | 9. "dr" (1,879) |
| 5. "health" (2,133) | 10. "center" (1,853) |

WCMC Visits By Month, July 2012 – June 2013



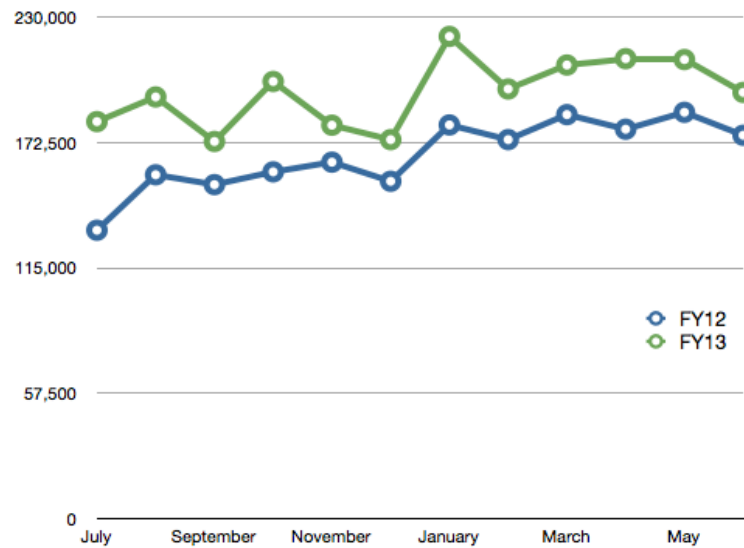
Total Visits (vs. same period FY12):
3,255,744 (+275,091)
Average per Day (vs. same period FY12):
8,920 (+754)

Please note: Due to the transition in analytics tools used for the WCMC website, traffic figures starting March 2013 covers a slightly different range of Web pages than in previous years.

Web Communications

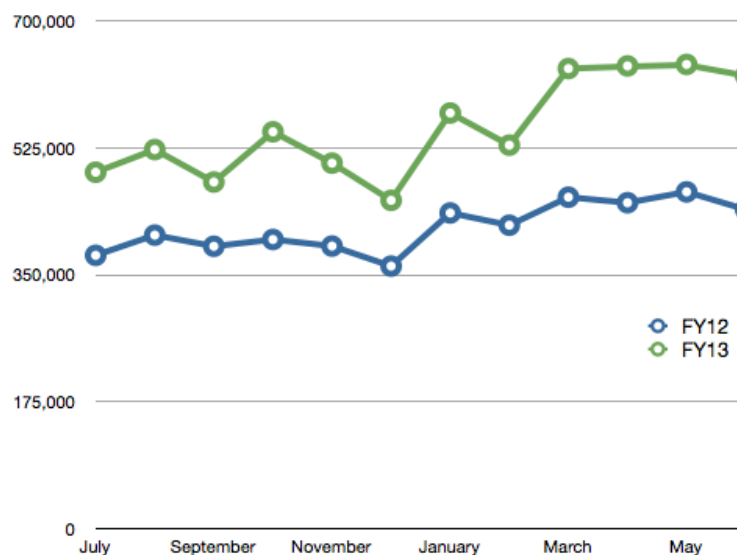
Key Statistics (continued)

WeillCornell.org Visits By Month, July 2012 – June 2013



Total Visits (vs. same period FY12): 2,133,016 (+345,410)
Average Per Day (vs. same period FY12): 6,426 (+946)

NYP Visits By Month, July 2012 – June 2013



Total Visits (vs. same period FY12): 6,631,306 (+1,648,105)
Average per Day (vs. same period FY12): 18,168 (+4,515)

Key Statistics (continued)

WCMC Web Maintenance Tickets

Period	FY12 Created	FY12 Resolved	FY13 Created	FY 13 Resolved
July	190	178	199 (+9)	217 (+39)
August	309	302	223 (-86)	214 (-88)
September	259	252	198 (-81)	199 (-53)
October	169	171	211 (+42)	214 (+43)
November	180	176	156 (-24)	150 (-26)
December	117	132	173 (+56)	179 (+47)
January	146	146	177 (+31)	182 (+36)
February	134	141	197 (+63)	185 (+44)
March	188	176	169 (-19)	182 (+6)
April	152	172	187 (+35)	187 (+15)
May	135	127	154 (+19)	154 (+27)
June	164	151	157 (-7)	148 (-3)
Total	2,143	2,124	2,201 (+58)	2,211 (+87)

NYP Web Maintenance Tickets

Period	FY12 Created	FY12 Resolved	FY13 Created	FY 13 Resolved
July	45	65	55 (+10)	53 (-12)
August	55	41	78 (+23)	79 (+38)
September	69	58	47 (-22)	44 (-14)
October	48	63	52 (+4)	54 (-9)
November	32	43	45 (+13)	49 (+6)
December	37	31	47 (+10)	43 (+12)
January	59	45	61 (+2)	67 (+22)
February	58	58	65 (+7)	69 (+11)
March	74	69	66 (-8)	68 (-3)
April	72	75	72	77 (+2)
May	90	80	75 (-15)	68 (-12)
June	47	61	71 (+24)	64 (+3)
Total	686	689	734 (+48)	733 (+44)

Educational Technology



Jason Korenkiewicz
Director

The Educational Technologies Group (ETG) is comprised of the Event Services Office and the Educational Technology Group. The group is responsible for:

- » Student Information Services
- » Learning Management Services
- » Instructional Design for students, faculty and staff
- » Mobile device deployment for educational programs
- » Audiovisual design and management for central teaching spaces

Accomplishments

- » Implementation of Jenzabar Student Information System (SIS) in New York and Doha for M.D., M.S., Ph.D. and M.D.-Ph.D. students
- » Implementation of Canvas Learning Management System (LMS) in New York and Doha for M.D. and M.S. students
- » Implementation of data governance and change management for Jenzabar SIS
- » Active leadership role in technology planning for M.D. curriculum reform
- » Rollout of new instructional design services for faculty, course administrators, and trainers
- » Rollout of enhanced one on one training sessions for LMS, flipped lecture, SIS and other core services
- » Implementation of Event Guest Wireless Network
- » Belfer Research Building (BRB) audiovisual planning and design
- » Reorganization of Event Services Office (ESO) and ETG staffing
- » Integration into ITS User Support Group support systems
- » National presentations and collaborations with peer schools, such as Association of American Medical Colleges (AAMC) and Educause

Accomplishments

- » FaceTime OSCE pilot to replace telemedicine cases (Clinical Skills Center)
- » iPad Mini Pilot (Pediatrics and Medicine clerkships)
- » Gross anatomy lab iPad deployment
- » CHiP MS student iPad deployment
- » Design of consolidated conference room technologies for departments
- » Enterprise room management planning for ESO
- » Host AAMC Northeastern Group on Educational Affairs (NEGEA) meeting
- » Collaboration with faculty – flipped lectures, iBooks author, and local apps
- » Implementation of ESO and ETG staff development and training classes
- » Enhanced collaboration and communication at Ithaca and Doha

Plans for 2013-2014

The following is a list of high-level goals and projects for the Educational Technologies group during FY2014. Many of these goals build upon the successes of 2013 and attempt to fill previously identified gaps in service or systems for students, faculty, and staff.

- » Full go-live of central LMS (LSO and Canvas) for administrative departments in New York and Qatar
- » Planning, implementation, and support of Jenzabar Phase II modules for New York and Qatar
- » Planning, implementation, and support for technology initiatives related to the education administration reorganization in New York
- » Continue to build out, train, and support Jenzabar Phase I modules in New York and Qatar
- » Go-live for BRB Conference Center
- » Planning and implementation of electronic signage for BRB
- » Deployment of iPad minis to third year M.D. students
- » Transition of ESO scheduling system (MRM) to cloud hosting

Educational Technology

Plans for 2013-2014 (continued)

- » Pilot new self-service scheduling model for rooms via MRM
- » Transition of Panopto lecture capture to cloud hosting for New York and Qatar
- » Transition of FNA teaching application to new Web platform for New York and Qatar
- » Plan, implement, and support M.D. curriculum reform technology based components
- » Implementation of instructional design and flipped Lectures in Ph.D. and M.D. courses
- » First LMS use for Ph.D. program
- » Implementation of Technology Student Interest Group for M.D. students
- » Capital audiovisual upgrades to central lecture halls and classroom facilities
- » Pilot interactive classroom in Weill Education Center
- » Deployment of enterprise room management system for BRB
- » Transition M.D. Quizzes to secure iPad app via cloud hosting for New York and Qatar
- » Implement ESO central departmental conference room management
- » Implement “Lunch & Learn” training sessions for students and faculty
- » Broaden ESO staff development with more advanced audiovisual classes
- » Continue to improve student, faculty, and staff training programs
- » Planning for Weill Cornell teaching and learning center
- » Host LMS regional user group for Canvas
- » Weill Education Center iMac computer operating system upgrade
- » Implementation of unified printing with Samuel J. Wood library
- » Planning and implementation of physical Weill Cornell bookstore in collaboration with Cornell University Ithaca bookstore
- » Complete transition to new organizational, reporting, and communication structures for both ESO and ETG

Key Statistics

- » Jenzabar SIS has 3,261 user accounts – 2,410 student and 851 faculty accounts
- » Over 1,000 students in both New York and Doha have used the Jenzabar Web portal
- » All Graduate School and most Medical School grade entry is taking place via the Jenzabar Web portal
- » ETG provided 560 hours of Jenzabar training to Weill Cornell administrative staff in FY2013
- » ETG handled 1,064 JIRA and Service Now tickets (compared to 773 in FY2012)
- » The number of Canvas LMS user accounts increased to 3,400 from 1,700 in Angel LMS in FY2012
- » Event Services manages more than 4,000 events per year
 - Departmental Grand Rounds and educational sessions are exempt from fees.
 - ESO Reimbursed service hours: 4,636
 - Includes Administration
 - External Associations
 - Department Meetings
 - NYPH
 - ESO Unreimbursed service hours: 7,476
 - Includes M.D. and Grad School classes
 - Intercampus Video Conferences
 - Grand Rounds (limited)
 - Some administration and departmental meetings

Research Computing



David Lifka, Ph.D.
Director

Research Computing was first created just more than a year ago as a group within ITS. A large number of the College's unmet needs has led to rapid growth in this division. In 2012, after a yearlong review by a faculty advisory committee created by Dean Laurie H. Glimcher, M.D. and lead by Dr. Katherine Hajjar, it was recommended that we divide and expand the group into an Advanced Computing group providing services to computationally intensive scientists, and a Research Administrative Computing group to support the many different applications in that domain.

In November 2012, several of the applications not previously managed by ITS were consolidated under the nascent Research Administration Computing group. In the spring, we received approval to recruit a new Director of Research Computing for the coming fiscal year. A search committee has been formed and that search is underway.

Accomplishments

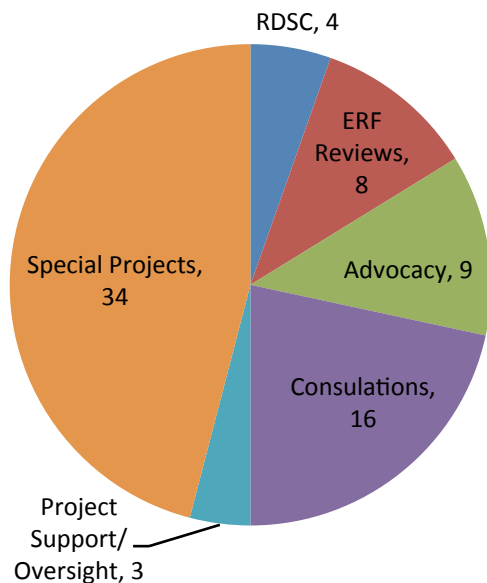
Advanced Computing

- » Data Sharing Agreement
 - After initially drafting this proposal in 2006, we successfully completed negotiations for a comprehensive data sharing agreement with Columbia and NYP

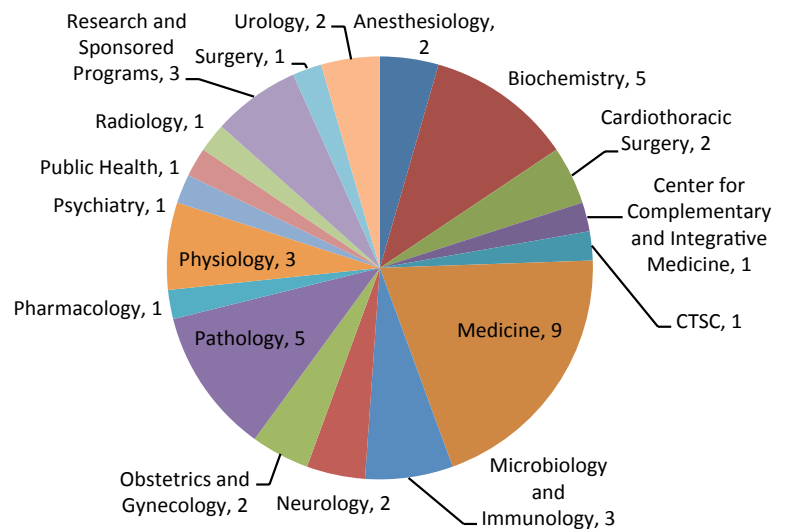
- » Researcher Engagement
 - 74 engagements with individual scientists or teams
 - 49 lead individuals and 19 departments/divisions represented (see the following pie charts)
 - Led establishment of WCMC secure computing environment in Ithaca by facilitating extension of ITS network and by preparing initial hosts
 - Completed Cardiothoracic Surgery lung database to production use
 - Evaluated data compliance and flow for Precision Medicine LIMS (Sapio), improved contract, and shepherded through counsel
 - Established bulk Center for Advanced Computing (CAC) storage for Biochemistry
 - Resolved multiple issues with user access to software licensing at Ithaca campus store
 - Established profiles of computing resources and cores for administration and grant applications
 - Guided Anesthesiology data de-identification for Peter Fleischut collaboration with Ithaca researchers
 - Coordinated compliance with deletion of investigator data after departure
 - Coordinated extensive testing for Pathology file sharing
 - Assisted mobile phone patient correspondence effort
 - Represented University High-Performance Computing (HPC) for Biochemistry recruiting

Accomplishments (continued)

Researcher Engagement: Lead Individuals



Researcher Engagement: Represented Departments



- » CTSC Informatics Steering Committee
 - The current focus of the group is variant detection and closely related topics such as precision medicine
- » IT Infrastructure Improvement Initiative (I4)
 - Operational planning meetings with a particular focus on advanced computing solutions and services, including:
 - Reviews/discussions with Gartner and their recommendations
 - Understanding how infrastructure components (e.g. storage) may be leveraged by both advanced and administrative computing
 - Participating in faculty and researcher planning and requirements gathering meetings
- » Strategic Planning
 - Shaping service catalog items for advanced computing and expanding ITS' credibility in this space as soon as possible by launching important services, such as the secure research data archive even before the BRB data center is ready
 - Hurricane Sandy reinforced the benefits/importance of offsite colocation to the forefront of everyone's minds, so Research Computing has been working with CAC, Cornell Information Technologies (CIT), and ITS to initiate this for ITS. Preparing to launch on the WCMC network extension to Ithaca are services for ARCH (data transformation, research repositories, and natural language processing), secure storage and compute, and potentially other resources.

Research Computing

Accomplishments (continued)

Advanced Computing (continued)

- In broader scope, Research Computing is delineating requirements for a HIPAA-compliant Infrastructure as a Service (IaaS) cloud resource that could be replicated and leveraged by other medical schools. This includes meetings and presentations at Mount Sinai and NYU, and correspondence with Indiana University personnel who have drafted requirements to make research computing and resources HIPAA compliant.

» Clinical Molecular Pathology

- At the end of the fiscal year, Research Computing joined in two related efforts:
 - Evaluation of joint development on Memorial Sloan-Kettering Cancer Center (MSKCC) clinical molecular pathology system
 - Regular meetings of the molecular pathology team in Precision Medicine to understand and integrate their general and research IT needs

» Training

- April 2013 - CTSC Training on Red Cloud and Red Cloud with MATLAB
- May 2013 - CTSC Training on Red Cloud and Red Cloud with MATLAB

» Collaboration

- ITS Visit to Ithaca, December 2012
 - Preliminary data center discussions and orientation
- ITS Visit to Ithaca, June 2013
 - CAC organized a visit of ITS staff and Gartner to learn more about CAC operations and HPC/Advanced Computing requirements, and to have meetings with CIT staff on common administrative/network/security related issues. The visit was very successful and follow up meetings for ITS to visit/call Ithaca, as well as CAC staff visits to WCMC, are being planned as a result.
- Columbia University Mind Brain Behavior Institute, January 2013
 - One-day onsite review and subsequent recommendation document on IT relationship to University for infrastructure, organization, and services

» Presentations

- August 2012
 - Mount Sinai School of Medicine on RedCloud and RedCloud with MATLAB
- December 2012
 - NYU Langone Medical Center on Use of Red Cloud and Partnership on Red Cloud Secure

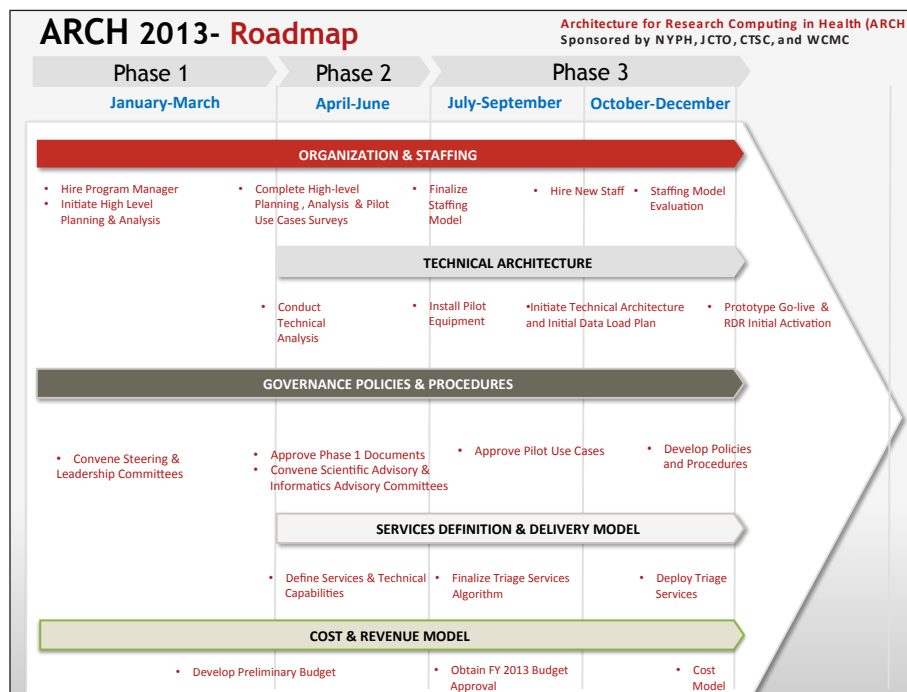
» Clinical Research Database: ARCH (Architecture for Research Computing in Health)

- Developed first-year road map and project plan (see following chart)
- Engaged primary vendor partner, Prometheus

Accomplishments (continued)

Advanced Computing (continued)

- Recruited Program Manager, Nonie Pegoraro
- Developed hybrid staffing model and plan
- Defined governance and scientific oversight plans
- Developed technical architecture and started implementation of initial platform
- Worked with 6 pilot departments to identify initial projects and designs
- Developed cost and revenue model for start up period



Research Administration

- » Took over responsibility for Coeus and eIRB systems after difficult go-live
 - Implemented 87 fixes and enhancements, with work ongoing (see chart below)
 - Cleared backlog of hundreds of user cases
 - Fixed major logic errors
 - Stabilized system

Date in 2013	Release	Enhancements	Bug Fixes
January 24	1.0	3	3
February 21	1.1	1	9
March 14	1.2	15	8
April 26	1.3	10	2
May 3	1.4	13	7
June 20	1.5	13	3
Total		55	32

Research Computing

Accomplishments (continued)

Research Administration (continued)

- » Clinical Research Enrollment and Study Tracking (CREST): The clinical trials administration system went live this summer with the Epic Practice Management pilot sites.
 - All studies in the eIRB system are interfaced into CREST.
 - All studies with billing risk are automatically imported into Epic.
 - All subjects from GE on studies were imported into Epic.
 - Reports are now available on basic data on all trials and studies.

- » Clinical Study Evaluation Committee (CSEC): ITS built an unplanned new system in the CTSC's REDCap system to support the JCTO's new workflow for reviewing clinical research. In the coming year, this will be further integrated into other related systems.

- » Took over responsibility for Conflicts of Interest System (COI)
 - Fixed numerous system and database errors
 - Upgraded software to a vendor-supported version

- » Animal Management/RARC/IACAC: ITS facilitated the go-live of the new EnCCoMPass animal management system, building the security, authentication, print services, and other ancillary services necessary for WCMC users to access the MSKCC-managed system.

Plans for 2013-2014

Advanced Computing

- » Launch RedCloud Secure in Ithaca, packaged so that it can be replicated in NYC

- » Launch ITS secure archive: Analogous to the existing CAC service, but on the ITS network extension in Ithaca. Very low-cost "archival" tier of storage for infrequently accessed data, also packaged so that it can be replicated in NYC if desired.

- » Add Advanced Computing entries to ITS service catalog

- » Complete pilot of natural language processing (iKnow)

- » Complete pilot clinical research data repository

- » Instantiate HPC Cooperative

- » Explore research desktop VDI
 - Provide appropriate support to molecular pathology efforts in Precision Medicine and possible co-development with MS

Plans for 2013-2014 (continued)

Advanced Computing (continued)

- » Complete three designated pilots for ARCH clinical research database; open ARCH program to additional users under new Scientific Review process
- » Investigate refresh of I2B2 instance
- » Explore expansion of RedCAP data capture infrastructure and services
- » Develop ACCORD and TRAC data request service with Columbia and NYP
- » Complete analysis of MSKCC Clinical Sequencing Information System
- » Assist in launch of Precision Medicine program and Cancer Center.
- » Go live with VIVO Research Profiles system; pilot VIVO bibliometric dashboard to measure research productivity
- » Assist with development of PCORI grant proposal

Research Administration

- » Recruit Director of Research Administrative Computing
- » Comprehensive review of all systems with multiple faculty/user workgroups to define new strategy. This process will determine the major deliverables for years to come.
- » eIRB: Planned minor enhancements and system-level improvements. Comprehensive review will determine the long-term future of this system
- » Rollout of CREST clinical research administrative system with Epic Practice Management
 - Work with vendor, MERGE, to develop Academic Medical Center version of their software to support multiple fee schedules, sponsor invoicing, and more robust budget development tools. It is our hope to automate and replace the existing HRBAF forms.
- » COI: Additional upgrades to the Conflicts system are planned.
- » Core Support: The iLab core management system has been on hold for several years pending funding. A new rollout plan for the system will be developed with Research Administration.
- » Coeus: Multi-year project to simplify and upgrade reporting is underway, including eliminating low-use reports, consolidation of similar reports, and reprogramming frequently changed reports with table-driven configuration to lower the overall cost and turn around time for keeping these reports updated.
 - A variety of enhancements are planned to support regulatory and process changes.

Samuel J. Wood Library



Lisa Mix
Interim Director

The Samuel J. Wood Library is an administrative department at Weill Cornell Medical College and a service unit to NewYork-Presbyterian Hospital. The Library includes the Patient Resource Center, Medical Center Archives, and Duplicating Services. The Library has healthy, collaborative relationships with the Distributed e-Library Qatar and the Cornell University Libraries. Additionally, the Library provides services to WCMC affiliates and Library affiliates.

Accomplishments

- » Renovated three library areas:
 - Library Computer Classroom: Increased capacity from 10 to 20 seats and improved technology and overall environment
 - 24/7 Student Area: Includes three group study rooms
 - Collaboration Room: State-of-the-art audio video conferencing, seats 12-14

- » Systematic Review (SR) service is now a full-scale operation with nine librarians trained to work with SR teams. Librarians participated in 16 reviews during 2012 and 2013. To date, the library's Systematic Review collaborations have resulted in three publications (two manuscripts are in revision and expected to be published)

- » SMARTDesk opened in September 2012, successfully blending ITS and library services

- » Continue to expand Evidence-Based Medicine (EBM) services
 - 42 EBM workshops and classes provided (up from 28)
 - Librarians continue to be trained in EBM at New York Academy of Medicine

- » Expanded bibliometrics services
 - Continues to provide key metrics quarterly on impact factor and faculty publications to Dean Glimcher
 - Provided publication information for Faculty Evaluation System
 - National Institutes of Health (NIH) Public Access Policy compliance initiative (increased college-wide compliance from 78 percent to 86 percent)

Accomplishments

- » Updated pay-for-print system – unifying the service with Educational Technologies
- » Renewed service contracts with Hospital for Special Surgery (HSS), Brooklyn Hospital, and Animal Medical Center
- » Recruited four librarians to the faculty: Lyubov Tmanova, Daina Bouquin, Joshua Richardson, and Judy Stribling

Plans for 2013-2014

Faculty development and recruitment

The Library Director is stepping down in September 2013, so a national search will be done. The Library will also recruit an Instructional Design Librarian to replace Sarah Reinbold and a clinical librarian. The Instructional Design Librarian will continue to be funded jointly by New York and Qatar.

The Library will continue its goal to have all public services faculty trained in EBM and Systematic Review. Additionally, the Library has many junior faculty members (and some senior faculty members) who need core skills in areas such as project management, meeting facilitation, engaging in information science research, and grant writing. Team building exercises are also important, as is exposure to data management principles and new developments in health sciences librarianship. Much of this can be obtained by the current commitment to professional development and a commitment by faculty members of putting new ideas into practice.

Services

- » **Data Services:** With the recruitment of Daina Bouquin, Metadata/Data Services Librarian, the Library can now develop its data services program. Goals are to define key data management services and to be a key player in providing metadata to education, VIVO, and identity management projects.
- » **Embedded Librarians:** The goal of expanding the embedded librarian concept with a focus on research support was not fully realized in 2012-13. This will be a priority in 2013-14 with a goal to have a presence in two labs and an evaluation of the service completed by July 2014.
- » **Clinical Support:** The Assistant Director for Clinical Services, Joshua Richardson, started in July 2013. He will work to define the Library's clinical outreach program, expand the program as appropriate, and evaluate the services.
- » **Institutional Repository:** The Library has finished its initial investigation for an institutional repository. A recommendation will be made shortly for a repository for the College. The library will take the lead on implementing and maintaining the repository, as well as marketing and training for this new service

Samuel J. Wood Library

Plans for 2013-2014 (continued)

Services (continued)

- » **Education:** The library will strengthen its relationship with Educational Technologies and continue the work undertaken by Sarah Reinbold on flipped classrooms and integrating librarians into the course management system. The clerkships without Library liaisons will be assigned a librarian in the coming year to educate faculty, promote library resources, and teach students.
- » **Copyright:** The library will continue to take on a larger role in copyright and digital rights management and provide publishing support for educational modules.

Key Statistics

- » Electronic Journals: 12,369 (from 9,099)
- » Electronic books: 18,272 (from 15,930)
- » Dozens of biomedical databases, including Scopus, Web of Science, UpToDate, MD Consult, and BIOSIS.
- » New purchases of databases in 2012-13 included OpenHelix and Exam Master
- » Library Reference transactions: 4,734 (down from 6,000)
 - Average time per transaction: 15 minutes (up from 6.5 minutes)
- » Archives reference transactions: 454
 - Average time per transaction: 38 minutes
 - 50% WCMC-NYP, 50% other
- » Number of onsite visitors to the library: 240,817 (down from 249,221)
 - 45% WCMC, 34% NYP, 21% Other
- » Patient Resource Center
 - Annual visitors: 4,489
 - Educational seminars: 4 (average of 30 attendees per session)
 - Down from 17 due to vacancy
- » Education sessions: 98 (up from 91)
 - 42 are part of the student curriculum (increase from 28)
- » Website views: 886,653 (14,673 increase in visits)

Key Statistics (continued)

- » Duplicating showed and increased volume in all areas:
 - Invoices (single or multiple services): 3,800 (up from 3,676)
 - Copies produced: 1.7 million black and white, 345,000 color
 - Research or Event posters: 410 (from 361)

Administration



Dana Kaplan
Department Administrator

This year, ITS experienced significant turnover with its Department Administrator role (the position was just filled by Dana Kaplan October 2013). This created a number of operational challenges during a time of intense organizational change.

The biggest change has been the addition of various resource administrative computing responsibilities into ITS. This change rounds out the responsibilities of ITS to fully cover all three missions, plus administration.

Otherwise, only relatively minor changes were made to budgeting, including small fee modifications and revenue shifts compared to the prior year. Some significant changes were made to services for Voluntary Faculty and some storage fees dropped considerably. Several new services were added and some existing fee structures

were simplified.

We also completed a renovation of the library adding a 24-hour study space for students as well as more minor renovations of ITS space. This allowed us to move the front door of ITS to within the library, increasing the physical integration of these now unified departments.

The loss of our former Department Administrator did slow down some of our communication plans for the year, though this affected internal communications more than external communications programs, which continued to expand.

Accomplishments

Intern and Student Projects

ITS has continued its IT and Medical Informatics internship program, open to talented students from Cornell and other regional schools. We also have an annual externship for Cornell students. Additionally, we continue to support WCMC medical student extracurricular and research initiatives. Student and intern projects this year included enhancement of the Conflicts of Interest system and improvements to Project Management Office procedures.

ITS also provided direct support and faculty oversight to a variety of WCMC students programs, such as the Weill Cornell Community Clinic, Motivating Action Through Community Health Outreach (MACHO), and the Inside Look Patient Access Improvement Project.

Plans for 2013-2014

Reorganization of the administrative team are the highest priorities for the year. Additional minor changes to the fee structure are planned in the coming year, particularly with the expansion of the new Archival Storage, Virtual Desktop, eFaxing, and Enhanced Support options. A new service to assist with discount software purchases is being planned, as well as the HPC Co-op, which should add major new options for scientific computing.

An updated fee schedule is planned for the next year with annotations explaining some of the fees and how they are calculated. Additional renovations to ITS and Library spaces are expected in the coming year to allow us to fit more staff into the existing footprint. These staff will support the expanded research services, new Web services, additional user support, and a variety of service expansions detailed elsewhere in this report.

Appendix B: POIS Annual Report

Note that Physicians Organization Information Services (POIS) is not a division of ITS, though we work extremely close together and share many staff. The POIS Annual Report is included here to help provide a more complete picture of IT activities at the College.



Weill Cornell Medical College
Physician Organization

Physician Organization Information Services
Year-End Report ('12-'13)



POIS Administration and Academic Productivity

Accomplishments:

Administration

- Recruited new assistant divisional administrator
- Oversaw capital improvements and upgrades of training facilities and A/V equipment at 575 Lexington and Oxford facilities
- Improved staff communication via ongoing contribution to the @575 Newsletter for PO administrative staff

Academic Contributions

- POIS faculty Co-authorships:
 - Peer reviewed Journal: *A long-term follow-up evaluation of electronic health record prescribing safety*. Abramson EL, Malhotra S, Osorio SN, Edwards A, Cheriff A, Cole C, Kaushal R. J Am Med Inform Assoc. 2013 Jun;20(e1):e52-8.
- Ongoing POIS faculty research projects:
 - Practical Processes to Reduce the Cost of Provider-Health Plan Interactions
 - Analysis of EHR-based Communication in an Academic, Ambulatory, Multi-specialty Physician Organization
 - i2b2 Clinical and Research Repository
 - Is Weill Cornell CONNECT Patient Portal Use Associated With Patient Activation?
 - Improving Healthcare Quality With User-Centered Patient Portals
 - Multifaceted Approaches to Improve Medication Alerts in an Outpatient EHR
 - The Effect of EHR Default Options on Physician Prescribing of Generic Drugs
- Ongoing services agreement with third party vendor (*Intelligent Medical Objects*) to provide laboratory reference terminology mappings (\$300K of revenue for Weill Cornell)
- Faculty and staff participation in Weill Cornell HIT Certificate Program curriculum
- Presented 4 seminars at annual Epic User Group Meeting
- Executive Planning Committee participation for *Center for HealthCare Informatics and Policy*
- Trained 10 Internal Medicine residents via POIS informatics elective

Key Statistical Snapshot:

- Total '11-'12 allocated budget: \$17.3M
- Total revenue and recoveries (expected): \$6.6M
- Total POIS staff: 76 Total current vacancies: 0
- Total ITS FTEs funded by POIS: 22
- Staff turnover rates:
 - New Hires: 13
 - Departed Staff: 1
 - Annual turnover rate (total number of employees leaving over twelve months/average number of employees: 0.08%
- Total empty seats at 575 Lexington (3rd floor): 2

Ambulatory Electronic Health Record (EpicCare)

Accomplishments:

- A total of 122 projects were completed (↓3.9% from last year)
 - 5 Newly implemented PO practice units:
 - **Highlights:** Pre-Transplant, Interventional Radiology, Endocrinology (Dr. Aronne), Limb Preservation Program, Hem/Onc Myeloma on Beacon
 - 3 Newly implemented WCPN sites:
 - **Highlights:** Arons & Blye, Lax/Ramos, Manhattan West Pulmonary, with development of standard documentation tools and implementation methodology
 - 78 Practice specific optimizations:
 - **Highlights:** Pulmonary Medicine, Pediatrics Child Development, 8 department level updates to documentation tools, 44 Epic department level moves/splits to account for expansion and/or Epic Practice Management, 4 Release-of-Information (ROI) implementations, and placed 16 departments on the Millennium Lab orders interface
 - 15 Operational (system enhancement) projects:
 - **Highlights:** Data courier (native Epic change management), Care Everywhere, SureScripts 10.6 conversion, SureScripts medication dispense history, 5 data conversions from old Epic Ambulatory documentation tools, upgraded printed prescription format, improved the new user/new provider request process
 - 21 Meaningful Use and Weill Cornell Connect projects:
 - **Meaningful Use Projects:** 2012 MU eligible provider registration and attestation for two groups, 2013 MU compliance reports (year 1, 2, and 3), and added a section to the documentation tools so providers can check MU status
 - **Weill Cornell Connect:** Access for adolescents, donors, and residents, Activation of Chronic Disease Center for Asthma, CHF, Exercise Therapy, and Weight Management
- 1 Epic major release upgrade (2012 version)
- 78 system maintenance updates/patches (↑110.8% over last year)

Key Statistical Snapshot:

- Support tickets closed: 27,400 (↑8.0% over last year)
 - Cases resolved in one business day: 65.3% (goal of 70%)
- Epic development/configuration items migrated to production: 2,774 (↑130.0% over last year)
- Quality assurance testing/audits: 2,297 hours (↑298.9% over last year—Epic PM and upgrade)
- Epic Ambulatory users trained: 2,010 (↑11.4% over last year)
- Epic PM users trained: 874 (initial year)
- Active Epic users : Attendings: 846 House-officers: 911 Total: 5,779 (↑10.1% over last year)
- 2012 Meaningful User attestations: 354 providers (Year 1 and Year 2 groups)
- 2012 Meaningful User incentive dollars: \$3.5M (with approx. \$100K pending)

Practice Management Systems and Access Initiatives

Accomplishments:

GECBS

- Newly implemented practice units:
 - Weill Cornell Physicians at NYP Lower Manhattan Hospital
 - Dr. Aronne's Practice
 - 156 William Street PO Practices
 - 84th Street and Broadway Practices
 - Implemented the Trust Commerce Vault for the Weill Cornell Networked Physicians (Lax& Ramos, Arons&Blye, Westside Pulmonary)

- Optimizations:
 - Departmental Splits: Peds, ENT
 - Completion of Worker's Comp/No Fault and International Fee Schedule

- Operational/development enhancements:
 - Experian Patient Responsibility Pricer implemented in Neurosurgery
 - EDI 5010 835 implemented for Healthfirst, Amerigroup, Affinity and Fidelis
 - Internal and external audit completed with no significant findings
 - Ernst & Young audit of NYDH use of GECB completed with no significant findings
 - 14 day/3 day *TELEVOX* schedule implemented for Primary Care

- System upgrades:
 - Upgraded GECB backend storage system

Epic Practice Management Conversion

- Re-designed and implemented connections to NYP registration systems
- Connected Epic to patient eligibility clearinghouse
- Connected Epic to claims scrubber
- Established claims connectivity with clearinghouse and payors
- Designed integration with *CREST* clinical trials management system
- Built G/L integration with SAP
- Launched Epic practice management for the Well Cornell Network Initiative
- Completed all build and testing for the 7 pilot departments; including approx. 80% of core build affecting all departments.
- Continued educating clinical and administrative leadership on rationale, cost, and time-line for conversion

Patient Access Initiative

- Inside Access Dashboard:
 - Total dashboards distributed: 2736 (1776 last year)
 - Total recipients: 190 (182 last year)

- Mystery Caller Survey:
 - Total mystery survey calls: 6407 (3603 last year)
 - Total dashboards distributed: 2052 (1596 last year)
 - Total recipients: 190 (182 last year)

Enrollment

- Upgraded IntelliCred, Webview, and ColdFusion server/client applications – with Windows 7 client support
- Rebuilt reports from Cognos to Crystal Reports for the SAP BusinessObjects conversion
- Added three new facilities to Intellicred: Health Plus – Amerigroup, GHI Bridge Plan, and GHI Bridge Plan
- Added new providers to IntelliCred and performed insurance participation reconciliations
- Worked with Epic to facilitate insurance participation information between IntelliCred and Epic
- Added four new Intellireports and application form mappings to automate facility form population to plans

Key Statistical Snapshot:

GE User base (as of June 2012):

- Peak User concurrency: 1133 (1035 last year).
- Total Licenses: 1216 (unchanged from last year)

Systems Integration

Accomplishments:

Interfaces

- Newly implemented clinical interfaces:
 - Surescripts patient prescription fill history
 - E-Prescribing version 10.6 upgrade

- Newly implemented interfaces:
 - Registration conversion from GE to Epic PM
 - Scheduling conversion from GE to Epic PM
 - Research study and enrollment interfaces from *CREST* to Epic PM
 - Eagle ADT enhancements in support of Epic PM
 - Electronic master patient index (EMPI) integration with Epic PM
 - ImageCast scheduling to Epic PM
 - Outlook interface from Epic PM
 - CodeRyte (radiology) charges (WCINYP) to Epic PM
 - Inpatient (XA) charges to Epic PM
 - LMH inpatient (Medaptus) Charges to Epic PM
 - Optum Claims Scrubber interface from Epic PM
 - Real-time insurance eligibility interface from/to Epic PM
 - Scheduling interface from Epic PM to transcription vendors
 - Scheduling interface from Soarian scheduling to Epic PM
 - 3 registration conversions to support WCPN Initiative
 - 39 Epic sites added to ambulatory charge interface between Epic and GE
 - 15 XA super-bills added to the interface between XA and GE
 - CodeRyte (Radiology) charges for NYPLMH to GE
 - Medaptus charge interface to GE NYPLMH

- Operational/development enhancements:
 - Conversion of all related interfaces to support takeover of NYPLMH Physicians
 - Upgraded WCMC interface engine
 - Continued roll-out of laboratory orders interface
 - Enhancements to general ledger interface from Epic PM

Data Dictionaries and Vocabulary

- TruData:
 - Implemented contract agreement and delivery of TruData contents and mappings to IMO quarterly
 - Implemented improved maintenance processes for annual CPT/HCPCS EAP catalog updates in Epic
 - Maintained and sustained mappings and data dynamics for 21+ entities (Laboratory, Radiology, EHR) (
 - Added roughly 2600 new procedure terms/concepts, resulting in ~6200 new committed local mappings
 - Added roughly 11,000 new result terms/concepts, resulting in ~9100 new committed LOINC assignments
 - Added new concepts, synonyms, and transformations/relationships
 - Added BioReference Lab mappings to Epic order catalog
 - Maintained most recent controlled vocabularies – LOINC, SNOMED, CPT/HCPCS

- Maintained and facilitated vaccine mappings for transmission to NYC vaccine registry
 - Enhanced core searching and proposal engines – algorithm
 - Developed and expanded search capability into the provider domain
 - Developed and implemented search on SNOMED CT terms to include relationships, hierarchical attributes, and local system mappings
 - Established and implemented an automated provider delivery workflow and lookup reference for the *CREST* research administration system integration
 - Continued collaboration and possible service agreement with the *College of American Pathologists* (CAP)
- Master Provider Index:
 - Added 94,765 provider records into the provider index
 - Created various summary reports to enumerate identifier duplication to improve provider data quality/matching
 - Established inbound interface logic to capture missing and/or mismatched provider identifiers to improve Epic provider dictionary data quality
 - Added ingest support for NYP MSO East & West data sources
 - Expanded zip code parser to handle 5+4 ZIPs
 - Open NPI ingest of Tri-State providers for Medical Student taxonomy into MPI and Epic
- Master Files/Dictionary Support:
 - Cleanup of medication master-file, including controlled substance flags, linkage between generics and brands, and discrete sig attributes
 - Normalized and cleaned Epic's employer list of 258,000 variations
 - Implemented RVU mappings within Epic
 - Implemented CPT/HCPSC 2013 and diagnosis updates

Key Statistical Snapshot:

- Number of prescriptions transmitted electronically: 563,771
- Number of pharmacy benefit queries: 1,179,898
- Number of electronic lab orders: 632,418
- Number of electronic radiology orders: 95,581

Accomplishments:

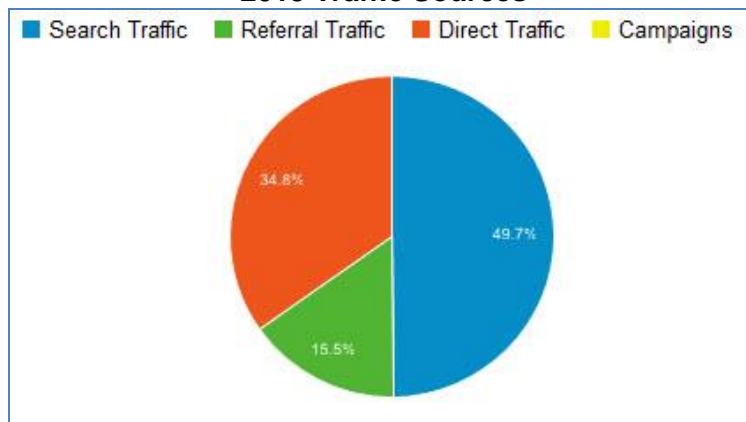
- Institutional Portal (WeillCornell.org):
 - Redesigned home page to improve visibility of *Weill Cornell CONNECT*
 - Re-styled Weill Cornell CONNECT application (MyChart) for Epic 2012 upgrade to best match the WeillCornell.org site style
- POPS:
 - Created responsive web pages for physician profiles when viewed in screen resolutions less than 800px wide (typically mobile devices)
 - Migrated analytics from WebTrends to Google Analytics
 - Oversaw the implementation of a Columbia Data Import utility to intake and publish Columbia provider profile data from their profile content management system
- Find-A-Physician/Smart Search:
 - Established and implemented change management workflows between ASG and ITS Content Services developers for vocabulary requests and monthly dictionary updates from IMO
 - Developed automated test procedures for commonly searched specialties and expertise to ensure results accuracy
 - Implemented Google Analytics for Find A Physician search queries
- Health Library:
 - Replaced *Staywell* health library with *Healthwise* hosted site solution for WeillCornell.org, providing improved Health Library user interface and site usage analytics

WeillCornell.org

Visit Statistics, Fiscal Year 2012/2013 Comparison

Visit Category	FY 2011-12 (WebTrends)	FY 2012-13 (Google Analytics)
Total Visits	1,998,198	2,361,194
Unique Visitors	NA	1,238,076
Return Visitors	NA	1,123,118
Average Visits per Day	5,474	6,469
Average Visit Duration	00:08:01	00:02:04
International Visits	5.53%	4.27%
Visits of Unknown Origin	0.49%	0.30%
Visits from Your Country: United States (US)	93.97%	95.43%

2013 Traffic Sources



Search Traffic: Top 3 Sources

	Source	Visits	% Total Search Traffic
1.	Google	1,045,651	89.02%
2.	Bing	65,635	5.59%
3.	Yahoo	39,034	3.32%

Referral Traffic: Top 3 Sources

	Source	Visits	% Total Referral Traffic
1.	Weill.Cornell.edu	89,713	24.53%
2.	CornellMedicine.org	20,316	5.55%
3.	Smart Search	19,327	5.28%

Key Statistical Snapshot:**Weill Cornell Connect adoption and usage rates**

- Total patients enrolled: 53,500 (33,500 last year)
- Total participating providers: 592 (388 last year)
- Average monthly enrollment of new users: 1506 (1372 last year)
- Activation rate (percentage of patients who use system access code): 55% (43% last year)

Accomplishments:

Reporting

- **User Quality, Operations, and Regulatory Reporting:**
 - HEDIS measure reports
 - Empire bonus program quality reports
 - United pay-for-performance reports
 - HIP diagnosis and appointment availability reports
 - Aetna mammography reports
 - Health First Medicare diagnosis report
 - Emblem HIP 2013 member attribution and patient data
 - Cigna HIP 2013 member attribution and patient data
 - Medical Home level III certification reports
 - Meaningful use reports (300 + providers, 365 days and 90 days reports, including NYP ACN and New York Presbyterian Lower Manhattan Hospital)
 - Patient/Inside Access dashboard project
 - Care Manager related reports
 - NYP quality reports, such as ePrescribe, diabetes care, tobacco screening

- **Department/Division reporting:**
 - Created 80 + departmental/divisional clinical and practice operations reports
 - *Academic Departments/Divisions Serviced:* Dermatology, Pediatrics, Geriatrics and palliative Medicine, Cardiology, Hematology-Oncology, Gastroenterology, Public Health, Surgery, Anesthesiology, OBGYN, Center for Special Studies, WCIMA, Ophthalmology, Center for Advanced Digestive Care, CT Surgery, Primary Care, Neurology and Neurosurgery, Pain Management Center, Reproductive Endocrinology, Otolaryngology, New York Presbyterian Lower Manhattan Hospital

- **Research reporting:**
 - CTSC iKnow project for natural language processing
 - WCMC Medicine – Patient 40-80 with Cardiovascular Disease, Type 1 Diabetes and Microalbuminuria, Chart Review for Mammography, CSS Demographic Study, HIV Non Smoker, Novo Nordisk SCALE Epic Report, ACCELERATE Study Report, Weight Watchers T2DM Epic Report, Hematology/Medical Oncology Leukemia Program Database, Aspire Epic Reports, The Role of the Low PODMAP Diet in Pediatric Functional Abdominal Pain, Hypertension Data Registry, Resistant Hypertension Study, Coronary Artery Disease Stable Angina Study, AHRQ Study Meds Order Count, Generic statins
 - WCMC Urology – TURP Patients, Pediatric Ulcerative Colitis
 - WCMC Peds – GI Stool Calprotectin
 - WCMC OB/GYN – Breast Health Decisions Pilot Study

- **Practice Management Reporting:**
 - 23 new users trained on Cognos
 - 1,931 quality and revenue cycle reports have been run via Cognos
 - 529 user reports related to patient quality and the revenue cycle are scheduled to run automatically in Cognos

- 101 Reporting Workbench templates were developed and published for Epic practice management
- 10 Epic Radar dashboards published for Epic practice management

Data Warehousing

- Completed Epic Clarity 2012 (database and console) upgrade
- Completed Clarity database upgrade from SQL 2005 to SQL 2008 R2
- Completed Clarity database hardware upgrade
- Installed Business Objects 3.1 and completed Epic integration
- Migrated 180+ Cognos reports to Business Objects Crystal reports
- Pilot NYP Humedica Clarity data extraction for population management
- Built 20 Epic Chronic disease registries (diabetes, asthma, hypertension, congestive heart failure, chronic kidney disease, coronary artery disease, obesity, osteoporosis, COPD, and several “wellness” registries.
- Completed Epic Clarity data extraction to MDAudit
- Setup PDS Cognos practice management environment
- UHC Epic Clarity data extraction
- Extracted Epic Practice Management data into Clarity

Clinical Decision Support (CDS) and Population Management Tools

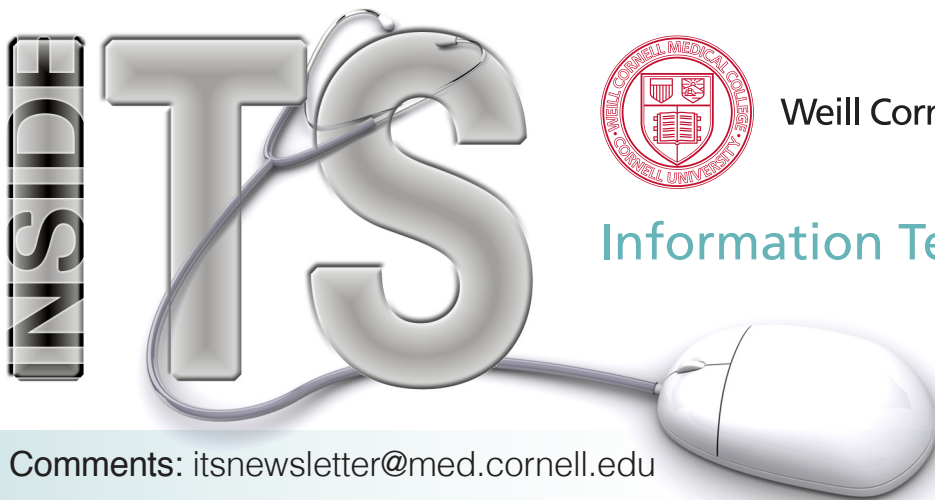
- Epic health maintenance section updated to display societal guidelines and ‘clinical logic’ behind the recommendations
- Standardized process of review and implementation of health maintenance guidelines established with the Quality and Patient Safety Committee
- Several new actionable health maintenance reminders setup and societal guidelines updated to reflect 2012-2013 recommendations
- Developed care management "care plan" in Epic for documenting patient enrollment, outreach, and counseling with structured documentation for care management reporting purposes
- Built care management daily report to alert CM team of high risk patients that require management/outreach
- Implemented disease-specific registries (diabetes, asthma, hypertension, obesity, etc.) for reporting and dashboards
- Created and beta tested clinician Radar dashboard for "My patients with diabetes"

Key Statistical Snapshot:

- Supported Quality Measures via EpicCare: 81
- Providers participating in PQRS in 2012: 818 out of 877 (93%)
 - 93% compliance with desired quality outcomes
 - PQRS bonus incentive paid in 2012: \$589K
- Empire bonus incentive for 2012: \$939K
- Aetna bonus incentive for 2012: \$818K
- Medicare E-prescribing bonus for 2012: \$206K

Appendix C: *Inside ITS*

This final appendix contains this year's issues of our newsletter, *Inside ITS*.



July, 2012

Weill Cornell Medical College

Information Technologies and Services

Comments: itsnewsletter@med.cornell.edu

Website: <http://weill.cornell.edu/its/>

ITIL and a Little Friendly Competition

“The phones are not answered fast enough.”
“No one got back to me after I submitted my case.”
“Why does it take days just to get access to my departmental file server?”

These are but three of the common complaints that ITS hears from our users. And no one feels this pain more than the dedicated staff who try to resolve computer problems every day at ITS. The demand for IT services is increasing rapidly. The complexity and diversity of services that ITS offers is greater than ever. And the entire WCMC workforce and student body is more dependent on reliable computer services than ever before.

So how can we provide major improvements in service at a time of shrinking resources? The answer is ITIL. This four letter acronym itself is unimportant. (It stands for Information Technology Information Library.) But what it represents will transform ITS. ITIL is an enormous collection of best practices about IT service delivery. It is analogous to the National Quality Forum guidelines for clinical care or the Good Manufacturing Practices (cGMP) used in pharmaceutical research and production.

Over the next several months and years, ITS will be reviewing and revising all its basic operating procedures to conform to the best possible standards for our environment. One of the most important aspects of this will be implementation of a new support desk system called Service Now. This system has ITIL principles embedded into the programmed work flows that will guide how we respond to problems, issues, and changes as well as how we run our Project Management Organization (PMO).

To prepare for this change, Ben Nathan, the ITS Director of Operations & Infrastructure, started a contest inside ITS to tackle some of our most vexing problems. Three teams formed and proposed solutions to the three problems at the start of this article.

The “Down Under” team (Markus Bronnimann, Christine O’Connor, Robert Pereda, Kevin Walsh, and John Young) took on the problem of answering the telephone. They measured their progress through an industry standard metric called “abandonment rate.” This is also used by the clinical practices in the PO and measures how many people hang up before the phone is answered. At the start of the 2 month contest, the ITS abandonment rate was 17%.



After the team implemented ITIL-based process improvements, it dropped to 9%. That is still above our target of 5%, which is the industry benchmark, but that is not bad for only 8 weeks.

The second group, “I Want It that Way” (Ramon Segarra, Scott Luzniak, Ray Adams, and Mahfuzur Rahman) won our People’s Choice contest by developing a self-service method for drive-mapping. Users can now map to their departmental drives themselves, dramatically speeding up access to their data.

ITS invited some esteemed judges from outside the department to vote on the best solution. The winner was the “Wonderwall” team (Tom McMahan, Jason Fried, Bujon Rugova, Delaney Fong, and Harish Chava) who reduced the number of aged support desk tickets older than 7 days from 48 to just 10. They also addressed the Security tickets, reducing these from 19 to 2.

The contest was fun and a great motivator. The winning team attended the Service Now conference where they gained even more expertise to help improve our services. The biggest winner of this contest will be our users who we hope will see consistently improving support and service in the months to come.



iPad Use Continues to Expand as a Teaching Tool

Weill Cornell third-year medical students will be bringing iPads with them into their clinical clerkship rotations this year. In a joint effort between ITS and the Medical College's Department of Academic Affairs, students will have a complement of resources available to them on mobile devices in clinical settings. Led by the Division of Educational Computing, this follows the successful fall 2011 iPad deployment for first and second year medical students. The rollout this past fall saw approximately 200 students and 50 teaching faculty receive devices and peripherals. The response to this initial phase was overwhelmingly positive with over 90% of students surveyed agreeing that the iPad is an excellent device for use in medical schools.

Introducing devices into the clerkships was planned as a second phase of the Weill Cornell iPad project. In planning for this phase, the Educational Computing group solicited input from colleagues who have already successfully deployed iPads in the clinical setting – the residency program at the Pritzker School of Medicine at the University of Chicago, and the Yale University School of Medicine. Issues relating to wireless network access, infection control, and improving the continuity of learning objectives amongst students at disparate sites were key areas of focus for this project.

Weill Cornell students participate in rotations at a number of New York City area hospitals and far reaching locations like Ithaca, NY and Houston, TX. The ITS Network group has worked closely with these affiliated institutions to ensure the best possible wireless access for students. The Samuel J. Wood Library faculty has also been a key participant in this project, working closely with the Educational Computing group to provide mobile resources, references and electronic textbooks to students. Other planned features include access to the medical student learning management system for electronic course content, the ability to deliver downloadable teaching materials via podcasts, electronic patient case log entry for students with on-site or remote faculty supervisor review and authorization, access to the EPIC electronic medical record system, as well as a variety of native iPad communication tools (email, video conferencing, calendars) and discipline specific diagnostic course content.

Educational Computing is working with colleagues in Doha to extend the iPad project to students in Qatar. The medical college is also exploring potential collaboration with New York Presbyterian Hospital to provide similar services to residents. The medical school iPad clerkship deployment began at the end of May during the Introduction to Medicine course.

Mobile Device Management: Enabling “BYOD”

Part 1 –

The proliferation of mobile devices in the workplace is probably the biggest change to information technology since the Internet. While the promise of productivity and convenience is enormous, mobile devices present new security risks that few users are prepared for. IT departments in corporate and academic environments are struggling to keep up with the rapid change in consumer technologies that have enabled mobile devices (ranging from laptops and netbooks to smartphones and tablets) to enter the workplace. The diminishing sizes of these devices and the rapid evolution of features that they provide increase the potential damage that they can do since they can store or access sensitive data while also being extremely easy to lose.



Mobile Device Management (MDM) is a relatively new technology developed specifically for managing and securing mobile devices. An MDM application allows an IT department to administer mobile devices by installing an application on the device that allows for the easy support of the device while also enabling enforcement of various security policies. For example, an MDM can simplify distribution of institutional applications to the device and also enable a support technician to wipe all the data from a lost device remotely. ITS has been running an MDM designed for managing Blackberries for several years. Our new MDM has the capability of managing other mobile platforms such as IOS devices (iPhones, iPod Touches, iPads), Androids, and Windows Mobile devices. With an MDM in place, we can now remotely:

- **Deploy applications through our own “app store”;**
- **Locate a lost device or wipe it if it cannot be found; or**
- **Set and change configurations like requiring a passcode.**

Since WCMC users will increasingly share mobile applications and services (e.g., Epic) with NYP (and vice versa), ITS has partnered with NYP IS to jointly administer an MDM service called Mobile Iron. The first phase of the project is to administer all IOS devices that access institutional data (including email and calendar) through our MDM. We launched the project initially with the Education Center as part of their roll-out of iPads for students. On December 19, we expanded the roll-out to physicians and clinical users who will now be able to access parts of Epic through applications on their iPhone (Haiku) or on their iPad (Canto). As part of ITS’s initiative to migrate users to Exchange, we will be installing the MDM on all devices with access to College or Hospital email and calendar services.

MDM allows ITS to provide services like email on both institutional devices and employee owned devices. In a future issue of Inside ITS we will discuss some privacy and security issues and policies relating to mobile devices.

DID YOU KNOW...



- The ITS field support team does more than 400 computer connects or replacements per month.
- ITS removes 100 email viruses a week from infected computers.
- Event Services staffs more than 4,000 events a year. This is more than 12,000 man hours of work.
- There are more than 900 SAP users.
- SAP processes 50,000 shopping carts per year with approximately 130,000 lines.
- Annually there are more than 45,000 purchase orders worth more than \$20M.
- Average network utilization is around 490 mbps. This includes
 - o 3 GB/day in AV clips like YouTube
 - o 2 GB/day from Facebook
 - o 6 GB/day from Apple.



For several years now, Weill Cornell Medical Library has hosted the Library Treasure Hunt. The Treasure Hunt is designed to introduce first year medical students to the Library's rich resources as well as the physical space where they will spend much of their time. Building on this tradition, this year's new students, armed with their iPads, will access Treasure Hunt clues online via QR codes instead of printed clue cards. This reflects the Library's commitment to mobile technology and iPad support.

The students will navigate the Library and its resources using their iPads. Answers to clues can be found by accessing the recently created Library mobile site, using online chat reference, and locating recommended mobile sites and apps such as UCentral, VisualDx, DynaMed and Epocrates. Students will also use their iPads to look up Library e-journals and e-books, search the online catalog, and sign up for the Library's Facebook page and Twitter feed.

At the completion of the Treasure Hunt students will be armed with knowledge and a wealth of resources. The apps, mobile resources, e-journals and e-books are available to the Weill Cornell community and the Library is proud to bring these services to our users.

The Treasure Hunt will take place in late August. You can access the library's mobile site at <http://library.med.cornell.edu/eresources/mobile.php>.



Weill Cornell Medical College

October, 2012

Information Technologies and Services

Comments: itsnewsletter@med.cornell.edu

Website: <http://weill.cornell.edu/its/>

THE FUTURE OF CLINICAL RESEARCH AT WCMC IS “REVEALED”

Clinical research is an essential component of the Weill Cornell Medical College institutional portfolio with approximately 1200 clinical research studies being undertaken by 36 units across the medical college. The scientific progress made by these initiatives benefit thousands of patients and their families year after year. The clinical research administrative systems at WCMC are relatively underdeveloped to meet the growing demands. A centralized, standardized and automated administrative process can help improve existing activities and create new opportunities for clinical research at WCMC.

One of the first steps for streamlining the clinical research administrative process will be the implementation of Reveal*, a web-based application developed by Study Manager that will aid in the administrative management of clinical research at WCMC. Reveal will act as an “administrative nerve center” to support the growth of clinical research programs. The feature set and workflows are continuously being refined by pilot user feedback. Functionality will likely be rolled out in phases as new features are developed. Once completed, Reveal will provide the following functionality:

Study Management

Reveal will be used as a tool for oversight and acts as a central repository for clinical research and clinical trial study demographics. Through the entry of existing and new study protocols, Reveal will allow users to input a variety of study-related data, ranging anywhere from study costs to subject-specific study metrics.

Financial Management

With the need for a centralized billing and financial information system in mind, Reveal will be used as a tool for billing compliance tracking and management of participants in clinical studies. The system will offer users a platform for creating and managing study budgets by providing access to costs for both WCMC and NewYork-Presbyterian Hospital procedures.

This connection creates an ideal scenario for creating financially sound and compliant study budgets based on various yet necessary federal and non-federal guidelines. With this in mind, users will track patients at the research visit and the research procedure level during the life of a study ensuring accurate invoicing and payment from study sponsors.

Subject Management

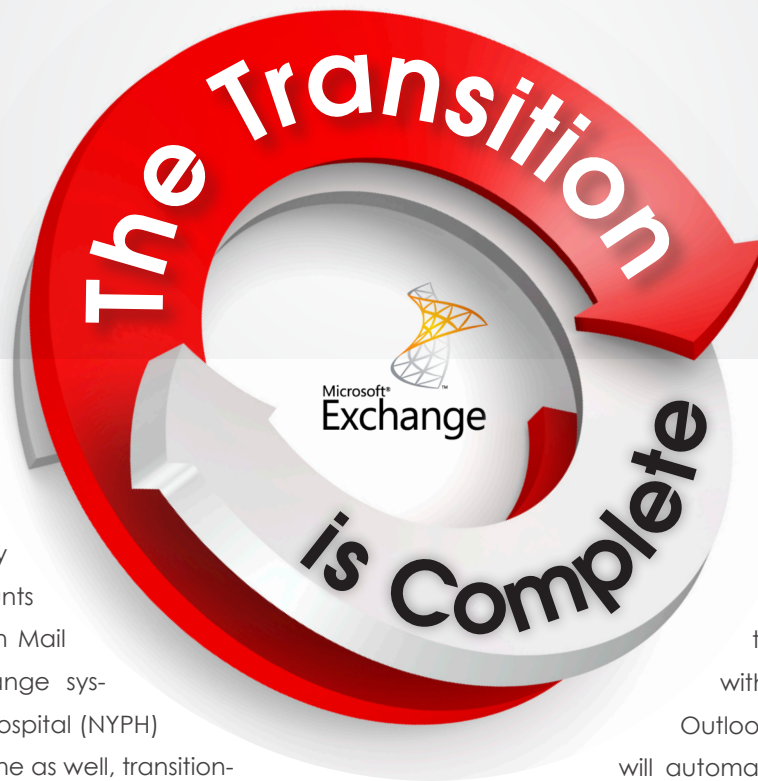
Reveal allows the clinical research team to track research subjects from study enrollment through completion. Every visit attended and procedure completed by the subject can be recorded and dated for accurate and efficient administration of the study. Additional visits or procedures that subjects may require during the course of study may also be tracked with this functionality.

Reporting

Using data entered into the system, Reveal generates budget and compliance grids, invoices, and reports aggregating various study and subject information. From subject calendars to statistics regarding facets such as studies and financials, Reveal creates various types of reports to allow for thorough and accurate study tracking and management.

The pilot for this system is underway now. A rollout will begin this fall.

*Study Manager is the name of the company that developed Reveal. It was recently acquired by Merge Healthcare which has renamed Reveal, Site CTMS. Because of all the name confusion we are considering rebranding this product for Weill Cornell. Do you have any ideas for a new name? If so, send them to: [Vanessa L. Blau vlb2003@med.cornell.edu](mailto:Vanessa.L.Blau.vlb2003@med.cornell.edu).



The migration to the new Microsoft Exchange and Calendar system reached an important milestone in early July: all 7,500 college accounts were moved from the old Sun Mail system onto the new Exchange system. New York Presbyterian Hospital (NYPH) reached an important milestone as well, transitioning their 25,000 to the new Exchange system.

To aid all Weill Cornell community members in the transition, ITS has created and continuously updates a series of help documents, frequently asked questions, and best-practice guides. These documents can all be found here: <http://weill.cornell.edu/its/email-calendar/email/exchange>.

ITS is also addressing a common complaint about the storage size on staff mailboxes. As of September 25th, all WCMC faculty, staff, and students will receive 1 gigabyte of storage at no cost (previously staff received 250 megabytes of storage, or one quarter the amount of email storage given to faculty). As always, departments can choose to buy additional storage for their email users. ITS is reducing the cost of the additional storage, from \$10 per gigabyte per month, to \$5 per gigabyte per month. All rates will continue to be reviewed and adjusted as costs fall. A significant change is expected in a year or two.

The initial email migrations started nearly 3 years ago and were put on hold for 18 months because of resource constraints caused by the economic recession. In the time since the migration started, ITS, along with NYPH, has built a newer, faster Microsoft Exchange system that will replace the one we

currently use. In the coming months, there will be one more migration from the Exchange system we are currently on to the newer one. In most cases there will be no noticeable change with this migration – mail clients (e.g., Outlook), iPhones, iPads, and BlackBerrys will automatically recognize the new system

and allow work to continue uninterrupted. ITS will issue a series of communications as we get closer to the change date, but we want to emphasize that for most people, this transition will be much more seamless and transparent than the last.

Now that WCMC community is using Microsoft Exchange, we can begin to take advantage of some of the advanced features that comes with it. To this end, ITS is implementing Microsoft Lync, which is an instant-messaging client (similar to gchat, AOL Instant Messenger, and the service ITS currently provides – WCMC Talk) that doubles as a one-to-one videoconference system. Using Lync, all Weill Cornell faculty, staff, and students will be able to chat from their Windows and Mac computers, iPhones, and iPads as well as create videoconferences on the fly. Lync is integrated with Microsoft Outlook, SharePoint, and other Office applications so you can quickly start instant messaging conversations from those applications. Lync will be offered at no charge and is expected to go live by December 2012.

In a future issue of InsideITS, we will have more to say about an agreement are working on with Cornell-Ithaca for a long term migration of Exchange to Microsoft 365, the “cloud” version of Exchange. This version will have much larger mail box sizes and several new features as well.

Data Storage Options]

Which Is Best For You?

WCMC users have several choices for centralized data storage including options at WCMC from Information Technology and Services (ITS) and at Ithaca from the Cornell University Center for Advanced Computing. Principal investigators of projects undertaken in collaboration with faculty members and staff in the Institute for Computational Biomedicine (ICB) also have the option of using the ICB's scalable data storage and high-performance computing facilities. Please contact Jason Banfelder (jrb2004@med.cornell.edu) directly for further details concerning ICB's rates and offerings.

In this article we will discuss some of the key features and advantages of the different options.

For most users, a shared departmental file server is the best place to store all your day-to-day work data like spreadsheets, Word documents, and email as they are more accessible from off campus and many of the services have automatic backup and security services. For more advanced users, such as many scientists or medical specialists, large quantities of central data storage are essential to manage their research or clinical data. For these large volumes, small service differences can mean significant differences in cost.

A centralized storage service typically provides a file share or a folder or directory that looks like any other on a computer and can be reached from any computer within the WCMC network or via the webVPN with a single user name and password. In addition to this access, as the name implies, file shares allow users to share files within a set of defined permissions.

File storage services will work on any supported Windows, Macintosh OS X, and Linux computer and support the two main protocols for file sharing, NFS (Network File Service) and CIFS (Common Internet File Service, also known as SMB). While still not automatic, some of these services can be used on mobile devices like iPads as well.

The various storage services differ in terms of accessibility, speed, security, redundancy, support, and costs. The technical details and options for each organization's file service offerings are important to consider based on the intended use of the disk storage. For example, analysis of genomic sequence data has very different data access requirements compared with sharing documents such as papers and proposals. Related to security and availability, WCMC has a data classification policy that describes three different types of data: confidential, internal use only, and unrestricted. (See: <http://weill.cornell.edu/its/policy/security/11-3-data-classification.html>) ITS has the only available options for confidential and internal use only data while CAC resources are specifically designed for handling computationally intensive analyses of large unrestricted data sets, particularly genomic and imaging data.

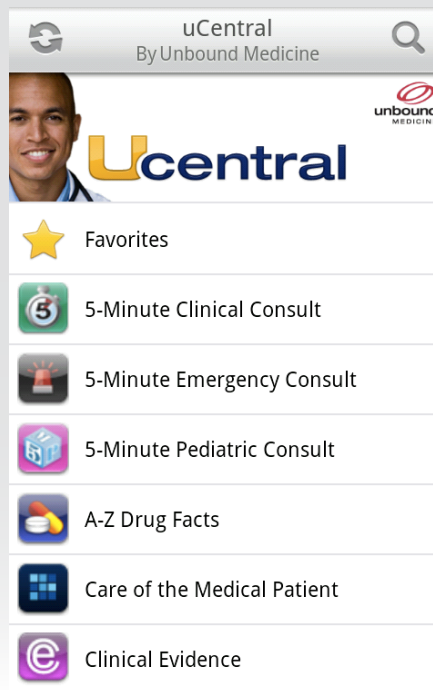
The table provides a brief overview of the various storage offerings from ITS and the CAC. Additional detailed information can be found at the provided URLs. The performance, availability and security of a particular storage offering have a significant impact on price. New cheaper tiers of storage are in the works. David Lifka (dal2039@med.cornell.edu) and John Ruffing (jruffing@med.cornell.edu) are available to meet and work with you to help find a solution that fits your needs and budget.

ITS	←FEATURE→		CAC
Entire University	Eligibility		Entire University
weill.cornell.edu/its/computing/filesharing/central	URL for service offering		www.cac.cornell.edu/services/Default.aspx
Yes	Access (native to platform)	Windows	Yes
Yes		OS X	Yes
Yes		Linux	Yes
\$1,200 (1st 25 GB free for each lab)	Cost (lowest available for 1 TB for 1 year)	Restricted Data	N/A
\$1,200 (1st 25 GB free for each lab)		Unrestricted Data	\$910 or see "Slot lease" option on CAC web site
100 GB	Minimum Increment		50 GB
Yes	Support	Weekdays 9am-5pm	Yes
Yes for higher tiers, otherwise best effort		After Hours	Best Effort
Additional \$3,000	Backup (1 TB for 1 year)		Additional via CIT
Yes	WCMC Username and Password		No
Yes	Advanced features (additional cost)	Emergency Power	No
Yes		Replication to Another Site	No
Yes		Self-Restore	No

DID YOU KNOW...



- There are approximately 5,000 Epic users and 3400 GE users. Epic has records on more than 2 million patients with more than 4 million visits that have generated results for more than 45 million lab tests and 4 million radiology studies.
- There are more than 20,000 devices on the ITS network.
- There are 20 remote offices with more to come that connect to campus via metroethernet or dark fiber.
- The ITS primary internet connection is 400MB but can burst to 1 GB.
- ITS manages 600 wireless access points with more than 3400 devices.



Clinical Conundrum? Untangle It with uCentral

The need for a quick but reliable answer to a clinical question can occur at any time or place. The Library's subscription to uCentral gives health providers access to key reference manuals, no matter where or when. Users can connect to these titles from their desktop computer or download them to their mobile device:

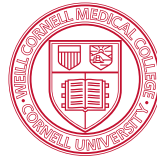
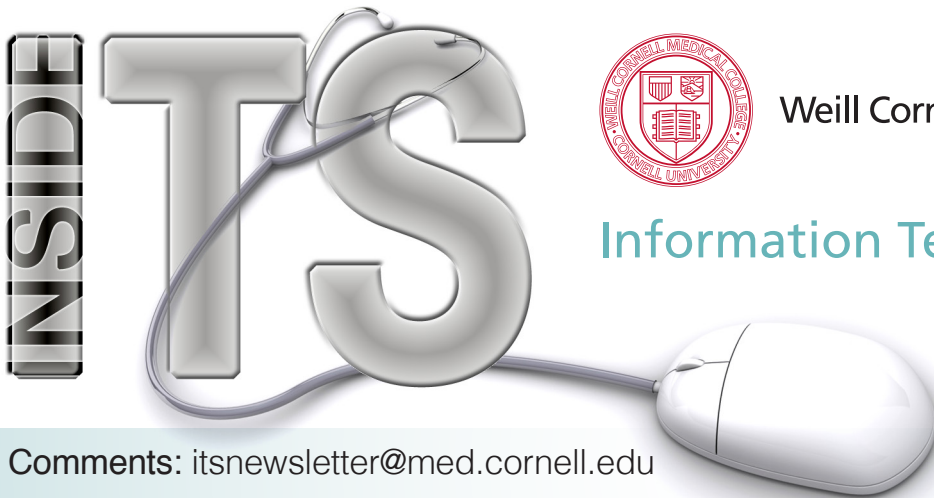
- 5-Minute Clinical Consult
- 5-Minute Emergency Consult
- 5-Minute Pediatric Consult
- A-Z Drug Facts
- Care of the Medical Patient
- Clinical Evidence
- Harrison's Manual of Medicine
- Johns Hopkins ABX Guide
- Johns Hopkins Diabetes Guide
- Pocket Guide to Diagnostic Tests
- Washington Manual of Medical Therapeutics.

To get to uCentral, point your browser to <http://www.unboundmedicine.com/ucentral>. Initial registration and download must occur while a user is connected to the campus network. Later use is independent of the network although periodic onsite re-authentication may be required. Supported platforms include iOS (iPad, iPhone, iPod), Android, Blackberry, Palm, and Windows.

uCentral also includes Unbound Medline, which allows for basic or clinically focused queries of the biomedical literature with the option to create a search alert synchronized to a mobile device.

The NEW Smart Desk at the WCMC Library- "Solutions Start Here"

Weill Cornell Medical Library has teamed up with the ITS department to offer enhanced, on-site service at its NEW "Smart" Desk. In addition to all the services that the Library already provides the Smart Desk will also feature an ITS technician on duty Monday through Friday from 9am -5pm to provide assistance to the Cornell community with all of their computer and mobile device issues. In the near future the Smart Desk will also offer training on various software packages and technologies. The NEW Smart Desk is a walk-in based service where no appointment is required. The Smart Desk will be a valuable addition to the suite of existing Library information services.



Comments: itsnewsletter@med.cornell.edu

Website: <http://weill.cornell.edu/its/>

Introducing the Smart Desk: A New Walk-up Service Option

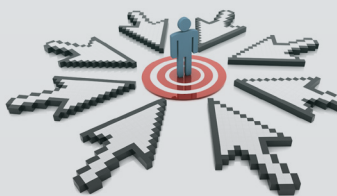
Weill Cornell Medical Library has teamed up with the ITS User Support to offer enhanced, on-site service at the new Smart Desk. In addition to the services that the Library currently provides, the Smart Desk will feature ITS technicians on duty **Monday through Friday from 9am – 5pm** to provide assistance to the Weill Cornell community with their computer and mobile device issues. In the near future, the Smart Desk will also offer training on various software packages and technologies.

The Smart Desk is a walk-in based service where no appointment is required. While the Smart Desk is available to help with virtually any issue, particularly good uses of the Smart Desk include:

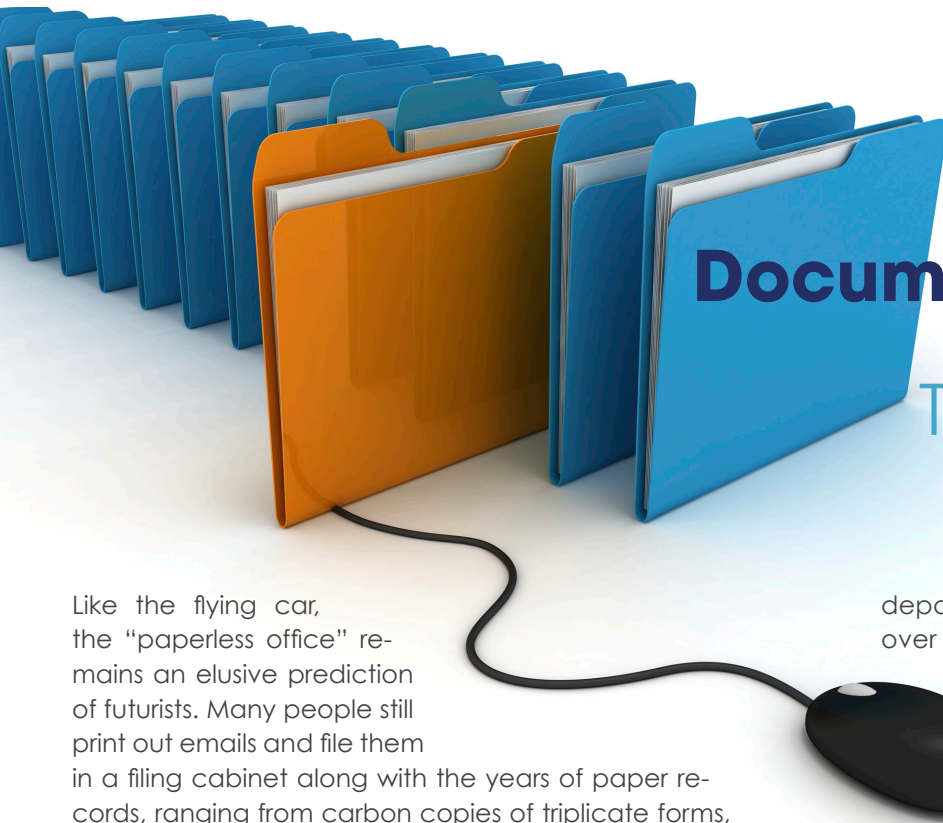
- Tagging and setting up your mobile device such as an iPhone or an iPad--The Smart Desk can enable these devices for Weill Cornell email and calendar access while you wait.
- Resolving issues with your laptop--If you call ITS for support and a desk top visit is required to address an issue with a laptop, you can bring it to the Smart Desk instead of scheduling a technician to visit you.
- Learning how to better use ITS-provided software--Even if you have a desktop computer, you can stop by the Smart Desk to ask questions about how to use Office applications such as Outlook. Smart Desk technicians can also demonstrate better ways to use of the software available on computers in the library. We are excited about the new Smart Desk and encourage you to stop in for a visit!



New ITS Liaisons Focus On Department Specific Needs



With the help of Dean Glimcher, ITS has created a new Departmental Liaison program. Liaisons work closely with specific mission areas of the college (clinical, research, education, and administration) to identify ways in which technologies and ITS-provided services can better align with college needs. This process is bi-directional, where Liaisons gather and bring institutional needs to ITS so that ITS can deliver increasingly more useful and mission-specific technologies and services, as well as work with groups throughout Weill Cornell to promote and emphasize the ways in which current technologies and services can better serve user communities. Liaisons will reach out to communities in various forums, including but not limited to, department meetings, direct connect with department or division leaders, and attending various councils and other appropriate forums. Liaisons are part of the Support organization within ITS, and will also serve to escalate and oversee high-priority issues and problems. Departments can inquire further about ITS Liaisons and how to connect with them by contacting Christine O'Connor, Associate Director, User Support Group, at cho2006@med.cornell.edu.



Document Management:

The Evolution of the Filing Cabinet

Like the flying car, the "paperless office" remains an elusive prediction of futurists. Many people still print out emails and file them in a filing cabinet along with the years of paper records, ranging from carbon copies of triplicate forms, time sheets, memos, grant applications, appraisal forms, financial statements, and annual reports. Many of these paper documents are rarely accessed since they are first filed away, either because they are no longer needed or because they are not easy to find.

Documents, whether in digital or paper form, go through a typical lifecycle, often conceived at a computer and ending with a burial in a filing cabinet or an electronic folder. As the volume of these documents increases, the ability to securely classify, store, find, share, and destroy them becomes exponentially difficult. Email has made the problem worse by making it far easier to transmit documents as attachments, which replicate in multiple inboxes and file cabinets.

Different kinds of documents have different life cycles in highly regulated research, clinical, and educational environments typical of an academic medical center. We are often legally required to store certain kinds of documents for differing periods of time dependent on regulatory rules that apply to them. In the absence of good tools to automatically manage the complete document lifecycle, we may hoard far too many documents and hope that we can find the correct version when an auditor or lawyer knocks at our door.

ITS has been closely following the technology that has evolved over the past few years to address this problem. While the overall use of paper documents has been in decline, the use of email has increased resulting in some of the inefficiencies described above. ITS has widely advocated and supported the use of departmental file servers to replace email as a document transmission and storage repository. Almost every

department has been using ITS-managed file servers over the last 10 years. However, this technology is also evolving as file servers have effectively become massive digital filing cabinets with problems similar to paper filing cabinets. Documents in file servers can be difficult to find if they have not been classified properly. Documents can be difficult to share with others if they are not already set up to access your file server. Finally, creating automated processes to help identify, protect, and destroy regulated data based on institutional data retention policies are extremely difficult to implement with the current state of file server technology that we have in place.

In upcoming months, ITS will be working with departments to pilot a web-based document management system that is part of a system called Microsoft Sharepoint. Sharepoint will mark a major advance in WCMC's ability to manage documents based on departmental and institutional policies. Sharepoint will give users the flexibility to access their documents securely from different devices and locations. Most importantly, Sharepoint, SAP, and other related systems will reduce the need to create documents in the first place by automating how we collect, store, and share data through web-based forms and systems. A recent example of this has been the web-based benefits open enrollment process developed by HR and ITS.

The transition to Sharepoint will be gradual so that users have time to learn how to best use the new system to solve document sharing and collaboration problems that they face today. While email will still be actively used, we will begin to see a shift away from email being used as a courier system to move documents towards web-based systems that foster new forms of collaboration and secure sharing of documents reducing paper, automatically aging old files, and improving productivity.



The Desktop Goes Virtual

Do you sometimes want to access files when you are traveling or even just across campus in another office? Do you carry a laptop home to work on the weekends? Do you have a Mac but need to run the occasional Windows program? Do you wish your computer backed up automatically? Do you hate worrying about which versions of a browser works best with each application? Are you tired of upgrading software only to find it breaks something else? Your life is about to change for the better.

ITS is currently beta testing a new technology called Virtual Desktop Infrastructure, or VDI. VDI provides access to a Windows desktop on almost any device – PC, Mac, iPad, iPhone, etc. The desktop runs a standard set of applications, including Microsoft Office (Word, Excel, Outlook, PowerPoint, etc.), Firefox, Epic, GEGB, Eclipsis, and more. And it can be accessed from anywhere an internet connection is available.

As a type of “cloud” service, the Windows desktop is consistent, appearing exactly the same when used on-campus or off-campus. It can map network drives to provide easy access to work documents from any location, and it is aware of local printers so printing from both work and home locations is possible. In time, ITS expects virtual desktops to take the place of VPN for most users and become a primary method for accessing Weill Cornell applications (such as those listed above) and files, especially remotely.

As part of this project ITS is also working with Dermatology, RASP, Pediatrics, and others to test a new type of desktop computer called a Thin Client. Thin Clients are extremely small and light (about the size of a typical book). They do nearly everything a regular computer does – connect to multiple monitors, play music and video, run Office applications, print - but they are built solely to run the type of virtual desktop described above. Because the desktop is virtual, it is not stored on the Thin Client. Thin Clients do not even have hard drives or any moving parts and have a much longer life span than traditional

desktop computers. Thin Clients can last as long as 8 years without needing a replacement or upgrade. In addition, replacing an aged or broken unit takes minutes instead of hours. Combined with the VDI technology described above, Thin Clients will provide a cost effective and efficient way for many Weill Cornell community members to do their work.

Virtual desktops will come in two basic formats. The current test is of a “locked” format, where only ITS can install applications. This is designed for administrative areas and public areas like front desks, training rooms, exam rooms, and classrooms. Later we will offer an “open” format where users have administrative rights and can install their own applications. Both formats will come by default with the standard WCMC applications, but ITS will work with departments for special installations of applications critical to their work.

As part of the testing, ITS is developing cost models for each type of virtual desktop as well as for Thin Clients. While not yet final, there will likely be three models with escalating price points: the first “base” model will be a Thin Client with a locked virtual desktop; the second “enhanced” model will be a Thin Client with a locked virtual desktop, plus access to that locked virtual desktop from other devices or locations; and an “open” model – a virtual desktop used with or without a Thin Client on which users can install applications and access from any device or location.

For many users a thin client may replace their desktop entirely. For others, the VDI may be an add-on that adds greater flexibility and reliability than a regular desktop or laptop. We plan to formally announce the first options in the first quarter of 2013, but please contact us (support@med.cornell.edu) before then if you have questions or want to learn more about VDI and Thin Clients.

Helping Colleagues After Hurricane Sandy



Hurricane Sandy has impacted all of us in many profound ways. We have experienced the loss of property, life and have all become much more in-tune with our disaster preparedness and recovery processes. All things considered, Weill Cornell Medical College weathered the storm remarkably well, largely due to proper planning and a healthy dose of luck. Unfortunately, some of our neighboring medical schools were not as fortunate, in particular NYU's Langone Medical Center. They suffered great losses including years of valuable medical research and their research computing resources. (see: <http://www.cnn.com/2012/11/08/health/sandy-research-time/index.html>)

Now dealing with the aftermath of Sandy, the Technical Director of NYU Langone Medical Center's High Performance Computing Facility, Dr. Efstratios Efsthadiadis, has reached out to ITS to help get their researchers back up and running using Red Cloud (see: <http://www.cac.cornell.edu/RedCloud>). He and his team met with Curtis Cole, Ben Nathan, Dave Lifka and others in ITS last month to start a collaborative effort with WCMC on the architecture and planning of a HIPAA compliant research cloud. ITS had already been planning various cloud services for WCMC before Sandy, but now there is greater interest to make this happen sooner than later. We will be looking to create a "Hybrid-Cloud" that provides for local cloud computing and data storage services that can "burst" to a set of secure, remote cloud resources managed by the Center for Advanced Computing on the Cornell campus for additional capacity on demand and for disaster recovery purposes. If things go well, this could eventually become a large shared resource for all New York City Medical schools.

Meanwhile, the Ehrman Medical Library of NYU Langone Medical Center also suffered severe damage in Hurricane Sandy. The Samuel J Wood Library opened its doors to NYU's students and faculty following the hurricane allowing them to use the physical library for study and access to information resources in the library.

Soon they will be able to return to their own resources. But we look forward to ongoing collaborations as a silver lining to this tragedy.

DID YOU KNOW...



- There are over 35,000 accounts on the email systems we support (the majority are NYP)

We store approximately 40 TB of email, more than 1 TB of new mail per month

We process 5.3 million email connections per week (each with up to 100 messages)

- Of these 2.8M are blocked based upon IP reputation
- 1.4M are identified as medium or high probability spam
- 1.1M are identified as legitimate email and sent to users

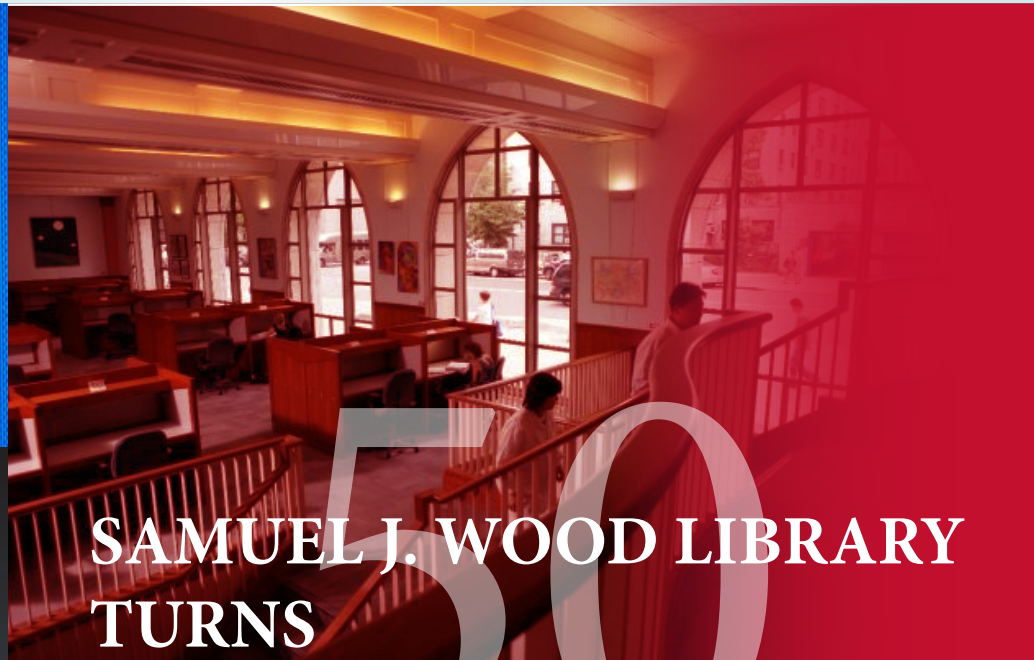
- ITS supports more than 20,000 devices attached to our network

Roughly 10% of desktops are "locked"

70 are "research network desktops"

15% of desktops/laptops are Macs, 85% are PC's

There are 2600 printers on the network



SAMUEL J. WOOD LIBRARY TURNS 50

The Samuel J. Wood Library recently marked its 50th anniversary. Dedicated on October 17, 1962, the library resided on the first and two basement levels of the new Wood and D buildings. The Samuel J. Wood Library and Research building was funded by the Wood Foundation, U.S. Public Health Service and other private donors. The Foundation was established in 1958 after the death of Samuel J. Wood, a realtor and president of the Wood's Business School in New York. When the medical college was located on First Avenue, every department had its own library. In the 1920s, the first librarian Josephine Nichols expanded the Department of Pathology library into a more general medical library. When the medical center opened in 1932, the library moved to the C building with library stacks on the first and two basement floors.

The Samuel J. Wood Library combined the old medical college libraries and Lydia Anderson Library from the nursing school. In the 1970s to 1980s, the library automated all of its services from circulation to reference and created an extensive audiovisual collection. From 1971 to 1976, the Medical Center Archives of NewYork-Presbyterian/Weill Cornell were organized. The Office of Academic Computing was established circa 1991. In 2007, the Patient Resources Library was opened in the Weill Greenberg Center.

From 1988 to 1990, the library was expanded into the first floor and two basement levels of the William and Mildred Lasdon Building. This new addition featured the sunken reading room, computer lab, offices, seminar rooms, and stacks. The entire library was remodeled and modernized. Now that the core collection has gone digital, the library is once again renovating its space. A newly refurbished state-of-the-art computer lab was completed in September 2012 and a 24/7 student study room and a collaboration room will be created out of existing space on the first floor beginning in January. With the vastly expanded digital collection, new on-site computer services, a very popular systematic review service, the wide variety of educational and evidence based medicine services, the library is busier than ever. The physical space of the library has approximately 270,000 patrons a year and remains a critical facility for students, clinicians, and researchers. With the new SmartDesk, the library is now a great place to get help with your computer as well.

The library has seen many changes in its fifty years but high quality service remains constant. We invite you to visit the library in person or online for all your information needs.



Weill Cornell Medical College

June 2013

Information Technologies and Services

Comments: itsnewsletter@med.cornell.edu

Website: <http://weill.cornell.edu/its/>

Windows 8?

Skip the Upgrade

(for now)

Since the launch of Windows 8 last fall, ITS has been carefully watching the adoption rate of this latest version of Microsoft's desktop operating system in the business sector. Whenever a new operating system is released computer enthusiasts get excited, and Windows 8 is no exception. Still, its use in the marketplace seems to have more in common with Windows Vista than Windows 7. Practically, that means many businesses will skip Windows 8 completely, choosing to wait until a more refined version is released.

What does this mean for you? With Windows 8's compatibility issues, ITS recommends that WCMC not purchase Windows 8 at this time. If you have already purchased it and would like to downshift to Windows 7, ITS will consult with you to make that change when your device is set up and tagged.

However, we know Windows 8 is going to be difficult to avoid in some cases. Some devices, especially tablets and laptops with touch screens, will not work well with older operating systems. Before purchasing one of these



devices, please note that Windows 8 is not yet compatible with PGP, the ITS-managed encryption service. By policy, all laptops on the Weill Cornell network must be encrypted using this service to avoid putting data and reputation at risk. We are exploring alternatives and will likely have one very soon. Nonetheless, until PGP is released for Windows 8, putting the operating system on a tagged laptop or tablet will violate policy.

It's not all bad news for Windows fans. Trusted industry analyst Gartner, Inc. tells us Windows 8 is the start of a new era for Microsoft, with the company now attempting to support tablets, laptop/tablet hybrids, and traditional desktop and laptop devices all from one core operating system. Touch-optimized devices may enter the world Windows 8-ready, but ITS believes it will take further revision of the operating system before desktops and traditional laptops seamlessly interoperate with it.

If you have any questions on Windows 8, please contact ITS at support@med.cornell.edu or 212-746-4878 (extension 6-4878), or visit our SmartDesk in the library of 1300 York Avenue.



Central Mac Management Spells Convenience for WCMC's Apple Users

For many years, ITS has been able to remotely manage Windows computers on the Weill Cornell network. We can update, or "patch," Windows and deploy software, like anti-virus protection, to network-connected devices all the way from 1300 York Avenue's basement. Sadly, the same has not been true for Apple computers, leaving them vulnerable to various incompatibilities and upgrade problems.

Fortunately, as Apple has become more common in the workplace, other companies have recognized the need to provide services similar to those that have long been available for Windows. Enter JAMF – the windfall ITS has been searching for since the Mac was just an apple. Unlike its clumsy pronunciation, JAMF is a company that provides graceful Mac management capabilities to deploy software updates from one central location to several Macs at once. This service is known as Central Mac Management at Weill Cornell and is offered to all Mac users on our network.

Mac users on the College's network will certainly reap the rewards. Fancy Office? Microsoft's latest version can be installed instantly on your computer with Central Mac Management. Need antivirus software? You're covered with Symantec Endpoint Protection. Central Mac Management fulfills another important security function as well, granting ITS a copy of the security key that is used to encrypt your Mac. That way, if you forget your password, ITS can work with you to unlock your computer with your permission. If you're in a jam, Central Mac Management helps us help you better and faster.

Since last fall, ITS has installed Central Mac Management on just over 10 percent of Macs on the Weill Cornell network. Our goal is to install the service on all network Macs by the end of the calendar year. More information and a link to download the program yourself is available on ITS' website: <http://weill.cornell.edu/its/applications/desktop/osx/apple-computer-central-management.html>.

At BRB, Both Research and Technology Will Be Cutting Edge



With the new Belfer Research Building (BRB) slated to be a state-of-the-art facility, technology will undoubtedly play a role in both research and daily operations. ITS is already immersed in planning and designing BRB's technology infrastructure. We're overseeing myriad projects, including audio/video conference systems, phone system, wireless network, move-in planning, and more. Additionally, ITS has partnered with Gartner, Inc. – a leading IT industry consulting and research firm – to design high-performance computing resources housed in the BRB datacenter to the Weill Cornell research community. The Center for Advanced Computing (CAC) in Ithaca is also collaborating with us to offer the next generation of servers, storage, and high-speed network infrastructure needed for biomedical, genomic, imaging, and other computation-intensive research.

To achieve this, ITS, CAC, and Gartner interviewed various WCMC research faculty in February to understand their requirements for these services going forward. The results revealed a broad range of needs reflective of the diverse scope of research being conducted. Though the requirements are sundry, the technical design is starting to take shape. To meet these expectations, ITS believes a "private cloud" model is ideal. This will allow high-performance computing, network, and storage to "burst" beyond a set capacity during peak demand to a set of similar systems in the CAC.

Implementing a purchasing "co-op" is another goal, permitting ITS, CAC, research communities at Cornell and Weill Cornell, and other interested parties to coordinate their computing needs twice a year. This would make bulk purchases available at prices unattainable individually, providing an essential and cost-effective method for regularly updating infrastructure.

ITS is also hard at work designing a new network hub for the entire campus. For the first time at WCMC, this new networking hub will enable network speeds up to 10 gigabit to the desktop, surpassing previous top speeds of 1 gigabit. This premium service will be reserved for selected desktops that require it, but will not be limited to just the BRB. We will be able to deploy this service to key locations throughout the campus, and access will expand over time as the rest of WCMC is upgraded to the new standard. The service will provide a much-needed boost to the network speed for systems that collect massive amounts of data or images and require quick transfers throughout the network for analysis.

The BRB data center will also enable ITS to improve the whole campus' access to the Internet. ITS has been steadily increasing the amount of bandwidth our users enjoy. With the BRB we will have new redundant pathways to the Internet and to our private wide area network that connects us to our remote sites and partners. You can also expect faster connections to Ithaca, which will help us take advantage of services such as RedCloud.

Finally, our meetings with faculty have determined that an improved guest wireless network has moved from a "nice-to-have" to an essential service. It would allow short and long-term visitors to more easily access Internet-based resources and share data with full-time network residents. This, of course, raises a sticky situation: the easier it is to join our guest wireless network, the more ITS may have to protect WCMC systems from unauthorized guests.. We are currently reviewing ways to adjust the guest network so it's faster, easily accessible on campus, and more open for data sharing. We just successfully tested a new event-wireless network for a conference of more than 400 guests – a service we will bring into production very soon. This network will be optimized for large groups. This network will be optimized for large groups of non-WCMC users using our wireless network for short bursts of time. We expect to bring these all of these services online in conjunction with the launch of the BRB in 2014.

Animal research streamlined with EnCCoMPass

Conducting animal research just got a whole lot easier thanks to EnCCoMPass. The Center of Comparative Medicine and Pathology (CCMP) has developed this new computer application to streamline interactions and transactions with the Research Animal Resource Center (RARC) and Institutional Animal Care and Use Committee (IACUC). EnCCoMPass will be released in phases, with the Protocol module already in use by the animal research community.



eSirius is gradually being phased out to make way for this module, which offers a number of improvements to the animal research proposal process. Users can take advantage of Preapproved Techniques, or PATs, to shorten the time needed to create a protocol with just the click of a button. EnCCoMPass is also integrated with Coeus, allowing users to easily select grant and funding sources for their protocols. There will be less data entry, better communication between you and IACUC reviewers, and improved dashboard to keep you updated on your protocol status and system information. With less time being used to submit proposals, users can focus on their main objective – the research.

More features will soon be rolled out, including an online animal ordering system, animal and cage tracking, electronic billing system, and other components. To access EnCCoMPass, please visit encompass.med.cornell.edu.

CANVAS TO GIVE WCMC'S ONLINE TRAINING A BOOST

The demand for online training continues to grow for Weill Cornell's faculty, staff, and students. Whether it be administrative or clinical training, these services are being improved thanks to ITS' groundbreaking initiative to enhance educational training at both Weill Cornell campuses.

Currently, students use Jenzabar to register for courses online, and administrative departments will soon be able to have trainees perform the same function through a new module, called LSO, within SAP. ITS plans to integrate both of these systems with one learning management system for all users, known as Canvas.

Selecting Canvas was a process that included input from a number of departments and representatives from throughout Weill Cornell.

With Canvas, our goals are to provide one central catalog of courses for administrative training, give trainees and their managers self-service options for course registration and reporting, and provide one consistent learning management system that follows industry-standard best practices for instructional design.

ITS is in the process of developing a timeline to deploy these services, potentially releasing some components in phases later this year.





Latest Medical Library Renovations Offer Improved Study Spaces

Exciting progress is being made with renovations at the Medical Library – your information hub on campus. Many changes have already been introduced to library patrons, with more underway, to provide visitors with the best possible experience.

In early May, the former (pictured at left) Current Periodicals room re-opened to patrons as a newly converted study space. Aside from the updated look, the new area boasts three additional group study rooms. The study space is open to all patrons during regular library hours and available 24 hours a day to students.

Library patrons can also expect a new collaboration room opening soon to replace the Index Medicus room. This area will offer a space for larger groups to actively work together with new technology installed in the room.

More library improvements are in the works. Stay up-to-date about the library’s renovation and construction schedule by visiting <http://library.weill.cornell.edu>.

ITS HAS A NEW ENTRANCE!

Looking for our office? ITS’ offices at 1300 York Avenue are currently undergoing renovation. Our new entrance has moved from the basement level to inside the Medical Library. To find us, enter the library and walk all the way down the staircase in the middle of the room. ITS’ entrance will be in front of you near the foot of the stairs.

Use the adjacent map as your guide. One of our SmartDesk representatives near the circulation desk can also assist you in locating us.

