Information Services and Technology (IS&T)
6-Month Report
For the months of July 2003-December 2003

Distributed March 9, 2004

The IS&T Leadership Team:

Jerry Grochow, Vice President for Information Services & Technology

Christine Cavanna, Sr. Project Manager, VP's Office
Angie Milonas, Sr. Manager Finance

Greg Anderson, Director Client Support Services
Allison Dolan, Director Telephony and IS&T Shared Services
Vijay Kumar, Director Academic Computing
Theresa Regan, Director Operations and Infrastructure
Wayne Turner, Director Administrative Computing

IS&T 6-Month Report (Jul-Dec 2003)

Table of Contents

I. Organizational Summary

The Information Services and Technology (IS&T) department has grown out of the merger of the Information Systems (IS) and Financial Systems Services (FSS) departments in conjunction with administrative budget cuts instituted for FY 2004 and FY2005.

Being a service organization at MIT means that we help fulfill MIT's mission by providing the best service possible to those who are on the front line of "creating, disseminating, and preserving knowledge." To do that, we have organized five groups:

Academic Computing	Vijay Kumar (vkumar@mit.edu)
Administrative Computing	Wayne Turner (wturner@mit.edu)
Client Support Services	Greg Anderson (ganderso@mit.edu)
Operations and Infrastructure	Theresa Regan (tregan@mit.edu)
Telephony and IS&T Shared Services	Allison Dolan (adolan@mit.edu)

The first two groups provide expertise and applications for academic and educational activities and administrative activities. Although IS&T does not directly provide research-oriented applications, the Operations and Infrastructure Services group runs MIT's common computing and network infrastructure, which is critical for academic, administrative, and research activities. That group also operates central applications systems such as Payroll, SAP, and Stellar. The Client Support Services group helps members of the MIT community resolve day-to-day issues with information technology via the help desk, publications, and training. The Telephony Services group operates MIT's telephone system and will be providing additional offerings, such as integrated cell phone services and "voice over IP" service. All the IS&T groups will work with their counterparts in departments, laboratories, and centers to ensure a coordinated approach to providing information services and technology across the campus.

In the report that follows, each Director has provided a draft mission statement, a short description of projects completed during the first half of the fiscal year, a short description of projects in progress, discussion of new initiatives for the second half of FY2004, and some potential metrics to track going forward.

As appendices, we have provided summary financial information for the year-to-date and current organizational charts.

II. Academic Computing

Mission

Academic Computing in IS&T promotes and enables technology-based education at MIT. In conjunction with other IS&T groups and MIT units, it provides a range of services to support the planning, adoption, integration and implementation of IT to meet the needs of academic programs, faculty and students**.**

Installation and Spaces

Student –Educational Computing Environment

The student computing environment is in the midst of transition. Traditional fixed, high-density Athena clusters are being reconfigured to a more flexible, learning-centered study spaces. We are leveraging commercial trends in hardware, increased student acquisition of personal computers and refocusing cluster spaces to disciplinary requirements and learning modes. The intent is to maximize the impact of central resources to the diverse learning needs of students.

Highlights of some of the key work include:

- Laptop loaner programs: 7 laptop classes supported, serving 183 students; custom software configuration and cloning for Chemical Engineering, 70 students; one research meeting received support (30 machines).

- Building 37 Windows cluster (http://web.mit.edu/windows/cluster/calendar/index.shtml)
    - 7 courses supported reserving the cluster 21 hours per week
    - average logons per day = approximately 1750 logons across 25 machines
    - approximately 50 MSI deployed software applications are available from this cluster (http://web.mit.edu/acs/windows/msisupport.html)

- Departmental and Community Support to win.mit.edu: seven departmental labs and one student residence lab joined the win.mit.edu domain, adding 151 machines (Department of Urban Studies and Planning, Department of Architecture & Planning, MIT Sloan, MIT Libraries, Department of Mechanical Engineering, the Materials Laboratory, Department of Chemical Engineering, Sydney and Pacific).

- Student computing environment redesign – Discovery project completed (Initial development of design principles were developed in a design charrette (Oct. '03);

Ongoing services include:

- Athena renewal - 165 Athena workstations were replaced from July 1 to December 31, 2003

- Cluster maintenance for 15 Athena spaces (24x7 access), plus 4 computer classrooms.

MIT Cable began new work initiative to provide Direct Broadcast Satellite (residential DishNetwork or DirecTV) connections to dormitory housemasters and common areas at the request of the housing office. Installations were completed in NW30 (four drops), Sidney Pacific Dormitory (three drops), McCormick (eight drops) and Baker House (four drops). Three new services with no associated ongoing costs were added: the 24/7 television channels PBS-E (the main PBS satellite feed) and the PBS-Kids channel. NOAA Weather Radio was added to MIT Cable Channel 12 (we named it "Weather When You Want It" for our promotions).

Emergency Alert System remote terminals were installed in Campus Police and Facilities dispatch areas. Two on-site training sessions were held for dispatch operators. Files summarizing the training, (MIT EAS quick start guides) were produced and loaded onto the EAS terminals.

MIT signed a contract with MTV to carry MtvU, a new free MTV service for universities. Implementation is anticipated by the end of February. ArTtV started as an IAP project and will continue as an ongoing service as long as there is interest from the MIT community. See: http://web.mit.edu/mitcable/www/ArTtV.html .

Academic Computing Support Team - Curriculum Integration Support

The work in Curriculum Integration Support represents primary faculty consulting in the usage of educational technology and the primary software tools available in support of undergraduate instruction.

This group engages in one-on-one consulting and project activities with faculty. Currently there are 13 active projects, with 29 completed in Q1-Q2.

Some of these include:

- Tablet PCs (11) were evaluated as teaching tools by faculty in CEE, Architecture, DUSP, Materials Science, Math, BCS, FLL, & Chemistry.

- Spatial Data Project – server configuration & tuning to support ArcGIS tools; opening of joint MIT Library/IS&T GIS lab in Barker Library; teaching GIS in 1.963, 11.423, 12.000, 12.114 EAPS, 12.114 EECS, 21.H580 (web mapping); consulting on newly released campus map
- (http://libraries.mit.edu/gis/index.html)
- Stellar: 19 course sites summer '03 (https://web.mit.edu/stellar/admin/status/nexus-counts.txt)
    - 320 of courses (fall '03)
    - 11,008 students enrolled; 4,639 taking at least one course supported by Stellar (note that implies a significant number of students using Stellar in more than one course)

Of classes supported by Stellar, representation by school is: School of Science 9%; Architecture & Planning 10%; Distance (SMA, CMI, MUST) 13%; Engineering 26%; SHASS 42%. The large percentage of courses supporting SHASS may reflect the interest in using technology to support teaching from a school with traditionally fewer IT resources available to it.

Academic Software (formerly work done in ACST and special projects)

- Academic software – Third party software ported and updated to run in the Athena environment. In addition, license servers are maintained for delivery of site licensed software (http://web.mit.edu/acs/whererunsa.html)
- MathML – work completed on MathML standards for the W3C MathML working group (phase 1), along with planning for MathML IAP workshop
- LabView software licensing research conducted at the request of various faculty; support for Chem. Eng. provided to assist with LabView plug-in problems; LabView training sessions were sponsored and IAP LabView training planned for IAP.
- OKI - The Mellon funded OKI Project was completed. It delivered 16 Open Source Service Definitions along with complete documentation and selected reference implementations (http://sourceforge.net/project/showfiles.php?group_id=69345&package_id=85355)

  OKI has engaged in outreach to the specifications community through active participation in IMS (http://www.imsproject.org); and other individual educational technology initiatives including Penn State's LionShare -- Peer to Peer Collaboration tool; Stanford/IU/UMich Navigo -- Web-based assessment tools; Canada Edusource -- Distributed learning object repositories; University of Virginia Fedora Project -- Digital Library system. We expect some of these initiatives to become part of MIT's suite of educational applications.

  Other Non-commercial groups with whom OKI has engaged include: JISC/CETIS eLearning Infrastructure Initiative; Australia DEST eLearning Infrastructure Initiative; Open Source Portfolio Initiative (OSPI); Middlebury College Harmoni project -- PHP bindings of OSIDs

  Commercial engagements with OKI: Sun Microsystems; Apple Computer Corporation; Giunti Interactive Labs; & Microsoft Corporation

  Leveraging OKI internal to MIT involves engagements with: ilabs; CEE: John Williams' development group; EECS: Chris Terman's development group; the Stellar Team

Outreach

- Academic Computing supports and encourages discussion among MIT faculty around educational technology through CrossTalk public discussions (for example, recent speakers have been: Toru Iyoshi, Dir. of the Knowledge Media Laboratory, Carnegie Foundation, and Michael Coolhaus, School of Computer Science, CMU, see http://web.mit.edu/acs/Crosstalk/) the publication of the Academic Computing Newsletter The Insider (http://web.mit.edu/acs/insider/insider.html), customer satisfaction survey interviews, and IAP planning.
- Ed Tech Partners was formed during this past six month interval to coordinate work among different faculty service organizations (OCW, MIT Libraries, AMPS, WCS, etc.)
- Presentations to IT Partners on academic computing directions
- Participation in selection process for d'Arbeloff and iCampus projects.
- Interaction with DSpace in their policy committee, architecture design, and OKI OSID integration (funded by the Mellon Foundation)

- Presentation to national and international audiences concerned with eLearning and educational technology initiatives about MIT educational technology strategy, OKI, OCW,
- Engagements with NLII, Educause, IMS, JISC, CSG, Ivy+ around

Special Initiatives

High Performance Computing (HPC) – Discovery project completed (http://web.mit.edu/is/discovery/intensive/). The Discovery report provided a guideline for next steps that include preparation of a community website in support of faculty doing research using HPCs as well as an undergraduate HPC teaching cluster (Dell, Apple, and HP are among the vendors with whom configuration discussions have been held).

SAKAI –The Sakai course management system collaboration with the University of Michigan, Indiana University and Stanford University leverages the work of OKI and provides direction for the on-going work of Stellar. Mellon Foundation funding for Sakai was approved in December. See http://www.sakaiproject.org

Teaching with Technology Web Page – educational technology services are provided by numerous organizations across MIT. Academic Computing is developing the Teaching with Technology web page to provide a meaningfully grouped set of resource links for faculty to guide them to the educational technology services or support they need. The prototype for this page is located at http://web.mit.edu/teachtech/. A formal launch for this site is planned for March '04.

Cluster Redesign Pilot –trends toward student acquisition of laptop computers, commercial advances in software and hardware, and changing pedagogical practices challenge MIT to provide informal learning spaces more aligned with contemporary learning and technology needs. Academic Computing plans to redesign several traditional Athena clusters to pilot different approaches to support student computing needs. Selected locations include the W20 and 4-035 clusters. Discussions with Polyvision are underway for smart whiteboards; Steelcase for furniture; and various computer vendors for equipment. Faculty participating in this effort included: Bill Mitchell, Dir. of the Media Lab; Chris Terman, EECS; Bill Porter, Architecture; and others. See http://stellar.mit.edu/S/project/tl-spaces/index.html

III. Administrative Computing

Mission Statement

- ***Administrative Computing Services exists to bridge technology and business expertise*** in diverse functional areas, including financial, logistics, and human resources. Administrative Computing Services provides business technology services for MIT, reliably and responsively.
- ***Our core purpose is to provide outstanding service around high impact, Enterprise-wide, integrated business solutions*** that enables MIT's mission by:
- Reducing administrative burden
- Reducing the cost of transaction processing
- Reducing the cost of administration against research budgets
- Integrating information for better decision-making
- ***We accomplish this by remaining flexible and accessible to meet the changing demands*** of our customers, technologies, and Institute priorities. By balancing our priorities, we respond to both high order mandates from the Institute and a multiplicity of end user requests. ***Customer service is our first priority***.

Completed Projects Jul 1-Dec 31

HR - Payroll
SAP Personnel Administration was delivered to MIT's Human Resources Department in September 2003. Both academic and nonacademic transactions were delivered by the Personnel Administration team including: new hire, rehire, status changes including transfers, changes in appointments, reappointments, changes in FTE, off-cycle salary increases, promotions, leaves, and terminations. Employee Master Data Reporting and data feeds to other systems are accommodated through MIT's Data Warehouse and SAP.

SAP Organization and Compensation Management was delivered to MIT's Human Resources Department in September 2003. As part of the Core HR Phase, this project team was formed to implement Organization Management and Compensation functionality. This implementation eliminated the reliance on the legacy HRIS system (Cyborg) for day-to-day operations by replacing it with an integrated SAP system.

The Pension Payroll Implementation integrates the Pension Payroll with Human Resources data. Specifically, this refers to Benefits integration, which will relieve the Pension Payroll system of maintaining the payroll deductions and rates of the health plans and insurance plans. SAP will also provide full tax support from the third-party vendor BSI. 1099R processing will also be supported in SAP. Additionally, the Pension Accounting System has been outsourced to Towers Perrin. As part of the outsourcing, Towers Perrin has assumed the gross processing of the Pension Payroll. All annuitant transactions will be entered into the Towers system and gross pay will be passed to SAP Pension Payroll on a monthly basis. The Towers Perrin system will be responsible for processing indexing and stepping, as well as all other disbursement functions such as terminations and completions.

Broad Institute - The Broad Integration Project for FSS involved integrating BI's Planning, Purchasing, Payables and MRP systems in Oracle OPM with SAP's Logistics and Financial systems.

Plant Maintenance Discovery - A 3 month collaboration with the Department of Facilities to investigate whether SAP Plant Maintenance has the adequate functionality to satisfy the process owner's business requirements and replace their existing Maximo (Plant Maintenance) application.

Project Management And Tracking S ystem (PMATS)- Phase 1 is in production. Business processes are in different stages of implementation. Mobile Computing Initiative and PC Service Repairs are live and we are adjusting the code based on process owner feedback. Academic Computing will be complete this quarter. Hardware and Software Contracts have no activity, mostly due to the IS&T reorganization efforts.

SAO Web Student Financial Reports - Testing complete & transported to Production Wk. of 2/2.

UATP Travel Ghost Card - Conversion form Diners to UATP ghost card is complete. First reconciliation is being conducted week of 2/2 by Travel.

E-Mail 001s - Option to send email to third party implemented. CAO is requesting further enhancement to remove paper option entirely, but have tabled this request until February 2004 due to customer feedback and master data issues.

INSTITUTE INITIATIVES

HR - Payroll
Project Objective -The HR-Payroll Project is a multi-year initiative, with a phased timeline that is redesigning MIT's relevant business processes and implementing an integrated Human Resources and Payroll system. Our current stand-alone computer systems for Human Resources and Payroll are not able to provide the comprehensive information needed to plan and manage MIT's most important resource — its people. Making the best use of technology and simplifying existing business practices and policies will allow Human Resources and Payroll to focus energy on providing services that meet the needs of departments, labs, centers, and employees while balancing the Institute's need to achieve simplicity and appropriate control through standardization of business practices.

Payroll Phase Objective - Collaboratively, we will create a simplified and standardized payroll process for all employees and students that will support the Institute in achieving its mission by minimizing administrative resources. We will do this by creating an accurate, reliable, and integrated payroll system with accountability at the point of entry while leveraging the key themes that were successful during the HR and Pension Payroll phases:

- Web enabled transactions
- Standardized forms
- Data administration
- Relationship with Lincoln Laboratory
- Legacy system sunset

Current Status - Completed Phase I – Benefits in July 2001, and Phase II – HR in September 2003. Phase III – Payroll completed initial rollout related to Pension Payroll in December 2003. Seven of

the nine Business Process Redesign (BPR) teams are finishing their designs. Project preparation phase is in the middle of planning, budgeting and governance startup. Change management and initial communication has begun.
Initial Sponsorship focus has been on policy and payroll practice issue resolution.

Expected Completion Date - We are in the process of phase planning the project and do not have a date at this time.

Environmental, Health and Safety
Project Objective - Systems approach to environmental management that delineates roles, responsibilities and accountability for compliance locally in Departments, Laboratories and Centers (DLCs) and centrally in the MIT Environmental Programs Office (EPO) and its EHS Office. It also provides adequate information centrally concerning regulated activities and materials in use locally to support good Environment, Health & Safety compliance, emergency prevention, response programs and environmental sustainability initiatives, while maintaining the decentralized independence of research and teaching.

Current Status - Interim versions of PI Space & Hazard registration and Training have been launched.
Discovery and Assessment phase completed December 2003 with the major deliverables including the vision and user requirements. Design phase launched January 2004 with an emphasis on PI Space & Hazard registration.

Expected Completion Date
- SAP Training and Events - March 2004
- Migration of PI Space & Hazard registration into SAP – September 2004
- Development of Inspections, Consequences, Corrective Actions and Incidents in SAP – January 2005
- Migration of Training Needs Assessment into SAP – July 2005

TLO
Project Objective - Build an SAP-based solution for the entire TLO business process (Intellectual Property Management, including financial processes)
Current Status - Administrative Computing is waiting for test data from TLO so we can test the journal voucher upload transaction and evaluate the resulting financial postings. Only one round of testing was planned for, but there could be additional rounds depending on the individual test results.
Expected Completion Date - Expected completion date of this testing, which would signal the end of our involvement in this project, was 1/31/04.

Plant Maintenance
Project Objective – The original objective was for Financial Systems Services and the MIT Department of Facilities will co-lead a 6-month effort to implement SAP Plant Maintenance system on Campus. The scope of this project includes:
- Repair work order processes
- Preventative maintenance processes
- Air Filter replacement program
- Lockout/Tagout procedure documentation

Once investigated, it was found that we could not do this work and thus are accepting a feed from them.

Current Status - Team organization including team training has been completed. The team is currently identifying business requirements and configuring the SAP PM system in the development client.
Expected Completion Date - July 2, 2004.

SAPBUD

Project Objective - Replace MIT's existing budgeting application with an SAP-based solution. Provide enhancements and additional functionality, as time allows.

Current Status

- One functional specification (or blueprint) completed and web transaction is under development.
- One functional specification under development, to be completed by 1/31/04. Hard development starts after the functional specification has been agreed to.
- One functional specification (for a Budget Reallocation transaction) remains outstanding.
- Budget database management tools under development.
- Community Involvement activities under way.
- Training and Documentation efforts to begin as soon as possible.

Expected Completion Date - This application is planned to go live 10-1-04

Training and Events

Project Objective - Replace MIT's existing training registration system, a FileMaker Pro database, with SAP's Training and Events Management module. Provide dynamic reporting functionality for Training and Events through a feed to the Data Warehouse and developed reports. Create a Certification and Qualification component of the SAP Training and Events module and deliver additional functionality and enhancements.

Current Status –

- Functional specification completed for web front-end component and development of web near completion
- SAP gui development under way
- Feeds development in progress
- Testing dates assigned for mid-February
- Communication to community and stakeholders in progress
- Training scheduled for mid-March

Expected Completion Date - Web front-end registration and SAP gui registrar back-end on 3/29/04

IV. Client Support Services

Mission statement:
Client Support Services works in partnership with MIT faculty, students, and staff to maximize their effective use of IT services and technology in fulfillment of MIT's mission. The range of Client Support Services consists of departmental technical support, initial contact and problem resolution through help services, training, communication and consultative assistance to the community, software products, and client security preparedness and response.

Highlights from the 1st half of FY04:
Client Help:

- Help Services team (Help Desk, BLT, Athena-RCC, MCC, and PC-Service) handled over 26,000 cases. For telephone calls (15,188) answer rate was 88.3%. Clients using help consisted of approximately 58% of the Admin staff; 55% of the Faculty, and 32% of the Research staff. Data for student help is contained in another tracking system and is not available.
- Client satisfaction, as measured by weekly sample surveys of first contact services shows a rating of 4.54 (on a scale of 1 – 5) by 92% of the survey respondents
- Help Desk Benchmarking with Stanford University; MIT services and activities compare favorably.
- Hardware repairs: PC Service made almost 1,100 repairs to client machines and 300 pickups and deliveries for clients.

Departmental Help:

- Departmental IT Resources has 24 Service Level agreements with departments, deployed 428 desktop machines, 51 laptops, 34 printers and 9 servers to the community. With Administrative Computing and Help Services, began deployment of the Admin-IT program, providing preventative maintenance services to over 220 users.

Training/Pubs/Web:

- HR-SAP go live activities: training & documentation provided to support the roll-out to the community.
- Completed Phase II of the IS web site redesign that has re-oriented the web focus on IT services and help for the community
- Established Digitalk column in Tech Talk providing information on new IS&T services and programs
- Training courses were attended by almost 2.200 members of the community
- WCS / ATIC / Usability projects encompassed more than 80 projects in 45 different DLC's.
- Completed the transition of training in W89 from HR to IS&T for Jan. – June 2004. During this period, IT Training is limited by the availability of three technology enabled classrooms.

Software:

- Software releases: tested and released 13 products for Windows, MacIntosh, platforms to the community;
- Visits to web sites for software remained strong: over 1,000 visits by Linux platforms 9,000 by Macs, and 45,000 by Windows machines.
- Licensing negotiated with Google; Matlab tools addition; and other products including a current renegotiation for Microsoft Student Select Agreement, Mathematica, Acrobat, Dreamweaver.
- Process redesign work for Volume Software distribution, and transition of work to new leader.

Client Security:

- Responded to large scale network attacks / compromises: Blaster / SoBig, Nachi, and conducted a Security Camp for MIT and other institutions.
- Responded to MIT's first subpoena from the RIAA
- Stopit copyright complaint volume increased by almost 50% over the same period one year ago [149 complaints in first half of FY03; 222 complaints in same period FY04)

Overall in CSS:

- Academic year start-up: created an MIT software CD for core applications. Conducted "Getting Connected" sessions for the community – over three days, 600 clients attended
- Completed Customer Satisfaction Survey (collaboration with Stanford and NYU)
- New Unix / Linux user group formed; meetings with user group leaders; involvement in MIT / Apple partnership,

Projects-in-progress: title, one sentence objective, current status, expected completion date.

- Design, Development and deployment of Request Tracker as a help ticket tracking platform to replace Casetracker; licensing essentially completed, implementation summer 2004, on target.
- Implement new Help process model, utilizing stronger framework for Tier 1, Tier 2, and Tier 3 expertise and information flow, expected roll-out in Q3; on target
- Implement new walk in services center in N42, comprising MCC, PC-Service, walk-in software services, accounts, software distribution, implementation in summer 2004; on target
- Across CSS, develop new approaches and processes for serving the community, including improved outreach and communications. Increase outreach to the community; understand, share, and realize the client's perspective and goals. Status: underway, completion of first phase of outreach, March 2004; key client visits, security outreach; Service Level Agreement visits with business owners.
- Develop new space for IT hands-on training; expected completion June 2004.
- Complete process and work redesign for ongoing organizational effectiveness; in new organization model, new work designs for improved services and maximizing resources; status: underway, completion June 2004.
- Focus on improved software services and products; a special emphasis on Licensing (e.g. operating systems, Matlab), Browsers (Safari), and Email clients.; status: underway for some products; completion: varies with product.

Three key potential metrics to collect and review for on-going service activities in Client Support:

1. Client Satisfaction, including responsiveness, problem resolution, training, consulting, etc. Reduce number of cases requiring 6 or more days for resolution from 25% to 15%; reduce the call abandonment rate from 16% to 10%; reduce the number of open cases from 600 to 500.
2. Outreach - i.e. a measure of the contacts and collaborative work we engage
3. Staff activities - training / development for staff; any measure for staff satisfaction.

Key activities for the next six months:

- Request Tracker implementation project.
- Increase productivity for new software products and distribution to the community.
- Space changes for client support: Walk-in service center in N42; provision of IT training space within IS&T
- Outreach to key clients and improved communication, engagement, and collaborative involvement with clients.
- Implement new business processes, workflow and communication procedures.

Selected positive client comments:

- "The best customer support I've ever encountered (and so friendly, too!)"
- "VERY impressed with IS service improvements over the last 5 years; 2 years; 1 year. Obviously customer service is a priority."
- "The right people got the right information at the right time, and a timely change was made to remedy what I discovered. Well done!"
- "I was grateful to immediately get connected to a humanoid. He was extremely patient and solved my problem completely."
- "Great information presented in a way that was understandable by a non-technical person. Follow-up was very timely."

Selected client comments for CSS improvement in the next six months:

- "Since this was a case where I'd forgotten my new password, I'd hoped to resolve it with answers to a few specific questions no one else was likely to know. Instead, the answer was that I must physically go to N42 and talk with the person at User Accounts, showing my photo ID. . . . Maybe you can think of some way to allow us to get passwords on-line, like so many Web-based utilities?"
- "My choice of criteria doesn't look very sophisticated (7 times very satisfied), but indeed that's my opinion. There is only one thing I would propose to improve. After finishing I would have appreciated a list of things that were done (e.g. installed a new anti virus software, preferences are set as follows . . .)."
- "Your staff are very good and a pleasure to work with. They are always very patient and clear. Occasionally, however, I do wish I could just speak to the expert on a particular problem. This case had two topics: 1) double email receipts and 2) unable to connect by Tether. The first was resolved, the second still open. I do still want to fix whatever is wrong so I can use Tether when I need to. I'd like you to get back to me when you figure out what may be wrong." [problem since solved].
- "My reason for contacting you was because I found the instructions for DHCP registration for wireless laptops a little confusing / ambiguous. . . . Bottom line, perhaps the online help page could be reviewed. Thanks again for a great job."

V. Operations and Infrastructure

Mission Statement

Operations and Infrastructure Services provide the MIT community with the fundamental IT services such as network and network-based applications, service operations and data aggregation and administration to support the full range of academic, research and administrative activities The Operations and Infrastructure Services teams work collaboratively with all other IS&T teams to ensure the highest level of support and service to MIT's students, faculty and staff.

Completed Projects from the First Half of FY04

Data Warehousing and Administration Services Team

- Completed Data Warehouse support for MIT's SAP / HR implementation. The Data Warehouse team worked with the SAP / HR project team to develop appropriate data models and standards for incorporating HR information from SAP into the Data Warehouse. A variety of new BrioQuery reports were developed to support user reporting, and provide members of the MIT community with the tools needed to make the transition from Cyborg to SAP / HR a successfully.

- BrioQuery version 6 clients were made available to the MIT community as an upgrade from our existing BrioQuery version 5 clients, and to support the additional functionality needed for the SAP / HR reports.

Infrastructure Applications Team

- Implemented printing of registration forms, admissions applications and pension payroll checks using IBM's InfoPrint solution, replacing the bulk printing that used to be provided via the mainframe.

- Worked with CAO and Administrative Computing to develop a transition to an http based protocol for performing IXOS document retrievals, which were previously handled via SAP RFCs (Remote Function Calls) and had limited functionality.

Infrastructure Software Team

- Released Kerberos V5 version 1.3 as a major new version of the MIT Kerberos implementation with improved support for inter-operability with Microsoft's Kerberos implementation. This release also provided the foundation for a Kerberos for Windows release and Kerberos for Macintosh, shipped as part of the Mac OS X 10.3 operating system.

- Annual Athena release made available to the MIT community, upgrading operating environments to Solaris 9 and RedHat 9 with support for new hardware platforms from IBM and Sun.

- WIN.MIT.EDU version 4.0l was made available to the MIT community. This release provides improved functionality, hot fixes, OS support, application availability and web-based request forms to users of MIT's central WIN.MIT.EDU domain.

Network Manager

- Provided support to Athena User Accounts as they continue to migrate existing mailing lists from LISTERV into Mailman.

- Developed a Spam filtering solution for the Alumni e-mail forwarding service based upon the Spambayes Bayesian filter implementation. The Spam filtering solution provides greatly needed relief to users of the Alumni EFL service, and also improves service reliability as we will relay less spam to external mail system providers

- De-commissioned OC3 circuit (155Mb/s) to Level 3 communications, and consolidated onto a rate limited OC12 circuit (310Mb/s). This change also reduced our external connectivity costs by approximately $60,000.

Information Services Infrastructure and Maintenance Services

- Buildings NE47 and 68 were upgraded from Category 3 (limited to 10Mb/s) to category 6/6e cabling (allowing speeds up to 1Gb/s), providing approximately 1500 connections to MITnet. Building E40's wiring infrastructure was also upgraded during this timeframe from category 3 cabling supporting speeds of only 10Mb/s to category 5 cabling. [Category 5 Cabling, was all the CRSP renovation project for E40 was willing to pay for]

Strategies

- Completed negotiations with Level 3 communications re the Boston metro-fiber ring. This provides MIT and peer Universities with direct fiber connectivity between schools and key ISP locations throughout the Boston metropolitan area.

Network and Infrastructure Services Team

- Implemented a VPN service for the MIT community using Cisco's VPN concentrator 3030 products to provide secure remote access to MITnet services over any ISP. The service is currently in a pilot phase, and approximately 75 members of the MIT community are regularly using the service.

- Upgraded MIT's SpamAssassin installation to version 2.60 and implemented a site-wide Bayesian filter for users of MIT's central mail services. The Bayesian filter provides significant increase in the accuracy of Spam identification, and provides users a method for training the Bayesian filter, allowing for filter intelligence not available in previous technologies. The SpamAssassin upgrade and Bayesian filter have increased spam identification accuracy approximately 25%.

- Implemented a Citrix MetaFrame environment for key Administrative applications, which did not have migration paths from Mac OS 9 to Mac OS X. The MetaFrame environment provides users with a virtual Windows environment to operate the application from the Macintosh. The service currently has approximately 350 users from a variety of Departments, Labs and Centers on campus.

VM Systems Services Team and Data Center Operations Services Team

- Migrated TSM backup service from the MITVMA mainframe to a UNIX environment using Sun hardware and software. The migration of MIT's enterprise backup service off of the mainframe increases its performance and reliability, and better positions the Institute for the upcoming retirement of the mainframe.

- Completed the installation of a 150KVA UPS in E40-014 to provide MIT's offsite Data center with a power infrastructure capable of sustaining Institute IT assets in the event of a disaster.

- Upgraded the VM operating system on MITVMA/C from VM/ESA 2.4 to z/VM 4.3. This upgrade positions MIT's mainframe on an IBM supported release of the VM operating system, and reduces software support costs.

Server Operations Team

- Replaced two StorageTEK ATL (Automated Tape Library) model 9700s with two Sun L5500 ATL units. This acquisition provides up to 26.4 petabyes, and positions MIT's backup infrastructure for current capacity and future growth. [further information is available at http://www.sun.com/storage/tape/l5500/]

- Applied operating system patches to over 85 servers and over 80 Oracle databases in response to recent security vulnerabilities in both vendor operating systems and Oracle database software.

- Upgraded 22 Athena servers to Athena 9.2 and the Solaris 9 operating environment.

Projects-in-progress

- HR historical data
  - Combine Cyborg HR data (old HR system of record) with SAP/HR data in a single set of tables to allow historical reporting.
  - Current status: Waiting for completion of Cyborg data cleanup
  - Expected completion date: June 2004

- IXOS Imaging System
  - HR
    - I-9 employment eligibility verification form (I-9) from the Immigration and Naturalization Service (INS)
    - Status: Gathered requirements; researching implementation possibilities
    - Expected completion date: May 1, 2004 (proposed)
  - Desktop archiving
    - Status: Researching implementation
    - Expected completion date: April 1, 2004

- Kerberos V5 1.4 next major release
  - Includes multi-threading and performance improvements, incremental propagation
  - Status: on-schedule

  - Expected completion date: March 2005

- Network Security
  - Work with network operations, network security and client support services to establish an effective network security policy for MIT
  - Status: in progress
  - Expected completion date: middle of February 2004; Note: new expected completion April 2004

- Stata Center
  - Cabling building with category 6e cabling for IS&T voice and network service
  - Status: in progress
  - Expected completion date: March 2004

- Single mode fiber installation
  - Install single mode fiber to all buildings on the main and west campus
  - Status: in progress
  - Expected completion date: April 2004

- Upgrade MITnet backbone to 10Gb/s capacity
  - Working with Cisco and Enterasys to identify and acquire the appropriate technology and requirements to upgrade our existing infrastructure from 1Gb/s to 10Gb/s capacity
  - Status: on-schedule
  - Expected completion date: April 2004

- Upgrade TSM backup servers to version 5.2
  - Implement latest available release to fix miscellaneous bugs
  - Status: on-schedule
  - Expected completion date: March/April 2004

- Oracle hot backups
  - Implement hot backups (database is available) on 95% of databases installed under Solaris
  - Status: 85% complete 47/55 databases are in hot backup mode
  - Expected completion date: March 31, 2004

Potential Key Metrics for On-going Service

- Outages
  - Service availability %
  - Total service downtime
  - Mean time between failures
  - Mean time to recovery

- Casetracker
  - Number of reported and open software bugs from the user community
  - Average time to first response for client inquiries
  - Total resolved cases each month
  - Number of open inquiries

- Adoption of services by the MIT community
  - Number of users using our service offerings
  - Rate of adoption and acceptance of new service offerings
  - Comparing adoption of our services versus alternatives where our clients have a variety of options

New Initiatives for the Second Half of FY04

- HR/Payroll project support
- Projects to provide IXOS services to HR, Treasurer's Office and Coeus
- License new RedHat Enterprise Linux offering and deploy a local MIT proxy for the RedHat up-to-date service
- Explore external connectivity options utilizing the Boston metro fiber ring
- Develop a plan to provide Gigabit connectivity to the desktop
- Develop a proposal and request funding to install fiber between E19/24 and W92
- DHCP service re-design, simplification and re-implementation
- Review TSM backup cost model and pricing structure, move towards fully cost recovered business
- Review and reduce server maintenance costs
- Develop an overall plan for "computer center" space on campus; review capabilities of W91, W92, E40 and other locations

VI. Telephony and IS&T Shared Services

Telephony

Mission of Telephony Services

To provide robust, reliable and cost effective telephone services (voice, voice mail, conference calls, etc.) to the MIT community. Ongoing/recurring activities include maintenance, repair, and documentation of the telephone infrastructure including the 5E switch, handling customer requests for moves, adds, changes, repairs, as well as billing questions, scheduling the audio-bridge, and providing MIT directory assistance.

Completed projects July 1 – December 31, 2003

Implemented new billing rates, as well as new methodology for billing recurring network fees for research. Added new functionality to suspend IP address billing.
Incorporated Broad Institute into the billing system.
Decommissioned approx. 100 unused/outdated modems in the modem pool room.

Projects-in-progress

Cell Phone & Pager project –led project to define more cost effective cell phone relationships; recommendation made August 2003; contract negotiations about completed; implementation in upcoming quarter.

Carrier rebid – RFP distributed for local, long distance, international, calling cards, and student carrier services; responses being analyzed; recommendation to be reviewed with IS&T VP by 2/27; cost savings of at least $250K are anticipated.

NameConnector rollout – All faculty and staff names added to Nameconnector (Voice Recognition System) in December; client communications in January/February; if no significant concerns, NameConnector will be the default for callers to 253-1000 after Feb 13.
>950 Phones installed in Stata – planning well underway; to be completed in March.

Disaster recovery message notification - Director of Environment & Risk Mgt is looking to add functionality to do 'blast' voice communication in the event of an emergency.

Rectify incorrect bills from ATT for calling cards – ATT says they have corrected; now awaiting credit.

New initiatives

Provide audio bridge for the exclusive use of the MIT President Search, per their request. Install 48 port Forum Confer II bridge donated by LCS, to expand audio-bridge capability (and allow President Search exclusive use not to disrupt others.)

Make available a new analog phone for student dorms, to respond to student requests for increased functionality.

Upgrade 5ESS software to provide additional features.

Renew Lucent remote maintenance contracts (remote monitoring, local techs) to ensure minimum downtime in the event of an emergency.

Potential Key metrics

Processed over 4700 Service Orders (moves, adds, changes etc); responded to nearly 2000 Telephone Help Desk calls; redirected over 73,000 calls to the Operator (about 600 per working day); arranged nearly 1,000 audio-bridge conference calls.

22,383 lines in use

IS&T Shared Services

Mission of ITS Shared Services

To provide quality financial, site and human resources services to IS&T staff, particularly the IST Leadership Team. Ongoing financial services include preparation of quarterly forecasts, monitoring and reconciling expenses. Ongoing site and administrative services include site maintenance, scheduling meetings and trips, arranging events, coordinating office moves, receptionist. Ongoing human resources services include assistance with hiring, terminations (including layoffs), employee relations, staff development, and organizational design.

Completed projects July 1 – December 31, 2003

Completed FY03 financial closing on time

Projects-in-progress

Layoffs –layoffs representing ~20% of IS&T positions announced 1/20/2004; ongoing support of laid off employees, as well as administrative and logistical activities through 6/30/2004.

Revamp IS&T financial structure to align with new organizational model; expected completion: 7/1/2004.

Coordinate office moves due to IS&T layoffs and restructuring; complete by 6/30/2004.

Bldg emergency preparedness plans - develop plan, review with EHS, and post. Bldgs E19, N42, W20 complete; 10, W91, W92 awaiting EHS approval .

New initiatives

Skill development for new managers

Transitioning Finance and Site team; over 80% of 180 IS&T cost objects are changing FBC and / or FA; new model in place by 3 / 31 / 2004.

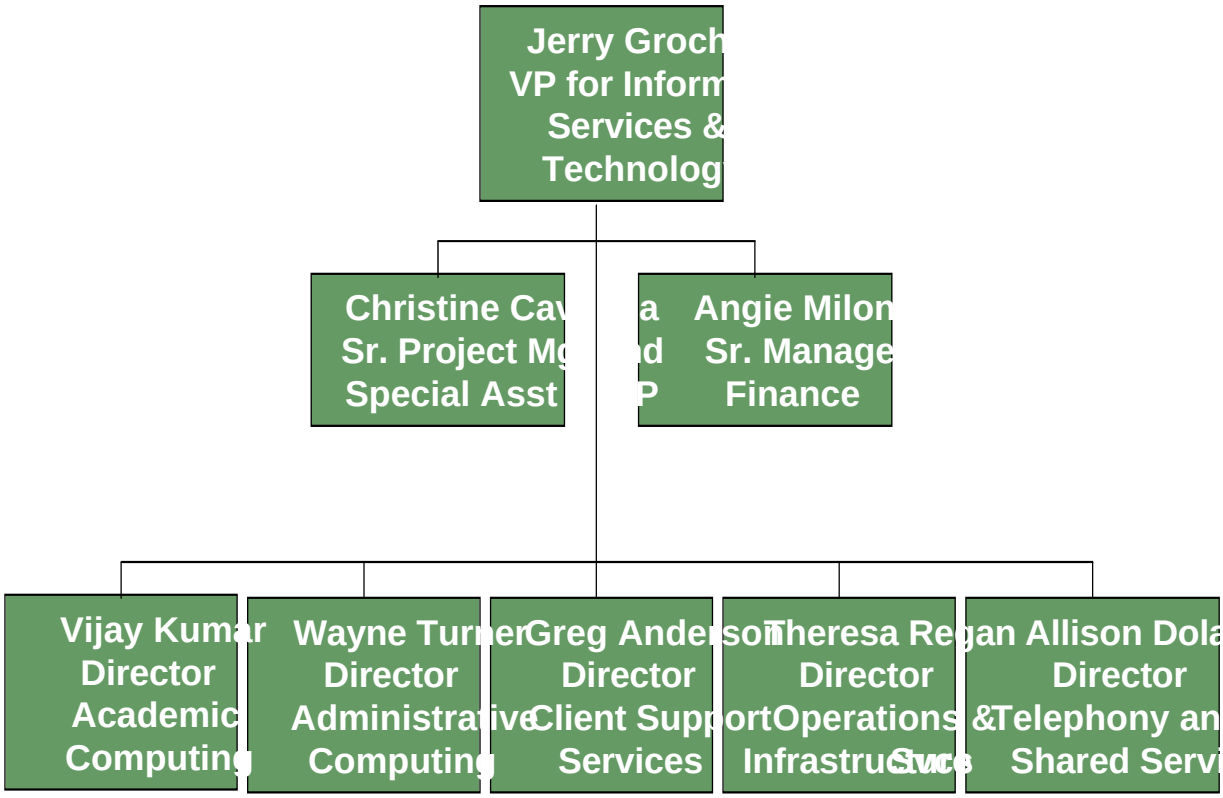
Reconfigure space in N42 to align with objectives of Client Support Services

Key metrics
Financial metrics provided in Financial report

Detail regarding number of hires, departures, staff diversity, average pay are readily available when needed.

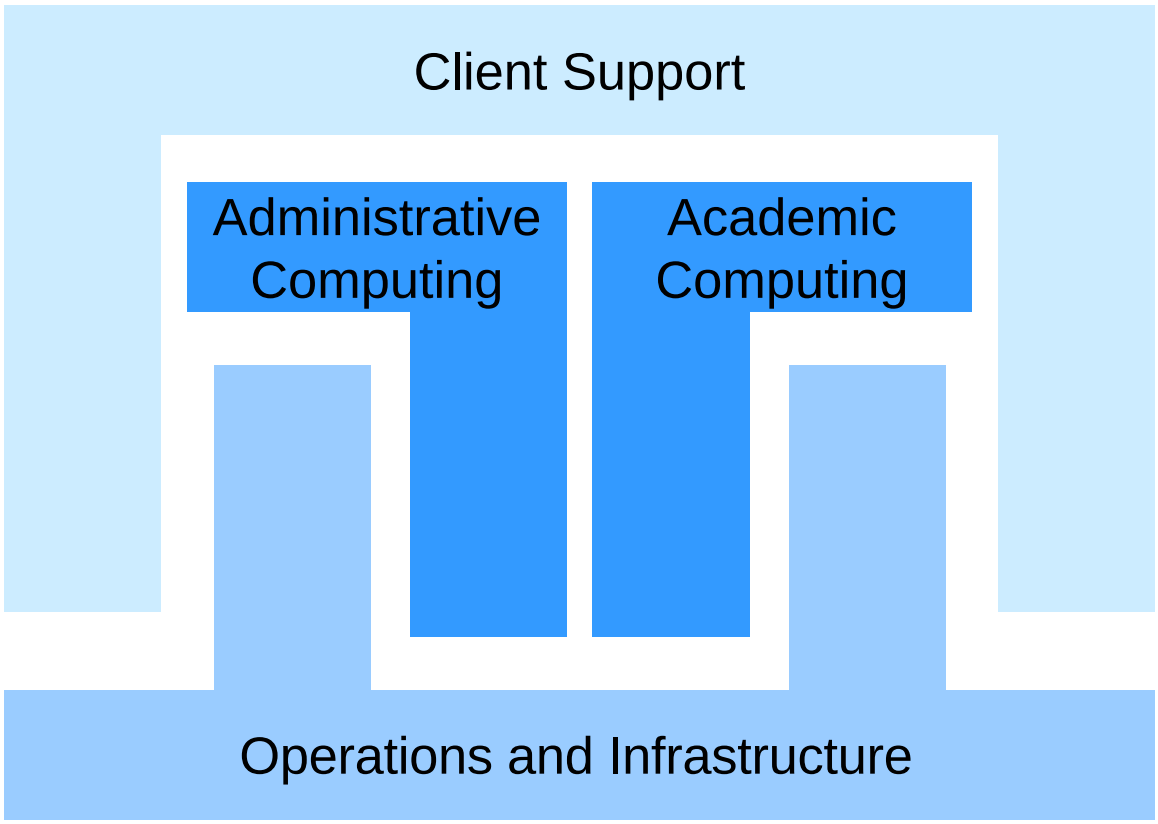
IV. Appendices

APPENDIX A: Organization Structure



APPENDIX B: Organizational Structure Concept

Information Services and Technology Services Structure



APPENDIX C: IS&T Quarterly Financial Report FY2004

Information Services and Technology Financial Report

Information Services & Technology
Quarterly Financial Report
Fiscal Year 2004 - Second Quarter

IS&T BASE GENERAL BUDGET

$ in thousands	Year to Date Actuals (July - Dec)	Remaining Projection (Jan - June)	Projected Year End Total	FY04 Annual Budget	Projected Year End Variance ($) (Bud-Act)	Projected Year End Variance (%) (Bud-Act)
REVENUE	($1,052)	($2,642)	($3,693)	($3,636)	$57	2%
EXPENSE TRANSFERS (OUT) / IN	($5,467)	($5,778)	($11,245)	($12,012)	($767)	-6%
EXPENSES						
Salary & Wages	$11,047	$11,080	$22,127	$22,627	$500	
Employee Benefits	$2,500	$2,510	$5,010	$5,100	$90	
Travel & Professional Develop	$159	$474	$633	$777	$144	
Materials & Services	$5,590	$7,235	$12,825	$12,467	($358)	
Equipment	$940	$2,734	$3,674	$3,768	$94	
Professional Services	$1,904	$2,245	$4,149	$4,589	$440	
Subtotal - All Expenses	$22,140	$26,278	$48,418	$49,328	$910	2%
NET TOTAL	$15,621	$17,858	$33,480	$33,680	$200	1%

TELEPHONE & NETWORK SERVICES CENTER (TNSC)

$ in thousands	Year to Date Actuals (July - Dec)	Remaining Projection (Jan - June)	Projected Year End Total	FY04 Annual Budget	Projected Year End Variance ($) (Bud-Act)	Projected Year End Variance (%) (Bud-Act)
REVENUE	($9,230)	($9,973)	($19,203)	($19,830)	($627)	-3%
EXPENSE TRANSFERS IN / (OUT)	$5,467	$5,745	$11,212	$11,916	$704	6%
EXPENSES						
Depreciation	$839	$4,640	$5,479	$5,398	($81)	
Interest	$214	$254	$468	$559	$91	
Subtotal - All Expenses	$1,053	$4,894	$5,947	$5,957	$10	0%
NET TOTAL	($2,710)	$666	($2,044)	($1,957)	$87	4%

Information Services and Technology Financial Report by Profit Center

Information Services & Technology
Quarterly Financial Report
Fiscal Year 2004 - Second Quarter

IS&T BASE GENERAL BUDGET

Profit Center	Year to Date Net Actuals (July - Dec)	Remaining Net Projection (Jan - June)	Projected Year-End Net Total	FY 2004 Annual Net Budget	Projected Net Year-End Variance ($)	Projected Net Year-End Variance (%
$ in thousands					(Bud-Act)	(Bud-Act)
Academic Computing	$2,911	$3,561	$6,472	$6,675	$203	3%
Adminstrative Computing	$4,177	$5,229	$9,406	$9,476	$70	1%
Operations & Infrastructu Services	$4,073	$3,826	$7,899	$8,244	$345	4%
Client Support Services	$1,822	$1,719	$3,541	$3,579	$38	1%
Telephony Services	$14	$23	$37	$41	$4	10%
IS&T Shared Services	$739	$881	$1,620	$1,669	$49	3%
Other (includes Special Projects)	$160	$849	$1,009	$335	($674)	-201%
VP for IS&T	$1,726	$1,770	$3,496	$3,661	$165	5%
IS&T BASE GENERA TOTAL	$15,622	$17,858	$33,480	$33,680	$200	1%

TELEPHONE & NETWORK SERVICES CENTER (TNSC)

Profit Center	Year to Date Net Actuals (July - Dec)	Remaining Net Projection (Jan - June)	Projected Year-End Net Total	FY 2004 Annual Net Budget	Projected Net Year-End Variance ($)	Projected Net Year-End Variance (%
$ in thousands					(Bud-Act)	(Bud-Act)
TNSC	($2,711)	$666	($2,045)	($1,957)	$88	4%
TNSC TOTAL	($2,711)	$666	($2,045)	($1,957)	$88	4%

Information Services and Technology Staff EFT Report by Profit Center

Information Services & Technology
FTE Summary Report
Fiscal Year 2004 - Second Quarter

IS&T BASE GENERAL BUDGET

Profit Center	Actual FTE Total as of July	Actual FTE Total as of Dec	Projected FTE Total at Year	Projected Year-End Variance (#)	Projected Year-End Variance
Academic Computing	26	25	18	(8)	-31%
Adminstrative Computing	66	63	53	(14)	-21%
Operations & Infrastructure	58	55	43	(15)	-25%
Client Support Services	74	71	60	(14)	-19%
IS&T Shared Services	23	20	17	(6)	-26%
Other (includes Special	3	0	0	(3)	-100%
VP for IS&T	10	10	7	(3)	-30%
IS&T BASE GENERAL TOTAL	260	244	198	(63)	-24%

TELEPHONE & NETWORK SERVICES CENTER (TNSC)

Profit Center	Actual FTE Total as of July	Actual FTE Total as of Dec	Projected FTE Total at Year	Projected Year-End Variance (#)	Projected Year-End Variance
Operations & Infrastructure	24	23	21	(3)	-14%
Client Support Services	12	12	13	1	4%
Telephony Services	19	19	17	(2)	-10%
IS&T Shared Services	6	6	4	(2)	-30%
Other (includes Special	1	1	0	(1)	-100%
VP for IS&T	2	1	0	(2)	-100%
TNSC TOTAL	64	62	55	(9)	-15%

IS&T GRAND TOTAL	325	306	252	(72)	-22%