Agenda and Outcomes

Agenda:
- IT Landscape at MIT
- Organizational Realignments
- FY08 Strategic Initiatives
- Featured Program: Telephony, Network, and Server Operations Services
- Q & A

Outcomes:
- Convey the IT strategic program value to faculty, students, and staff
- Obtain input from the community
Enable MIT’s core mission —

to advance knowledge and educate students in science, technology, and other areas of scholarship that will best serve the nation and the world in the 21st century —

by working with the Institute’s faculty, students, and staff to maximize the value of information technology to their work.
IT Landscape at MIT

Provost and Executive Vice President

IT-SPARCC
VP for Information Services & Technology

Community Advisory Committees with IT Interest
- AACII
- AIM
- ASPCC
- ISTAB
- ITAG
- IT Leaders
- IT Partners
- MITCET
- SAPbiz
- SSSC

IS&T

Lincoln

Media Lab
Medical
EECS
Libraries
HR
Sloan
Broad
### MIT IT Spending – FY2006

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research</td>
<td>$37 M</td>
</tr>
<tr>
<td>Teaching &amp; Learning</td>
<td>$20 M</td>
</tr>
<tr>
<td>Academic Departments</td>
<td>$31 M</td>
</tr>
<tr>
<td>Administration</td>
<td>$48 M</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>$136 M</strong></td>
</tr>
</tbody>
</table>

- **Research** 27%
- **Teaching & Learning** 15%
- **Academic** 23%
- **Admin** 35%

*Based on SAP data; Excludes Lincoln Lab*
# IS&T FY2007 Budget

<table>
<thead>
<tr>
<th>Service Type</th>
<th>Budget</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operational Support &amp; Service</td>
<td>$28 M</td>
</tr>
<tr>
<td>Maintenance &amp; Enhancement</td>
<td>$26 M</td>
</tr>
<tr>
<td>New Services &amp; Products</td>
<td>$14 M</td>
</tr>
<tr>
<td><strong>TOTAL GROSS EXPENSE BUDGET</strong></td>
<td><strong>$68 M</strong></td>
</tr>
<tr>
<td>Rate Recovered Costs</td>
<td>$25 M</td>
</tr>
</tbody>
</table>

**Definitions:**
- **Operations** = Performing a function in the course of carrying out or delivering IT services.
- **Maintenance** = Upgrading IT services or replacing IT equipment so that current functionality & purpose is maintained.
- **New Services** = Introducing IT services that do not exist or upgrading existing services so that new functionality is provided.
IS&T Core Service Groups

VP for Information Services & Technology

Relationship Management

Student & Admin. Information Systems

Client Support Services
  Don Montabana

Operations & Infrastructure Services

Infrastructure Software Develop. & Architecture
  Wilson D'Souza

Academic Computing Coordination

Athena Clusters

Stellar
Welcome to ACCORD

We wanted to bring this draft site up quickly to give members of the MIT community an overview of ACCORD and a way to contact us. Many of the content links in the navigation bar do not yet work. However, the mission page, list of events, and contact form are live.

ACCORD's mission is to ensure that all academic computing service providers on campus work together in a cohesive and transparent manner to provide faculty and students with seamless and responsive service in the academic computing domain. Further, it will initiate and monitor processes designed to foster the continuous improvement of these collaborative service arrangements. more...

ACCORD is a joint effort by the MIT Libraries, the Department of Undergraduate Education (DUE) and Information Services and Technology (IST).
IS&T Core Service Groups

VP for Information Services & Technology

Energy Initiative

Laxmi Rao

Relationship Management

Student & Admin. Information Systems

Client Support Services

Operations & Infrastructure Services

Infrastructure Software Develop. & Architecture
IS&T Core Service Groups

VP for Information Services & Technology

Relationship Management

Student & Admin. Information Systems

Client Support Services
  Don Montabana

Operations & Infrastructure Services
  Theresa Regan

Voice Technology Transition
  Elliot Eichen

Voice Services
  Cable TV Services
  Other IP Services

Telephony Customer Service

Infrastructure Software Develop. & Architecture
Transition to VoIP Technology
<“Coming Soon”>

- Share VoIP plan with various advisory committees build input into plan.
- Develop granular business and service requirements – Messaging (voice mail), E911, VoIP Features, Energy, etc.
- Provide Macro Cost / Benefit Analyses
- Platform Selection (open source & vendor)
- Detailed Roll-out Plan
- Plan for VoIP w/full project & implementation costs
- Platforms Installation
- Test & Integration
- Technical Training
- Support Plan/Process Development
- Provisioning & Test Systems
- Internal (IS&T) upgrade/deployments
- Voicemail Transition
- Begin Campus VoIP Transition

Community Forum
Spring 2007
IS&T Strategic Plan: Data Gathering

MIT Strategic Drivers

Community Input

Strategies & Goals for FY08

IS&T Staff Input
MIT Strategic Drivers

- Energy Initiative
- Convergence of Life Sciences and Engineering
- Integration of Student Living and Education
- Educational Commons
- Research Funding on Campus
- Internationalization
- New Campus Development
- Optimization of Financial Resources and Investments

transparency
IS&T Strategic Plan: Data Gathering

MIT Strategic
Drivers

Community Input

Technology
Areas of Focus
(next 2-5 years)

Strategies
&
Goals for FY08

IS&T Staff Input
Technology Areas of Focus (next 2-5 years)

- Data Centers
- Integrated Communications and Computation
- Identity Management
- Security and Privacy
- Content Services
- Administrative and eCommerce systems
- End User Computing
- Service Oriented Infrastructure Applications
- Open Source and Modular Software
IS&T Strategic Plan: Data Gathering

MIT Strategic Drivers

Community Input

Technology Areas of Focus (next 2-5 years)

IS&T SWOT Analysis

Benchmarking

Strategies & Goals for FY08

IS&T Staff Input
IS&T Strategic Objectives

- Be a trusted partner within the community
- Improve the IT user experience
- Provide high quality, ubiquitous IT services
- Improve the effectiveness and efficiency of the IT workforce
IS&T Strategic Objectives

- Be a trusted partner within the community
- Improve the IT user experience
- Provide high quality, ubiquitous IT services
- Improve the effectiveness and efficiency of the IT workforce
Be a trusted partner within the community

- Expand IS&T support of academic initiatives across MIT
- Support MIT’s Energy Initiative
- Support student living and learning initiatives
- Improve communications, collaboration, and relationships across the community
- Support international initiatives
- Promote “good governance”
Be a trusted partner within the community

- Expand IS&T support of academic initiatives across MIT
- Support MIT’s Energy Initiative
- Support student living and learning initiatives
- Improve communications, collaboration, and relationships across the community
- Support international initiatives
- Promote “good governance”
Be a trusted partner within the community:
Improve communications, collaboration, and relationships across the community

Community Outreach Initiatives

- Expand the Relationship Management program
  - Broad knowledge of your business
  - Awareness of IT trends and IS&T services; identify solutions
  - Continue engaging the 5 schools, EVP, Provost, Chancellor groups and all building construction planning projects

- Re-energize ISTAB (student technology advisory board)
  - Forum to provide feedback/ideas on services and support
  - Hear about changing IT needs and experiences
  - Help us to better serve students current and future IT needs

- Expand annual and targeted community forums
Improve the IT user experience

- Make it easier for the MIT community to get the services it needs
- Transform teaching, learning, research, and community by integrating communications and collaboration technologies
- Provide IT assistance in a more flexible and accommodating way
- Provide a shared content services platform for documents, web content, digital assets, and learning material
- Improve identity management
- Provide expanded assistance to the community for wide scale changes affecting their use of IT
Improve the IT user experience

- Make it easier for the MIT community to get the services it needs
- Transform teaching, learning, research, and community by integrating communications and collaboration technologies
- **Provide IT assistance in a more flexible and accommodating way**
- Provide a shared content services platform for documents, web content, digital assets, and learning material
- Improve identity management
- Provide expanded assistance to the community for wide scale changes affecting their use of IT
Remote Desktop Management Tools

- Implement Inventory and Remote Desktop Management tools
  - “Opt-in” service that enables more effective and efficient management of desktops
  - Update/patch applications without physical visit
  - Department reporting ability
  - AdminIT visits focused on what is needed – won’t interfere with your day
  - Interested DLCs can leverage collective licensing and run their own instance
  - Allows greater than a doubling of the program supported systems

Improve the IT user experience:
Provide IT assistance in a more flexible and accommodating way
Improve the IT user experience:
Provide IT assistance in a more flexible and accommodating way

Mobile Technologies

- Support integration of mobile and collaborative technologies into existing infrastructure and applications
  - Review of technologies to determine which platform(s) work well in the MIT environment
  - Streamlined interfaces and underlying infrastructure
  - Innovative approaches to communicating and working with the MIT community
- More Information:
  http://web.mit.edu/swrt/Mobile_Presentation.pdf
The Business Liaison Team (BLT)

- Re-establish the Business Liaison Team in FY08
  - Single point of contact for administrative applications (SAP, SAPweb, etc.) and business support services
  - Support a wide spectrum of business customer needs with expertise, responsiveness, and high availability including:
    - Financial transactions, journal vouchers, ECAT purchasing, etc.
    - Assisting with business software installations, printing, etc.
    - Supporting Primary Authorizers (with authorization requests and hierarchy maintenance in Roles and SAP)
IS&T Strategic Objectives

- Be a trusted partner within the community
- Improve the IT user experience
- Provide high quality, ubiquitous IT services
- Improve the effectiveness and efficiency of the IT workforce
Provide high quality, ubiquitous IT services

- Continuously improve MIT’s IT infrastructure
- Create a service oriented infrastructure and applications platform
- Ensure that MIT’s enterprise systems are sustainable
- Ensure disaster recovery and emergency preparedness
Provide high quality, ubiquitous IT services

- Continuously improve MIT’s IT infrastructure
- Create a service oriented infrastructure and applications platform
- **Ensure that MIT’s enterprise systems are sustainable**
- Ensure disaster recovery and emergency preparedness
Provide high quality, ubiquitous IT services: Ensure that MIT’s enterprise systems are sustainable

**Student System – MITSIS**

Rewrite existing student systems to current technology, mitigating operational risk

**Benefits**

- Long-term strategic positioning
- Improved reliability
- Fewer unplanned outages
- Community confidence
Next Generation Student System

Develop a Student System vision that will support the evolving needs of the MIT community and improve the student experience at MIT

**Increasing Client Expectation**
- Post-Internet Student Generation
- DUE Strategic Plan
- Educational Commons

**New Technologies**
- Portals
- Wikis
- Blogs
- Podcasts
- ...

**New Thinking**
- Student Centric

**State of Current System**
- Aging Technologies
- Spending on upgrades to stabilize and sustain
- Large backlog

**Modernize and Add Functions**
- Online Registration Tools
- Online Advising Tools
- Subject Evaluation
- Degree Road Maps
- Expanded Web Self Service
- Online Grades
- Financial Services
- Career Development
- Admissions
- Student Scheduling
- Subject Lotteries
- Academic Portfolio
- and more….

**Keeping Current**
- Ivy+ and others
Provide high quality, ubiquitous IT services: Ensure that MIT’s enterprise systems are sustainable

Forecasting and Modeling (“Business Intelligence”) Environment to assist department administrators, faculty, and principal investigators in managing funding

- ASPCC selected it as its highest priority for FY08
- Benefits
  - Stewardship of funding through what-if scenarios
  - Combine enterprise and local data for improved reporting
  - Focus on data analysis vs. mechanics of reporting
- Timeline
  - CSAIL and BROAD prototype – May/June 2006
  - Analysis and next steps
  - Project completion scheduled for January 2009
Improve the effectiveness and efficiency of the IT workforce

- Expand programs to develop our IT workforce
- Improve collaboration among IS&T and local IT departments
Improve effectiveness and efficiency of the IT workforce:
Expand programs to develop our IT workforce

- Improve methodologies and use
  - Project management
  - Decision making
  - Performance management

- Provide a variety of development opportunities
  - MIT Leader-to-Leader program
  - IT Leader program
  - Developmental assignments and projects
  - Internal and external programs

- Hire staff to complement current skill set
  - Cast a wider net for hiring
  - Refine recruiting process
Improve effectiveness and efficiency of the IT workforce: Improve collaboration among IS&T and local IT departments

- **Partnerships**
  - “Business Intelligence”
  - SloanSpace

- **Cross-campus organizations**
  - IT Leads
  - IT Partners
  - HR IT special interest group

- **Cross-org staff planning**
  - Student Financial Services

- **Participation in DLC leadership meetings**
  - DUE Office Heads

- **Knowledge sharing**
  - Vista Enterprise and Office 2007
  - Partner report cards
  - Lincoln Lab and IS&T – SAP
Featured Program:

Telephony, Network, and Server Operations Services
Key Points

- Positioning for the future through strategic planning for the Institute’s IT needs
- Responding to the changing face of technology
- Balancing continual re-invention and innovation challenges while providing IT services today and planning for tomorrow
- Awareness of planning and time investment
What does MIT’s money buy for Telephony and Network Services?

### Telephony Services
- MIT telephone infrastructure
- 5E switch
- Cable plant
- Traditional phones
- Voice mail
- Local, long distance, and international phone services
- MIT directory information
- Telephone operators
- NameConnector
- Audio conferencing
- Facilitating cell phone contract negotiations
- Improving campus cell phone reception

### Network Services
- MIT wired and wireless network infrastructure
- Routers
- Fiber / cable plant
- Upgrades and renovations
- MIT email services (including spam management, WebMail)
- MIT central web server
- Campus search engine
- Ability to connect to the MIT network remotely (e.g., Tether)
- Connectivity to external data networks
- Monthly subnet fee
- Security services
- Kerberos authentication

### Other IT Services
- Building new services/functionality, such as VLANS, IP Services: VoIP, IP TV
- Computing Help Desk, Telephone Help Desk and repairs
- Staff and systems for taking orders, tracking costs, billing
## What does MIT’s money buy for Telephony and Network Services?

### Telephony Services
- MIT telephone infrastructure
- 5E switch
- Cable plant
- Traditional phones
- Voice mail
- Local, long distance, and international phone services
- MIT directory information
- Telephone operators
- NameConnector
- Audio conferencing
- Facilitating cell phone contract negotiations
- Improving campus cell phone reception

### Network Services
- MIT wired and wireless network infrastructure
- Routers
- Fiber / cable plant
- Upgrades and renovations
- MIT email services (including spam management, WebMail)
- MIT central web server
- Campus search engine
- Ability to connect to the MIT network remotely (e.g., Tether)
- Connectivity to external data networks
- Monthly subnet fee
- Security services
- Kerberos authentication

### Other IT Services
- **Building new services/functionality, such as VLANS, IP Services: VoIP, IP TV**
- Computing Help Desk, Telephone Help Desk and repairs
- Staff and systems for taking orders, tracking costs, billing
Telephony & Network Services: Past, Present, and Future

- **2003**
  - Wireless build out

- **2004**
  - Create 10Gb/s backbone

- **2005**
  - Migration of services to IP (VoIP, IPTV)
  - Outdoor wireless & continued renewal (802.11n)

- **2006**
  - Local offsite recovery for web and email

- **2007**
  - Remote offsite recovery for critical services
  - Off Campus Living Groups Upgrades to 10/100

- **2008**
  - Create a 40Gb/s backbone
  - Off Campus Living Groups Upgrades to 1Gb

- **2009**
  - Improve network service to 25 buildings
  - Upgrade network svc to 30 bldgs & 12 dorms

**Total Costs**
- ~ $35M
- ~ $40-60M
Telecommunications and Data Communications Rooms

"poor" TDCRs within Buildings

June 2003       June 2007

1

0 50 100 150 200 250 300 350 400

1 2

1 2

Information Services & Technology
What is Server Operations?

- Provides system administration, application support, and database services for enterprise services
  - SAP, Data Warehouse, Admissions
- Maintains and supports MIT’s academic computing infrastructure
  - Stellar, Andrew File System (AFS), Geographic Information Systems (GIS)
- Provides “co-location” services to DLCs, including the growing research community
- Provides enterprise backup services to the general MIT community through Tivoli Storage Manager (TSM)
What does MIT’s money buy for Server Operations Services?

Server Operations
- Houses servers and related equipment
- Environmentally secure location
- Provides rack space, power, cooling, and network connectivity
- 3200 sq. ft. supporting up to 40 racks and additional space in W20 and E40

Server Operations Stats
- IS&T teams
- 15 departments
- 425 billable servers
- 90 TB EMC SAN storage
  (45 TB/CX - 45 TB/DMX)

Co-location Services
- Houses servers and related equipment
- Environmentally secure location
- Provides rack space, power, cooling, and network connectivity
- Co-location basic service
- Co-location standard service
- 3300 sq. ft. supporting up to 80 racks

Co-location Services Stats
- 37 departments
- 121 total servers
- 5 HPC installations
- 9 HPC racks
- 15 non-HPC racks
<table>
<thead>
<tr>
<th>Cost</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
<th>2009</th>
</tr>
</thead>
<tbody>
<tr>
<td>$2M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building 24: Tier II facility ensuring power &amp; cooling redundancy, uptime for 24 x 7 facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$2M</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building W92: Tier II facility, NSTAR power, uptime for 24 x 7 facility</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$5M+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Building W91: 300kVA non-UPS Power, Cooling Infrastructure, MITnet upgrade</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>$1M+</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 Sites: Long Term Off-Campus Business Continuity/Disaster Recovery Solution</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- MITnet backbone, Email, EFL, TechTime
- Email, Web, MITnet
- Enterprise-wide applications, Co-location

Proposal/Advocacy → ECRSP Submission → Design → Build
Building W91-130: Collocation Services (in transition)
IBM 3420’s installed in April 1983 retired on Sept. 2006
Building W91: January 2007
Building W91: January 2007
Building 24: August 2005
Building 24: January 2007
W92-130: July 2005
Telephony & Network Challenges

- **Network Wiring**
  - Complete campus wide upgrades
  - Ensure ease to remain current

- **Telephony and Data Communications Rooms**
  - Complete the identification and reassignments
  - Ensure optimal locations, conditions, etc.

- **Computer Space**
  - Building W91 for Co-location Service
  - Balance solutions on-campus, off-campus, leased space

- **Computer Power and Cooling**
  - More computing capability = more power = more cooling
  - Particularly for research computing!

- **Radio Wave / Cell Phone Issues**
Key Points

- Positioning for the future through strategic planning for the Institute’s IT needs
- Responding to the changing face of technology
- Balancing continual re-invention and innovation challenges while providing IT services today and planning for tomorrow
- Awareness of planning and time investment
IS&T Strategic Objectives

- Be a trusted partner within the community
- Improve the IT user experience
- Provide high quality, ubiquitous IT services
- Improve the effectiveness and efficiency of the IT workforce
Daylight Savings Time Change

- Daylight Saving Time (DST) will begin **March 11** and end **November 4**
- Changes are automatically made for staff running a **current Operating System** and who subscribe to an **Auto Update** service
  - More Information on auto update services:
    - [http://web.mit.edu/ist/topics/windows/updates/](http://web.mit.edu/ist/topics/windows/updates/)
    - [http://web.mit.edu/ist/topics/linux/rhn.html](http://web.mit.edu/ist/topics/linux/rhn.html)

- **TechTime Users:**
  - Snapshot of your TechTime Calendar as it was prior to the update is available at [http://calendar-too.mit.edu](http://calendar-too.mit.edu)
  - Cross-check your online calendar to snapshot

- More information on DST changes:
  - [http://web.mit.edu/ist/topics/os/dst.html](http://web.mit.edu/ist/topics/os/dst.html)
Thank you for participating!