Massachusetts Institute of Technology

IS&T Transformation Strategy: Enabling the 2020 Vision for IT@MIT

IS&T “All-Hands” Meeting
February 11, 2015
Agenda

■ Welcome
■ What this is (and is not)
■ Our truly amazing opportunity
■ My expectations of you
■ Transformation plan (structure, processes & infrastructure)
■ Organizational agility
■ Q&A
■ Transition and change management plans & timelines
■ Q&A
Future of IT at MIT

Over the next two weeks, we will communicate IS&T’s transformed organization structure.

1. Individual meetings (Feb 12–13)
2. Team meetings (Feb 17-18)
3. Group meetings to review the full organization chart and answer questions (Feb 19)

<table>
<thead>
<tr>
<th>February 9</th>
<th>10</th>
<th>11</th>
<th>12</th>
<th>13</th>
</tr>
</thead>
<tbody>
<tr>
<td>Snow Day</td>
<td>Snow Day</td>
<td>All Hands Meeting</td>
<td>Individual Meetings</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>February 16</th>
<th>17</th>
<th>18</th>
<th>19</th>
<th>20</th>
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</thead>
<tbody>
<tr>
<td>Holiday</td>
<td>Team Meetings</td>
<td>Org Chart Available</td>
<td>Group Meetings: Emerging, Enabling, Planning &amp; Admin</td>
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</tbody>
</table>
A Refreshing Departure from Past Experiences

■ We scored BIG with our transformation PoCs
  – Sr leaders & stakeholders like what they saw – and have pledged their support
■ They understand that this is NOT a typical “reorg” – it’s a transformation
■ It’s also NOT about downsizing, layoffs, or budget reductions
  – Everyone is needed, and everyone will have opportunities to play important roles
■ It’s a strategic multi-dimensional transformation – a transformation involving urgently needed transitions to:
  – An agile-oriented structure;
  – Agile-oriented processes & methodologies;
  – Agile-oriented architectures & infrastructure; and
  – Agile-oriented mindsets & behaviors
■ Simply put, it’s about taking IS&T systems & services to the “next level” – a 10x leap forward
We are Positioned Well to Seize this Truly Amazing Opportunity

We have an opportunity to make a 10X difference in the value delivered by IT@MIT

IS&T’s Talented Staff

Leadership Team (Rafael, Marty, Israel, & Tony)

Strategic Initiatives (Innovation, Learning, Energy, etc)

Financial Health (Investments in Facilities & Infrastructure)

Maturity of Enabling Technologies (Cloud, Agile, DevOps, etc)

If we handle this right, we will be creating an entirely new agile-oriented operating model for IT@MIT – an innovation in the delivery of IT services for research institutions – and a transformation which everyone will be deeply proud to have been part of.
My Expectations for all IS&T Staff:

■ Your head & heart will be “all in”
■ You will help champion the transformation & strategic urgency
■ You will be willing to embrace agile-oriented mindsets & behaviors
■ You will become fully-engaged in helping to realize the 2020 vision for IT@MIT

What You Can Expect from Me:

■ My head & heart will be “all in”
■ I will champion the transformation & strategic urgency – expanding buy-in and support from key stakeholders at all levels throughout the Institute
■ I will strive to anticipate & breakdown barriers that might hinder our progress
■ I will give you my full support as you embrace the transformation
The IT Context has Changed
The Pace of Change Seemed Somewhat Linear in the Past – but its Exponential Nature is Now Clearly Apparent

We typically optimized for:
• Performance
• Reliability
• Cost

But, now we must first optimize for:
• Time to market
• Rapid changes
• User experience

In order to keep pace, we must transition to an agile-oriented structure, agile-oriented processes & methodologies, and agile-oriented architectures & infrastructure
Planning Process
Assessment of Institute’s Needs: Drove convergence on a vision, guiding principles, target architecture, new operating model, new capabilities model, & new org structure

Assessment 2009
Assessment 2011
Advisory Council Final Report August 2012

Org Structure
Capabilities Model
Operating Model

Target Architecture

Guiding Principles for IT

2020 Vision for IT@MIT*

* IS&T portion needs to be fully in-place NLT 2017

New Infrastructure
- High Velocity Innovation
- Adaptable for Rapid Changes
- Easy Access to Data for Decision Making
- Open & Extendable Architecture to Meet Differentiated Needs
- APIs, Cloud & Integration Platforms

New Processes
- Transformative Digital Service Models
- Engaging User Experiences
- Mobile & Context Aware Approaches
- Lifecycle Portfolio Models

Up-skilled People
- Agile Methodologies
- Automated Deployment Methodologies
- Social Coding Methodologies

Excellence through modernization; and a strategic focus on enabling innovation
New Operating Model
New Operating Model

**Enabling Services**
- Cloud & API-centric Architectures
- Open & Extendable Platforms
- DevOps Culture**
- Data & Code Repositories

Handoff to Enabling Services frees-up the Emerging Solutions team to focus on next round of innovation

**Emerging Solutions**
- Work with Innovation Teams*
- Fast Track Agile Methodologies
- Focus on User Experiences
- Leverage Platforms

* Cross-functional innovation teams
** Rapid deployment-at-scale

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- **Deploy (Invest Resources)**
  - Deploy-at-Scale, Grow, Replace, or Modernize
  - SUN Modernization Funds, Infrastructure Modernization Funds, or TNSC Funds

- **Innovate (Invest Resources)**
  - IT Modernization Funds, Infrastructure Modernization Funds, or TNSC Funds
  - GIB Funding, or Deferred Maintenance Funds

- **Run, Maintain, or Optimize**
  - Run, Maintain, or Optimize
  - GIB Funding

- **Manage (Seek Efficiencies)**
  - Manage (Seek Efficiencies)
  - GIB Funding, or Deferred Maintenance Funds

- **Retire (Reallocate)**
  - Retire (Reallocate)
  - Software Development Funds

- **Discovery, Pilot, or Sandbox**
  - Discovery, Pilot, or Sandbox

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* Cross-functional innovation teams
** Rapid deployment-at-scale
**Required Capabilities for IS&T:** Support the work of innovation teams, enable rapid deployment of new services, and drive operational excellence across all systems and services.
Transforming IS&T Team Structures
Current IS&T Organization: Divided into 7 groups with 37 teams

- John Charles
  VP of IS&T
- Bart Dahlstrom
  Administrative Systems
  - Project Management
  - User Experience Program
  - Enterprise Architect
  - Fin, EHS, Sourcing, Facilities
  - HR-Payroll
  - SAP Administration
  - Tech Services
- Eamon Kearns
  Education Systems
  - Project Management
  - Business Systems Analysis
  - Software Dev and Ops
- Mary Weisse
  Data Management
  - Project Management
  - Data Admin and Warehousing
  - Database Administration
  - Business Intelligence
  - Learning Mgmt Apps and Services
- Steve Buckley
  Systems Engineering
  - Project Management
  - Quality Assurance
  - DCAD
  - Training
  - Kerberos
  - Software Release Mgmt
  - Mobile Platform
- Barbara Goguen
  Customer Support
  - Project Management
  - Flexible Staffing & Training
  - Usability and Accessibility
  - Faculty and Student Experience
  - Help Desk
- Mark Sils
  Operations and Infrastructure
  - Project Management
  - Operations/Program Mgmt
  - Network Security and Security Ops
  - Program Management
  - Server and Systems Admin
  - DITR
  - Network Installation and Projects
- Diana Hughes
  Administration
  - Finance
  - Human Resources
  - Site Team
New IS&T Organization Structure: Consolidated into 3 “capability” groupings with 14 teams
### Agility-Oriented Operating Model: Designed for Speed – Strategic Urgency

<table>
<thead>
<tr>
<th>Area</th>
<th>Mission</th>
<th>Principles</th>
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<tbody>
<tr>
<td>Emerging Solutions</td>
<td><strong>Mission</strong> - Collaboration with innovation teams to create new services</td>
<td>Rapid iterative-experimentation is a built-in principle, along with agile methodologies &amp; platform-thinking</td>
</tr>
<tr>
<td>Enabling Services</td>
<td><strong>Mission</strong> - Rapid deployment of new services, operational excellence, and enabling &amp; nurturing the IT@MIT ecosystem</td>
<td>Platform-thinking is a built-in principle, along with DevOps, agile methodologies, open &amp; extendable API-centric architectures</td>
</tr>
<tr>
<td>Planning &amp; Administration</td>
<td><strong>Mission</strong> - Project &amp; portfolio management support, vendor management, staffing &amp; financial planning</td>
<td>Fostering agility-oriented approaches, programs &amp; practices is a built-in principle</td>
</tr>
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</table>
New IS&T Organization Structure: Consolidated into 3 “capability” groupings with 14 teams
“Bridging” Strategy for Managing Risks & Workloads
### “Bridging” Strategy

<table>
<thead>
<tr>
<th>Risk Descriptions</th>
<th>Mitigation Strategy</th>
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</thead>
<tbody>
<tr>
<td><strong>Capability Risks</strong></td>
<td>• Provide flexible &amp; comprehensive training and professional development activities</td>
</tr>
<tr>
<td>• Competency gaps</td>
<td>• Recruit appropriately skilled &amp; experienced talent to fill staff vacancies</td>
</tr>
<tr>
<td>• Capacity shortfalls</td>
<td>• Use consultants (&amp; temp help) to fill near-term competency &amp; capacity shortfalls</td>
</tr>
<tr>
<td>• Velocity challenges</td>
<td></td>
</tr>
<tr>
<td><strong>Operational Risks</strong></td>
<td>• Staff-up to backfill staff for transformation tasks</td>
</tr>
<tr>
<td>• Service interruptions</td>
<td>• while pressing forward with approved roadmaps and steady-state operations</td>
</tr>
<tr>
<td>• Conflicts with previous commitments</td>
<td>• Leverage ITGC processes to affect retirement of legacy infrastructure</td>
</tr>
<tr>
<td>• Persistent use of aging &amp; duplicative infrastructure</td>
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Transformation Roadmap
Transformation Milestones

Responsiveness of IS&T and IT@MIT (Success Stories)

Key Performance Indicators (KPIs):
- IT service provider & consumer satisfaction ratings
- Percentage of systems converted to cloud architectures
- Velocity trends for transformed software development teams
- Talent retention & recruitment trends
- Annual cost study trends
- Code sharing & reuse trends

Time

FY 2015

- Up-skilling, Retooling, & Restructuring
  - Org structure that facilitates the transformation
  - Change management in place
  - Staff with foundational skills to support the new operating model

FY 2016

- Innovation Platforms & Connectors In Place
  - The fast-track Emerging Solutions group is handling all new innovation & modernization projects
  - Safe, secure, & easy access to Institute data

FY 2017

- Portfolio of Enabling Services Available
  - Mature services that enable IS&T, DLCs and admin units to quickly & easily build new solutions
  - Ubiquitous access to enabling services, including next-gen collaboration services and robust self-service capabilities

FY 2018

- Core Business Systems Modernized
  - Transformed business systems that offer best-of-breed functionality, as well as intuitive and engaging experiences
  - Well-integrated and easily updateable administrative business processes

FY 2019

- Mature IT@MIT Ecosystem
  - Flexible environment that enables high velocity innovation
  - Faculty, researchers, students, and IT staff engaged in creating, sharing and reusing solutions & code
  - Mature governance structure and processes

Significantly Enhanced Support for High Velocity Innovation
Importance of Organizational Agility
Fostering Agility-Oriented Mindsets & Behaviors

We need each individual to fully embrace the Vision, Guiding Principles, and KPIs – thereby aligning everyone’s efforts along the same vector of thrust – and making it safe and powerfully productive & rewarding for each individual to:

**Be Proactive**
- **Initiate** – Actively search for opportunities to contribute to organizational success and take the lead in pursuing those that appear promising
- **Improvise** – Devise and implement new and creative approaches to pursuing opportunities and dealing with challenges

**Be Adaptive**
- **Assume multiple roles** – Perform in multiple capacities across levels, projects, and organizational boundaries (often simultaneously)
- **Redeploy rapidly** – Move quickly from role to role
- **Spontaneously collaborate** – Engage often and easily with others with a singular focus on task accomplishment

**Grow & Share**
- **Learn** – Continuously pursue the attainment of proficiency in multiple competency areas (eschewing overspecialization and complacency)
- **Educate** – Actively participate in the sharing of information and knowledge throughout IS&T, as well as with our partners and collaborators
We have an opportunity to make a 10X difference in the value delivered by IT@MIT. If we handle this right, we will be creating an entirely new agile-oriented operating model for IT@MIT – an innovation in the delivery of IT services for research institutions – and a transformation which everyone will be deeply proud to have been part of.
My Expectations for all IS&T Staff:

Are you willing to help make this transformation a resounding success for IS&T and IT@MIT?

If “yes”:

✓ Your head & heart will need to be “all in”
✓ You will need to help champion the transformation & strategic urgency
✓ You will need to be willing to embrace agile-oriented mindsets & behaviors
✓ You will need to become fully-engaged in helping to realize the 2020 vision for IT@MIT

I’m looking forward to working with all of you to transform IS&T and the future of IT@MIT.
Thank You. Questions?
Overview of Transition and Change Management Plans & Timelines
IS&T senior leadership has several key activities planned and underway to support you during this transition period.

These activities relate to:

– Developing new and revised position descriptions with industry leading titles
– Aligning current staff to the new IS&T organization
– Planning for change and communications to keep you informed
– Preparing for transition to the transformed organization
– Identifying training and professional development activities
– Planning to recruit additional staff where we have vacancies
Over the next month we will be transitioning staff to the new organizational model. All staff will have a role in the new organization.

- In the coming days and weeks you can expect:
  - Meetings to discuss changes to roles (this week and next week)
  - Group meetings to discuss how the new organization will work (next week)
  - Access to the new IS&T org chart (next week)
  - Working with new managers and teams to establish new ways of working
  - Establishing a Change Management Team to help plan for the transition of responsibilities (next month +)
As part of the transformation effort, an IS&T Change Management team has been put in place.

- The Change Management team members are:
  - Staff in the organization who will help **drive change and a new culture**
  - Subject matter experts to represent the **specific needs of team(s)** within IS&T
  - **Liaisons to key stakeholders** in the MIT community
  - **Coaches and guides** to our IS&T colleagues
  - Ambassadors and a **positive voice** for this change throughout IS&T and MIT
The Change Management Team has certain roles and responsibilities during the transition.

- Their roles/responsibilities are to:
  1. Review proposed changes to ensure there are no significant gaps
  2. Assist IS&T leadership with communications related to upcoming organizational changes
  3. Help staff with their transition to new roles and responsibilities (where appropriate)
  4. Ensure operational integrity of current IS&T efforts underway during the transition period

<table>
<thead>
<tr>
<th>Emerging Solutions</th>
<th>Enabling Services</th>
<th>Planning &amp; Administration</th>
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<tbody>
<tr>
<td>Eamon Kearns</td>
<td>Mark Silis</td>
<td>Diana Hughes</td>
</tr>
<tr>
<td>Chris Giles</td>
<td>Sherene Aram</td>
<td>Sharon Clarke</td>
</tr>
<tr>
<td>Derek Jaeger</td>
<td>Marco Gomes</td>
<td>Amy Parker</td>
</tr>
<tr>
<td>Stephen Turner</td>
<td>Myra Hope Eskridge</td>
<td>Douglas Walsh</td>
</tr>
<tr>
<td>Hao Wen</td>
<td>David LaPorte</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Patricia Sheppard</td>
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<tr>
<td></td>
<td>Taeminn Song</td>
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<td></td>
<td>Oliver Thomas</td>
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<td></td>
<td>Garry Zacheiss</td>
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Additionally, as part of the transformation effort, new IS&T position descriptions have been developed. New positions include:

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</thead>
<tbody>
<tr>
<td>Big Data Engineer</td>
<td>IT Service Provider and Consumer Support Engineer</td>
<td>Project Manager</td>
</tr>
<tr>
<td>Business Systems Analyst</td>
<td>BI Analyst</td>
<td>Social Communications Specialist</td>
</tr>
<tr>
<td>Data Scientist</td>
<td>BI Engineer</td>
<td>Vendor and Sourcing Specialist</td>
</tr>
<tr>
<td>DevOps Engineer</td>
<td>Business Continuity Specialist</td>
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<tr>
<td>Designer</td>
<td>Business Relationship Manager</td>
<td></td>
</tr>
<tr>
<td>UX Specialist</td>
<td>Business Systems Analyst</td>
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<td></td>
<td>Architecture</td>
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<tr>
<td></td>
<td>IT Risk &amp; Security Specialist</td>
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| sdil & Administration              | SDI Data Center Engineer                                  |                                            |
|                                     | SDI Network Engineer                                      |                                            |
|                                     | Technology Consultant                                     |                                            |
|                                     | Database Administrator                                    |                                            |
|                                     | DevOps Engineer                                           |                                            |
|                                     | Infrastructure Coordinator                                |                                            |
New IS&T position descriptions will be aligned in the following way across the organization.
Over the next few weeks, the Change Management Team will be working with staff on a variety of transition related activities.

**High Level Timeline**

<table>
<thead>
<tr>
<th>Week of Feb 9</th>
<th>Week of Feb 16</th>
<th>Week of Feb 23</th>
<th>Week of March 2</th>
<th>Week of March 9</th>
<th>Week of March 16</th>
</tr>
</thead>
</table>
| • All Hands meeting | • Team meetings  
• Individual meetings | Transfer of Responsibilities | Ramp up New Responsibilities | Identify Learning and Development Opportunities | • Transition period ends March 19  
• Go-live with organization 1.0 |
| | | | | | |

- **Ongoing communication and collaboration with IS&T staff**
- **Change Management Team Support, Outreach, Open House Sessions**
This transformation is a huge opportunity for all IS&T staff to learn and grow.

- **Our Key Activities in this period:**
  - Individual meetings to discuss changes to roles *(this week)*
  - Team meetings to discuss changes to roles *(next week)*
  - Group meetings to discuss how the new organization will work *(next week)*
  - Change Management Team meetings to plan for the transition of responsibilities *(next month +)*
  - Identification of training and development needs *(next month +)*

- **Definition of Success during this period:**
  - Smooth operations during transition – nothing dropped between the cracks!
  - Responsibilities are clearly understood (even if not everything is transitioned)
  - Shared excitement about the opportunity and challenges ahead
Questions?