Connecting the IT Dots

December 7, 2016
Gutman Conference Center
Harvard Cloud

Jason Snyder and Erica Bradshaw
Agenda

- Why cloud?
- A new vision
- New services and offerings
- How we’ll get there
- Timeline
- Next steps
Current State

Expensive

- High fixed costs, decreasing datacenter revenue, and non-competitive rates create financial pressure.

Non-standardized

- Too many IT solutions, tools and vendors, make it hard to integrate, secure, and operate our applications.

Vulnerable

- Lack of disaster recovery for critical applications and the close proximity of our network core create operating risk.
Why Cloud?

**Cost Effective**
- High fixed costs, decreasing datacenter revenue, and non-competitive rates create financial pressure.
- Close the data center
- Migrate to the Cloud

**Standardized**
- Too many IT solutions, tools and vendors, makes it hard to integrate, secure, and operate our applications.
- Create application patterns & standards
- Offer new services

**Resilient**
- Lack of disaster recovery for critical applications and the close proximity of our network core create operating risk.
- Implement Cloud DR capabilities
- Relocate the network core
Cloud is Already Happening

HUIT Cloud Program

~200 Applications Migrated

Implemented Cloud Shield

PeopleSoft and Oracle Financials in the cloud application by end of FY17

University

SaaS is everywhere: SalesForce, ServiceNow, Canvas

Office365 and my.harvard are in the Cloud

Departments and schools are expressing interest in migrating their data centers (UHS, HMS)
# A New Vision

**Enterprise Cloud Program**

To make it easy for the Harvard Community to realize the **transformative benefits of the Cloud** through **enabling adoption** and **providing common services** that are secure, cost-effective, and reliable

<table>
<thead>
<tr>
<th>Strategic Objectives</th>
<th>Guiding Principles</th>
<th>Key Performance Indicators</th>
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<tbody>
<tr>
<td>• <strong>Create a coherent University cloud presence</strong> by using standard architectures, common contracts, and providing expert direction</td>
<td>• We prefer to buy or broker cloud solutions over building our own.</td>
<td>• Reduction in number of disparate IT cloud solutions</td>
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<tr>
<td>• <strong>Improve IT service delivery</strong> by providing new cloud based services that deliver security and value to the University</td>
<td>• We will provide the opportunity to adopt innovative cloud solutions supported by the best positioned School</td>
<td>• % reduction in the number of security findings in annual IT audits</td>
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<td>• <strong>Reduce costs</strong> by closing expensive on premise data center and lowering the cost per unit of compute</td>
<td>• We will assess University-wide viability and ascertain clear value for any centralized service prior to implementation efforts</td>
<td>• % increase in the uptime of critical IT services during upgrades, crisis, or maintenance</td>
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<td>• We will actively seek out cost reduction and optimization solutions</td>
<td>• Reduction in service costs over on premise deployed solutions</td>
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<td>• We will manage vendor lock-in and ensure safeguards are in place to prevent unnecessary risk</td>
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## New Services and Offerings

### CURRENT

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<th>IT Provider Services</th>
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<tr>
<td>Server Administration (REMOVE)</td>
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<td>Web Hosting</td>
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### FUTURE SERVICES

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### FUTURE SERVICE OFFERINGS

**Cloud Services**

- **Cloud Foundations Bundle**  
  *(HarvardKey, Cloud Shield, IP, Direct Connect, Integration)*
- **Cost Engineering and Monitoring**
- **Hosting**  
  *(Embedded DevOps)*
- **Consulting**
Two-step Migration Strategy

Today:
Implement “Cloud First”

Step 1:
Migrate and Consolidate

Step 2:
Optimize and Automate

HUIT Cloud Program Team

Application Teams
**Timeline**

- **Accelerate**
  - Form planning workgroups
  - Contract external consulting expertise to assist with migrations
  - Develop automation patterns for reuse and standardization

- **FY17**
  - Pilot embedded DevOps and capture lessons learned
  - Aggressively remediate and migrate applications

- **FY17 Migrate**
  - Launch mandatory foundation services
  - Continue the launch of new services and financial models

- **FY18**
  - Close 60 Oxford St data center
  - Relocate network core and on-prem systems
  - Optimize applications

- **FY19 Relocate**
Next Steps

Executive Committee
Co-Chair: Anne Margulies
Co-Chair: Jason Snyder
Members: Workgroup Chairs, Jason Shaffner, Mike Milligan, Mitch Rogers, Ellen Gulanchenski

Project Coordination Team
Erica Bradshaw, Hellen Zziwa, Xenia Parker, Melissa Lucius, Juliana DiLuca, Matt Mazer
Agile Coach: Tamara Larsen

Workgroups

Cloud Services
Co-Chair: Erica Bradshaw (Cloud Program Director)
Co-Chair: Jefferson Burson (ITS)
Scrum Master: Matt Mazer

Technology and Security
Co-Chair: Jason Snyder (CTO)
Co-Chair: Christian Hamer (Security)
Scrum Master: Xenia Parker

Human Resources
Co-Chair: Karen Pemstein (HR)
Co-Chair: Nicole Breen (HR)
Scrum Master: Melissa Lucius

Finance
Chair: Penny Kaligian (Finance)
Scrum Master: Hellen Zziwa

Communications
Co-Chair: Acacia Matheson (HPAC)
Co-Chair: Stephanie Gumble (Administration)
Scrum Master: Juliana DiLuca

Chair: Serves as product owner (the voice of the customer) add prioritizes orders backlog (work) and accepts complete work
Scrum Master (SM): Removes roadblocks, raises issues, and ensures team is following Scrum
Next Steps

• **Making our work visible to the IT community**
  – Monthly communication and sprint readouts starting in January
  – Common Collaboration space for news and updates

• **Building our services**
  – Publishing a Service Roadmap
  – Prioritizing Cost Engineering and Monitoring, Cloud Backups and the Cloud Foundations Bundle as the first offerings to be defined

• **Continue accelerated migrations**
  – Continue with application remediation and migration to AWS to meet FY18 objective for HUIT managed applications
  – Plan Sungard decommissioning in FY17