Datacenter Move 2014 – Town Hall One

JULY 22, 2014
Welcome

- Thanks for coming!
- First of 5-6 planned “Town Halls”

Agenda

- What are we doing?
- Why are we here?
- Move team
- Timeline/key dates
- Anatomy of a move
- Communication plan
- Change management
- Network improvements
- Future growth
- Gordon Hall DC
What are we doing?

• Move all of the systems in the 1 Summer St. (Markley) data center to a new location inside the 1 Summer St. facility.

• Currently have 3 “premises”, at the end of this project we will have 1 larger premise with the ability to expand.
### What are we doing?

<table>
<thead>
<tr>
<th></th>
<th>Current</th>
<th>New (‘14)</th>
<th>Expansion (‘16)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Racks</td>
<td>~55</td>
<td>80</td>
<td>100</td>
</tr>
<tr>
<td>Power</td>
<td>~450Kw*</td>
<td>800Kw</td>
<td>1000Kw</td>
</tr>
<tr>
<td>Contract Length</td>
<td>2022</td>
<td>2024</td>
<td>2024</td>
</tr>
</tbody>
</table>

**Now:**

- Limited physical space and power
- Limited density
- Network needs improvement
- Depend on “structured fiber” to connect premises
- No plan for organization of physical space
What are we doing? – things to note

- All in-row cooling (currently a mix)
- Space in between rows is modest (2’6”/3’6”)
- We will have less total sq feet (~2000/~2500)
- We will not fill the space day one
- We have the right to sublet the space
- We have ROFR for the adjoining space
Why are we here?

You are:
- Part of the IT org or manage gear at 1 Summer St

We will:
- Communicate the data center move plan
- Plan service outages
- Answer questions
- Make improvements along the way
Why are we here?

- Get input as we develop the move calendar
- Assign “move groups”
- Provide network improvement updates
- Plan “out of band” moves
- Make sure we know about key dates along the way
- Begin building CMDB / Stat integration
- HMS Markley data center contract

- Tell your friends!!
Why are we here?

A few words about the HMS Markley contract

Take ownership date – August 15, 2014 (expected)
Move window – 120 days (ends Dec 13, 2014)
During the move window, we pay current rent
New rate begins 120 days after “take ownership” date
If we don’t vacate old premises by day 120, we pay for both!
Move Team

- **HMS IT**
  - John Mahoney (Move Master)
  - Dan Kirks (Network Lead)
  - David Bloom

- **Accunet**
  - Robert Milne
  - Jason Plourde
  - Matt Symonds
  - Matt George

- **Zensar**
  - Allan Toliao
  - David Frick
  - Lots of movers
Timeline/Key Dates

- **2014**
  - Jan: Sign Contract
  - Aug: Data Center Build-out
  - Sept: TH1
  - Oct: TH2
  - Nov: Move 1
  - Dec: TH3

- **2015**
  - Jan: Move 2
  - Feb: TH4
  - Mar: Move 3
  - Apr: TH5
  - May: Move 4
  - June: Moves Complete
## Timeline/Key Dates

<table>
<thead>
<tr>
<th>Move</th>
<th>Group</th>
<th>Systems/Services</th>
<th>Move Date</th>
<th>Confirmation Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1</td>
<td>Orchestra HPC, NAS Storage</td>
<td>9/12 – 9/14</td>
<td>8/18</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>3</td>
<td>3</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
<tr>
<td>4*</td>
<td>4</td>
<td>TBD</td>
<td>TBD</td>
<td>TBD</td>
</tr>
</tbody>
</table>

*If necessary*
Anatomy of a move, (outline)

• Assign people and gear to a “Move Group”
• 4 Moves, 4 “Move Groups”
• Each of the 4 moves will span a weekend
• Each system cables and power will be labeled by Zensar movers prior to move day
• Labels will be color coded according to move map
• Zensar movers – unrack, pack, transport, re-rack
Example portion of the move map
Anatomy of a move, (pre-move)

- Move-group will meet with Move team
- Move-group will receive move map
- Assign services to systems
- Verify safe outage window
- Plan & send relevant communications
- Complete move documentation
- Order spare parts if necessary
- Move dry-run
# Anatomy of a move, 2

<table>
<thead>
<tr>
<th>Step</th>
<th>Responsible Party</th>
</tr>
</thead>
<tbody>
<tr>
<td>System power down</td>
<td>System Owner</td>
</tr>
<tr>
<td>Verify labeling</td>
<td>System Owner</td>
</tr>
<tr>
<td>Cut cables and unrack</td>
<td>Zensar</td>
</tr>
<tr>
<td>Pack and transport</td>
<td>Zensar</td>
</tr>
<tr>
<td>Re-rack in new location</td>
<td>Zensar</td>
</tr>
<tr>
<td>Re-attach cables and verify</td>
<td>System Owner</td>
</tr>
<tr>
<td>Power on and testing</td>
<td>System Owner</td>
</tr>
</tbody>
</table>
Communication Plan

- Town Hall Meetings
- DataCenterMove2014@hms.harvard.edu listserv
- Wiki: wiki.med.harvard.edu/IT/DataCenterMove2014/
- Campus-wide email announcements
- Email announcements to target groups (orchestra_announce@hms...)
- Visix displays
- Move-group meetings
- Move run-throughs
Change Management

• The Change Management system of record is Stat: http://stat.med.harvard.edu/

• Each of the planned physical moves will be considered a single change in Stat.

• Each move will have a corresponding change ticket in Stat.

• If changes other than physical location are made during before or after the physical move, an additional RFC/change ticket should be created.
Network Improvement Plan

- New data center network (Cisco)
- Part of larger campus-wide 3 year plan
- 2 x center-of-row 7000 series Nexus switches
- Data Center Core
  - 100Gb connectivity (multiple) 1 Summer St <> Quad
  - 100Gb connectivity between data center rows
- New Network Core – Gordon Hall / HSDM
  - Currently being built and tested inside 1 Summer St
Future Growth

- Capacity planning – bi-annual reporting on physical and power utilization
- Data Center will be an HMS IT managed service
- Increase efficiency of existing systems through lifecycle management
- Consolidation through virtualization and managed services where possible
- Sublets (Harvard Schools, HUIT, Affiliates)
  - For collaborative projects
  - Offset costs of unused space
Data Center Move 2104 Town Hall Calendar

- Tuesday, 11am-1pm, Armenise Amphitheater
- Town Hall One – July 22, 2014 (Today)
- Town Hall Two – Aug. 19, 2014
- Town Hall Three – Sept. 23, 2014
- Town Hall Four – Oct. 21, 2014
- Town Hall Five – Nov. 18, 2014
- Town Hall Six – Dec 16, 2014
Thank you!

wiki.med.harvard.edu/IT/DataCenterMove2014/

datacentermove2014replies@hms.harvard.edu