Cloud-Adoption Strategies: Using the Cloud to Enable the Future University

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Who we are

• Part of the University of Maryland system

• 84,000 students world-wide, 95 degree programs and certificates

• Replaced every major system at the university in the last four years

• Today, we have a cloud-first approach
Global footprint
UMUC IT in the Past

• Self-hosted and homegrown LMS (WebTycho) – best technology 1999 had to offer
• Hardware and technology older than your 4th grader
• Lots of “heavy metal”
• Low morale in the operations team
• Lack of strategic direction
• Series of turnover at all levels
• Multiple staff layoffs over 2 years (2012 – 2013)
Stages of Cloud Migration

**Project**
- Idea Stage, limited knowledge of Cloud services
- Lack of ownership and confidence in the Cloud

**Foundation**
- Assign resources, begin planning
- Security and budget questions

**Migration**
- Define, develop and implement strategy
- Manage the environment, complete all target systems

**Optimize**
- Costs and service management
- Application and Enterprise Services
Gary Reid – Color of Thinking

Blue
- Pie in the sky thinking, not based on “rational” thoughts

Red
- This is the way we have always done it, this is the way we are always going to do it. Data Driven

Yellow
- Combination of “Blue” and “Red” thinking to devise action plan

Green
- Everyone is acting in concert, moving forward together
Our Cloud Migration Stages

Stage 1 – Blue

- “Everything is moving to the cloud”
- Migrate Exchange to G Suite / Outsource PeopleSoft
- Several failed starts migrating infrastructure to the cloud - ownership
- No recognition of the people side
Our Cloud Migration Stages

Stage 2 – Red

- We do data centers
- We are going to do the same thing we do in our physical data centers
- Data Driven – Need single pane of glass for the environment
- “The Meeting”
Our Cloud Migration Stages

Stage 3 – Yellow

- It comes all together
- Defining processes
- Transforming administrators to engineers
- Built, Test, Approve, Launch
Our Cloud Migration Stages

Stage 4 – Green

- Completed migration
- Optimizing the experience
- Reviewing lessons learned
  - This is not your father’s data center
- What is next?
• Born from a request from our academics
  • Replace an existing VDI vendor who was failing to meet the needs
  • Provide persistent experience for “life of a student”
  • Integrate into our classroom experience
  • Support programs from MBA to Cyber Security and everything in-between
• RFP wasn’t successful and cancelled
Mid-April / May

• Met with Amazon
  • Change in the billing model
  • Integration into our classroom
  • Access to engineers and roadmap

• Internally
  • Built our internal business case
  • Captured high level requirements from the RFP
June 2016

- Secured 2.5M investment funding for staff and 1st year operating costs
- **Unanimous** support from CTO, SVP of APT, Deans of the Graduate and Undergraduate Schools, VP Learning & Faculty Experience and Provost
- AWS Public Summit – DC
July 2016

- Operate as an internal start-up
- Hire - Product Managers, Support and Cloud Engineers and Project Manager
- First integration prototype – something the existing vendor couldn’t accomplish.
- Trips to Seattle
August 2016

- Build the classroom experiences
- Integrate into the classroom
- Test, test, test!
- Deploy first round ~400 WorkSpaces
September 2016

- Built October start date courses
- Developed scalable Cyber Lab
- Deployed additional 2800 WorkSpaces
- Usage of 160,000 hour since launch
- Total support tickets since launch: 30
Project Triton – Expected Usage

Provisioned WorkSpaces

9/1/16 10/1/16 11/1/16 12/1/16 1/1/17 2/1/17 3/1/17 4/1/17 5/1/17
Impact to the University

• Student first experience
  • Access to experiences they never had before
  • Analytics to help our students learn
  • Part of the classroom experience – not an after thought
  • Anywhere access – critical to success
• 10 smart people in a room
• Partnership with key technology vendor
Three Takeaways

• Don’t be afraid to jump in and just try. The tools available make it easy to adjust course

• The status quo does not work when making the move

• Don’t forget the people – it is more about the human factor than 0s and 1s
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