CAMPUS ACADEMIC & ENTERPRISE SERVICES INTO THE CLOUD

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WHY? ........ GROWTH!

UW Bothell is the fastest-growing public university in the state of Washington.

- 3rd fastest growing for enrollment size in the nation (*Educause 2002-2012 report*)
- 10th in value among top 25 public colleges (*Money Magazine*)
- Growth demands on IT space, equipment, power, HVAC, ...
- IT agility
- Converging enterprise applications
SCALING STRATEGY

Critical to UW Bothell?

UW Seattle service?

Cloud capable?

Run on premise

Sunset

Transition to Seattle

Migrate
ON PREMISE SERVICES

- Critical to campus operation during network outages
  - DHCP, Domain Controllers, DNS, Building Control, Monitoring, Emergency Alert Support
- Some services mirrored in UW Tower
- Collapsing two on premise data centers into one
  - Freed space available for academic support
OFF PREMISE BENEFITS

• No Surprises ...
  • Scalability
  • Mobility – Access Anywhere (*mostly*)
  • Application Isolation
  • Availability/Continuity – Geographic replication, Redundancy, Automated Backups, etc
    • Note: UW Bothell is on the residential public power grid – can you say “Outages!”
ISSUES ...

• Cloud!  *Which one?*
  • Learning curve
  • Application Fit
  • Regulatory Compliance
  • VM portability
  • Edge Fog
COMPLEXITIES …

• Everyone knows migration to the cloud is easy! … *The devil is in the details*
  • Federated Identity and Access Controls
    • UW NetID DC, UWB and Cascadia mix
  • Interconnect – cloud to on premise – IP address space, IPsec, firewalls, VPN, bandwidth
  • Transactional data vs batch – concurrency, synchronization
  • Policies – UW, UW-IT, Regulatory, Privacy (HIPAA, FERPA)
  • Contractual – Ownership, Liability, Vendor Lock-in
COMPLEXITIES ... YES THERE’S MORE ...

• Support – Who’s responsible?, How do we escalate?
• Software licensing – Traditional per-server, per-seat
• Storage – Filesystem limitations, structured, unstructured, blob, block, ...
  • Migration – Ownership, ACLs, Filenames, Folder structure
• IaaS – We know how to deploy a VM - Is it the same?
• PaaS – Simpler yet still issues with network and name space
• SaaS – When it fits
WHAT WE’VE DONE THUS FAR ...

- Cloud choice – capitalize on UW contracts – Azure, AWS
- Office365 migration - first big win
  - Existing Exchange environment
  - Large move – keeping people connected – calendars, room reservations
  - Familiar environment
  - Recently decommissioned Exchange farm
- Azure – UW NetID DC, Shibboleth
  - Data Mart – rapid provision/tear down
- AWS – STEM VDI pilot – thin client and mobile software access
  - Shared labs, different software profiles
WHAT WE’RE DOING NEXT ...

• Institutional Research – Student major survey
  • DB already deployed in Azure – No EDW direct query yet

• College of Education – Accreditation reporting – Software port and CMS in Azure

• UWB Web site and CMS in Azure

• Campus file service – Cloud investigation underway – initial assessment completed
  • Currently using google, onedrive, local
  • Consistency, sharing, best fit for application

• Financial Forecasting/Modeling – Sourcing project for tool to access institutional and EDW data
QUESTIONS ...

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