Cost Czar: Balancing in the Cloud

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Who we are

- Mid-size Public University in Maryland

- Founded in 1966, still young compared to many
- Built during civil rights movement, large commitment to DEI in our DNA
- ~14,000 students
  - 11,000 Undergrad, 3000 Masters and PhD
- STEM Focused, large programs in Computer Science, Information Systems, Biology, Physics ....
- 95 Million in Annual research
- 52% Minority Enrollment
- R1 Research school (Carnegie classification)
- #1 for Black undergraduates who go on to complete an M.D./Ph.D.

Cost of doing nothing

- On-demand pricing
- Over provisioning
- "Dead" services and hosts
- Sudden cost explosions

Widespread overspend & confusion

2021 HashiCorp - [Cloud Budgets Busted: Almost 40% Overspent Last Year](#)

2022 Gartner - [7 Reasons Cloud Budgets Don't Stay in Check | Gartner](#)

2022 HashiCorp - [94% of enterprises are overspending in the cloud: report | CIO](#)

First steps to reduce overspend

- Know what you're spending
- *Major warning: secret costs and reduction by reseller in provider tools*
- Helpful lists of tools - note: vendor considers own tool best
  - [CloudZero - GCP tools](#)
  - [CloudZero - Azure tools](#)
  - [CloudZero - AWS tools](#)

Prepaid options

- Autoscaling is the dream, but for most of us, not an easy reality
- Prepaid - or pre-reserved - options exist
- Tooling exists to find options
- Storage is always a pain point

Rightsizing

- Lazy "lift and shift" can cause a traumatic amount of overspend
    - VM over provisioning on-site is common
- Always build smallest feasible, resizing often requires limited downtime
- Storage rightsizing is crucial to cost containment

Segmenting cost

- Multi-account strategy
- Cost of doing business accounts
- Researchers and grants
- Security, security, security

Knowing when to say when

- Balance cost of cloud with cost of time - and downtime!
- Saas solution versus 'rolling your own'
- Seek help - someone else is already working on it
- Sometimes - the cloud is not going to be cheaper

Alerting, alerting, alerting

- Quick story about 60k in 10 days
- Landscape far better today than it was a couple years ago
- Enforcing

Conclusion

- Entire industry still in flux, lots to keep track of
- I2 and Educause communities
  - CCCG – [Educause Cloud Computing Group](#)
  - I2 calls - shares of help/work, presentations, etc - bother Bob Flynn!

- Feel free to email me - **champ@umbc.edu**