AnswerALS Galaxy Setup

Using Galaxy, Azure, AKS, Kubernetes, and NFS to create a Galaxy environment for the AnswerALS Foundation
Hi

- RC Carter
- Microsoft
- Defending Democracy
- (was) Tech and Civic Engagement
- Product
- Historically web

I have no idea what I'm doing

gifbin.com
Thanks

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Project

- **AnswerALS Foundation**
  - Multidisciplinary research project
  - 1,000 patients
    - Genome, clinical, biometric data
    - Multiple privacy spheres

...Complete the most comprehensive clinical and biological assessment of ALS ever made, so that scientists and researchers across the globe are equipped to understand, and ultimately cure ALS.
Use Case

Neurolincs ATAQSeq and RNASeq Workflows

- 60 TB of addressable storage
- Web (http) upload, FTP, and Azcopy
- Kubernetes
- Helm Chart
- Consistent with Cloudman
- HTTPS / DNS
- Performant, Secure
- Manually and dynamically scale pods and clusters
- Tool and update support

NeuroLINCS is an NIH-funded collaborative effort between research groups with expertise in iPSC technology, disease modeling, OMICS methods, and computational biology. We seek to understand the causes of neurological diseases and to develop new therapies.
First Things First
How are we doing?

- We’re getting there
  - AKS solid framework
  - NFS key for performance
  - Manual and dynamic scaling

- But still some work
  - Custom Galaxy image
  - Klunky; should be scripted
Next Steps

- Finish creating enterprise environment
  - Credit allocation

- Finalize Galaxy production configuration
  - SSL
  - FTP / AzCopy, etc

- Start researching
Thank you!

- Questions
- rocarter@microsoft.com
- Github: rc-ms