Eric Rasche

The Need

- Galaxies run on highly heterogeneous resources
- Jobs have highly heterogeneous resource requirements
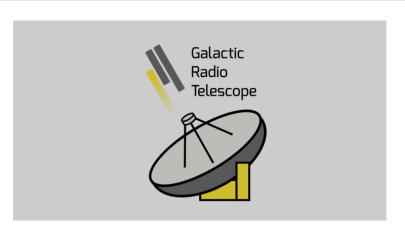- . . . but we match them up manually or not at all.

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Background

GRT

Screenshots

Roadmap

Q & A

The Solution

- Just map them better! Obviously.
- Not trivial to do
- Local models may over-fit, or not fit at all. Who knows. We don't have data!
- So, time to collect it.

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- Galactic Radio Telescope, because it peers into Galaxies and extracts useful signals
- Collect job run metadata from individual Galaxies
    - Strictly opt-in
    - # of cores during the run, dataset sizes, runtime, memory
    - Other data points?

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Features

- Collect Job Logs
    - CPU Count
    - Runtime
    - Dataset Size
    - Memory Usage
- Analysis + Display Framework
- Side effect: Galactic Tool Registry

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Roadmap

- ~~Collect Job Logs~~
    - CPU Count (1d, some small bug)
    - ~~Runtime~~
    - Dataset Size (1 month)
    - Memory Usage (1d)
- Analysis + Display Framework (post-gcc)
- ~~Side effect: Galactic Tool Registry~~

Galaxy Directory

Name	Description	Users
CPT Phage Galaxy	A galaxy instance focused on phage annotation and analysis	167

hxr ▾

Settings

Log out

My Galaxies

Register New Galaxy

Admin

regate the

CPT Phage Galaxy

Your Galaxy instance's GRT API key is: 3b95a

Url

https://cpt.tamu.edu/galaxy

Humanname

CPT Phage Galaxy

Description

A galaxy instance focused on phage annotation and analysis

CPT Phage Galaxy

A galaxy instance focused on phage annotation and analysis

URL	https://cpt.tamu.edu/galaxy
Users - Recent	13
Users - Total	167
Jobs Run - Recent	1651

Tools Available

- edu.tamu.cpt2.webapollo.create_or_update==2.1
- sort1==1.0.3
- toolshed.g2.bx.psu.edu/repos/bgruening/glimmer3/glimmer_not-knowledge-based/0.2==0.2
- edu.tamu.cpt2.webapollo.iframe==1.4

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edu.tamu.cpt2.webapollo.create_or

Found In

- CPT Phage Galaxy <https://cpt.tamu.edu/galaxy>

Job Run Data

Date	Runtime	Cores Allocated
26 May 2016, 1:24 a.m.	6.000	0
26 May 2016, 3:12 a.m.	5.000	0
26 May 2016, 3:31 a.m.	6.000	0
28 May 2016, 12:10 a.m.	5.000	0

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Going Forward

- Fix CPU count issue (Hopefully by time of presentation)
- Integrate Jupyter server for crowd sourcing statistical analysis?
- If models can be built, then integrate PHAC-NML's dynamic tool destinations
- Galactic Tool / Analysis Directory (Where should I run my mapping job? Is there a public Galaxy for doing X?)

Thank you! Questions?

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