



GRT

Eric Rasche
736B 9013

Background

GRT

Screenshots

Roadmap

Q & A



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The Need

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



The Solution

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- 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?



Features

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



Roadmap

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- ~~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~~



Galactic Directory

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Galaxy Directory

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



Administration

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Settings

Log out

My Galaxies

Register New Galaxy

Admin

regate the



Instance Metadata

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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



Instance Info

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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-knowlegde-based/0.2==0.2](#)
- [edu.tamu.cpt2.webapollo.iframe==1.4](#)



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edu.tamu.cpt2.webapollo.create_or

- 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



Going Forward

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- 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?)
- Bragging? **Galactic Radio Telescope** **#1 Galaxy Instance**



Q & A

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Thank you! Questions?

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