Galaxy

Galaxy on the Cloud

www.galaxyproject.org

@jxtx / #usegalaxy

Ways to run Galaxy

Galaxy Main: easiest solution, but because it is a shared resource there are limitations

Quotas: 250GB maximum storage, at most 6 concurrent jobs

Other public Galaxy servers

See https://wiki.galaxyproject.org/PublicGalaxyServers

Run your own Galaxy *instance*

Separate Galaxy instance on dedicated hardware, either on your own compute resources or using cloud computing

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Cloud computing

network accessible compute resources that can be rapidly acquired, configured, and released on demand

Software As a Service: Software directly accessed from a remote server (e.g. Galaxy main)

Platform As A Service: a development platform which provides high-level components for building applications (e.g. Heroku, Google App Engine

Infrastructure as a service: Compute resources provided and configured on demand (compute nodes, storage, network)

Infrastructure as a service

Compute resources provided and configured on demand (compute nodes, storage, network)

Public commercial: Amazon Web Services, Rackspace, ...
Build your own: Eucalyptus, Nimbus, OpenStack, ...

Here we will user Amazon Web Services

http://aws.amazon.com

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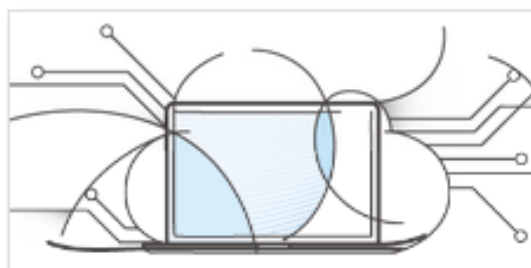with AWS for 12 months

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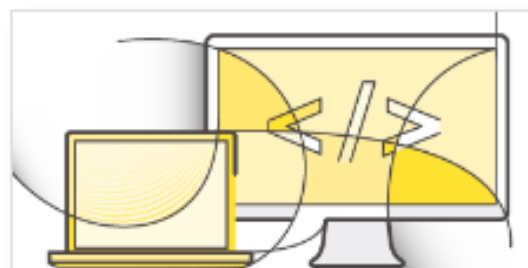
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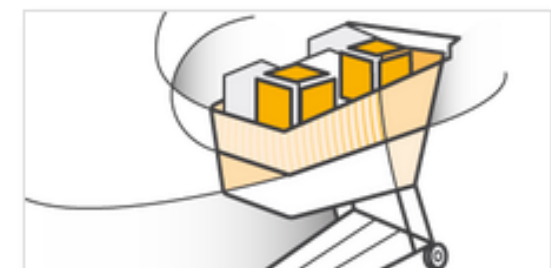
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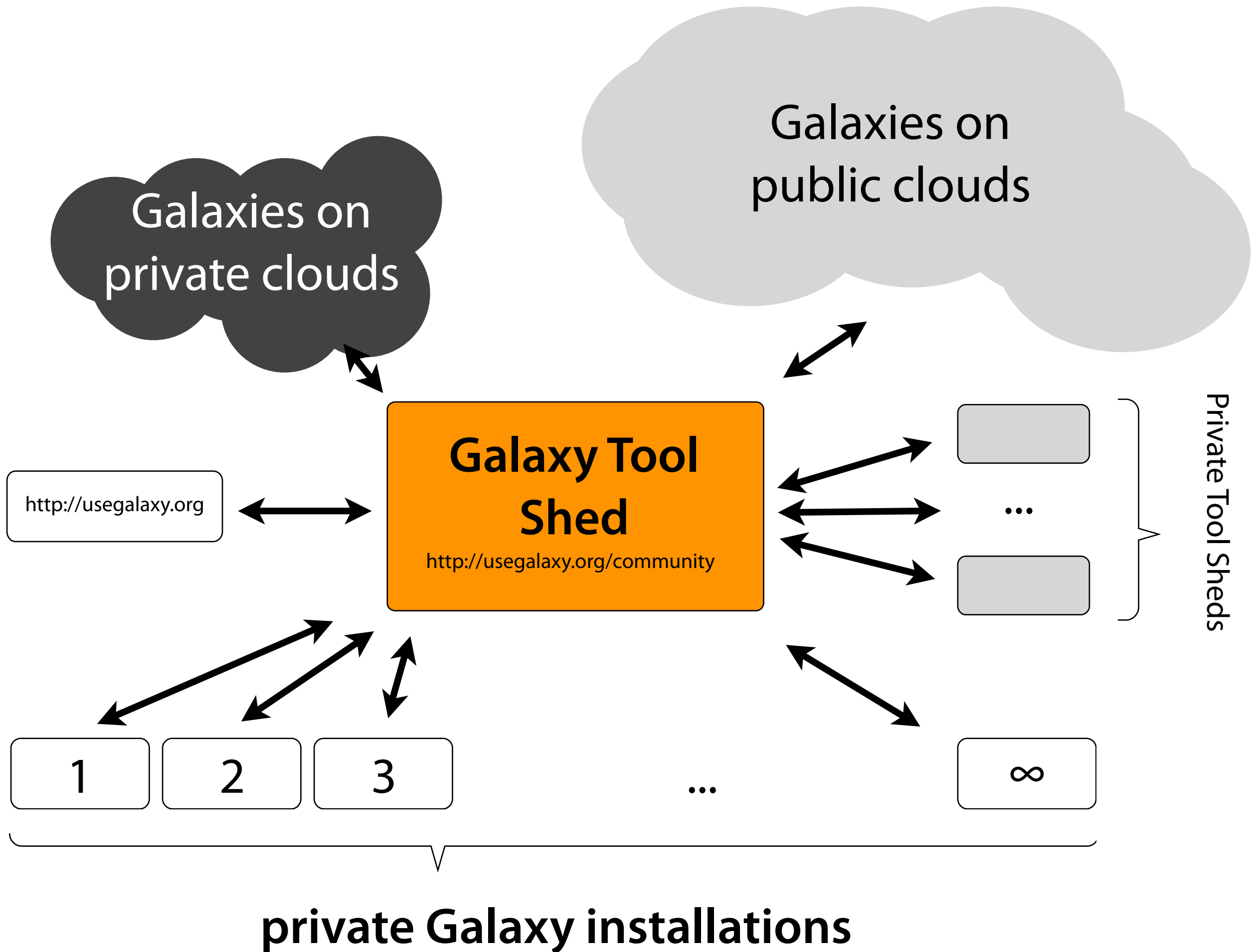
Next Steps

Setup Identity and Access Management (IAM)

Create an AWS user for Galaxy

Get access keys from AWS console

Use cloudlaunch in Galaxy to launch a new instance using Cloudman

Galaxies on private clouds

Galaxies on public clouds

http://usegalaxy.org

Galaxy Tool Shed

http://usegalaxy.org/community

Private Tool Sheds

...

1   2   3   ...   ∞

private Galaxy installations

Outline

Modify config file for administrator access and toolshed support

Install new tools from toolshed

Cloudman as a reproducibility platform

The provenance and reproducibility guarantees that Galaxy provides only hold while the Galaxy instance is available

Who should own and maintain this? Is a centralized Galaxy sustainable? Do you trust us to keep your data available? Should you?

Cloudman allows instances to be packaged in a completely reproducible way, which can be instantiated by others later

Cost of reproducibility is now shared between data providers (archival costs) and consumers (usage)

Cloudman for reproducibility

Sharing an instance

Starting from a shared instance