What's Different About Overlay Systems?

Brian Lin
OSG Software Team
University of Wisconsin - Madison
blin@cs.wisc.edu

Overlay Systems are Awesome!

Free resources when you need them? With the OSG doing the hard work? Yes, please!





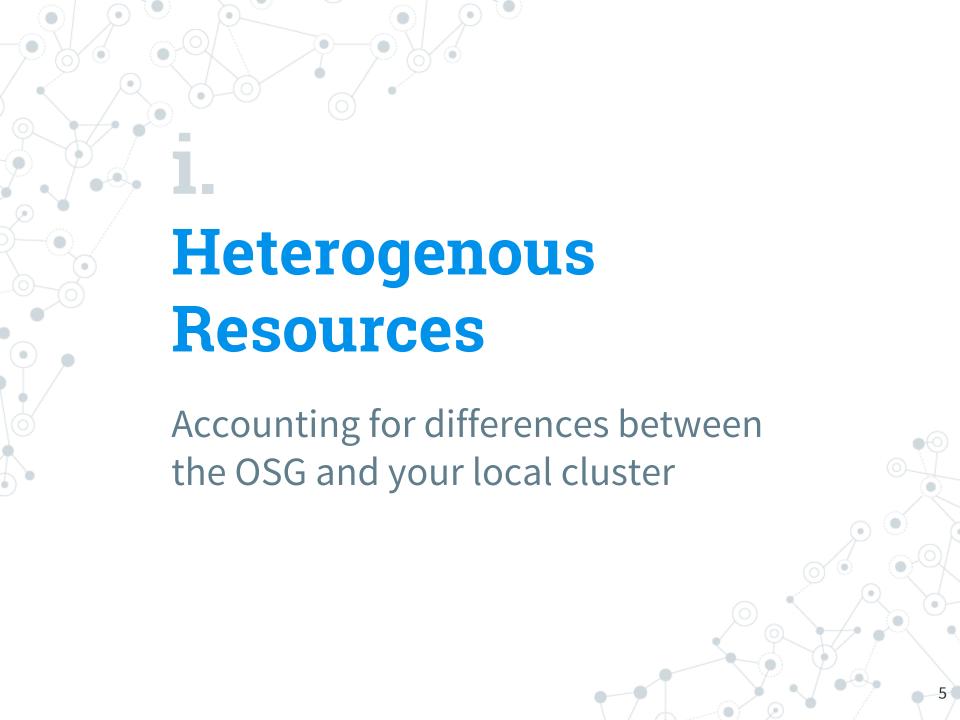
What's the Catch?

Requires more infrastructure, software, set-up, management, troubleshooting...



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"You know you have a distributed system when the crash of a computer you've never heard of stops you from getting any work done." - Leslie Lamport



Sites of the OSG



Source: https://hcc-docs.unl.edu/display/HCCDOC/HTCondor+on+the+OSG

Heterogeneous Resources — Software

- Different operating systems (all Red Hat based)
- Varying software versions
- Varying software availability

Solution: Make your jobs more portable (more in Wednesday's talks)



Heterogeneous Resources — Hardware

- CPU: Mostly single core
- RAM: Mostly < 8GB</p>
- Disk: No shared file system (more in Thursday's talks)

Solution: Split up your workflow to make your jobs more high throughput



ii. Slower Ramp Up

Leasing resources takes time!

Slower Ramp Up

- Adding slots: pilot process in the OSG vs slots already in your local pool
- Not a lot of time compared to most job runtimes
- Small trade-off for increased availability



With Great Power Comes Great Responsibility

How to be a good netizen

Resources That You Don't Own

- Primary resource owners can kick you off for any reason
- No local sys admins
- No sensitive data (e.g. HIPAA)



Be a Good Citizen!

- Use of shared resources is a privilege
- Only use the resources that you request
- Be nice to your submit nodes

Solution: Test jobs locally and when you're done test them some more



Credits

Special thanks to all the people who made and released these awesome resources for free:

- Presentation template by <u>SlidesCarnival</u>
- Photographs by <u>Unsplash</u> & <u>Death to the Stock Photo</u> (<u>license</u>)



Thanks!

Any questions?



