



What's Different About Overlay Systems?

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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...





“

*“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*



i.

Heterogenous Resources

Accounting for differences between
the OSG and your local cluster

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
- ◎ Disk: No shared file system (more in Thursday's talks)

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

A decorative network diagram in the top-left corner, featuring a complex web of interconnected nodes and lines. The nodes are represented by circles of varying sizes, some with concentric rings, and the lines are thin and grey. The diagram is partially cut off by the top and left edges of the slide.


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
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iii.

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 [SlidesCarnival](#)
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Thanks!

Any questions?

