

# 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*

# #1: 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

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- 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

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- 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



## #2: Slower Ramp Up

Leasing resources takes time!

# Slower Ramp Up

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- 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

# **#3: With Great Power Comes Great Responsibility**

How to be a good netizen

# Resources That You Don't Own

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

# Be a Good Citizen!

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- 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

# Thanks!

# Questions?