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# Campus Infrastructures Outlook



**Open Science Grid**

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Rob Gardner • University of Chicago

OSG Council Meeting  
14 January 2015



# Strategic areas for CI

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- Researchers experience & training for advanced CI
- Data delivery and caching & “stashing”
- Campus grids (connective services) as service

# Researcher experience and training

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- Matching the campus research cluster experience
  - Software environment and tools
    - **modules** extended to a nationwide infrastructure
    - HTC-capable software collections & tools based on campuses, user demand, XSEDE bridging (from XD HPC clusters)
- OSG User Support: ACI-Ref webinars

# Researchers building software 4 DHTC

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- Challenge: spectrum of domains and user capabilities
- Leverage the popular Software Carpentry program
  - Extended with DHTC practices
- First held at UChicago in December
  - <http://swc-osg-workshop.github.io/2014-12-15-UChicago/>
- Next: @ Indiana University-Indianapolis, March 3-6
- Available for campus visits... let us know!



# Data delivery (data management)

Catalogs  
Policies  
Controls

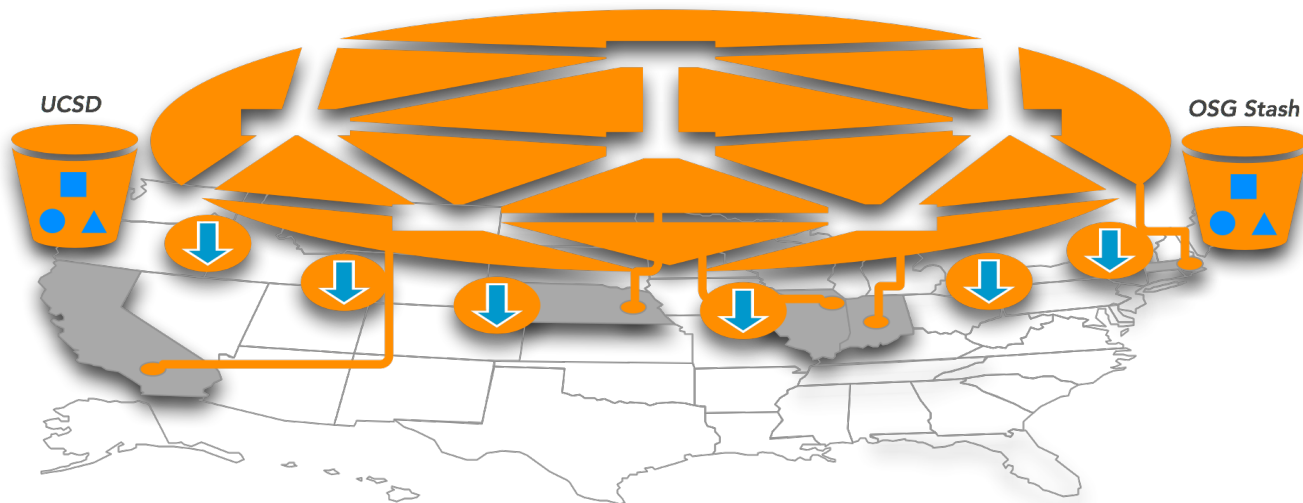
## ● Trunks

- OSG Stash
- UCSD

## ● Caches

- Anywhere
- Simple server:

- few TB
- 10 Gbps NIC



Delivery overlay based on AAA

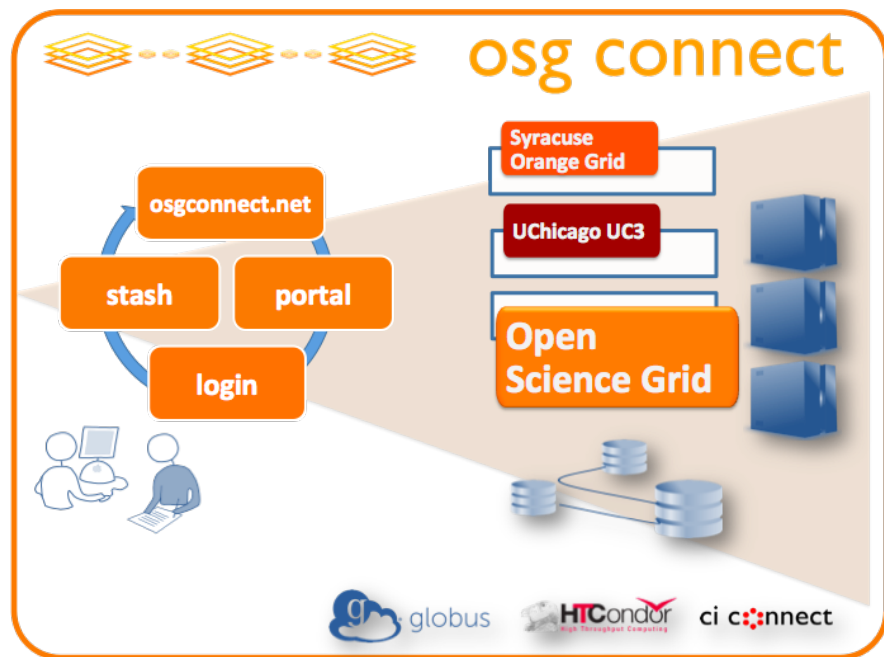
Initial caches: Chicago, Indiana  
AWS-E, AWS-W

Coming: UNL, UCSD, BU



# Campus Grids as Service

Flagship:



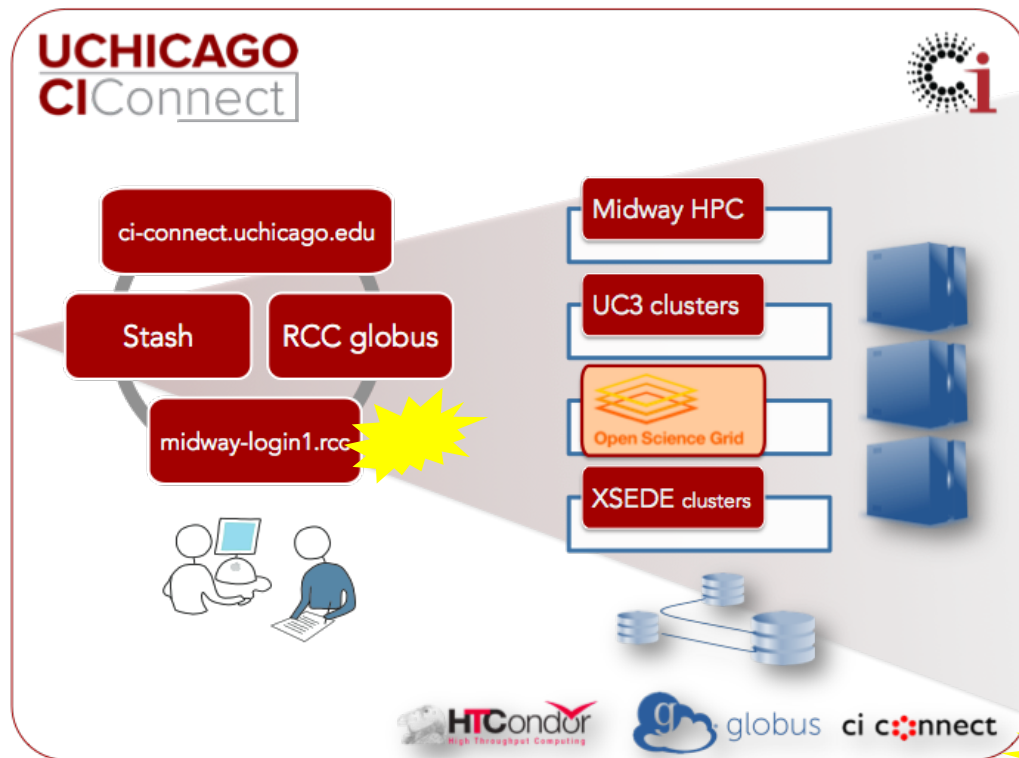
Others:

- ATLAS
- Duke
- CMS (dev)
- UMich (dev)

Job routing handled “off campus” as a service

How to better connect from the university research computing perspective?

# Key component: the campus client



A virtual cluster controlled from home:

- Single identity
- Common software
- Virtual compute pool
- Data delivery system

Critical: insitu campus CI connector clients  
multi-identity, allocations, scaling

# Some ideas moving forward

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## Tracks

### For the Research Group Experience

- Familiar software environments and tools
- Training events
- Unified support
- Embedded support

### For the Research Computing Center

- Connective services to the national CI
- Flexible clients to effectively multiplex to remote authorizations

### For the Multi-Campus, Nat CI

- Flexible cycle sharing options from standard CE to lightweight ssh connectors
- Pervasive data delivery network
- Incentivize sharing



# Summary of Events

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- Software Carpentry-OSG Connect
  - Indiana University-Indianapolis, March 3-6
  - Others TBD...
- Campus Infrastructures Community Workshop
  - Summer 2015
  - Theme: “Nuts and Bolts”
    - an admin focused and driven workshop
  - Will finalize before OSG AH

