

Nebraska Campus Infrastructure

Derek Weitzel



Nebraska Campus Clusters

Sandhills

sandhills.unl.edu



- 2,000 Cores
- Lincoln

Firefly



- 4,000 Cores
- Omaha

Tusker



- 7,000 Cores
- Omaha



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PBS

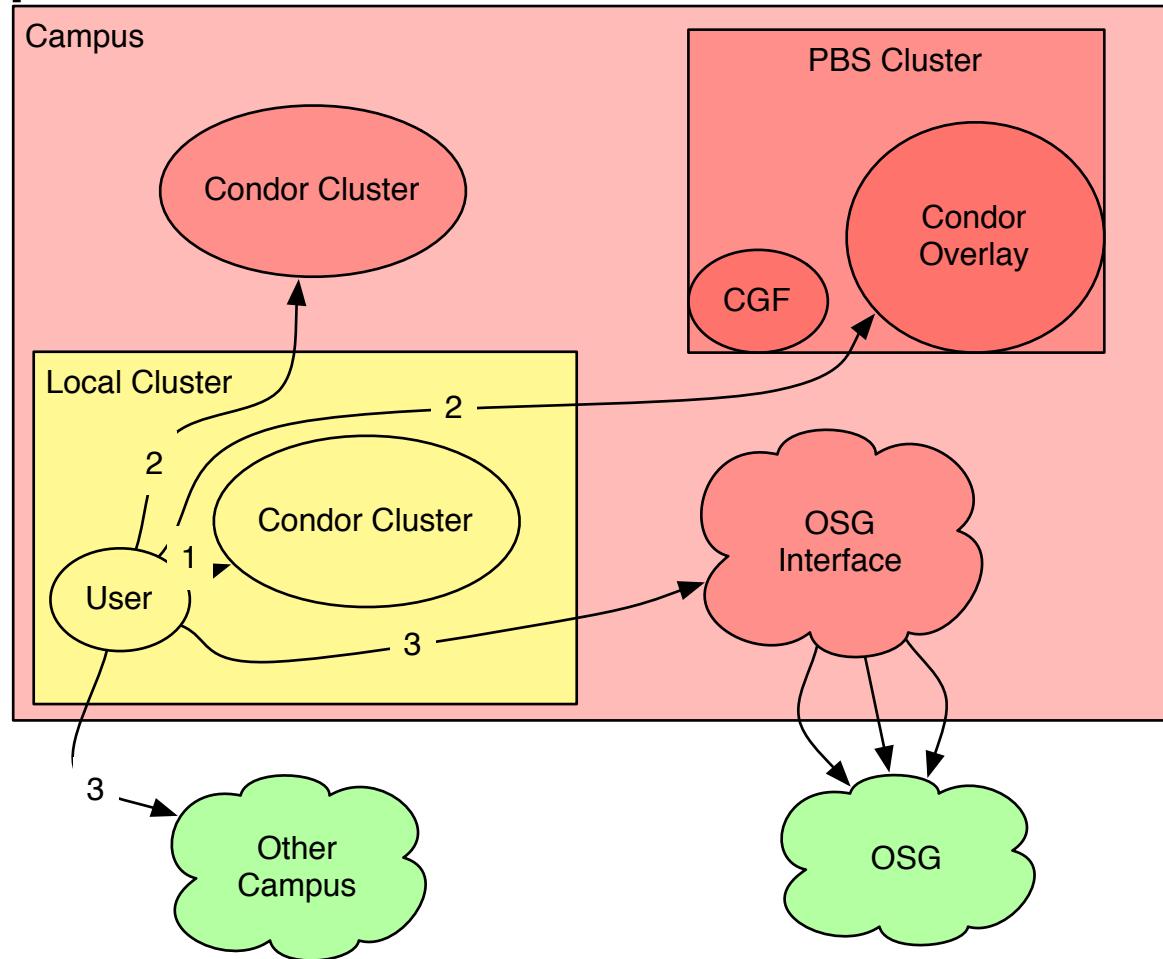
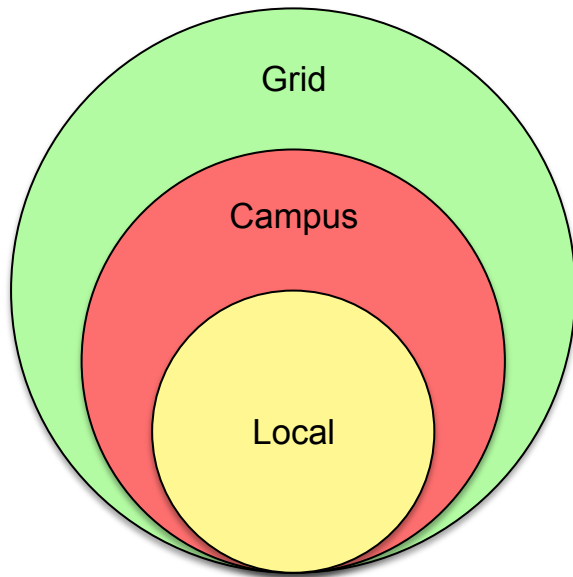


Campus Infrastructure

- Developed Campus Factory to integrate clusters into a single pool
- Wanted users to run jobs by submitting to a single target, distributing jobs among all clusters



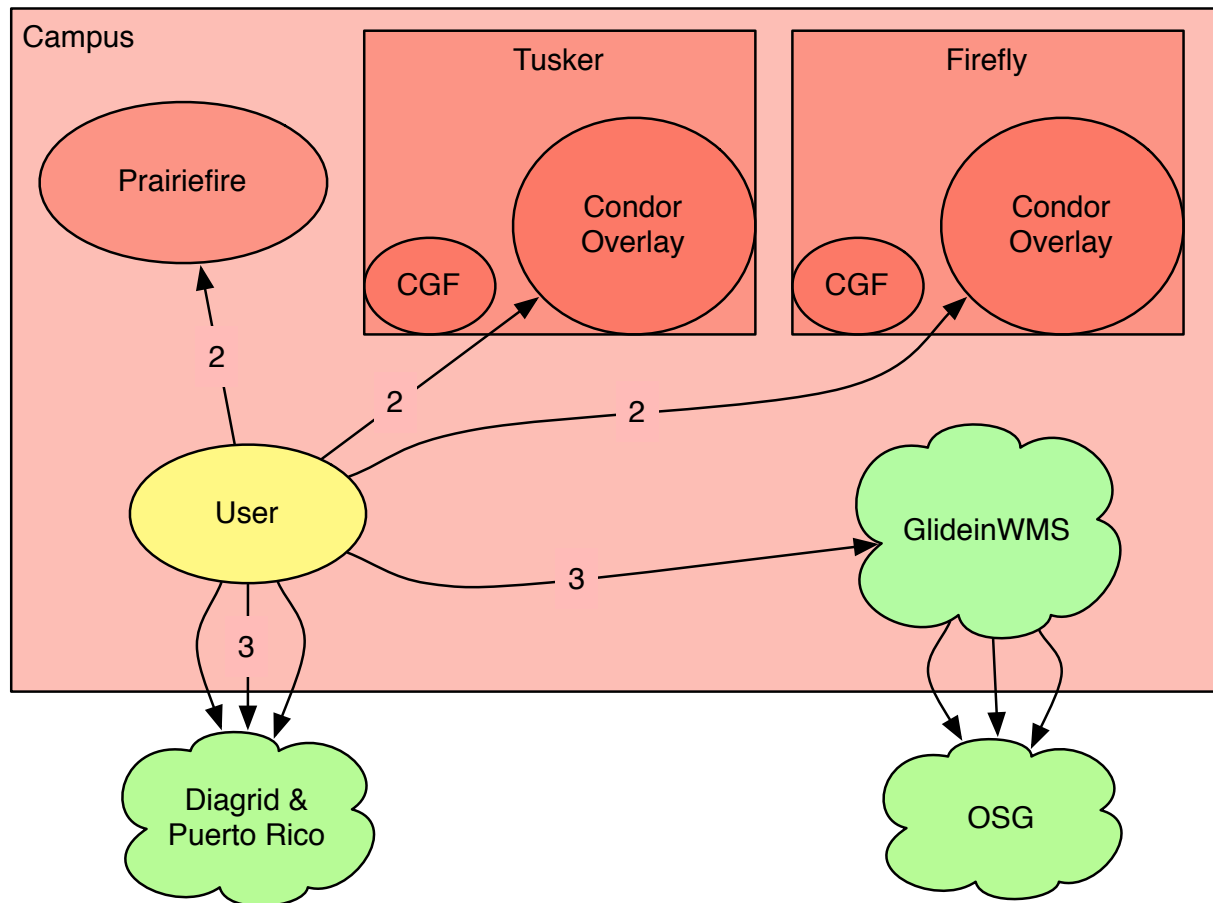
Model for Campus Grids



Me, my friends and everyone else

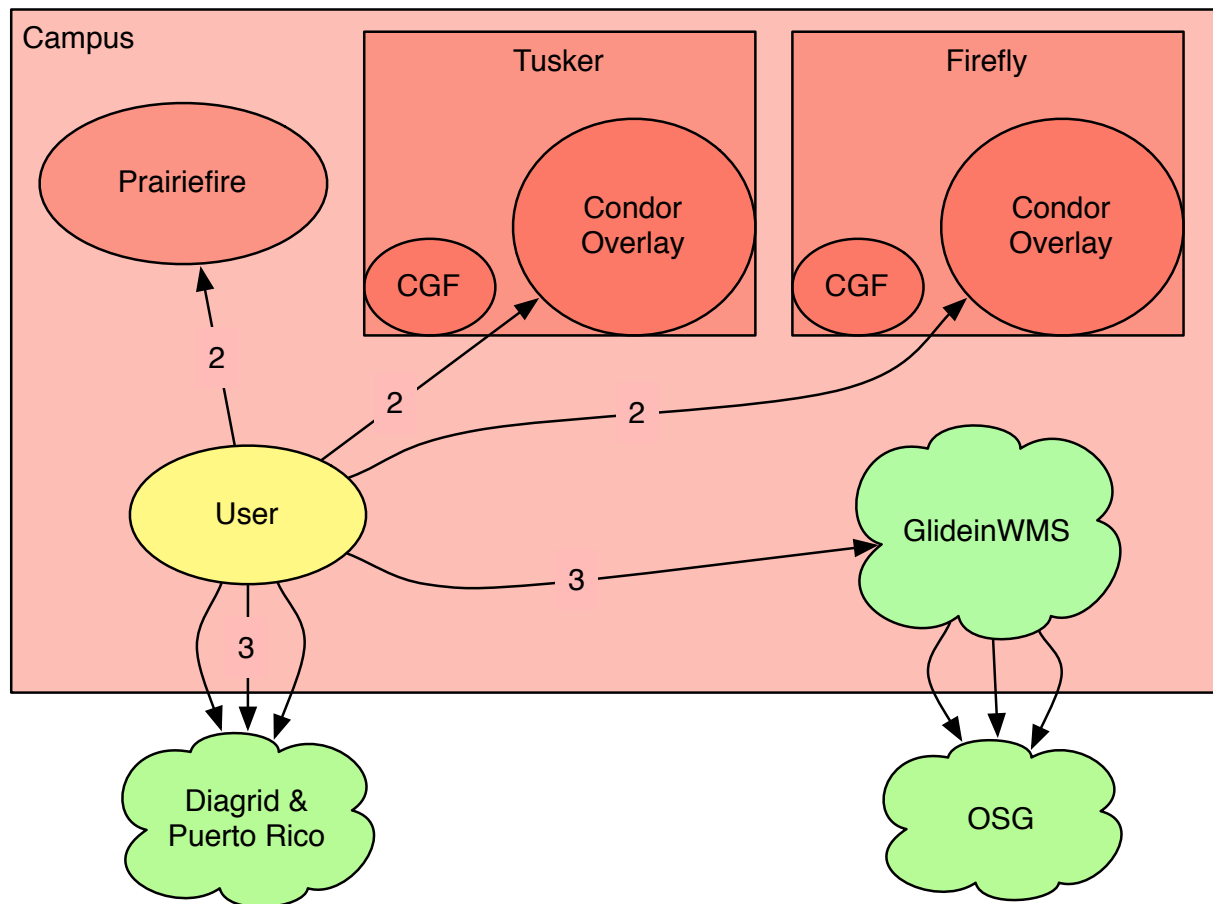


Current HCC Campus Grid



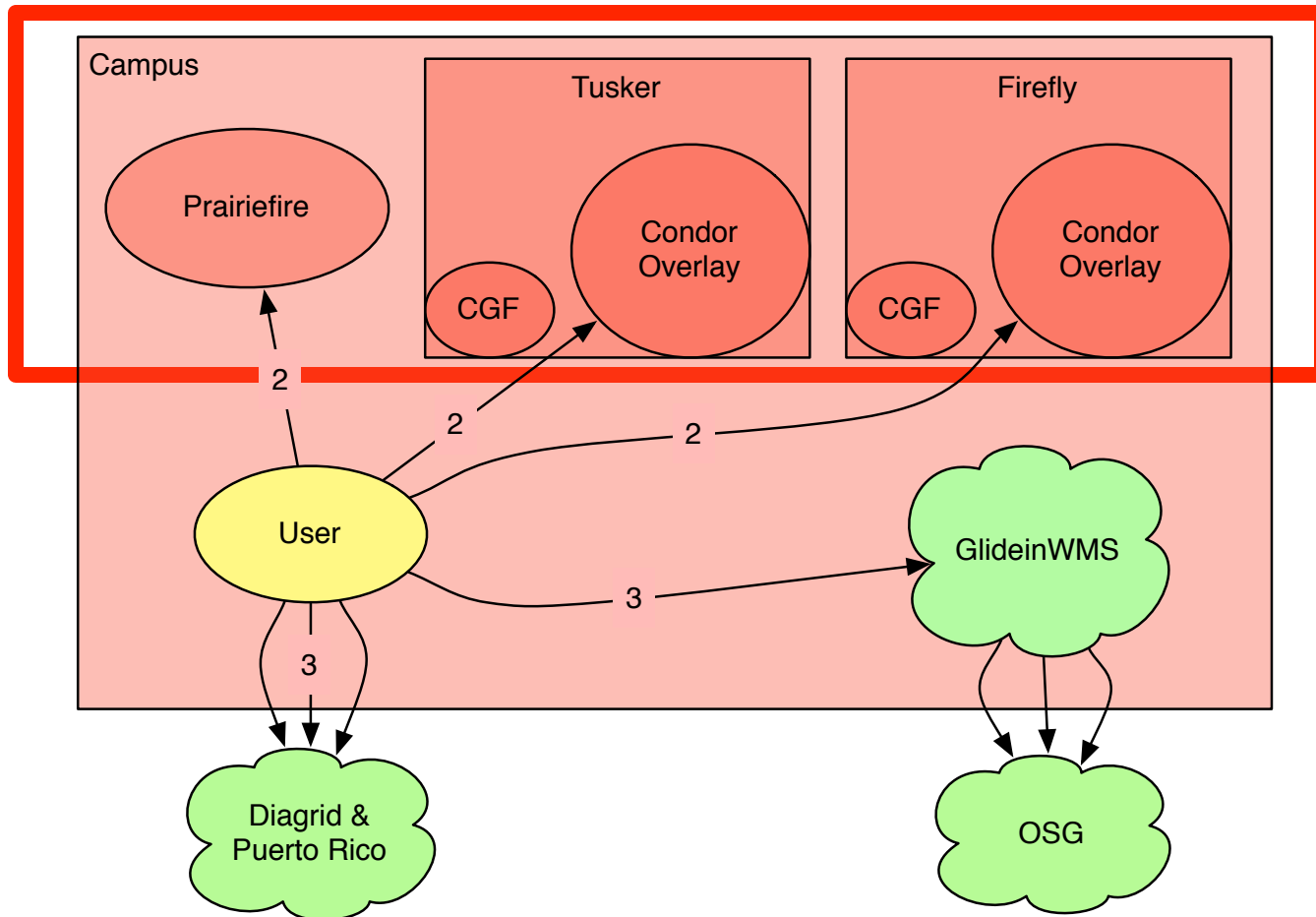
Current HCC Campus Grid

- Dedicated submit host, no 'local' cluster



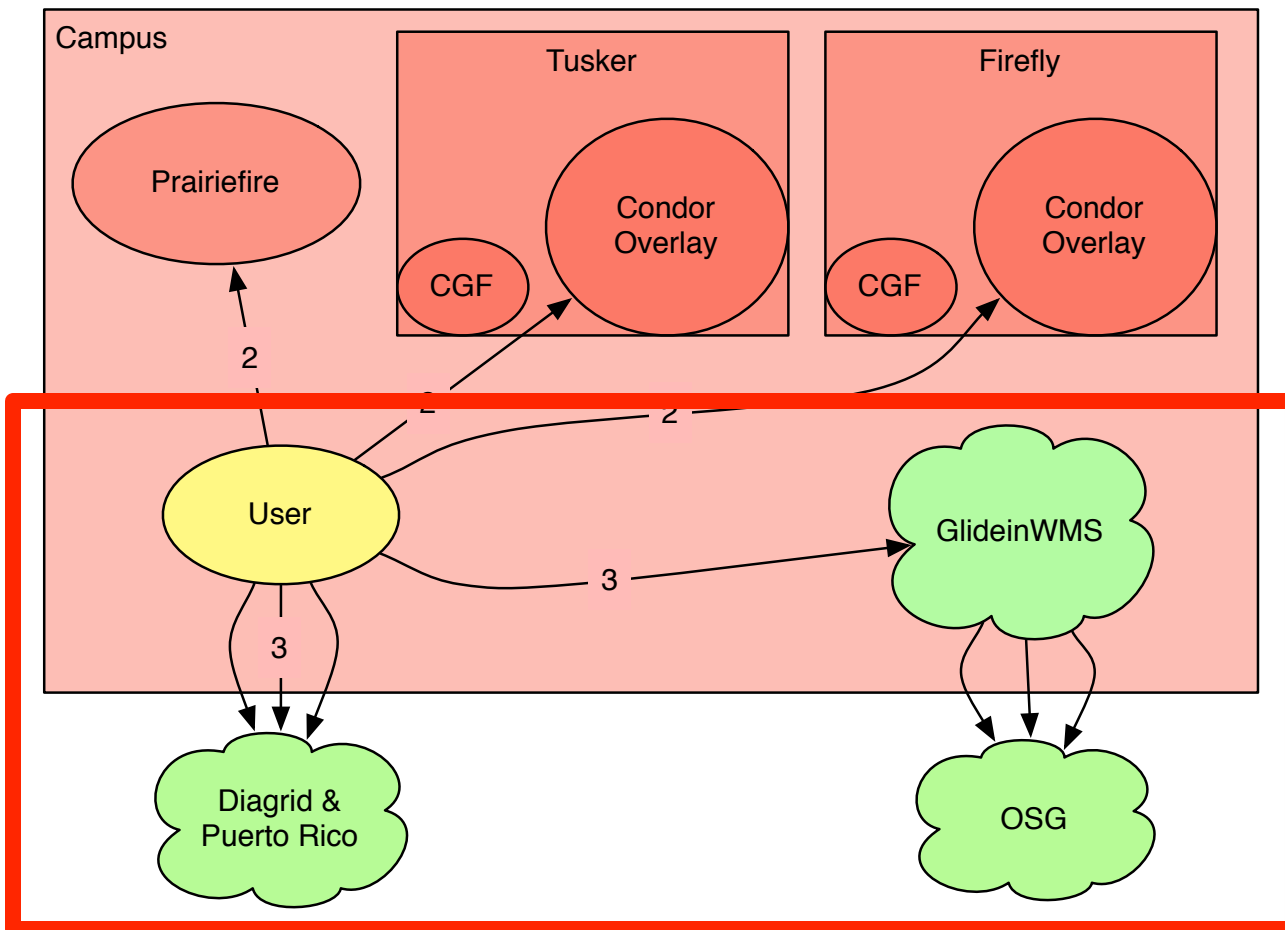
Current HCC Campus Grid

- First, go to the Campus



Current HCC Campus Grid

- Next, go outside the campus



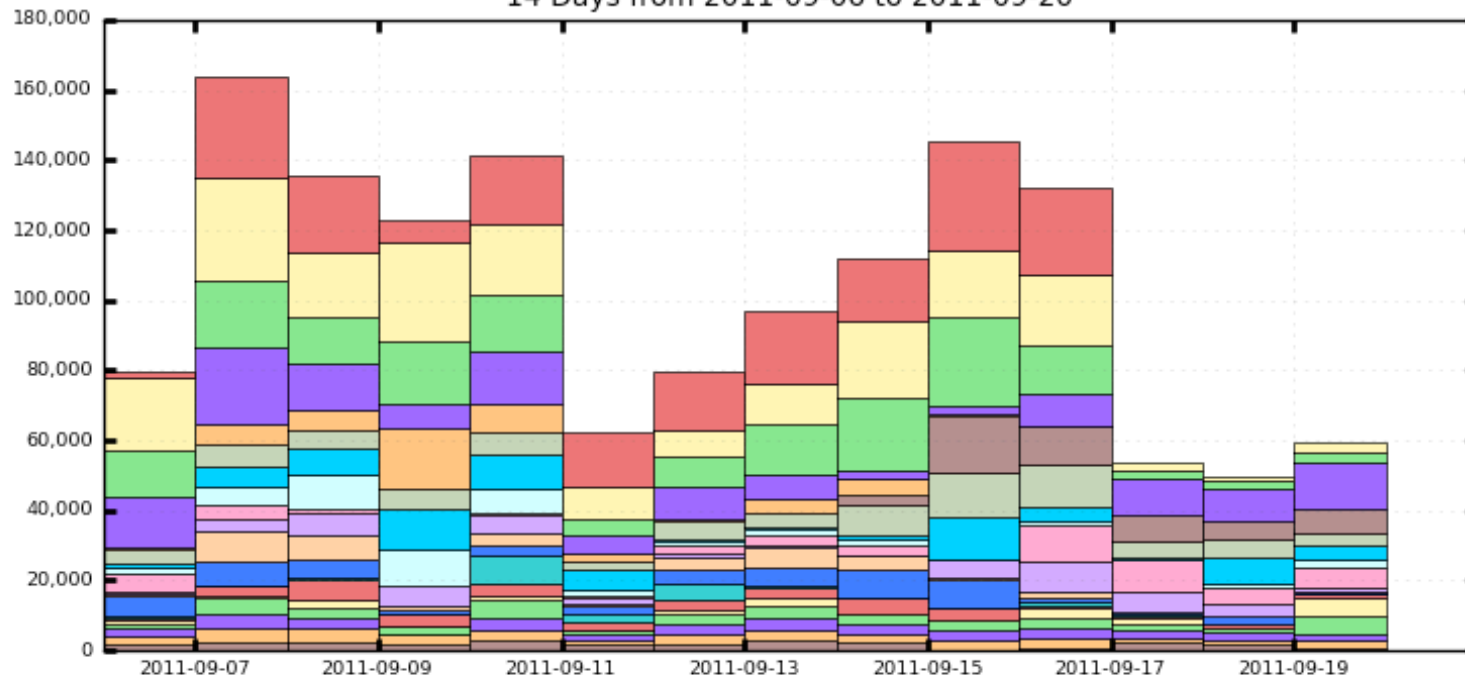
Campus Grid Accounting

- We use OSG Gratia for all HCC accounting
- Modified the gratia probe to collect information from GlideinWMS
- Campus Factory provides a GlideinWMS 'like' interface



Campus Grid Accounting

WMS Hours Spent on Jobs By Facility (Glidein)
14 Days from 2011-09-06 to 2011-09-20

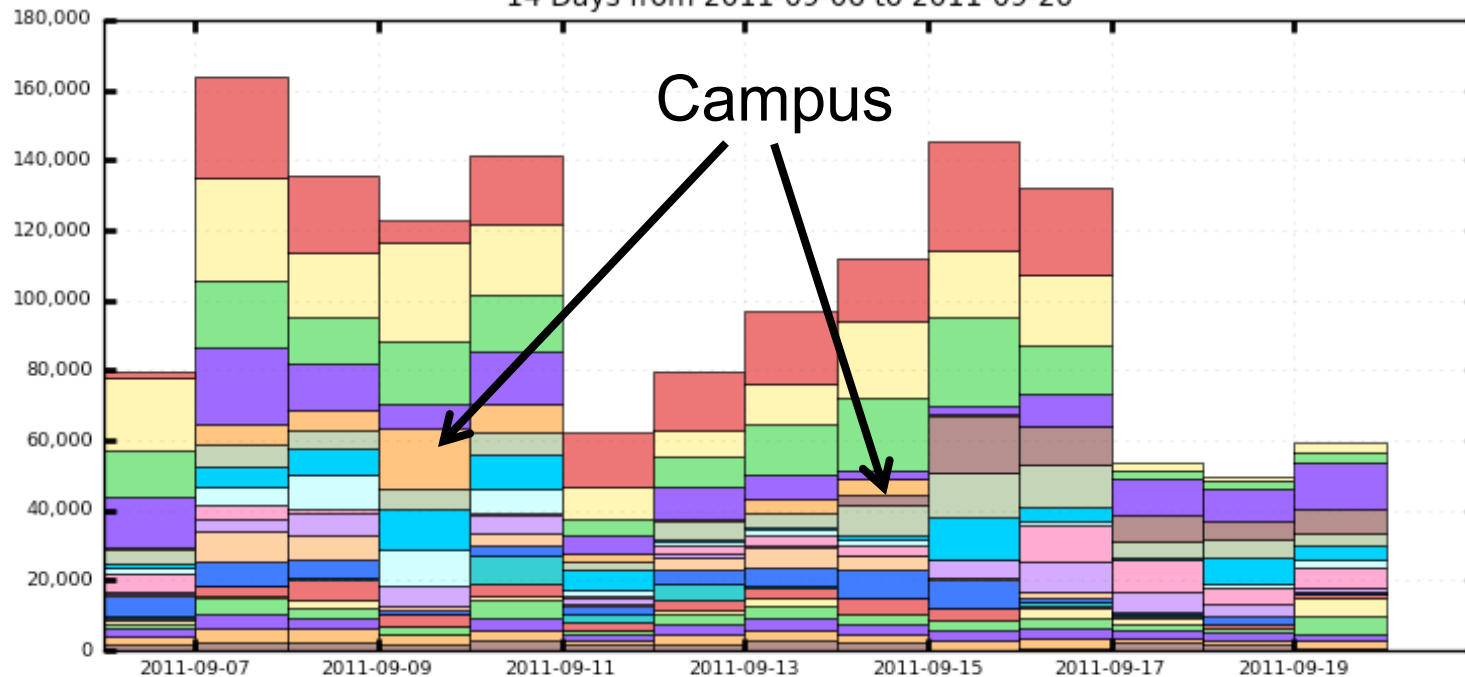


Maximum: 163,990 , Minimum: 0.00 , Average: 95,606 , Current: 0.00



Campus Grid Accounting

WMS Hours Spent on Jobs By Facility (Glidein)
14 Days from 2011-09-06 to 2011-09-20



Campus



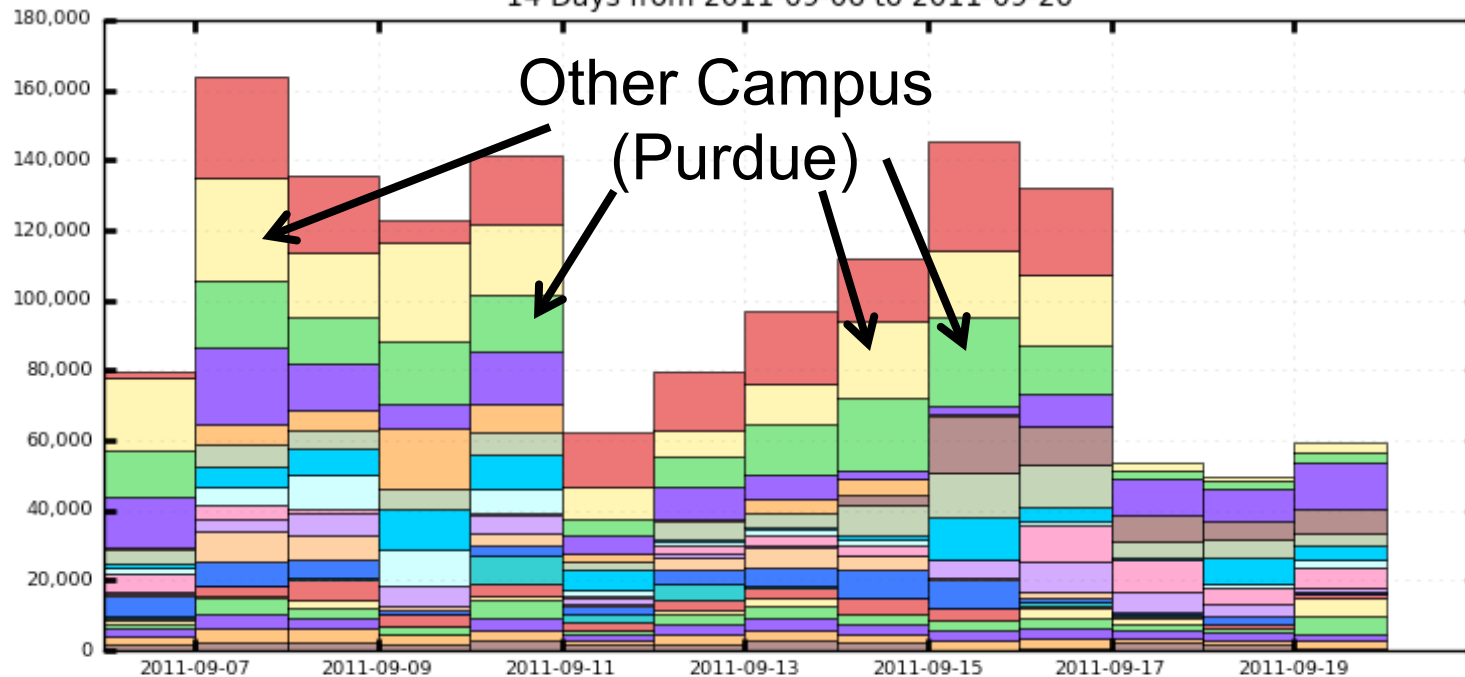
- Clemson-Palmetto
- Iustrea.rcac.purdue.edu
- bluearc.rcac.purdue.edu
- Nebraska
- ff-grid.unl.edu
- FNAL_FERMIGRID
- miner.rcac.purdue.edu
- MWT2_UC
- prairiefire
- Purdue-Steele
- Firefly
- Purdue-RCAC
- AGLT2
- MIT_CMS
- UCSDT2
- NERSC-Carver
- SPRACE
- GlueX_VOMRS
- OT_CMS_T2
- Other

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Campus Grid Accounting

WMS Hours Spent on Jobs By Facility (Glidein)
14 Days from 2011-09-06 to 2011-09-20



Other Campus
(Purdue)

- | | | | | |
|--------------------|---------------------------|---------------------------|----------------|-------------------|
| ■ Clemson-Palmetto | ■ lustrea.rcac.purdue.edu | ■ bluearc.rcac.purdue.edu | ■ Nebraska | ■ ff-grid.unl.edu |
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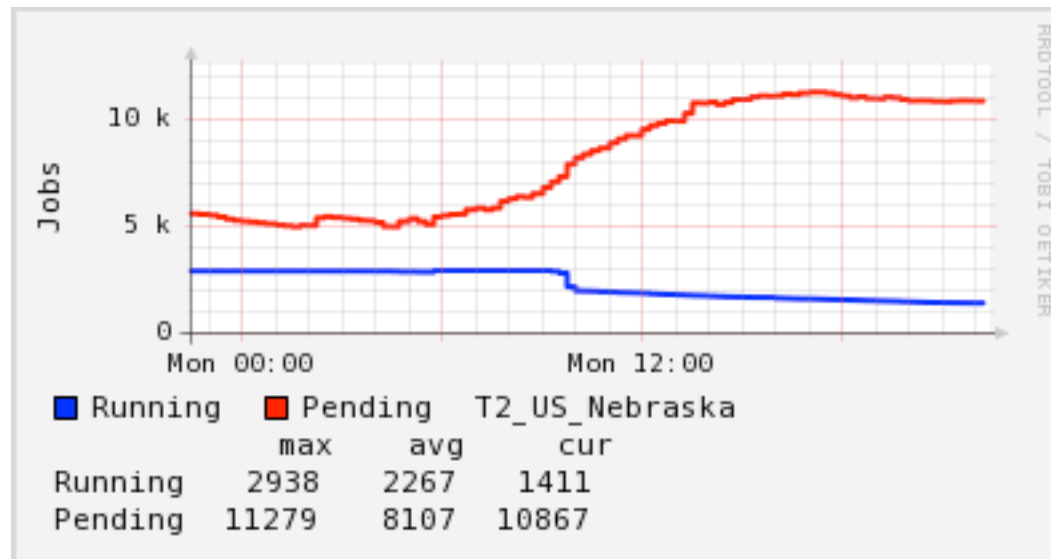
Science on the Campus Grid

- Mathematics
 - Brute force graph existence
- CPASS (cpass.unl.edu)
 - **C**omparison of **P**rotein **A**ctive **S**ite **S**tructures
- OMSSA
 - Mass Spectrometry Search



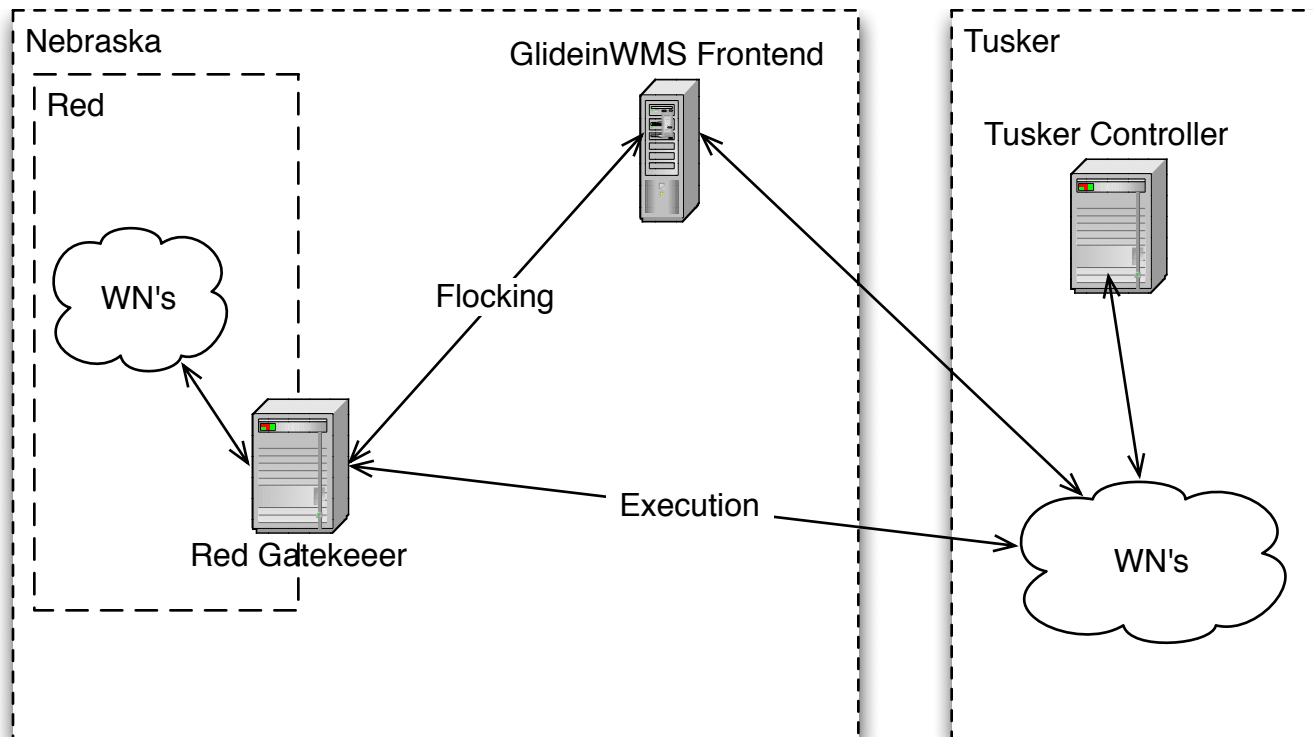
New Possibilities: Overflow Tier 2

- Our T2 was was overheating yesterday.
- 10,000 idle jobs, only 1.5k slots



New Possibilities: Overflow Tier 2

- Overflow jobs from the T2 to UNL and Purdue clusters.



Resources

- Campus Factory Install
 - <https://twiki.grid.iu.edu/bin/view/Documentation/CampusFactoryInstall>
- T2 Overflow information
 - <http://derekweitzel.blogspot.com/2011/04/overflowing-teir-2.html>
- Need help?
 - campusgrids@fnal.gov
 - Jabber Chat: `osg@conference.indiana.edu`



Questions?



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