



OSG Campus Infrastructures

Presentation to the OSG Council
Nov 13, 2012





Where Campuses Meet OSG



Remote
Login

OSG/Engage VO

GLOW

OSG Cloud

Gateway Organizations



Where Campuses Meet OSG



Remote
Login



Flocking



Gateway Organizations



Where Campuses Meet OSG



Remote
Login

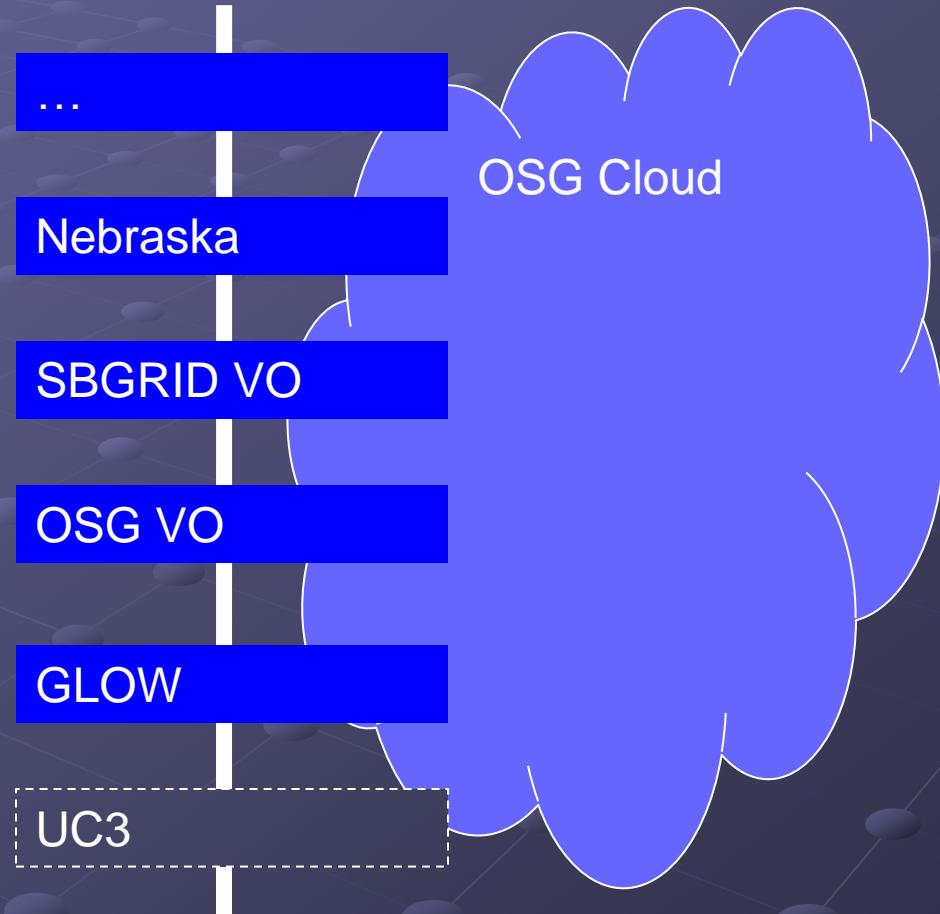


SSH

Bosco



Flocking



Gateway Organizations

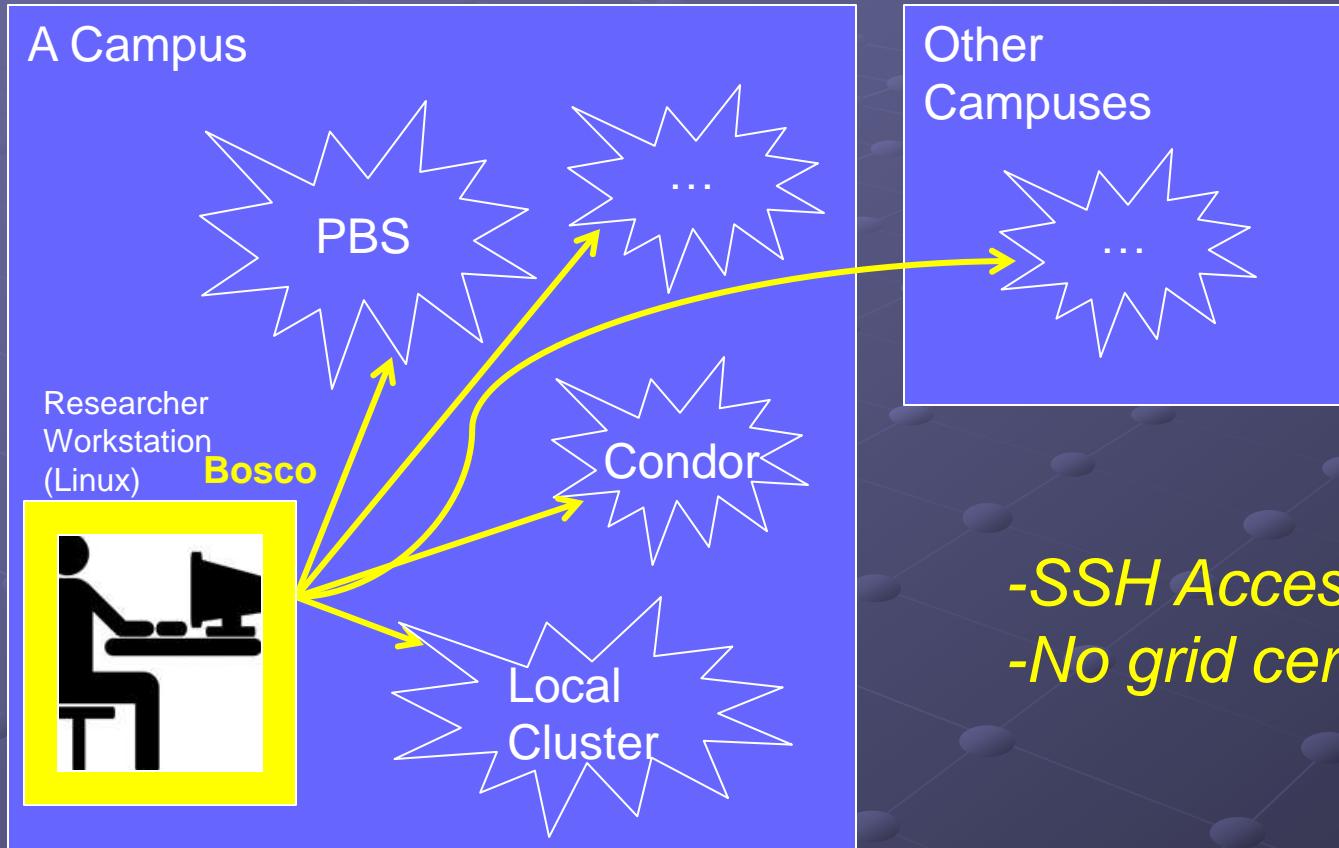


OSG Campus Program

- Focus on the Researcher (...or Artist)
 - What can we do to increase the throughput of your computing?
- Bosco (<http://bosco.opensciencegrid.org>)
 - Help ease the motivated researcher into a distributed environment
 - Distributed systems are not trivial
 - Support campus grids via flocking
 - <http://display.opensciencegrid.org>
- Campus Infrastructure Community
 - Community building focal point
 - Rob Gardner



Bosco Extends the Researcher's Reach



-SSH Access
-No grid cert needed !



Bosco v1.1α (available now) is designed for researchers

- Supports multiple OS's
 - RHEL 5, RHEL 6, Debian 6, Mac OS-X (server)
- Supports multiple cluster types
 - PBS, SGE, LSF, Condor
- Bosco web site
 - (bosco.opensciencegrid.org)
- Working on improved error messages

Same submit model as OSG GlideinWMS



Under the hood of Bosco

- Integrated combination of:

- Campus Factory – glide-in (U Nebraska) +
- Condor pieces (some under devel) +
- SSH (connect and file transfer) +
- Glue +
- Easy interface +
- Documentation

Bosco uses SSH to submit pilot jobs to worker nodes (WNs). WNs communicate back to the researcher's workstation...



Bosco Plan (release ~quarterly)

- Get v1.1 rock solid (Q4, 2012)
 - Testers include: UC3, OSG-ITB, IU, ...
- Start on v1.2 (Q1, 2013)
 - Automatic Gratia Accounting
 - Web view for use by campuses
- Replace existing campus grids w/Bosco (Q1/2, 2013)
 - Nebraska, U Virginia
- Target users from the Campus Infrastructure meetings
- Target the Condor users group (Q2, 2013)
 - Already have much of the HTC expertise needed to use Bosco



Campus Infrastructure Community (Rob G.)

- Community Building (plan started in ~July)
 - How-to center for community expertise
 - How to support application environments
 - Matlab, “R”, Amber, Pegasus, ...
 - Share DHTC Best Practices
 - Distributed High Throughput Computing
 - Set up a campus infrastructure
 - Utilize HTTP caching (Squid)
 - Enable researchers to access DHTC (**Bosco**)
 - Support for campus infrastructure builders
 - Email support, blogs, online training, ...
 - <http://twiki.grid.iu.edu/bin/view/CampusGrids/WebHome>



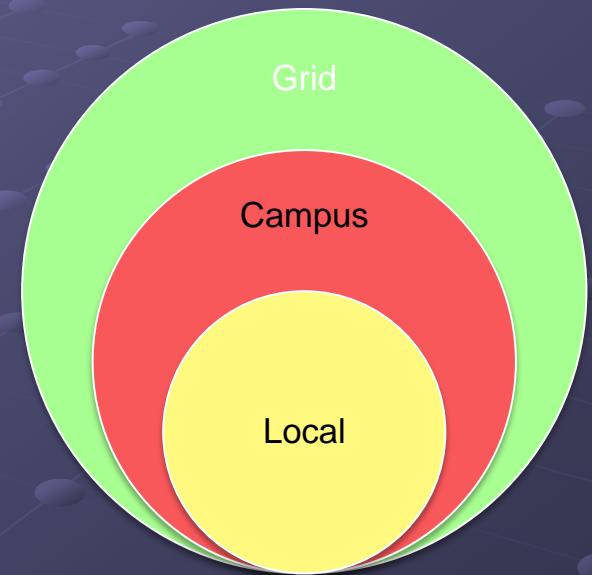
Campus Infrastructure Community Plan

- Monthly webinars
 - Focus on how to replicate best practices
 - Have not had a monthly meeting yet
- Occasional face-2-face meetings
 - First one in Santa Cruz (Nov 14, tomorrow)
- Community focus website (TBD)



Campus Infrastructure Direction

- Help the researcher use local resources
 - Run on a local campus cluster
 - Run on several local clusters
 - Use local authentication credentials
- Use/share resources with a collaborator on another campus
- Access to the national cyberinfrastructure
 - OSG (and also XSEDE) resources



Submit Locally, Run Globally