



Bosco: Enabling Researchers to Expand Their HTC Resources

The Bosco Team:

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Condor Week
May 3, 2012





The Open Science Grid

<http://display.grid.iu.edu>

- The Open Science Grid (OSG) has focused much of its effort on campuses from its inception
- **All** OSG computing power comes from campuses and National Laboratories
- OSG has a footprint on over 100 campuses and labs in the US and abroad

Both Inter- and Intra- campus bridging



OSG Campus Focus

- Focus on the Researcher (...or Artist)
 - What can we do to increase the throughput of your computing?



One step at a time



Bosco: Part of The OSG Campus Infrastructure Initiative

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



Researchers may (or may not) be using a local cluster

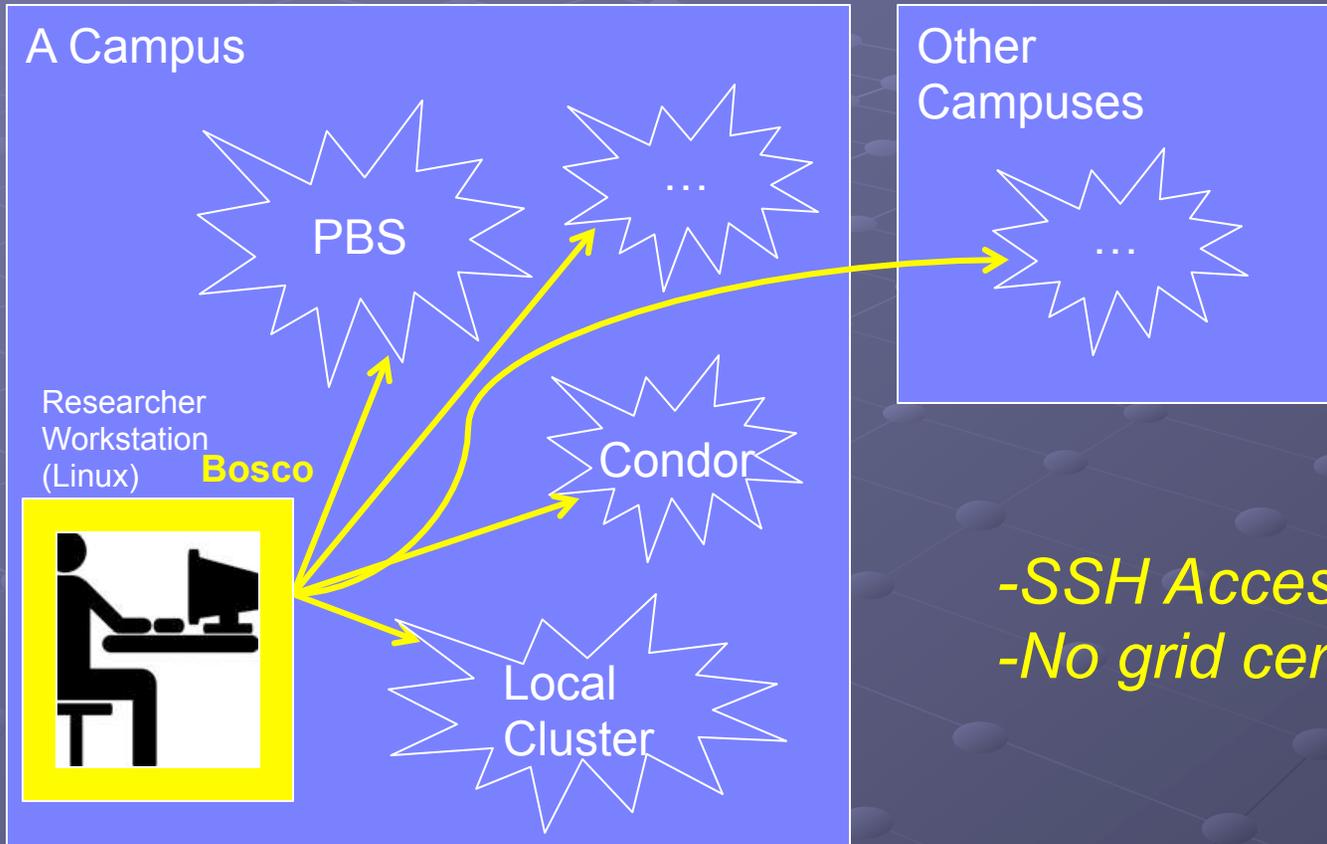
A Campus

Researcher
Workstation
(Linux)





Bosco Extends the Researcher's Reach



*-SSH Access
-No grid cert needed !*



Bosco v1 (June) is designed for researchers

- Download
- Untar
- `Bosco_install`
- `Bosco_cluster -add (hostname, Qsize)`
- `Bosco_cluster -test`
 - Submits a job, identifies problem areas
- Jobs submitted using Condor syntax
 - The submit model does not change

Same as the GlideinWMS Model



Under the hood of Bosco

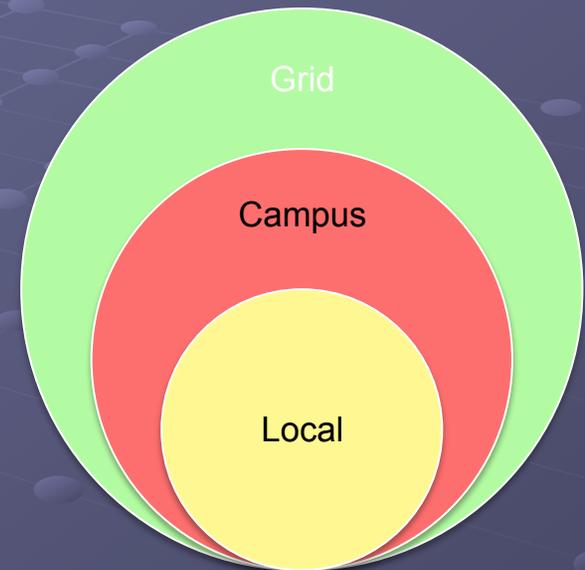
- Integrated combination of:
 - Campus Factory – glide-in (U Nebraska) +
 - Condor pieces (some under devel) +
 - SSH +
 - Glue +
 - Easy interface +
 - Documentation

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



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



OSG

YOU can be part of the action

Fraser at anl.gov

Bgore at morgridgeinstitute.org

We may even come to your campus