



Clemson Grid

Campus Grid Workshop



Background

Grid Elements

1. Lab Pool: ~ 2800 cores (Windows / Condor)
2. Palmetto Cluster: ~12,300 cores (Linux / PBS + Condor)
3. OSG CE (feeds Condor)

History, circa 2007

Beginning of HTC: Dr. Sebastien Goasguen advocates for a Condor pool

Beginning of HPC: New IT leadership begins focus on HPC resources

Beginning of user engagement

- Develop tools to make job submission point/click
- Support for 'How do I move my job from desktop to a grid?'



Keys

- Centralized IT involvement
 - A new user who asks for resources usually already has access
 - Central place with ability to give a user access to HPC/HTC resources
 - Staff to support the infrastructure
 - Purchase of the infrastructure
- Faculty's ability to buy-in to HPC resource
 - Heaviest users of non-owner resources are from owners after their weekly allocation has expired
 - Expands resources faster than a central buyer alone
- User engagement
 - Finding new users
 - Preparing jobs for HPC/HTC resources



Keys

- Unified resources, the number of distinct resources is approximately 2
 - Easier to manage from jobs to infrastructure

Misc.

1. Although our pool is open, very few non central-IT resources or submitters
2. Users don't cross heterogeneous environments. Windows pool users only use Windows pool.
3. Resource imbalance: everyone wants to run Linux jobs