

USCMS Tier 1 Experiences

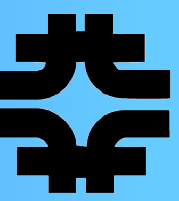
Integrating OSG and LCG Fabrics

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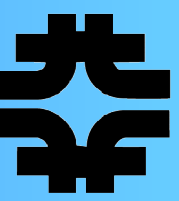


Outline



- Brief History



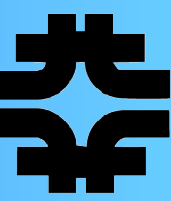


Brief History

- Started with 3 separate clusters; Each had their own workers
 - ➔ UAF: User Analysis Facility; FBS for batch
 - ➔ OSG: Gatekeeper/FBS for batch
 - ➔ LCG: Gatekeeper/Condor for batch
- Next step: Combined workers for OSG/LCG
 - ➔ Use same condor batch system
 - ➔ Different gatekeepers
- Third step
 - ➔ Migrated UAF to enable those users to submit to Condor system. But they could still use FBS to submit jobs to UAF workers



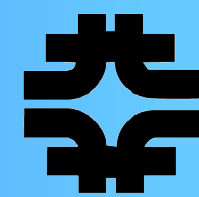
Requirements



- OSG requirements
 - ➔ Minimal
 - ➔ No software needed on the workers for the grid infrastructure
 - ➔ Locations of tools/software determined with environment variables.
 - ➔ Condor a supported Batch system
- LCG requirements
 - ➔ Significant
 - ➔ Lots of software needed on the worker nodes and system files are customized
 - ➔ Paths hardcoded
 - ➔ Condor had/has no support (is this coming soon?)



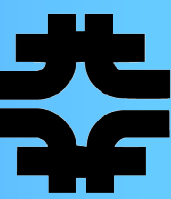
The Integration



- Condor used as only batch system
 - ➔ Each gatekeeper is a submit node
 - ➔ UAF workers are also submit nodes
- Keep gatekeepers separate
 - ➔ user access management
 - ➔ different monitoring
 - ➔ load
- Workers installed with LCG wn package
 - ➔ required for LCG jobs to run – did interfere with other job submissions
- UAF interactive nodes
 - ➔ Installed with LCG UI in case users wanted to submit LCG jobs and for our test purposes



Playing well with others



- Don't interfere with base system
 - ➔ must be a requirement on the workers since are more likely to be shared across grids
 - ➔ anything that needs root access to change should not be done
 - ➔ bring environment with the job
- Sites (especially larger ones) will have requirements outside of defaults in your grid
 - ➔ Plan for this
 - ➔ The fewer requirements your grid has the better
 - ➔ Facilitate customizations