Fermilab

Open Science Grid

US CMS
The Compact Muon Solenoid

OSG All Hands Meeting

GlideinWMS

The CMS processing experience

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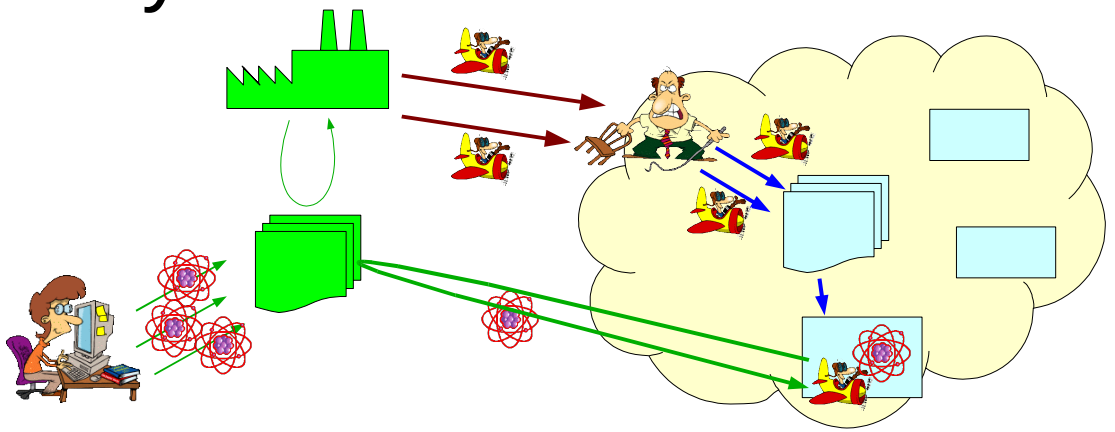
for the CMS processing team

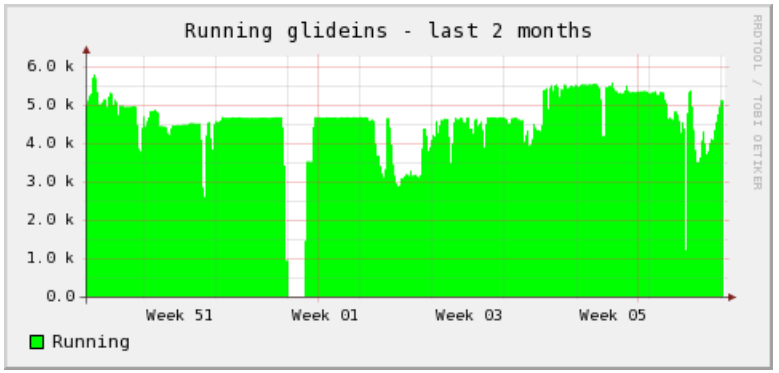
What is glideinWMS?

- glideinWMS is a pilot-based Grid Workload management system
  - Based on the Condor glide-in mechanism
  - Pilots sent to the Grid sites
    - Jobs pulled to the worker nodes after pilot start
- Currently being used by
  - CMS
  - CDF
  - MINOS

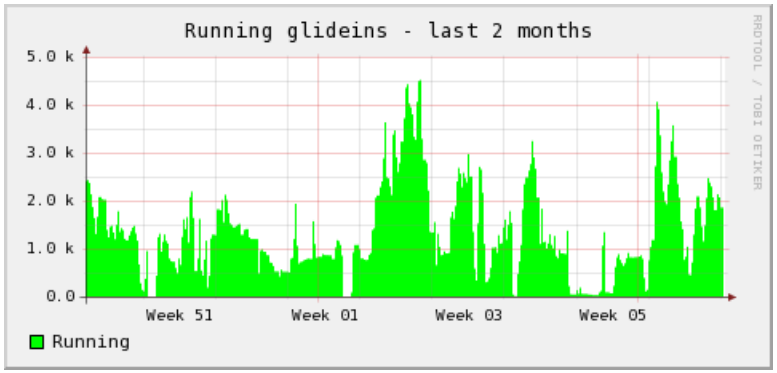


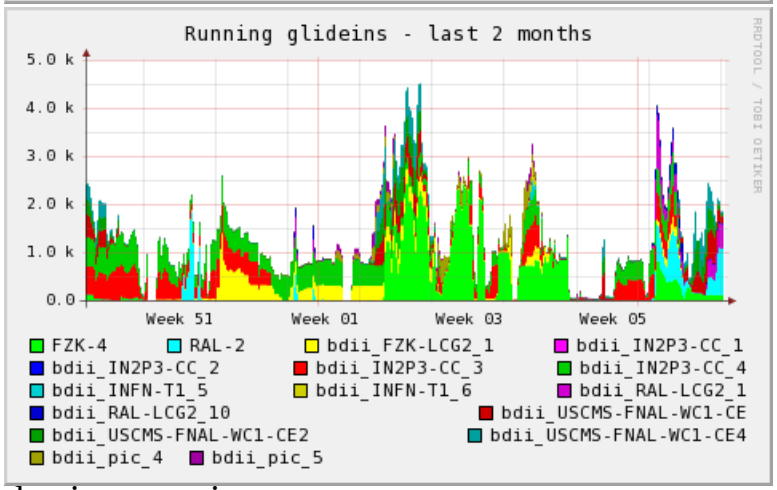
CMS processing and glideinWMS

- Two instances at Fermilab
- First instance using just FNAL resources
  - Best case scenario (Gatekeeper and WNs on local LAN)
  - Giving us consistently ~5k batch slots



- Second instance using resources from all CMS T1s





The result?

- FNAL instance
  - Rock solid since the installation
    - Virtually no maintenance
    - 99% job success rate
  - Helped achieve the target job turnaround goals
    - Tested up to 7k/h
    - Regularly at 500/h
- WAN instance
  - Bumpy start; had networking problems
    - Was difficult to debug
    - But fixed now
  - Working mostly fine now; but still having problems at a few sites
    - Mostly data handling issues
    - Very few errors due to glideinWMS per se

Conclusions

- CMS is actively involved in commissioning the glideinWMS for Tier 1 processing tasks
  - Already employed doing real work for CMS
    (full re-reconstruction and skimming of CRAFT data)
- glideinWMS benefits
  - Allows to efficiently run very short jobs on the Grid
    (and long jobs, too)
  - Improved monitoring
    (even interactive-like access to jobs running anywhere in the world)
  - Reduces the error rates
- For more details on the glideinWMS internals, see the dedicated poster