

Winnie Lacesso

# *Bristol Site Report*

*May 2007*



## Staff & Users

- Departmental Physics / Networks: JP Melot, Neil Laws (Microsoft); Rhys Morris (Astrophysics support)
- Particle Physics: Winnie Lacesso, Yves Coppens (SouthGrid Technical Support), John Wakelin (.5), Rhys Morris (.2)
- About 40 PP staff & students + visitors
- Maintain Bris AFS cell (heavy use)
- Desktops: ~37: XP(18) , Lx (19 – SL4/FC ) in labs & student offices
- Laptops: ~39: Mainly Mac (~16), Xp (~15), Lx (8 – SL4, FC)
- New staff & students use main UBristol email, prior use local Physics departmental email server (want to phase it out)
- Concerns: users using VM w/out any SysAdmin caution, users with admin privileges on laptops

# Servers

- About 20 servers, in process of consolidation/reorg
- Win2003: fileserving (60GB); considering Unix/Samba replacement but vista  $\Leftrightarrow$  samba broken (recent fix May 2007), concern about future MS similar breaks
- Win2K AFS (not supported config!) (60GB): have Unix server to build & migrate it to, will also host PP software licenses
- Most servers = Linux: NFS (~5), PBS batch(2), compute (~5), subversion, infrastructure (web, DHCP, backups, kickstart)
- Mix of RH9 (departmental DHCP server is RH7.2!), SL3.x, SL4.x
- To-do: Migrate all PP RH/SL3/W2K servers to Linux = SL4
- *Is anyone using/considering virtualisation for their LCG Service nodes?? (Virtualisation is said to be good for lightly loaded servers)*

## Negotiations with UBristol HPC for PP usage

- Not usual cluster-usage model of: copy data to cluster storage, download user program, distribute on WN & it computes (usually using MPI) for hours
- Instead PP is constant stream of jobs that need to contact outside servers: Bristol LCG service nodes, Tier1 nodes (RAL, CERN), experiment servers
- UBristol Administration recognises that Particle Physics is high-profile & guarantees Particle Physics N% of HPC (N = secret but good)
- Learning from Mona Aggarwal & help from Yves on how to configure HPC WN (no access to one yet) – soon as I apply for account!
- Concern about stability of gLite3.x on SL4 – is it ok? (rumour: mostly)
- Storage: Jon Wakelin working on test StoRM server; UBristol bid for HPC Big Storage happening now

## Tier 2 Site Visit & Questionnaire

- Days of prep, several iterations of scoping alternatives ie having a dedicated PP WN cluster (£60K of own WN + storage; then £30K of own WN...)
- Learned a lot about current/upcoming hardware, but not buying any new WN in the end, only +8TB LCG RAID Storage
- Very interested in quad-core Xeon 5300 CPU, & new dual-motherboard ie Viglen HX2220i; with 2 x Xeon 53xx / mobo = 16 cores per WN!
- but only 1 powersupply...
- Bristol Tier2 Site Visit went well, undeniable upcoming challenges in using the UBristol HPC for LCG Grid

# Infrastructure

- **Network:**
- UBristol PP LAN => SJ5 will be at least 1 Gbps if not 2.4 Gbps
- SWERN POP across the road in IS machine room
- UBristol upgrading network to 10GbE within 1 year
- **BACKUPS:**
- starting to backup to UB IS central via NetWorker; local old Linux backup server – migrate clients to NetWorker
- To-do: Migrate NFS homedirs to new server, backup to NetWorker
- To-Do: Migrate Win2K AFS to new Unix server, backups to NetWorker; but there is only fairly old user-built NetWorker<=> AFS module. No real support for it - concern about that

# Security

- User laptops frequently go offsite (home, CERN, RAL), come back & reconnect to internal network. No (detected) incidents. Even from users with root/admin access on laptops.
- Worst: 1 student changed time +1hr, not aware that modern operating systems automate that twice yearly time-adjustment; confused other servers (files timestamped +1 hr). Easy fix, student learned.
- Physical (building) security serious incidents partly due to construction scaffolding – breakins, theft. None in PP research group so far.
- Daily check of Internet Storm Centre (<http://isc.sans.org>) news, current central log/mon server (due for upgrade) reports, webserver webalizer usage/monitor reports (what do others use?)

# Issues

- **A few problems over the year :**
- A/C failure in hot summer – should not happen again They Say!
- UPS on external generator – good in theory but not yet tested
- Major disruption (months) from building refurbishment + construction of HPC machine room on floor above – water in office & in Physics main machine room, glue dripping into offices & on equipment...
- Workload bursty heavy from UI, staff, students (new & old)
- **Upcoming/pending work :**
- New servers replacing old – servers waiting
- Production webserver – grave concerns about daily security monitoring?
- But webserver will allow ganglia, nagios, etc