

Queen Mary College London HEP Site Report

Hep Sysman June 2009

Staff Status

- The local machines and users
 - Alex Owen
 - Cozmin Timis
- The Grid HTC Cluster
 - Alex Martin
 - Chris Walker (since February)

QMUL HEP Machines

- 6 Debian Servers
 - Print, Filestore, Samba, Backup/Install, Web, Syslog, Boinc, Mail
- 1 Red Hat server
 - \$HOME, NIS,samba
- ~20 Rackmount SL3/SL432bit workstations
- All under UPS
- 15 SL5/Debian/Fedora Desktops
- 10 WinXP Desktops
- 20 Laptops (mixed bag mainly Dell 410,420,430, E4300, Macs)
- 2 HP Procurve Switches 2810-48G

QMUL HEP Machines

- Mail server upgrade: Debian based exim delivery to dovecot imap server (Maildir format mailboxes) with imaps and SMTPS-AUTH submission.
- NB: Janet Certificate Service (for SSL certs)
- 3ware 9500S-12 2TB based RAID5
- Areca 1160 8TB RAID6 recommissioned
 - Second machine commissioned, total 18TB
- Consider purchasing extra storage (Dell solution Power Edge+ Power Vault MD 1000 ?)
- Installed Atlas/Grid UI software on SL4
- Polycom VSX7000s
 - Stand alone Video Conference Kit
 - Registered with JANET VC service for GDS
 - 2 faults in 2 months, received refurbished kit

Other QMUL services

- Webservice upgraded
 - Web disk NFS exported to desktops
 - Steve's atlastest SL4+ webserver
 - move to Plone Zope CMS soon
- Gateway machines SL4 (3 DNS round robin), Fail2Ban
- Sun Grid Engine for batch queue
 - 4x2x4 core Xeon E5420 (2.5GHz) 8GB RAM
 - 4x4 core Opteron 270 4GB
 - 10-20 dual Xeon 3.06 GHz to boost SGE ,wake-on-LAN
 - LCG UI, 5-10 Atlas versions, AFS,
- NEC VL360 as base desktop, then VL370, now Stone Computers
- Upgraded Debian Syslog server/Print server.

YUM on SL

- SL4 add-on repo
yum-plugin-priorities
- SL4 enable in yum.conf
“plugins=1”
reposdir=/etc/pprc.yum.repos.d
- SL5 part of distro
- yum-priorities
Low Priority Wins

[sl-base]

baseurl=http:// ...

Priority=10

exclude=cvs

[qmhep]

baseurl=http:// ...

priority=5

[SLC]

baseurl=http:// ...

priority=20

[glite]

baseurl=http:// ...

priority=30

Other QMUL services

- PXE/Kickstart Cfengine svn version control
- Amanda Backup HP tape loader 8xLTO ultrium 2
- NIS, Samba
- Windows ? Nothing new under the Sun
- OCS (Inventory and Package Deployment system) + GPLI (Asset Resource-Manager with an additional Administration- Interface)

QMUL Next Year

- New hepserver (HP DL380G5, virtualisation ?)
- CMS + Wiki
- Monitoring OONMP
- Disaster Recovery
- LDAP/Kerberos
- Extra Storage (Lustre FS ?)

QMUL HTC Hardware

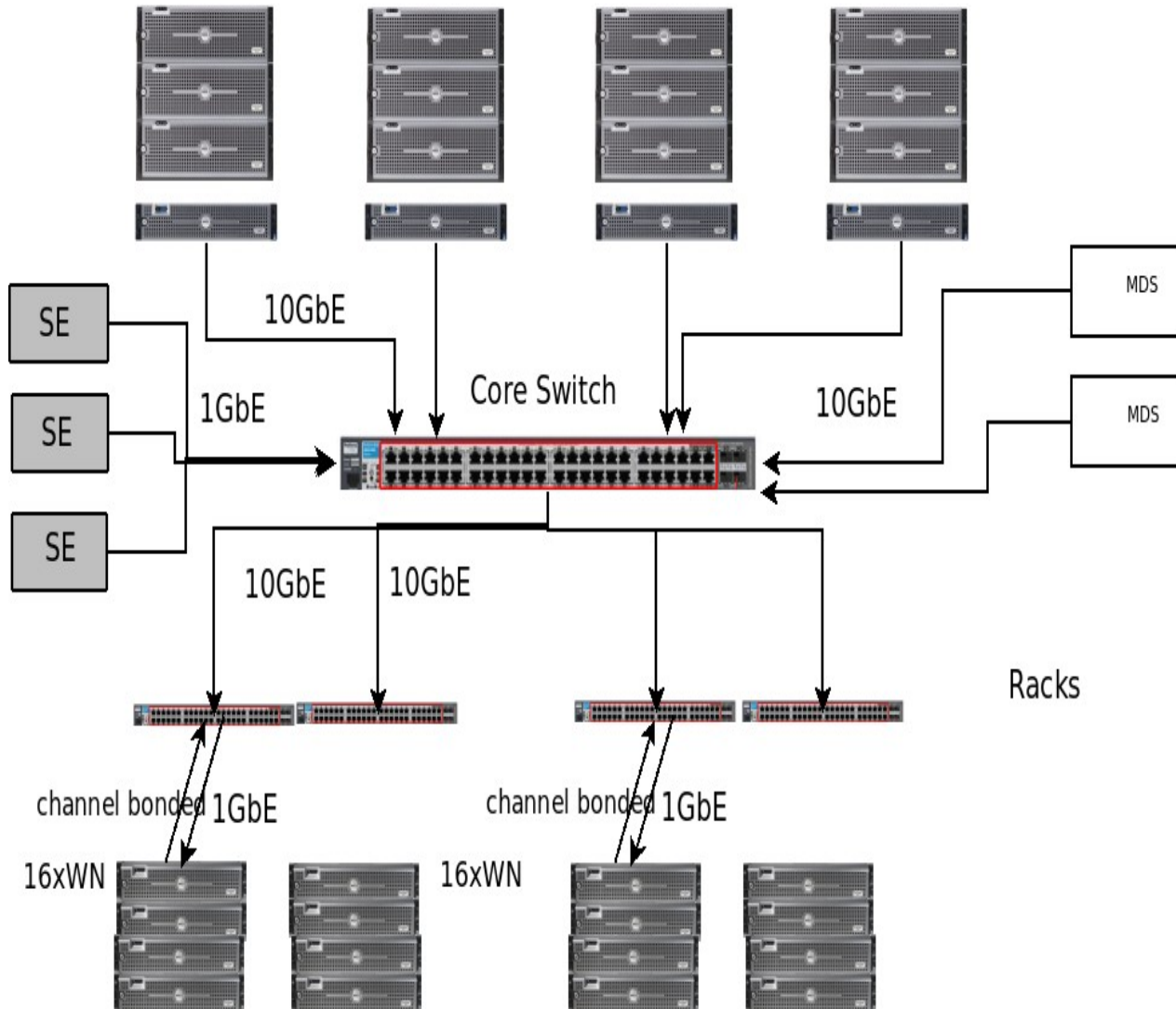
- Worker nodes
 - 64x 2x4core Xeon E5420 (2.5GHz) 8 GB RAM
 - 2 x 2x4core Xeon E5420 (2.5GHz) 32 GB RAM
 - 160 x4core Opteron 270 4GB RAM
 - 128x2core(2 thread) Xeon (2.8GHz) 2GB RAM
- Total 1424 cores
- PXE/Kickstart perl scripts for configuration
- Zabbix monitoring, 20-30 temperature sensors

QMUL HTC Storage

- The Past
 - SRM
 - se01 Storm (1.3.20)/Lustre
 - se02 DPM/Lustre
 - CE
 - ce01
 - ce02
- The Future
 - se03 Storm (1.4) / Lustre
 - ce03
- Lustre
 - 2*MDS
 - Failover
 - Lustre_0 (290TiB)
 - 12 OSS
 - 30*1TB
 - Raid6 + 1 hot spare
 - 10GigE
 - Lustre_1 (30TiB)
 - 4*OSS

QMUL HTC Networking

12x Dell Power Edge 2950+Dell Power Vault MD1000



- 12 OSS (290TiB)
 - 10GigE
- MDS
 - Failover pair
- Rack Switches
 - 10GigE uplink
- Worker Nodes
 - E5420 -2*GigE
 - Opteron -GigE
 - Xeon -GigE

Step 09 - Leadup

- See Chris Walker's talks on Thursday and Friday
- New CE
 - Ready Mid May 2009
- New SE
 - Installed 27 May
 - Consistent user mapping 29 May
 - Announced 30 May
 - FTS 1 Jun
- Decide to try new SE for Step09

QMUL HTC Conclusions

- STEP09 very worthwhile
 - Lack of [file://](#) Protocol support a major issue, bottlenecks
 - Network pinch points identified and resolved
 - 33TiB of data received
 - Improved monitoring
- Power Consumption, Air Conditioning, Room Temperature, who cares ?
- QMUL in good shape