

ScotGrid Tier 2

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On behalf of the ScotGrid team



Overview

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 - Glasgow, Edinburgh and Durham
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The Current ScotGrid Team

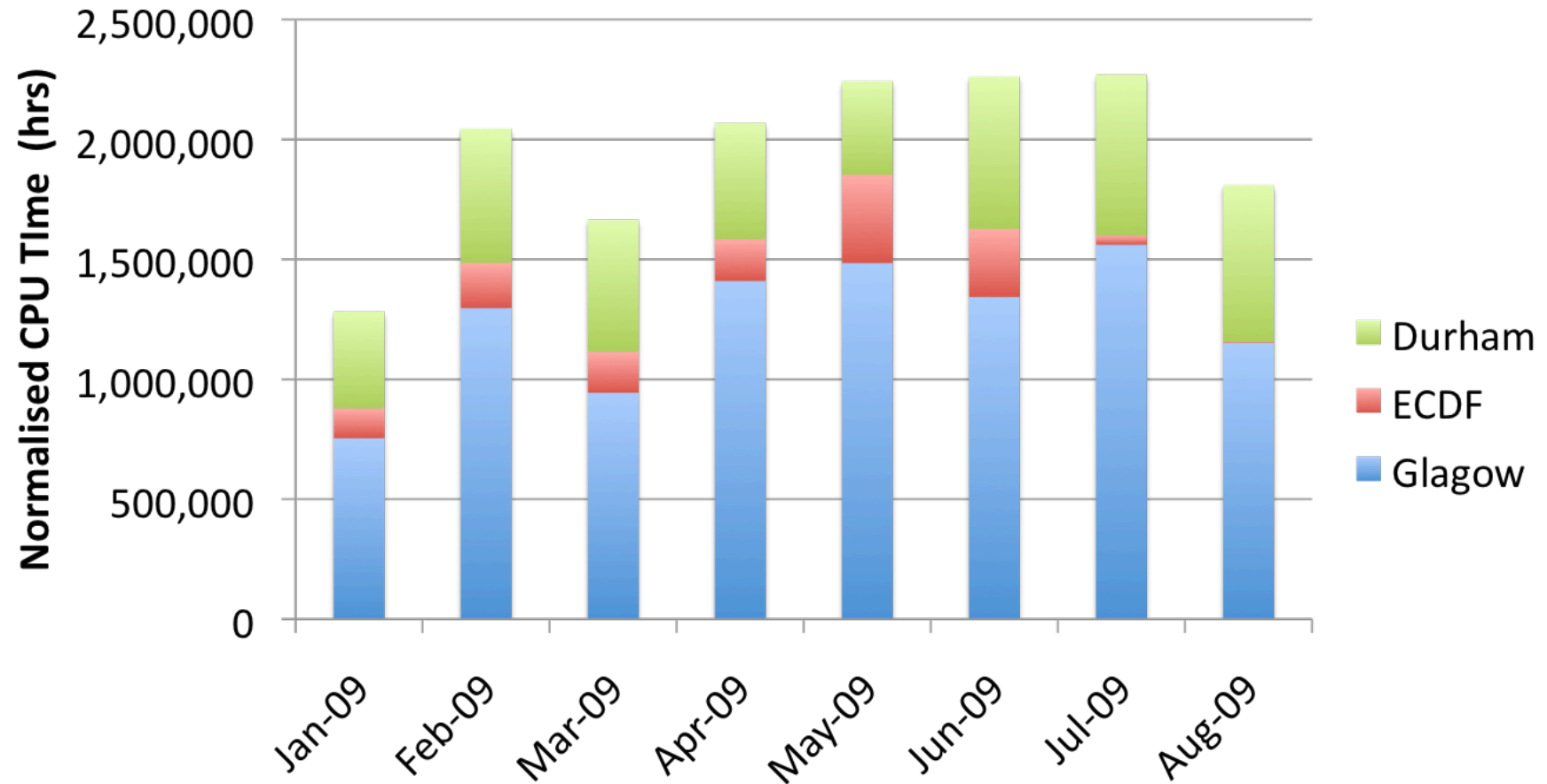
- Glasgow
 - Graeme Stewart - Tier2 Coordinator
 - Douglas McNab - EGEE SA1 Tier 2 Deputy
 - Mike Kenyon - Glasgow Grid System Manager
 - Sam Skipsey - Data Management
 - Stuart Purdie - EGEE NA4 User Support
- Edinburgh Compute and Data Facility (ECDF)
 - Steve Thorn - Grid Support
 - Wahid Bhimji - Storage Support
 - Andrew Washbrook - Physicist Programmer
- Durham
 - David Ambrose-Griffith
 - Phil Roffe

The Current Hardware

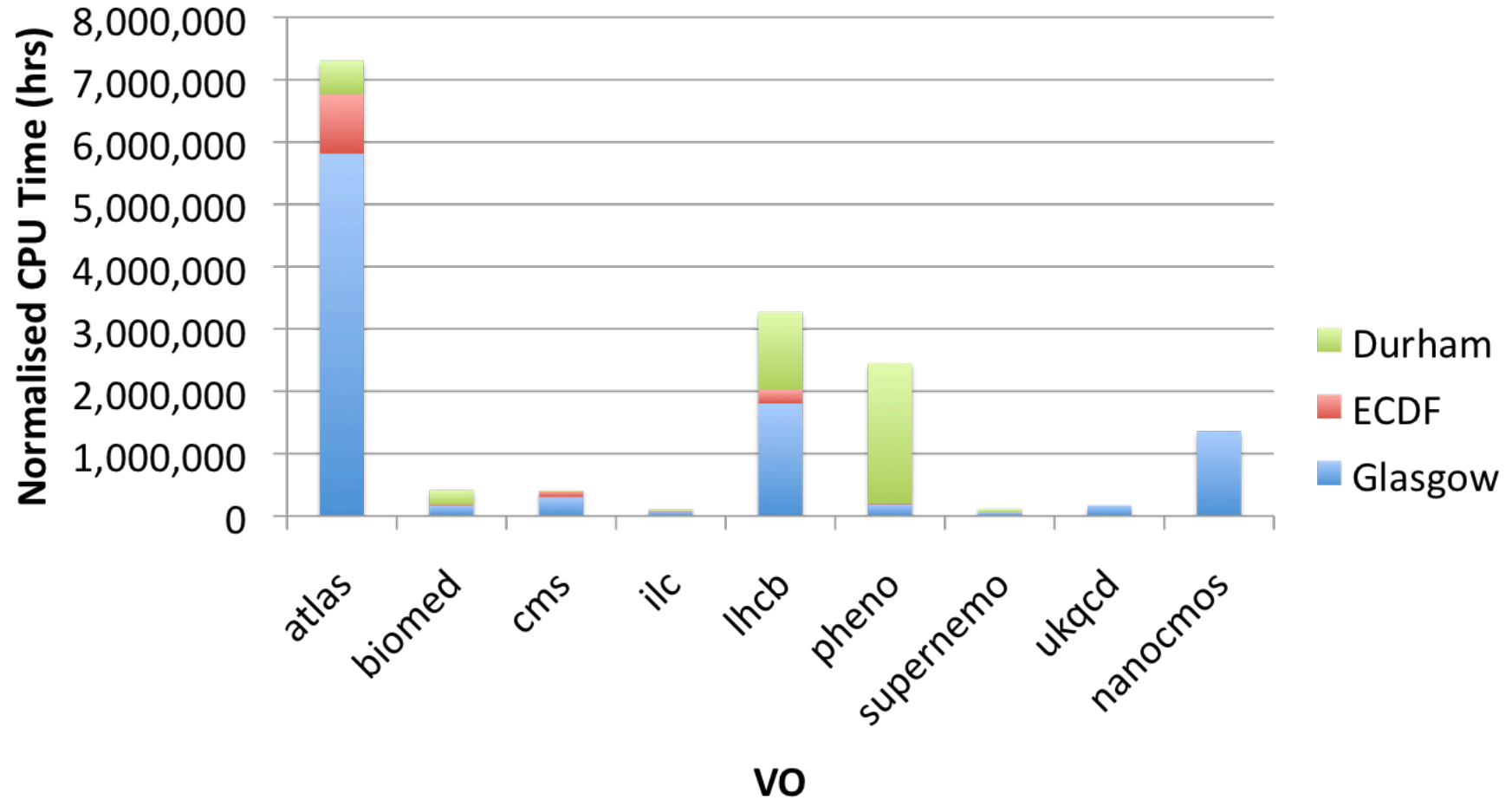
- Glasgow
 - 140 Dual Core singles providing **560 cores**
 - 85 Quad Core twins providing **1352 cores**
 - 2 DPM & pools providing approx 480TB
- ECDF Total [GridPP has/had **10%** share of]
 - 128 Dual Core twins providing **512 cores**
 - 128 Quad Core twins providing **1024 cores**
 - 8 GPFS servers, 2 DPM & pools providing approx 300TB
- Durham
 - 42 Quad Core twins providing **672 cores**
 - DPM & pools providing approx 30TB

Total Cores for GridPP: **2737**
Total Storage for GridPP: **540TB**

YTD Tier2 Contributions



YTD Usage By VO



2009 Availability

SAM Tests

Site	Quarter 1 2009	Quarter 2 2009	Quarter 3 2009	Average
Durham	97%	99%	99%	98.3
ECDF	96%	93%	97%	95.3
Glasgow	97%	99%	99%	98.3
ScotGrid as a whole	97%	97%	98%	97.3

Atlas SAM Tests

Site	Quarter 1 2009	Quarter 2 2009	Quarter 3 2009	Average
Durham	99%	99%	100%	99.3
ECDF	93%	94%	45%	77.3
Glasgow	98%	100%	99%	99
UK Average	92.2%	93.4%	88.4%	

Storage Report

From the last quarterly report

Site	Non LCG (TB)	GridPP (TB)	Total (TB)	GridPP MOU (TB)
Durham	0.45	30	30.454	20
ECDF	200	121.1	321.1	1
Glasgow	9.5	474	483.5	267
Totals	209.95	625.1	835.05	288

Caveats

- Figures are total space available to all (no space tokens)
- Some Glasgow storage still not online

ScotGrid Headlines Part 1

- General
 - All sites are excellent in SAM.
 - Publishing accounting records ok.
 - Glasgow, Durham good job numbers; ECDF low.
- ECDF Jobs
 - ECDF is a shared resource and has recently moved away from fairshares to usage based charging. No money left for Grid jobs.
- SL5 Migration
 - Glasgow : starting September 2009, retaining some SL4 nodes.
 - ECDF : starting September 2009, retaining some SL4 nodes.
 - Durham : mid October 2009.
- Recent Kernel Vulnerabilities mitigated and patched at all sites.

ScotGrid Headlines Part 2

- HEP-SPEC 2006 Benchmarking complete.
 - Figures available at <http://www.gridpp.ac.uk/wiki/HEPSPEC06>
- Recalibration of Accounting to HEP-SPEC 2006 completed at all sites and delivered to DB.
 - ECDF and Durham ok; Glasgow under reported.
- Attendance at CHEP 09 in Prague
 - Both Graeme and Sam presented. Both have written papers.
- Accidents can happen!
 - Durham struck by lightning. Glasgow air-con dumped water into the room. This leaked downstairs on top of our cluster – sound familiar?

ScotGrid Headlines - Operations

- ScotGrid Virtual Control Room (Skype) now heavily used.
 - Hosted recent group chats about kernel vulnerabilities & SAM failures affecting all sites
- ScotGrid blog and Storage blog still actively posted to by members of ScotGrid.
- Development cluster proving useful for dry run installs and middleware upgrades.

Site News – Glasgow Part 1

- **Middleware Updates**
 - Cream in use for licensed software, real local users submitting to it, new VO optics, MPI usage, VOMS Migration, WMS,CE and DPM on latest builds.
- **Local User Support**
 - gqsub, gqstat wraps glite-wms-* into what local qsub users are used to. Hear about it at EGEE'09.
- **MPI**
 - re-installed & working: no passwordless ssh, using NFS instead. real users! Lumerical FDTD (optics), Chroma (UKQCD), CASTEP (possible new VO).

Site News – Glasgow Part 2

- **Superb STEP 09 Performance**
 - The top ATLAS Tier 2 during STEP09.
 - Glasgow analysed more than 1.8B events, mostly through panda, with a 98% success rate.
 - Sam presented Glasgow at the WCLG Post-Mortem in July.
 - This success has continued in subsequent hammer clouds.
- **Future at Glasgow**
 - Subnet Move to use Research Network RAL IP's.
 - Increase network bandwidth on Campus after STEP09 experience.

Site News - Edinburgh

- Currently running at reduced capacity due to funding issue.
- Two new hires and two more on the way.
- gLite3.0 CE decommissioned, replacement required.
- DPM Upgraded to 1.7.2.
- Deploying Storm for GPFS.
- Planned two phase upgrade to cluster over 2010/2011.

Site News - Durham

- Since GridPP 22 changes have been minimal.
- Progress being made on IPMI enablement and net-booting.
- Implemented temperature controlled shutdown script.
- Proposed network changes to reduce internal bottleneck.

The Future

- CREAM
 - It is coming are we ready to use it?
 - It appears to have advantages over the lcg-CE.
 - What about ARC?
- MPI on Grid
 - More and more requests from non LHC VO's.
 - Is MPI within EGEE/gLite still supported and active?
 - Can the middleware give the correct information to schedulers?
 - MPI SAM tests are to be run at sites again.

Conclusions

- Glasgow consistently delivering resource to the grid and is still the biggest contributor in ScotGrid.
- Durham a steady contributor since GridPP22 with no major problems and excellent availability.
- Issues with ECDF at present. Management working to resolve this.