

HPCx Quarterly Report January – March 2005

1 Introduction

This report covers the period from 1 January 2005 at 0800 to 1 April 2005 at 0800.

The next section summarises the main points of the service for this quarter. Section 3 gives details of the usage of the service, including failures, serviceability, CPU usage, helpdesk statistics and service quality tokens. A summary table of the key performance metrics is given in the final section. The Appendices define the incident severity levels and list the current HPCx projects.

2 Executive Summary

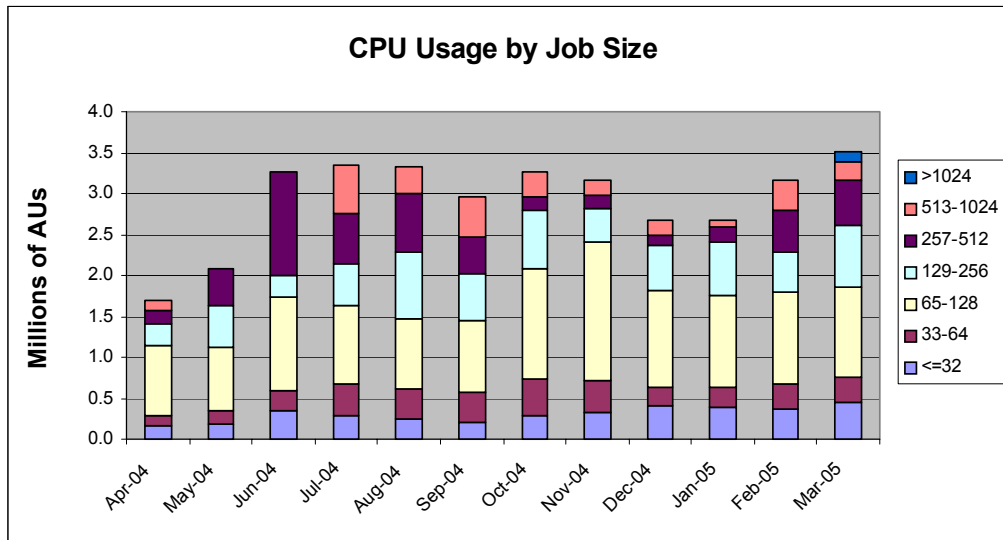
- STAC (Scientific and Technical Advisory Committee) were very positive about the progress HPCx made during 2004 and supportive of the objectives in the Annual Plan for 2005, although they asked for more emphasis to be made on Outreach. However, the Annual Plan has not yet been signed off by EPSRC/Oversight Committee.
- This quarter has seen a very successful start to the year with utilisation increasing significantly since December and January. March had the highest utilisation since April of last year and represented the largest number of AUs delivered in any single month of the HPCx service. Capability usage has also returned to more normal levels.
- The system continued to demonstrate its excellent reliability throughout this quarter; there were again only three failures, all of which were due to external network problems.
- The helpdesk again met all the targets for queries during this quarter; indeed every non-indepth query was answered within the 72-hour target.
- EPCC will be hosting the joint ScicomP/SP-XXL meeting from 30 May to 3 June. SP-XXL is the worldwide user group for IBM HPC systems administrators, whereas ScicomP is the major IBM conference for

scientific applications and should therefore be interesting for all users of the HPCx service.

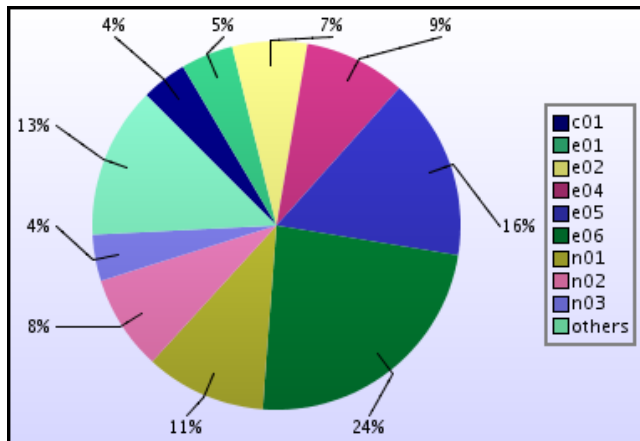
- Two of the Life Sciences molecular dynamics codes (LAMMPS and NAMD) have been benchmarked on HPCx and have now been awarded capability incentives.
- Arthur Trew gave a talk at the Edinburgh International Science Festival entitled *From Blizzards to the Big Bang: what supercomputers can bring to life*. This talk was well attended and was followed by a successful and interesting Question-and-Answer session.
- The Terascaling team have started on a programme of consortia visits to increase their understanding of the scientific drivers and requirements. Four such visits have already taken place.
- We have compiled a set of web pages illustrating the scientific highlights produced using HPCx. This will be combined with similar material from CSAR to demonstrate the scientific benefits of HPC in the UK.
- The Software Engineering team have developed software that can track code usage over time, allowing our optimisation efforts to focus effectively on the most heavily used codes. This work has also enhanced the plotting capabilities from the SAF allowing the production of new graphs showing, for example, the trends in usage by the various Research Councils.

3 Utilisation

3.1 By Job Size



3.2 By Consortium



Deleted: . It nonetheless stood at a respectable 28.7% for the quarter, and reached 39% in June – a record apart from November 2003, when the Tergyroid exercise took place.

4 Summary of Performance Metrics

<i>Metric</i>	<i>TSL</i>	<i>FSL</i>	<i>January</i>	<i>February</i>	<i>March</i>
Technology serviceability	80%	99.2%	100.0%	100.0%	100.0%
Technology MTBF (hours)	200	300	∞	∞	∞
Number of AV FTEs	7.5	10	10.6	13.0	14.7
Number of training days per month	22.5/12	30/12	0/1	3/2	6/3
Non in-depth queries resolved within 3 days	85%	97%	100.0%	100.0%	100.0%
Number of A&M FTEs	3.75	5.75	5.8	6.1	6.1
A&M serviceability	80%	99.6%	100.0%	100.0%	100.0%

<i>Colour</i>	<i>Meaning</i>
	Exceeds FSL
	Between TSL and FSL
	Below TSL

Note 1: The number of training days is reported as a running total since the start of the year.

Note 2: The above table includes the revised FSL targets for *training days* and *A&M serviceability*,