

HPCx Quarterly Report

July-September 2003

1 Executive Summary

- During this quarter, utilisation of the service has again averaged more than 75% on the capability region.
- The modal job size remains 128 CPUs and but the fraction of utilisation from jobs using at least 256 CPUs increased significantly.
- However, looking ahead, it appears that demand may outstrip supply until the Phase 2 upgrade. We have submitted an options paper to the Oversight Committee on controlling demand.
- We have agreed to increase the maximum number of concurrent research groups to 35, on the assumption that EPSRC will be able to fund 2 additional posts from the start of next year.
- Due to a cluster of incidents in August, the number of failures is somewhat higher than last quarter. However, the MTBF and serviceability figures are at or close to the Full Service Levels.
- The first part of the 'Early Access' Phase 2 system has been successfully installed, with the next part due in 3Q03. The planning process for Phase 2 is now well under way.
- The Phase 1 development system has allowed some progress with HSM under TSM. However, we are still discussing with IBM how to ensure that this has appropriate functionality for users. We will make additional on-line disc available to users who are adversely affected by the delays in HSM.
- HPCx is now coordinating the UK part of the collaboration with ETF and we are developing the technology required for a computational steering experiment at SC2003.
- Interactions with the users have been good:
 - the helpdesk is exceeding all its targets;
 - the HPCx mini-workshop at All Hands attracted an audience of around 50;

- we ran a course at Cambridge;
- the HPCx annual seminar is being arranged at Daresbury in December and there will be an associated user group meeting;
- there are now 7 technical reports available on the web site, which is ahead of target.

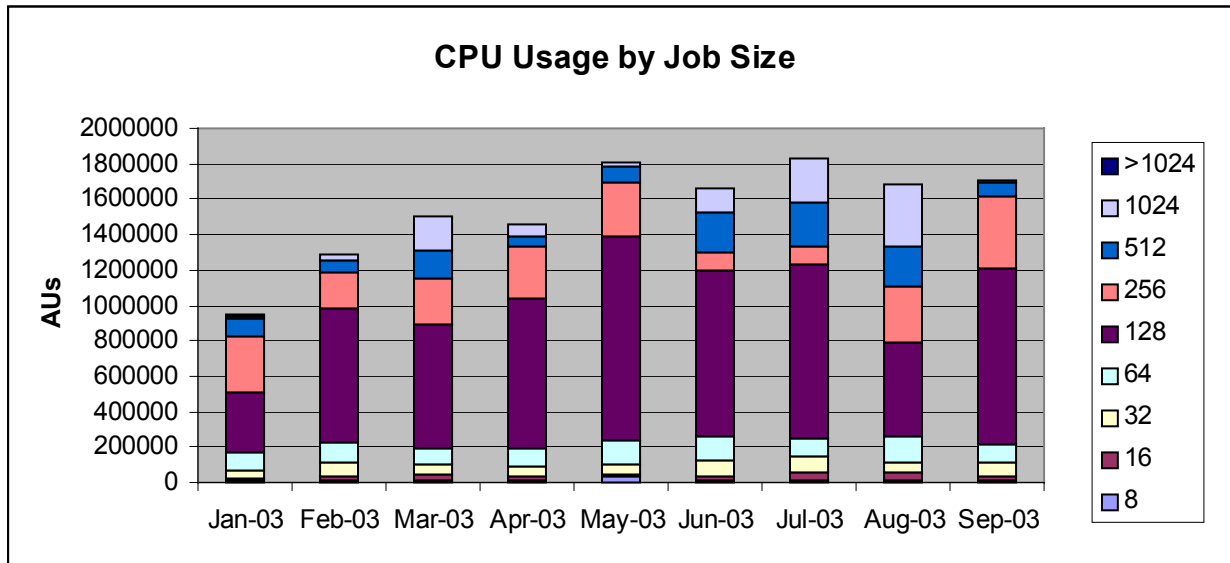
- This quarter has seen good progress on a number of key outreach activities:
 - we believe that the VAT issues with the IBM Lifesciences funding have now been resolved;
 - initial plans for the HPCx Industry Day have been drawn up, although this may now be run early in 2004.

- We have made good progress in investigating the performance characteristics of the system:
 - porting T3E MPI to HPCx;
 - studies and technical reports on the performance of single-sided communications, boundary exchanges in MPI, Java benchmarks and mixed mode programming.

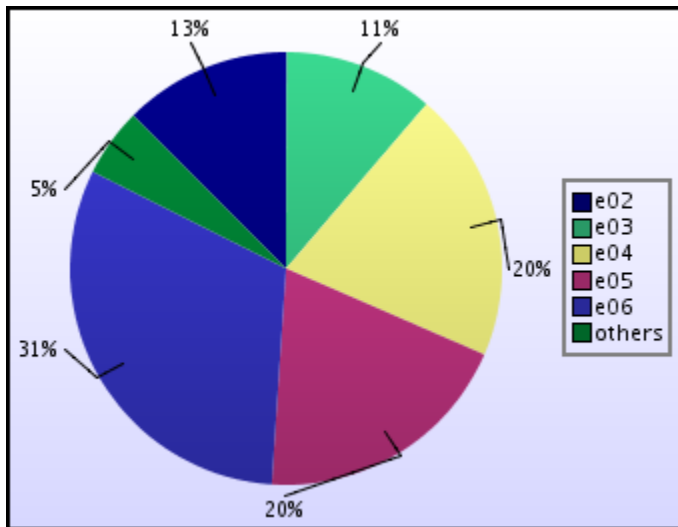
- The Terascaling team has begun work on a good range of applications codes and has had a number of successes:
 - the CRYSTAL results were well received at the All Hands mini-workshop;
 - the following capability incentive awards have been made:
 - bronze: NAMD
 - silver: CRYSTAL
 - gold: LB3D, PDNS3D
 - Gaussian is now available on HPCx and an initial study has been planned;
 - enhanced versions of a number of key tools have been installed.

2 Utilisation

2.1 By Job Size



2.2 By Consortium



3 Summary of Performance Metrics

<i>Metric</i>	<i>TSL</i>	<i>FSL</i>	<i>July</i>	<i>August</i>	<i>September</i>
Technology serviceability	80%	99.2%	99.5%	98.5%	99.6%
Technology MTBF (hours)	200	300	366	183	418
Number of AV FTEs	7.5	10	12.4	9.8	10.9
Number of training days per month	30/12	40/12	33/7	33/8	35/9
Non in-depth queries resolved within 3 days	85%	97%	100.0%	98.5%	100.0%
Number of A&M FTEs	3.75	5.75	6.7	5.1	6.7
A&M serviceability	80%	100%	100.0%	99.9%	99.9%

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

Note: The number of training days is reported as a running total since the start of the year, ie, by the end of September we had run a total of 35 training days over 9 months.