

HPCx Quarterly Report

October - December 2006

1 Introduction

This report covers the period from 1 October 2006 at 0800 to 1 January 2007 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

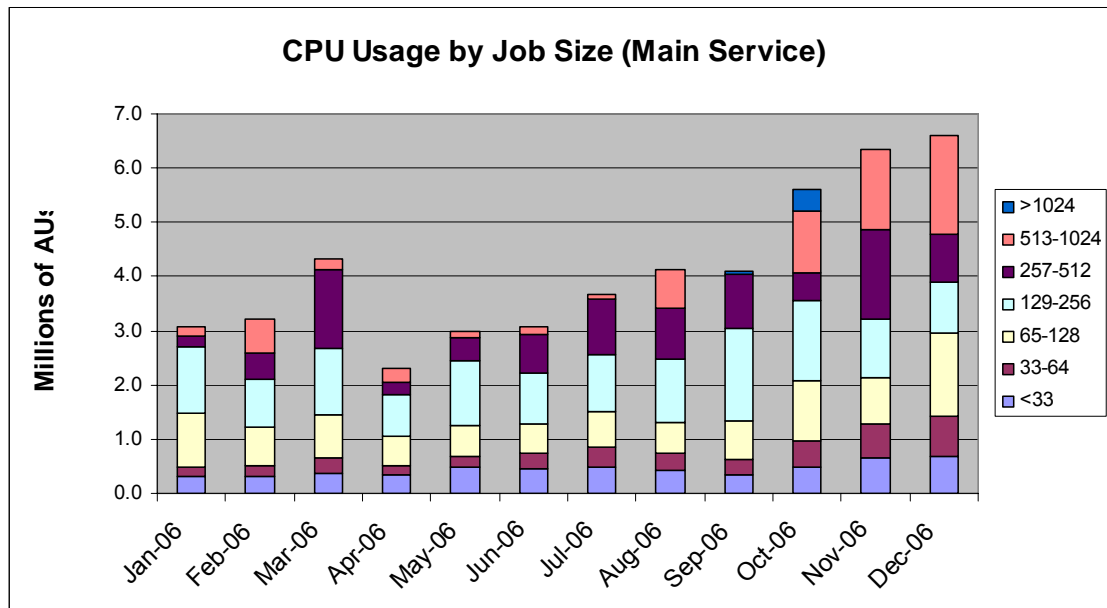
- The major activity this quarter was the successful upgrade to Phase 3 which has roughly doubled each of: the total capacity of the system; the amount of memory per processor; and the total memory. Careful planning by the Systems team and IBM ensured that this upgrade was achieved with minimal disruption. The implementation tests were all successfully completed at the first attempt in October and full service commenced on October 5.
- Overall utilisation remained high in the final quarter of 2006. Moreover, this was an excellent quarter for capability utilisation which averaged well over 40%, maintaining the upwards trend for 2006.
- Our major objective for 2006 was to improve the scaling of user codes to facilitate enhanced capability usage. During the last year, 6 new codes were awarded capability incentives, of which 3 were at gold level.
- During the final quarter of 2006, the various HPCx functional teams completed almost all of their annual key objectives and the service met its key performance metrics.
- We have recently run a message passing course in Belfast and a tools course at Rutherford, in addition to various courses and workshops at both Daresbury and Edinburgh.

- In December, HPCx published a technical report on porting user codes to future systems. This included a variety of systems manufactured by Cray, NEC and IBM, and processor architectures such as vector, Opteron and Cell.
- The Annual Seminar and associated User Group were successfully held at the beginning of October and both were well attended. We solicited input from the users on next year's Annual Plan which will help shape our objectives for 2007.
- The various HPCx activities were highlighted at SC2006 in Tampa, Florida. We also provided a batch queue with dedicated access so that Peter Coveney could carry out a demonstration of computational steering.
- Since the closure of the CSAR service, there have been more than 50 projects on HPCx which leaves only a little space within our revised maximum of 55.

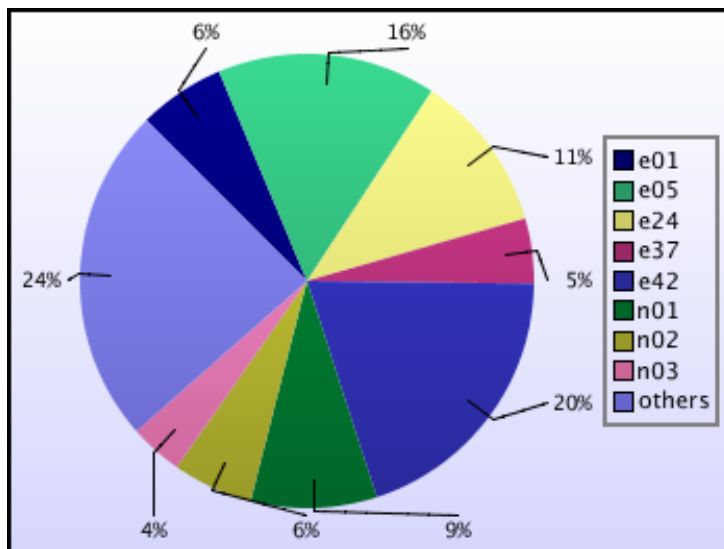
3 Utilisation

3.1 Main Service

By job size

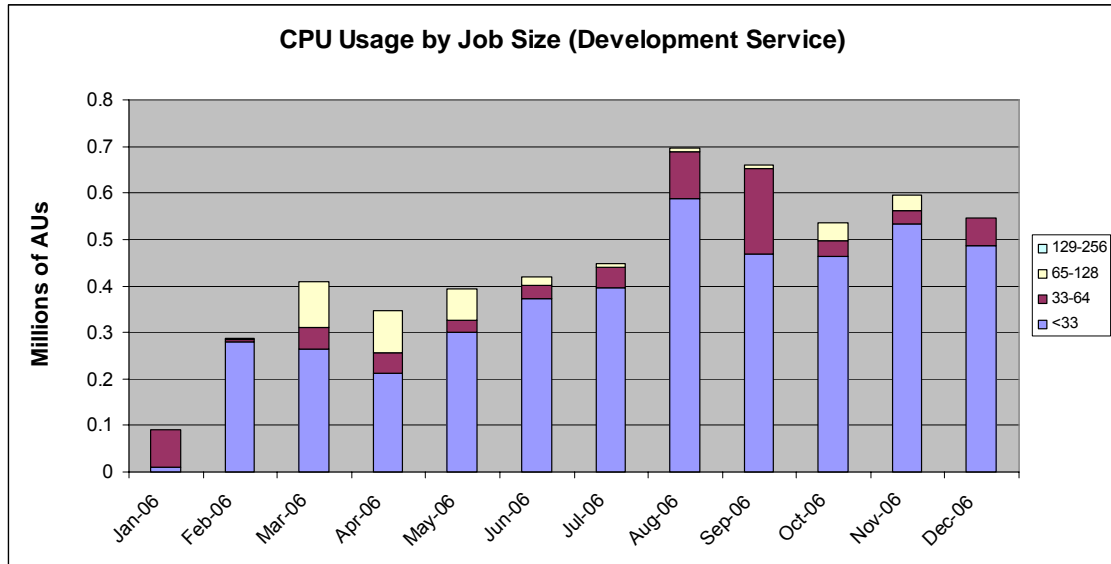


By Consortium

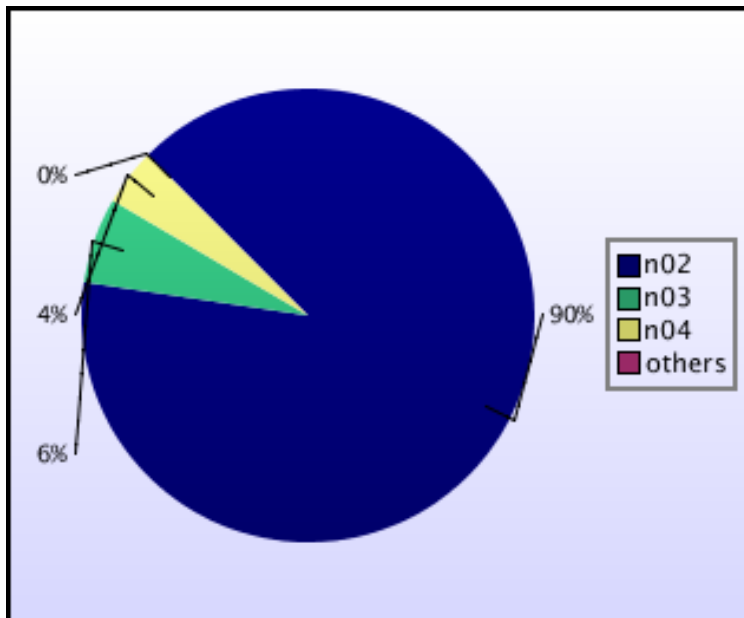


3.2 Development Service

By job size



By Consortium



4 Summary of Performance Metrics

<i>Metric</i>	<i>TSL</i>	<i>FSL</i>	<i>October</i>	<i>November</i>	<i>December</i>
Technology serviceability	80%	99.2%	99.8%	100.0%	98.7%
Technology MTBF (hours)	200	300	720	∞	720
Number of AV FTEs	7.5	10	16.0	17.1	12.2
Number of training days per month	22.5/12	30/12	23/10	24/11	26/12
Non in-depth queries resolved within 3 days	85%	97%	98.6%	100.0%	99.0%
Number of A&M FTEs	3.75	5.75	5.8	6.4	5.6
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*, which have been provisionally agreed with EPSRC.