# CSAR Service - Management Report

# January 2002

This report documents the quality of the CSAR service during the month of January 2002.

A more comprehensive report is provided quarterly, which additionally covers wider aspects of the Service such as information on Training, Application Support and Value-Added services.

This and other such reports are made available through the Web to staff within EPSRC and the other Research Councils, to CfS staff and CSAR Service users. The reports are indexed in a similar way to that which other useful information and news are listed for selection.

## 1. Introduction

This document gives information on Service Quality and on actual usage of the CSAR Service during the reporting period of January 2002. The information, in particular, covers the availability and usage of the following three main CSAR Service High Performance Computing (HPC) systems:

- Cray T3E-1200E/776 (Turing)
- SGI Origin2000/128 (Fermat)
- SGI Origin3000/512 (Green)

The information is provided in both textual and graphical form, so that it is easier to see trends and variances.

January has seen the workload of the three primary systems remaining high.

The percentage of Turing CPU capacity used by jobs larger than 64 PEs was 86%.

January also saw the percentage of Green CPU capacity used by jobs larger than 64 PEs at 83%.

## 2. Service Quality

This section covers overall Customer Performance Assessment Ratings (CPARS), HPC System availability and usage, Service Quality Tokens and other information concerning issues, progress and plans for the CSAR Service.

## 2.1 CPARS

Table 1 gives the measure by which the quality of the CSAR Service is judged. It identifies the metrics and performance targets, with colour coding so that different levels of achievement against targets can be readily identified. Unsatisfactory actual performance will trigger corrective action.

### CSAR Service - Service Quality Report - Performance Targets

| | Performance Targets | | | | | |
|---|---|---|---|---|---|---|
| **Service Quality Measure** | **White** | **Blue** | **Green** | **Yellow** | **Orange** | **Red** |
| HPC Services Availability | | | | | | |
| Availability in Core Time (% of time) | > 99.9% | > 99.5% | > 99.2% | > 98.5% | > 95% | 95% or less |
| Availability out of Core Time (% of time) | > 99.8% | > 99.5% | > 99.2% | > 98.5% | > 95% | 95% or less |
| Number of Failures in month | 0 | 1 | 2 to 3 | 4 | 5 | > 5 |
| Mean Time between failures in 52 week rolling period (hours) | >750 | >500 | >300 | >200 | >150 | otherwise |
| Fujitsu Service Availability | | | | | | |
| Availability in Core Time (% of time) | > 99.9% | > 99.5% | > 99.2% | > 98.5% | > 95% | 95% or less |
| Availability out of Core Time (% of time) | > 99.8% | > 99.5% | > 99.2% | > 98.5% | > 95% | 95% or less |
| Help Desk | | | | | | |
| Non In-depth Queries - Max Time to resolve 50% of all queries | < 1/4 | < 1/2 | < 1 | < 2 | < 4 | 4 or more |
| Non In-depth Queries - Max Time to resolve 95% of all queries | < 1/2 | < 1 | < 2 | < 3 | < 5 | 5 or more |
| Administrative Queries - Max Time to resolve 95% of all queries | < 1/2 | < 1 | < 2 | < 3 | < 5 | 5 or more |
| Help Desk Telephone - % of calls answered within 2 minutes | >98% | > 95% | > 90% | > 85% | > 80% | 80% or less |
| Others | | | | | | |
| Normal Media Exchange Requests - average response time | < 1/2 | < 1 | < 2 | < 3 | < 5 | 5 or more |
| New User Registration Time (working days) | < 1/2 | < 1 | < 2 | < 3 | < 4 | otherwise |
| Management Report Delivery Times (working days) | < 1 | < 5 | < 10 | < 12 | < 15 | otherwise |
| System Maintenance - no. of sessions taken per system in the month | 0 | 1 | 2 | 3 | 4 | otherwise |

**Table 1**

Table 2 gives actual performance information for the period of January 1st to 31st inclusive.
Overall, the CPARS Performance Achievement in January was satisfactory (see Table 3); i.e. Green measured against the CPARS performance targets.
The Fujitsu availability figures are included in Table 2, but not Table 3 as they have zero weighting in CPARS terms.

### CSAR Service - Service Quality Report - Actual Performance Achievement

| | | | | | | | | | | | 2001/2 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Service Quality Measure** | **Feb** | **March** | **April** | **May** | **June** | **July** | **Aug** | **Sept** | **Oct** | **Nov** | **Dec** | **Jan** |
| HPC Services Availability | | | | | | | | | | | | |
| Availability in Core Time (% of time) | 99.70% | 100% | 100% | 99.70% | 99.70% | 98.49% | 98.49% | 98.49% | 98.60% | 98.60% | 100.00% | 99.86% |
| Availability out of Core Time (% of time) | 99.40 | 99.40 | 99.40 | 99.40 | 99.40 | 98.49% | 100% | 99.40 | 99.50% | 99.50% | 98.49% | 99.89% |
| Number of Failures in month | 1 | 1 | 1 | 3 | 3 | 4 | 2 | 2 | 2 | 2 | 4 | 3 |
| Mean Time between failures in 52 week rolling period (hours) | 626 | 674 | 674 | 584 | 584 | 438 | 398 | 365 | 365 | 365 | 337 | 312 |
| Fujitsu Service Availability | | | | | | | | | | | | |
| Availability in Core Time (% of time) | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Availability out of Core Time (% of time) | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Help Desk | | | | | | | | | | | | |
| Non In-depth Queries - Max Time to resolve 50% of all queries | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 | <0.25 |
| Non In-depth Queries - Max Time to resolve 95% of all queries | <5 | <3 | <5 | <2 | <2 | <1 | <1 | <1 | <1 | <1 | <1 | <1 |
| Administrative Queries - Max Time to resolve 95% of all queries | <2 | <3 | <0.5 | <0.5 | <0.5 | <1 | <2 | <1 | <1 | <0.5 | <2 | <0.5 |
| Help Desk Telephone - % of calls answered within 2 minutes | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% | 100% |
| Others | | | | | | | | | | | | |
| Normal Media Exchange Requests - average response time | <0.5 | 0 | 0 | <0.5 | <0.5 | <0.5 | 0 | <0.5 | <0.5 | <0.5 | <0.5 | <0.5 |
| New User Registration Time (working days) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Management Report Delivery Times (working days) | 10 | 10 | 12 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 | 10 |
| System Maintenance - no. of sessions taken per system in the mont | 2 | 1 | 1 | 0 | 0 | 1 | 2 | 2 | 2 | 2 | 2 | 2 |

**Table 2**

Notes:

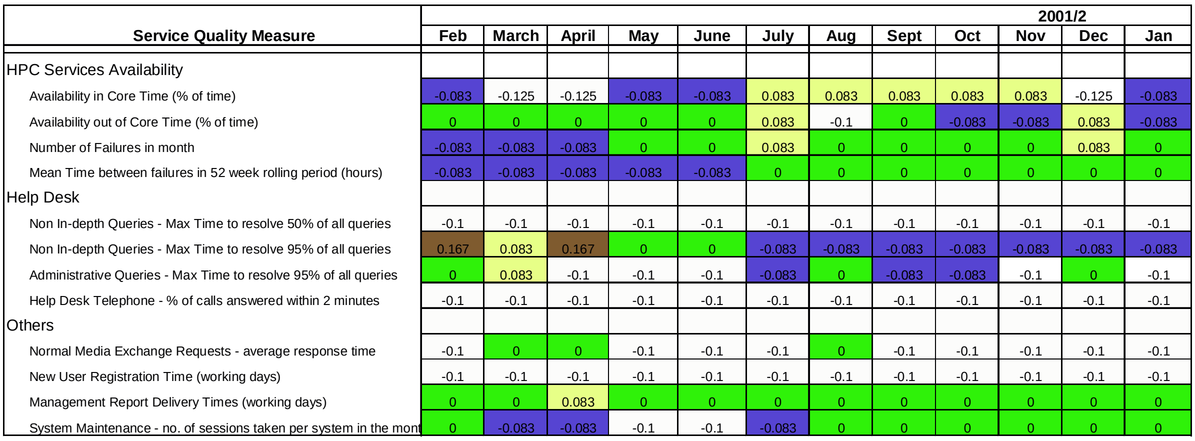
1. HPC Services Availability has been calculated using the following formulae, based on the relative NPB performance of Turing and Fermat at installation:

   Turing availability x 143/(143+40+233) ] + [ Fermat availability x 40/ (143+40+233 ) + Green availability x 233/(143+40+233)]

2 Mean Time between failures for Service Credits is formally calculated based on a rolling 12 month period.

Table 3 gives Service Credit values for the month of January. These will be accounted on a quarterly basis, formally from the Go-Live Date. The values are calculated according to agreed Service Credit Ratings and Weightings.

## CSAR Service - Service Quality Report - Service Credit Ratings

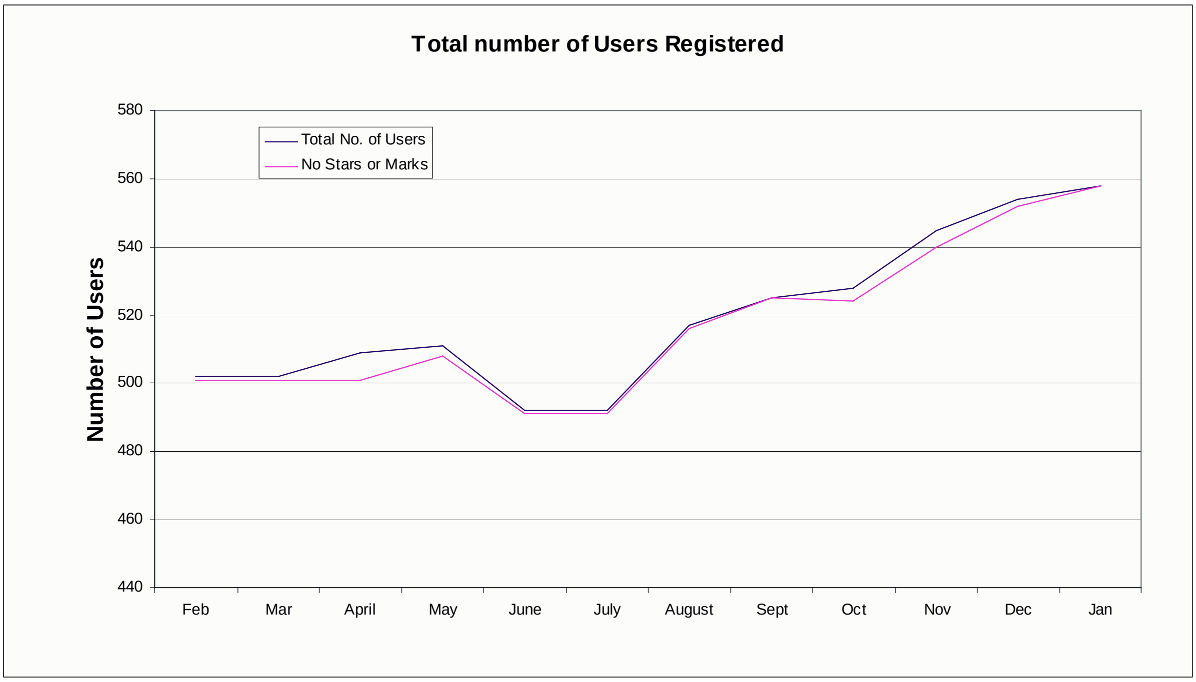


| Service Quality Measure | 2001/2 |  |  |  |  |  |  |  |  |  |  |  |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
|  | Feb | March | April | May | June | July | Aug | Sept | Oct | Nov | Dec | Jan |
| HPC Services Availability |  |  |  |  |  |  |  |  |  |  |  |  |
| Availability in Core Time (% of time) | -0.083 | -0.125 | -0.125 | -0.083 | -0.083 | 0.083 | 0.083 | 0.083 | 0.083 | 0.083 | -0.125 | -0.083 |
| Availability out of Core Time (% of time) | 0 | 0 | 0 | 0 | 0 | 0.083 | -0.1 | 0 | -0.083 | -0.083 | 0.083 | -0.083 |
| Number of Failures in month | -0.083 | -0.083 | -0.083 | 0 | 0 | 0.083 | 0 | 0 | 0 | 0 | 0.083 | 0 |
| Mean Time between failures in 52 week rolling period (hours) | -0.083 | -0.083 | -0.083 | -0.083 | -0.083 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Help Desk |  |  |  |  |  |  |  |  |  |  |  |  |
| Non In-depth Queries - Max Time to resolve 50% of all queries | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| Non In-depth Queries - Max Time to resolve 95% of all queries | 0.167 | 0.083 | 0.167 | 0 | 0 | -0.083 | -0.083 | -0.083 | -0.083 | -0.083 | -0.083 | -0.083 |
| Administrative Queries - Max Time to resolve 95% of all queries | 0 | 0.083 | -0.1 | -0.1 | -0.1 | -0.083 | 0 | -0.083 | -0.083 | -0.1 | 0 | -0.1 |
| Help Desk Telephone - % of calls answered within 2 minutes | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| Others |  |  |  |  |  |  |  |  |  |  |  |  |
| Normal Media Exchange Requests - average response time | -0.1 | 0 | 0 | -0.1 | -0.1 | -0.1 | 0 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| New User Registration Time (working days) | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 | -0.1 |
| Management Report Delivery Times (working days) | 0 | 0 | 0.083 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| System Maintenance - no. of sessions taken per system in the mont | 0 | -0.083 | -0.083 | -0.1 | -0.1 | -0.083 | 0 | 0 | 0 | 0 | 0 | 0 |

**Table 3**

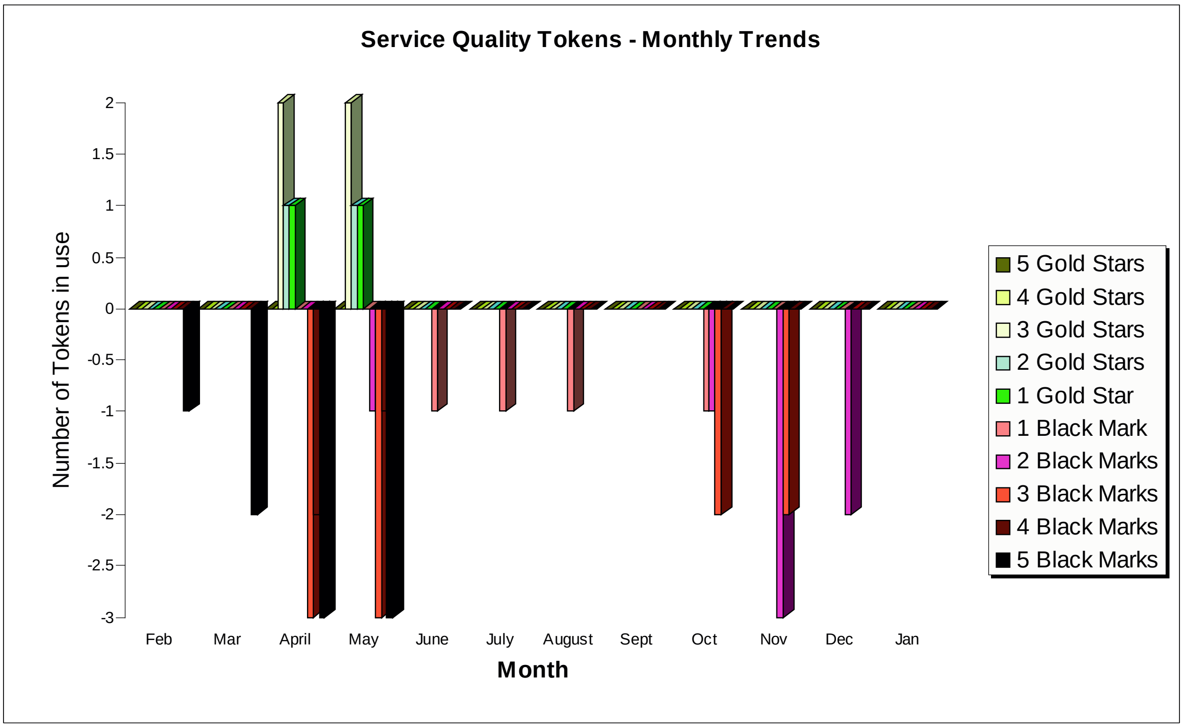
## 2.2 Service Quality Tokens

The position at the end of January 2002 is that none of the 558 registered users of the CSAR Service had registered any black marks against the service.



The graph above shows the total number of registered users on the CSAR Service and the number of users holding a neutral view of the service.

The graph below illustrates the monthly usage trend of quality tokens:



The current status of the Stendahl tokens is that there are no black marks allocated against the system.

**SUMMARY OF SERVICE QUALITY TOKEN USAGE**

| No of Stars or Marks | Consortia | Date Allocated | Reason Given |
|---|---|---|---|
| | | | |
| | | | |
| | | | |

## 2.3 Throughput Target against Baseline

The Baseline Target for throughput was fully achieved this month due to plenty of work over the period. The actual usage figure was 148% of Baseline capacity.

**Job Throughput Against Baseline CSAR Service Provision**

**Period: 1st to 31st January 2002**

| | | | |
|---|---|---|---|
| | **Baseline Capacity for Period (T3E PE Hours)** | **Actual Usage in Period (T3E PE Hours)** | **Actual % Utilisation c/w Baseline during Period** |
| 1. Has CfS failed to deliver Baseline MPP Computing Capacity for EPSRC? | 359,450 | 534,395 | **148.67%** |
| | **Baseline Capacity for Period (T3E PE Hours)** | **Job Time Demands in Period** | **Job Demand above 110% of Baseline during Period (Yes/No)?** |
| 2. Have Users submitted work demanding > 110% of the Baseline during period? | 359,450 | 556,493 | Yes |
| | | **Number of Jobs at least 4 days old at end Period** | **Number of Jobs at least 4 days old at end Period is not zero (Yes/No)?** |
| 3. Are there User Jobs oustanding at the end of the period over 4 days old? | | 3 | Yes |
| | | **Minimum Job Time Demands as % of Baseline during Period** | **Minimum Job Time Demand above 90% of Baseline during Period (Yes/No)?** |
| 4. Have Users submitted work demands above 90% of the Baseline during period? | | 79% | No |
| | **Number of standard Job Queues (ignoring priorities)** | **Average % of time each queue contained jobs in the Period** | **Average % of time each queue contained jobs in the Period is > 97%?** |
| 5. Majority of Job Queues contained jobs from Users for more than 97% during period? | 4 | 68.0% | No |

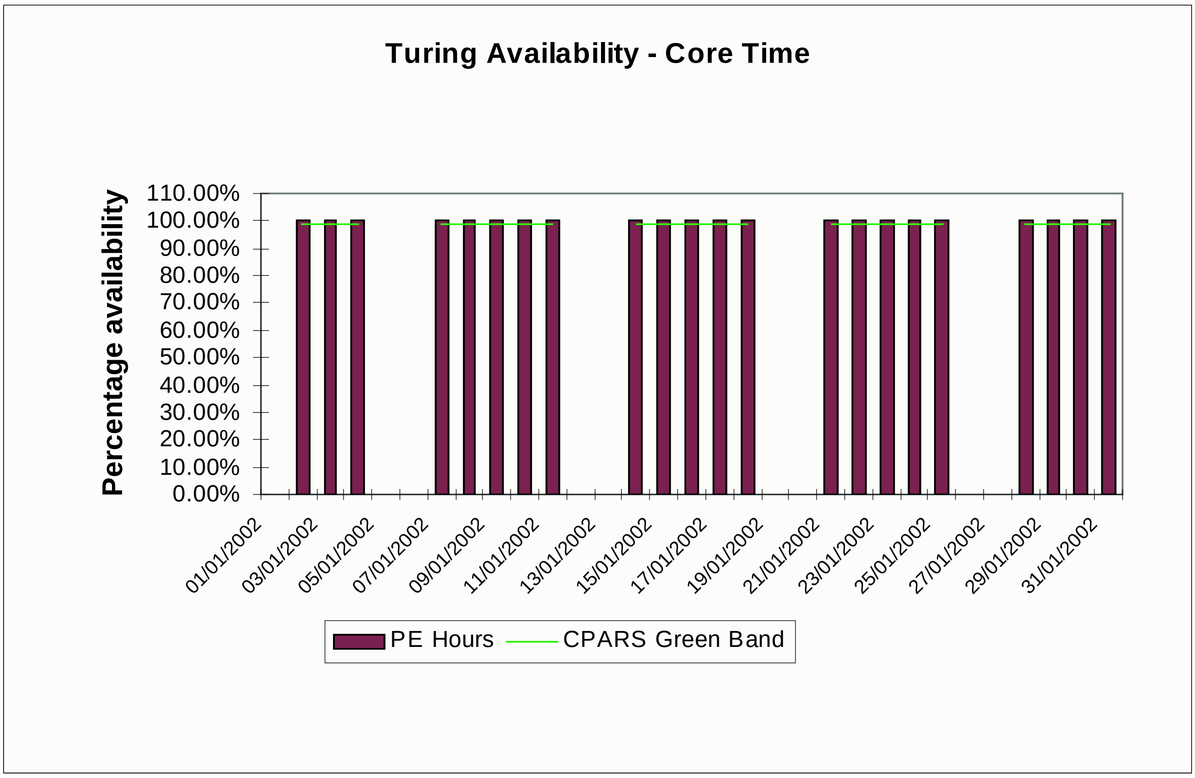
# 3. System Availability

Service availability each reporting period is calculated as a percentage of actual availability time over theoretical maximum time, after accounting for planned breaks in service for preventative maintenance.

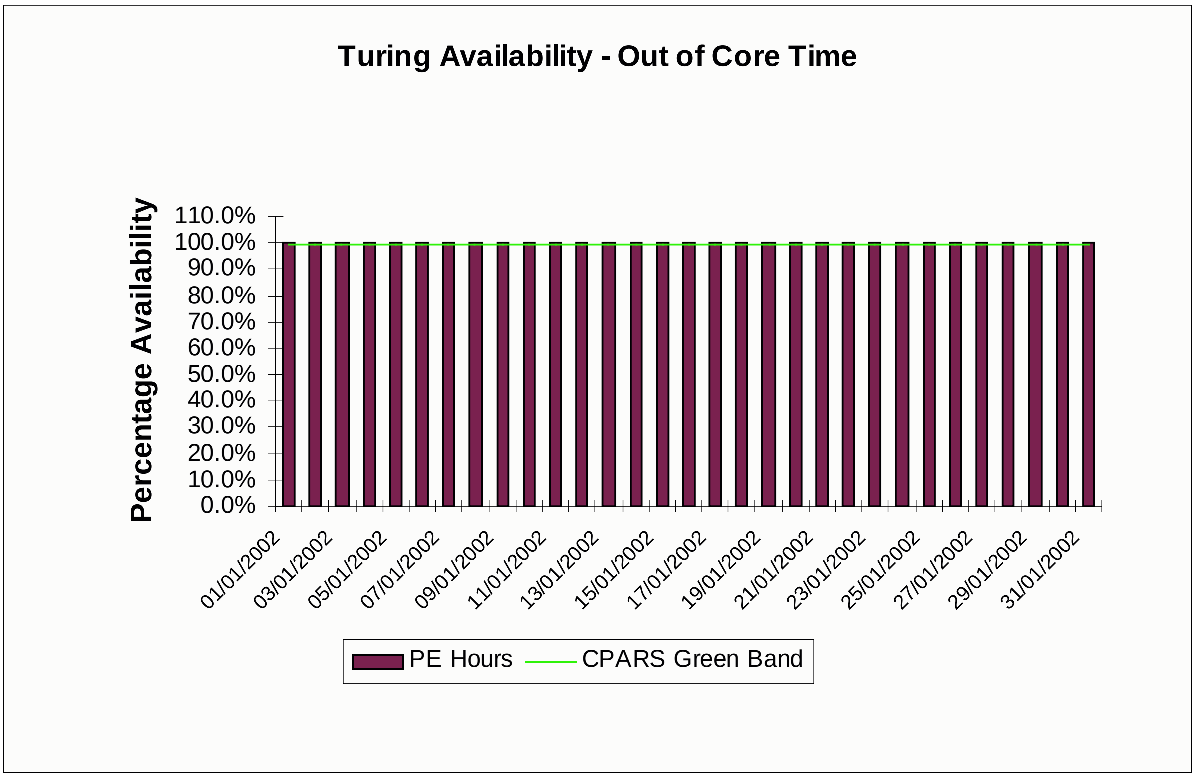
## 3.1 Cray T3E-1200E System (Turing)

The following graphs show the availability of Turing both in core time and out of core time respectively during the period of 1st to 31st January.

Turing availability for January:



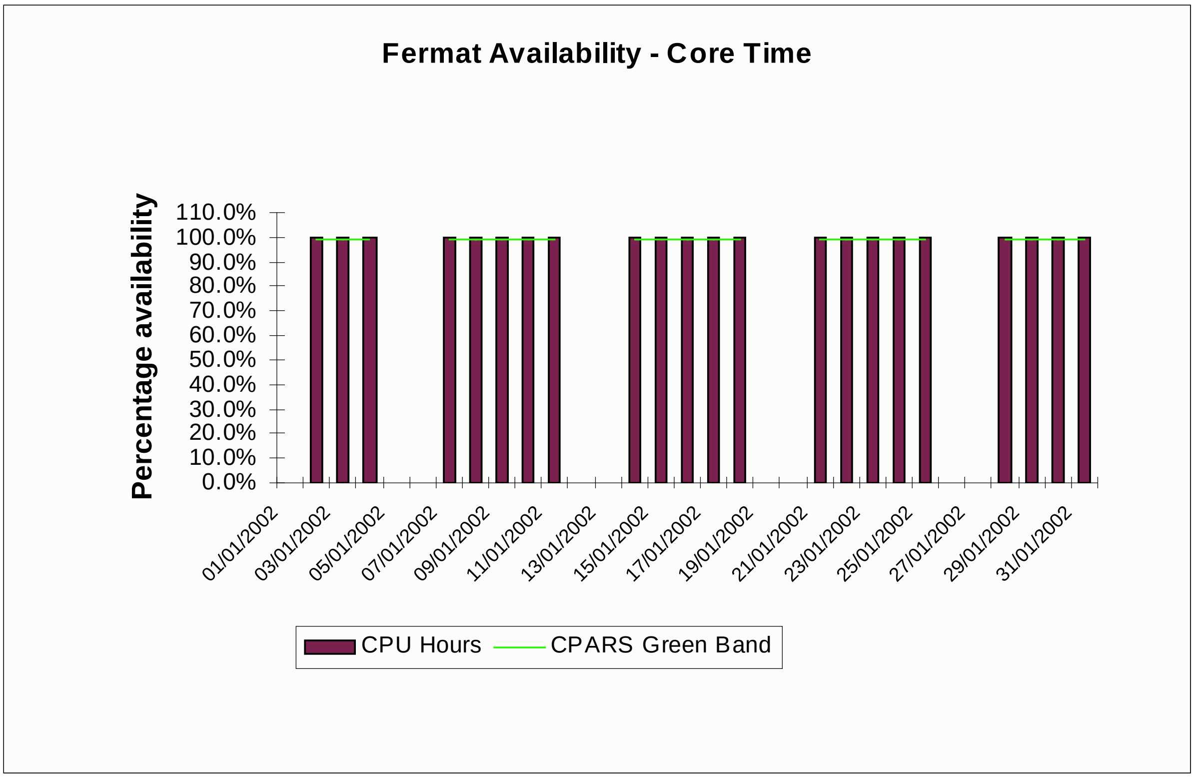
Availability of Turing in core time during January was excellent.



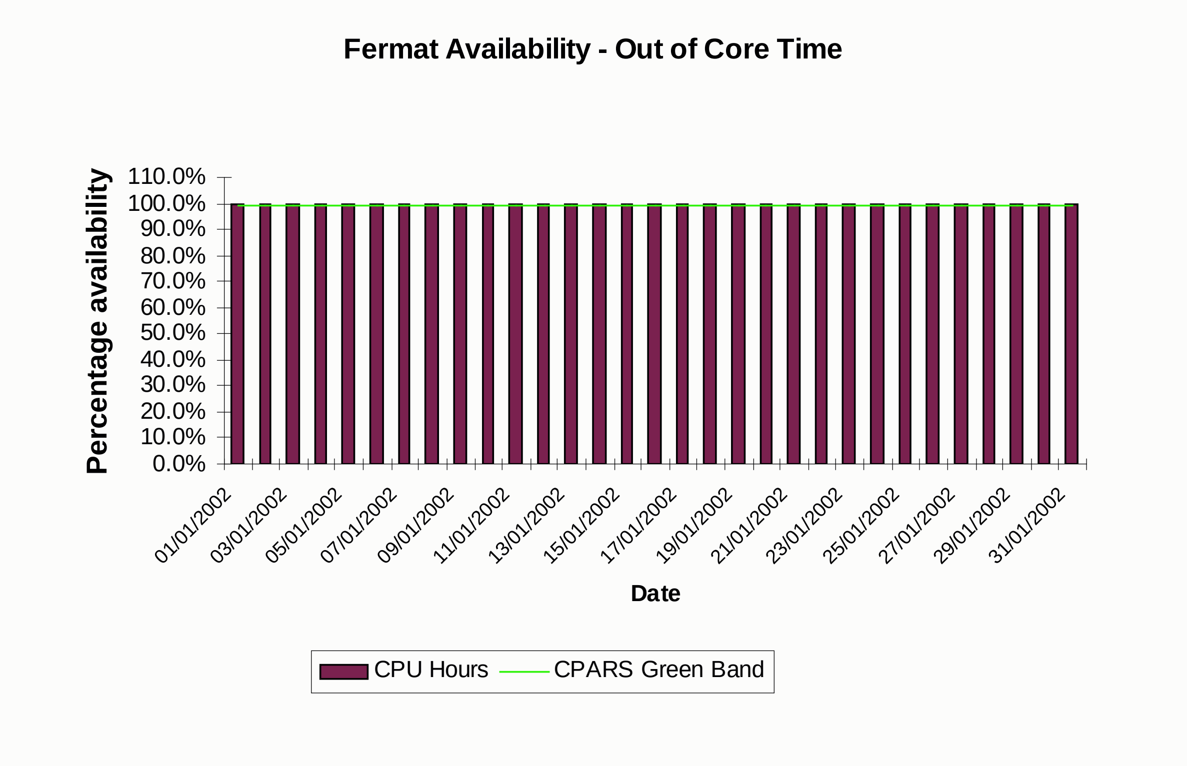
Availability of Turing out of core time during January was excellent.

## 3.2 SGI Origin2000 System (Fermat)

The following graphs show the availability of Fermat both in core time and out of core time respectively.



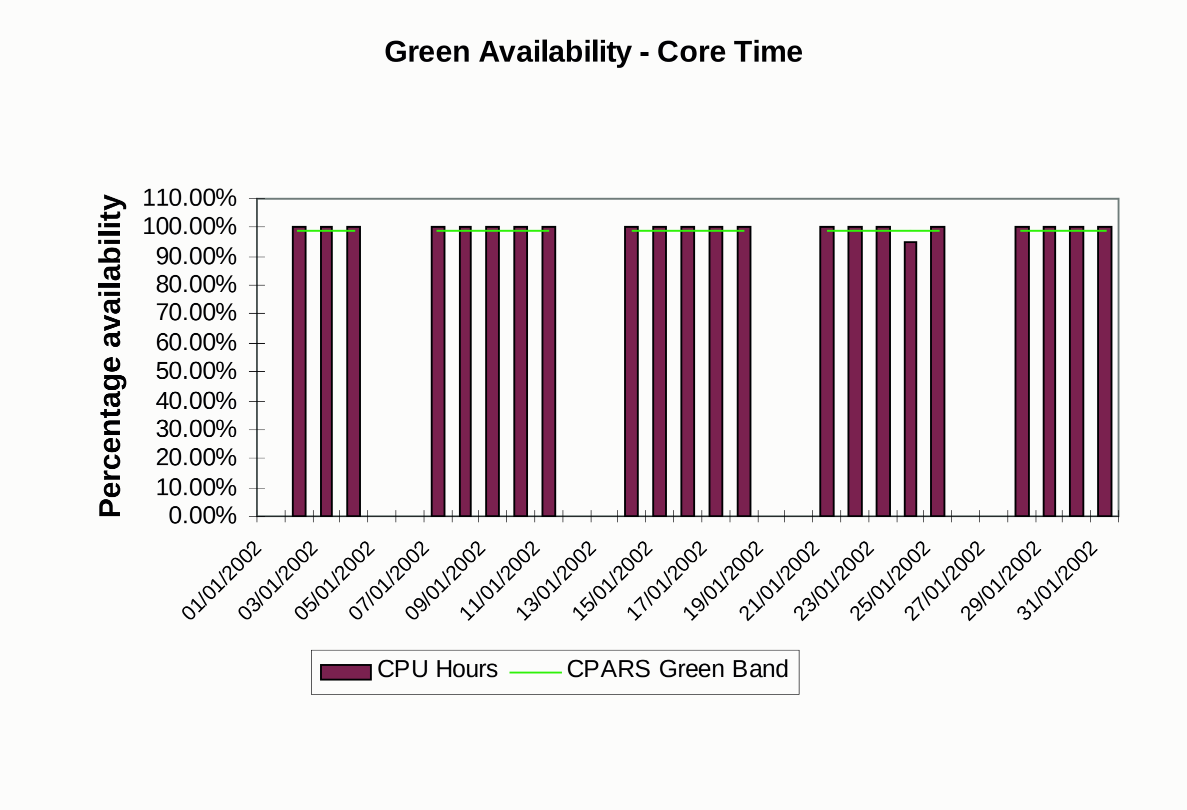
Availability of Fermat in core time during January was excellent.



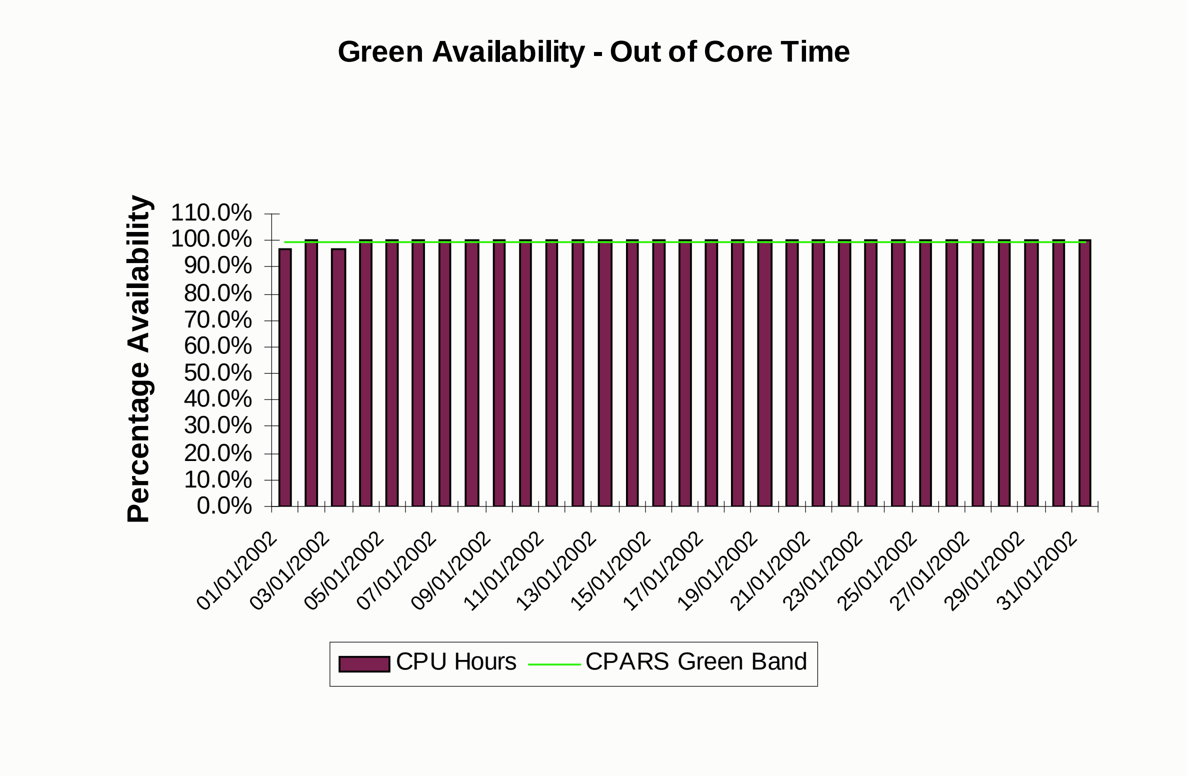
Availability of Fermat out of core time during January was excellent.

### 3.3 SGI Origin3000 System (Green)

The following graphs show the availability of Green both in core time and out of core time respectively.



Availability of Green in core time during January was good, with the exception of one unscheduled outage on the 24th.



Availability of Green out of core time during January was good with the exception of two unscheduled breaks in service.

# 4. HPC Services Usage

Usage information is given in tabular form, in Appendices, and in graphical format. The system usage information for the period of January 1st to 31st, is provided by Project/User Group, totalled by Research Council and overall. This covers:

- CPU usage Turing: 534,395 PE Hours Fermat (Batch): 35,291 Hours
- Fermat (Interactive): 392 CPU Hours
- Green: 299,480 Hours
- Fujitsu CPU usage Fuji: 2,120 CPU Hours
- User Disk allocation Turing: 81.46 GB Years Fermat: 72.58 GB Years
- HSM/tape usage 1533.87 GB Years

In addition, the following graphs are provided to illustrate usage per month, historically:

a) MPP (T3E/Origin) Usage by month, showing usage each month of CPU (MFOP Years as per NPB), split by Research Council and by system. The Baseline and the overall Capacity are shown by overlaid horizontal lines.

b) SMP (Origin) Usage by month, showing usage each month in CPU Hours, split by Research Council and giving the equivalent GFLOP-Years as per NPB. The Baseline Capacity is shown by an overlaid horizontal line.

c) High Performance Disk (T3E) allocated for User Data by month, showing the allocated space each month in GBytes, split by Research Council. The Baseline Capacity (1 Terabyte) is shown by an overlaid horizontal line.

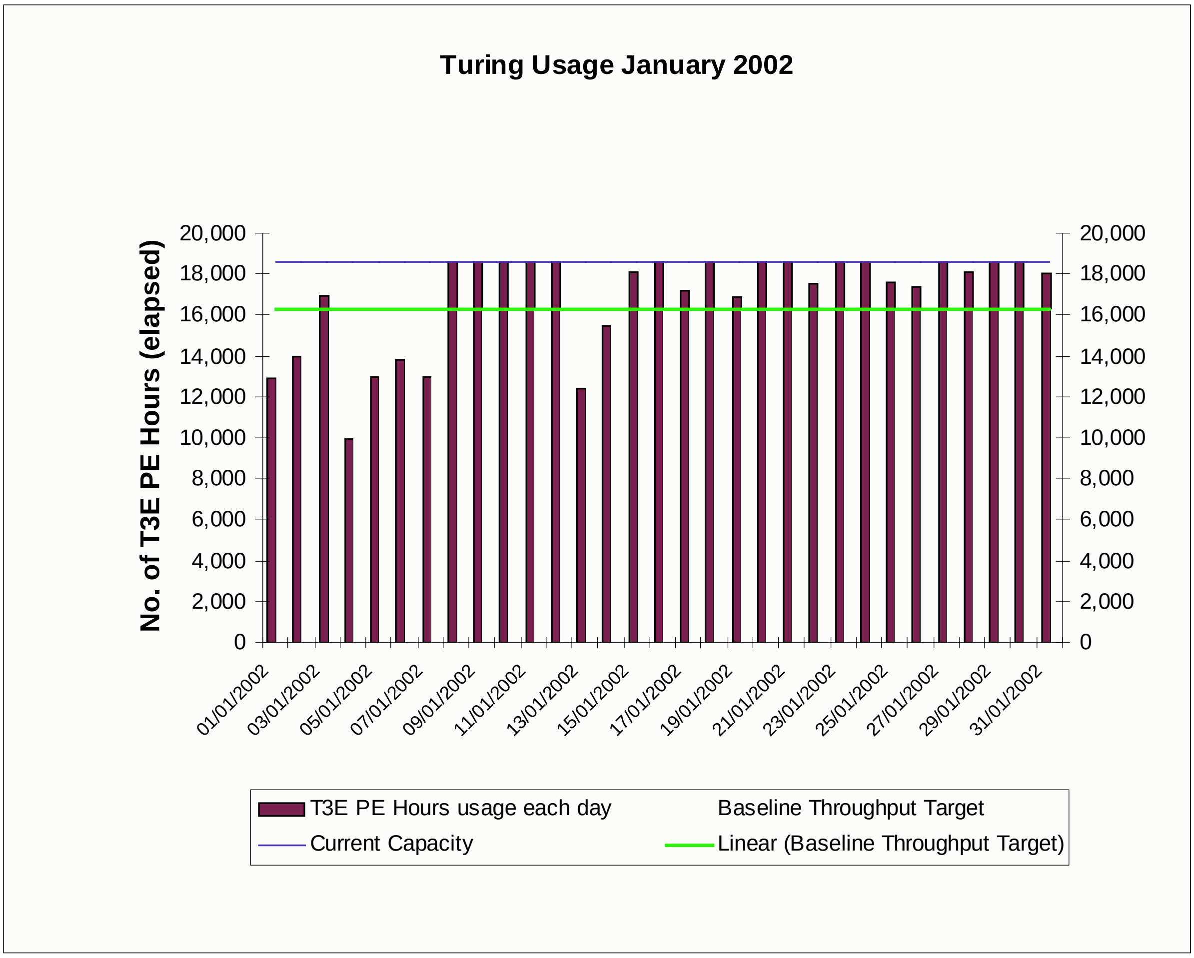
d) Medium Performance Disk (Origin) allocated for User Data by month, showing the allocated space each month in GBytes, split by Research Council. The Baseline Capacity (1.5 Terabytes) is shown by an overlaid horizontal line.

e) HSM/Tape Usage (T3E) by month, showing the volumes held each in GBytes, split by Research Council. The Baseline Capacity (16 Terabytes) available will be shown by an overlaid horizontal line.

## 4.1 Cray T3E-1200E System (Turing)

The following graph shows the usage of Turing during each day of January 2002. Note that there is some variance on a day-to-day basis as the accounts record job times, and thus CPU usage figures, at the time of job completion which could be the second actual day for large jobs. At present, there is a 24 hour limit on jobs so that they are check-pointed, and computational time lost due to any failure is well managed. Higher limits can be set for individual jobs on request.

Turing usage for January:



The above usage graph for the Turing system shows that the overall workload was variable.

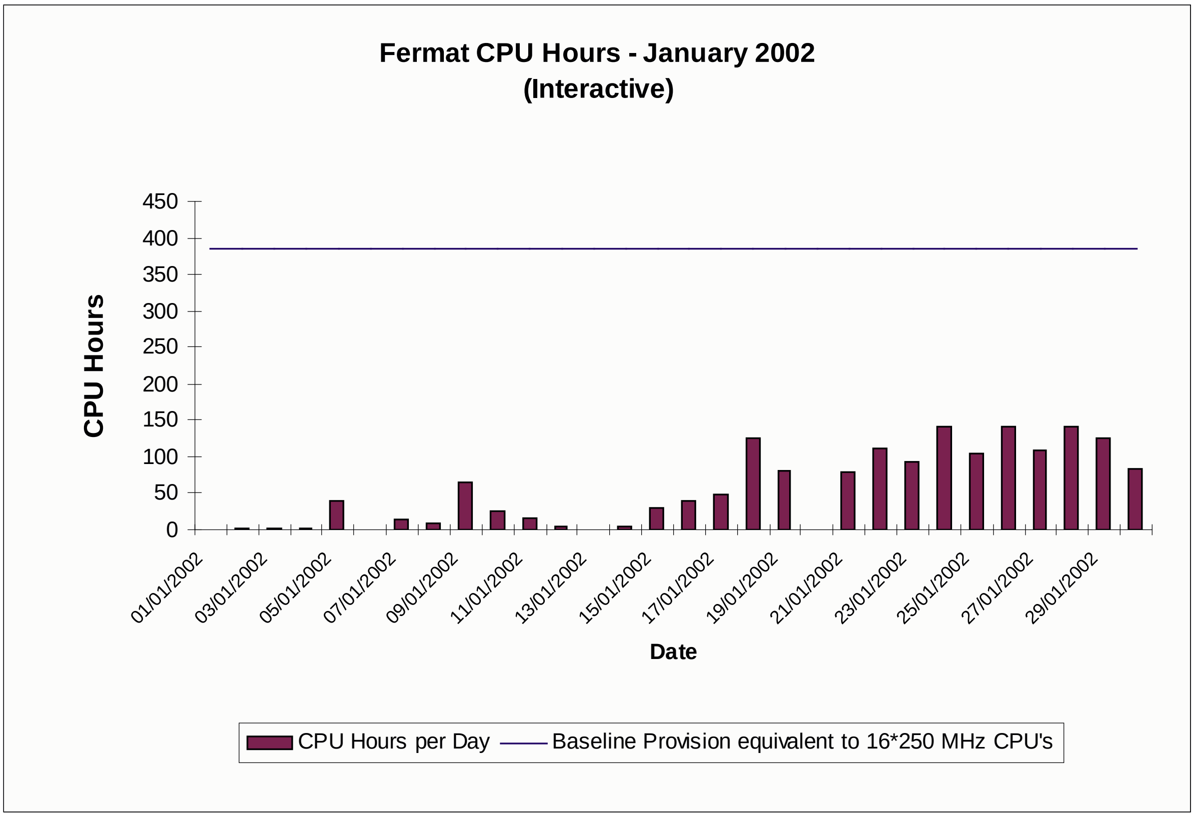
The graph also indicates the workload reached 100% of maximum theoretical capacity some parts of the month.

Fine tuning of the CfS scheduling system will continue to ensure minimal wasting of PE resource, in order to fit in a number of different sized jobs (e.g. 32, 64, 128, 256) thus facilitating maximised job throughput.

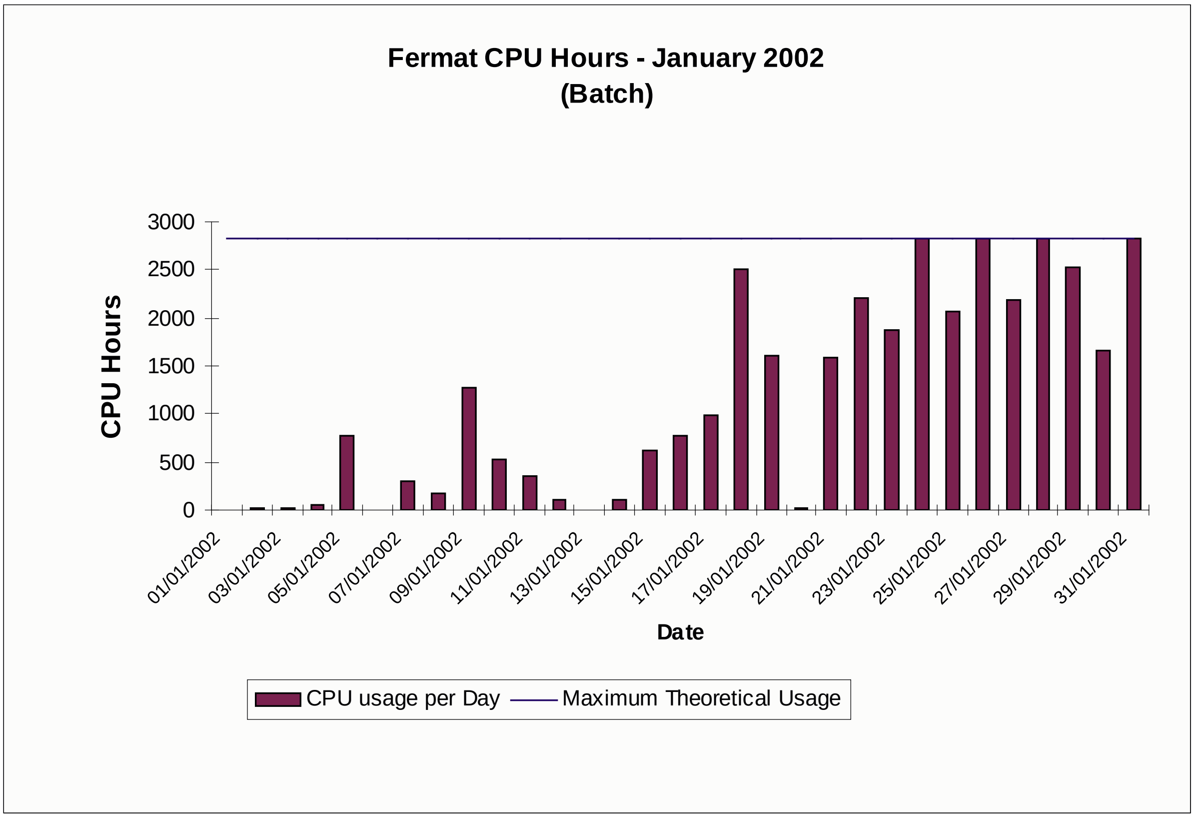
In particular, Turing will continue to start large jobs above 256 PEs, including 512 PEs, when they are queued subject to the overall workload.

## 4.2 SGI Origin2000 System (Fermat)

The usage of the Origin system was low. The groups most heavily using the Fermat system are CSE006 (Briddon), CSN006 (Price), CSN015 (Proctor) and HPCI Daresbury.

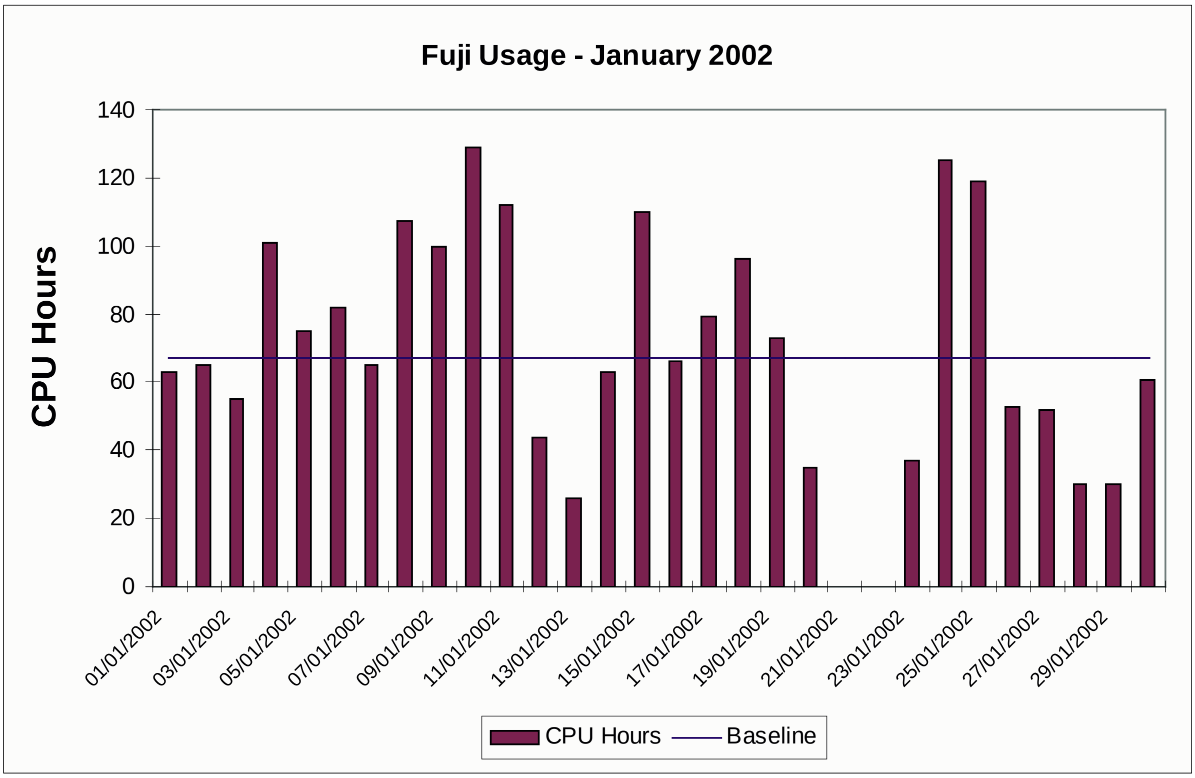


The graph above shows the interactive usage of the upgraded Origin 2000 (Fermat).



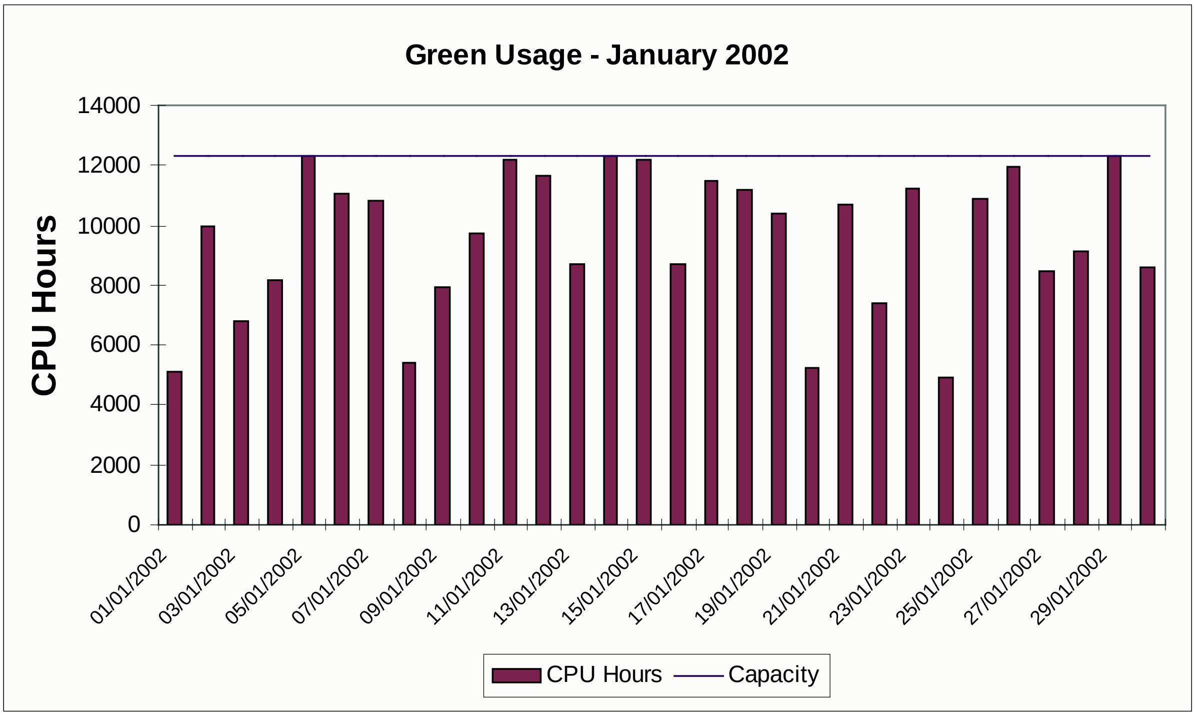
The above graph to a different scale shows the variable batch utilisation of the Origin 128.

### 4.3 Fujitsu VPP 300/8 System (Fuji)



Fuji utilisation was again variable over the month with the overall position resulting in usage below baseline.

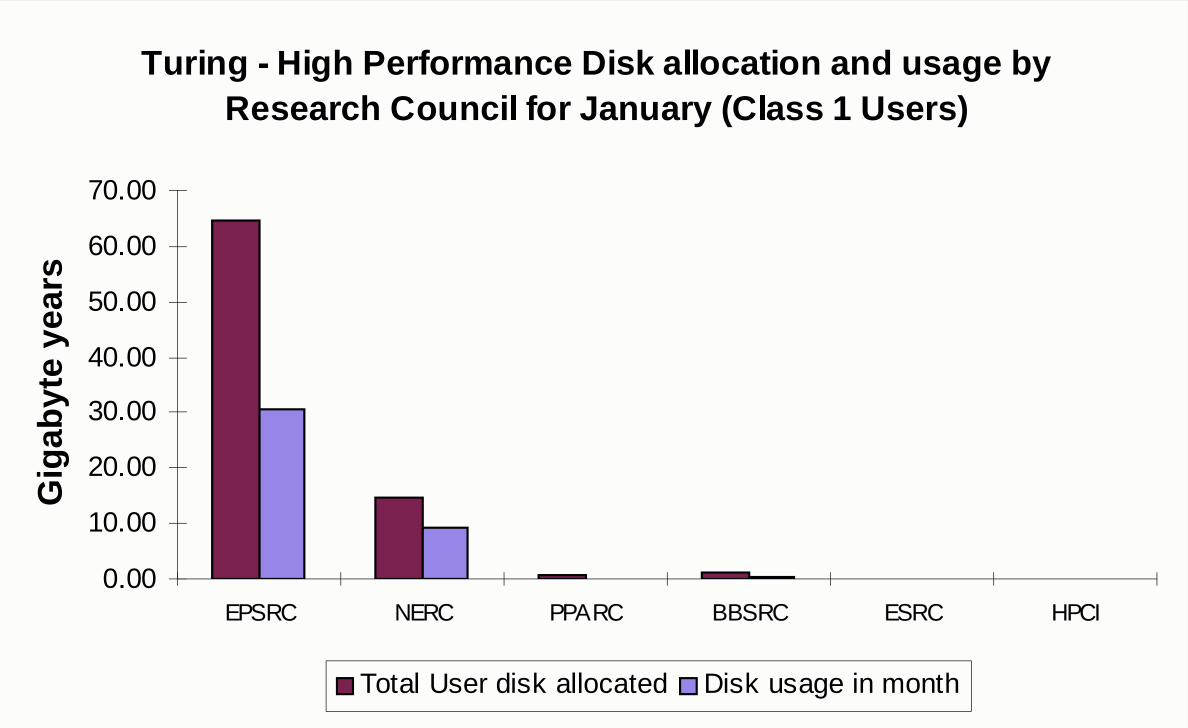
### 4.4 SGI Origin3000 System (Green)



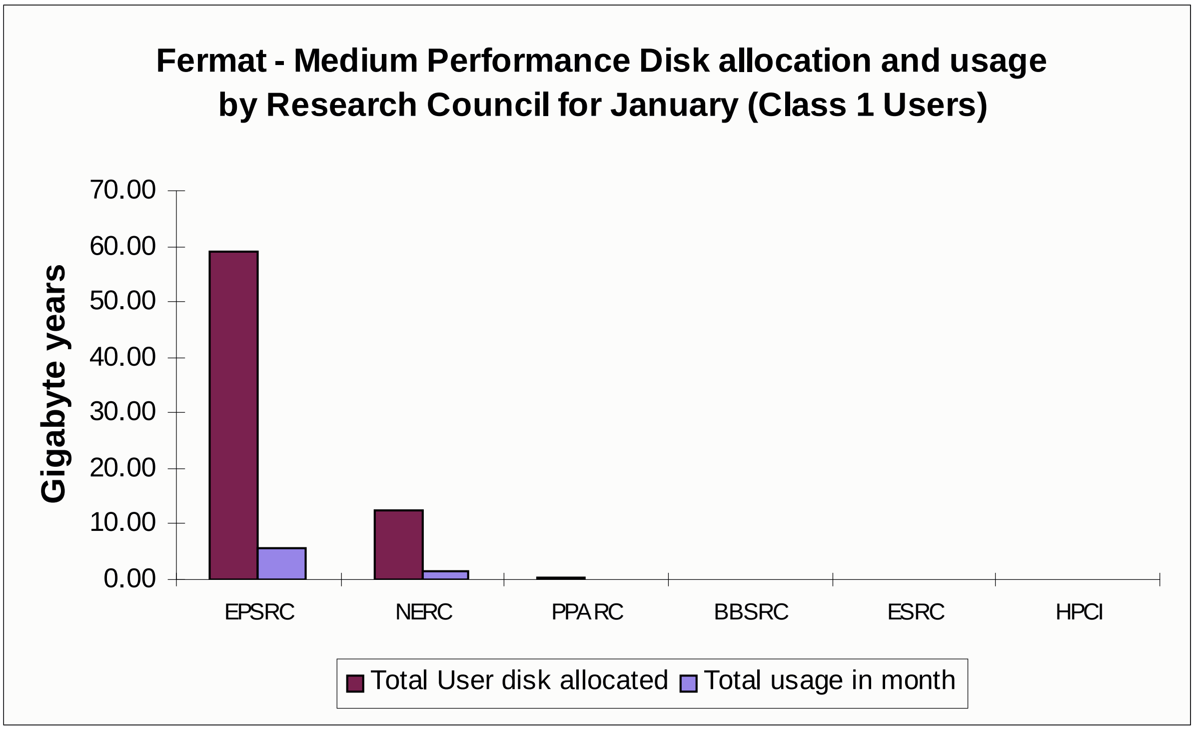
The above graph shows the utilisation of Green for the month of January, which saw the system running with a varied load.

### 4.5 Disk/HSM Usage Charts

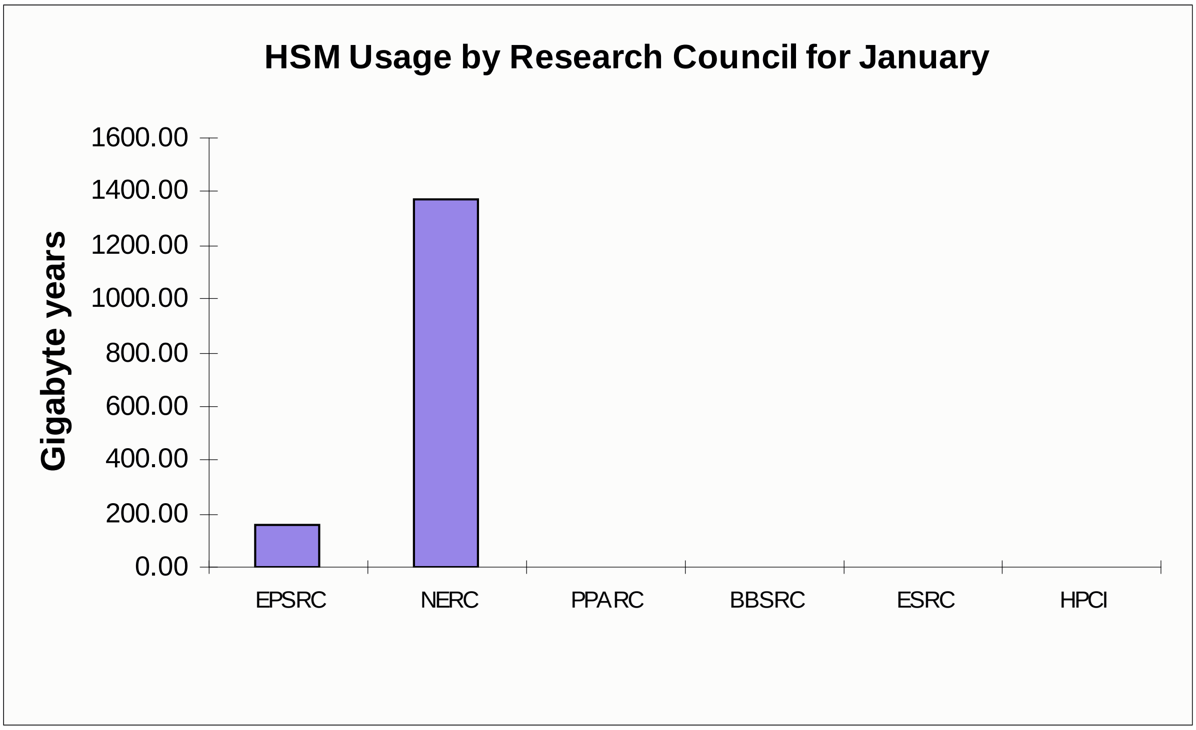
The graphs below show current disk and HSM allocations and usage.



The preceding graph shows actual usage on average against the current allocation of disk on the Turing system.

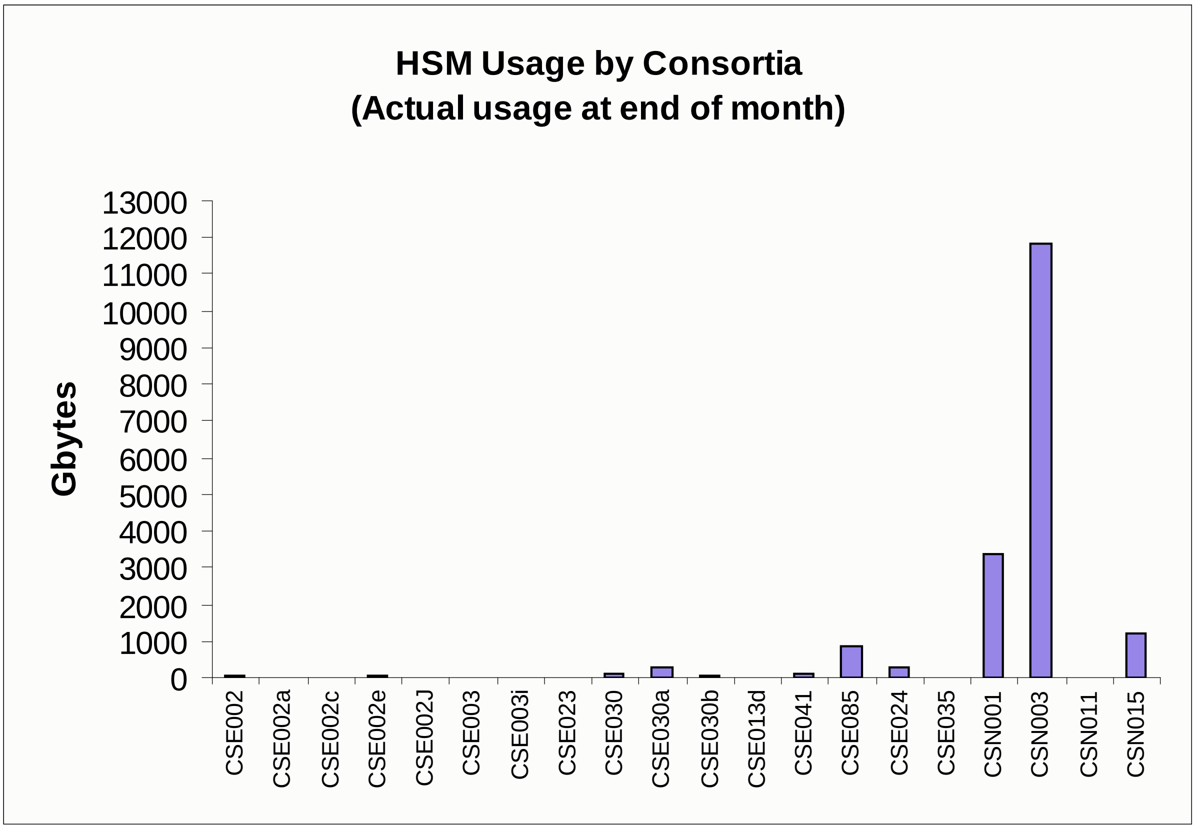


The above graph shows the disk allocations against usage on average of the disk on Fermat.

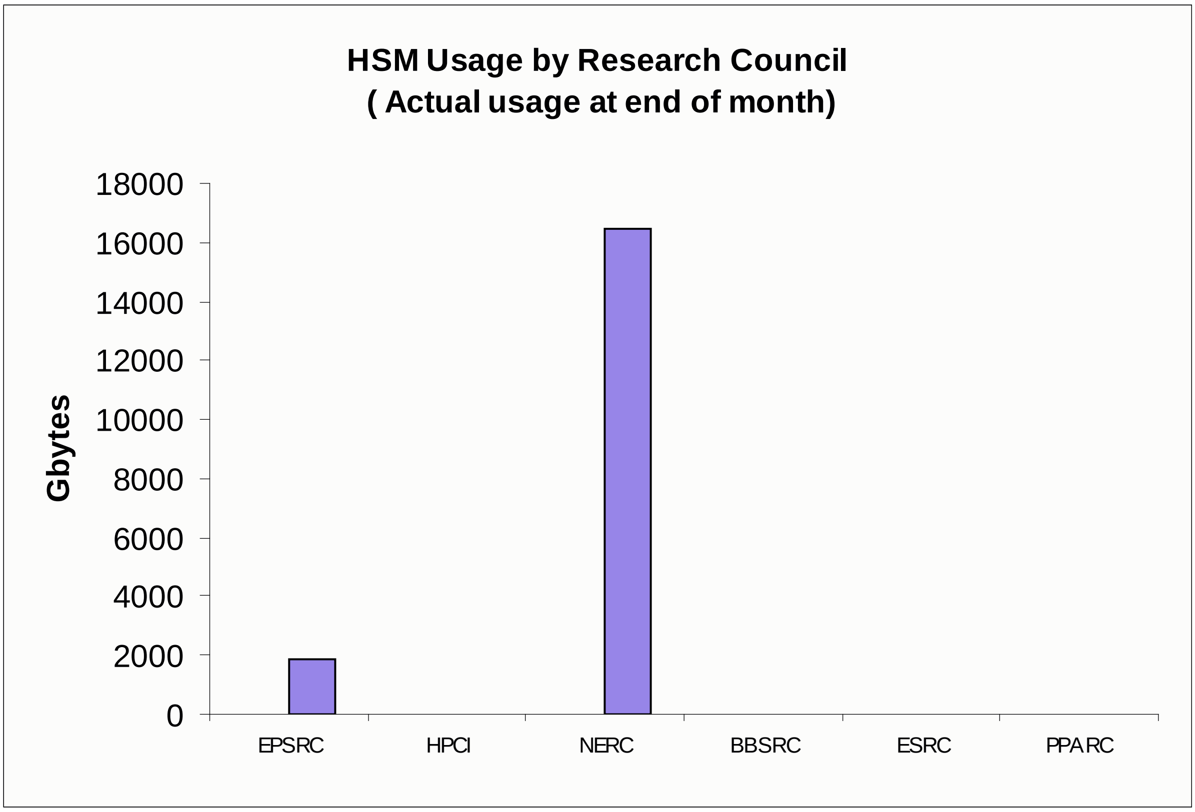


The above graph shows the total usage of the HSM facility by Research Council.

The next two graphs give actual usage of HSM by Consortia and by Research Council.

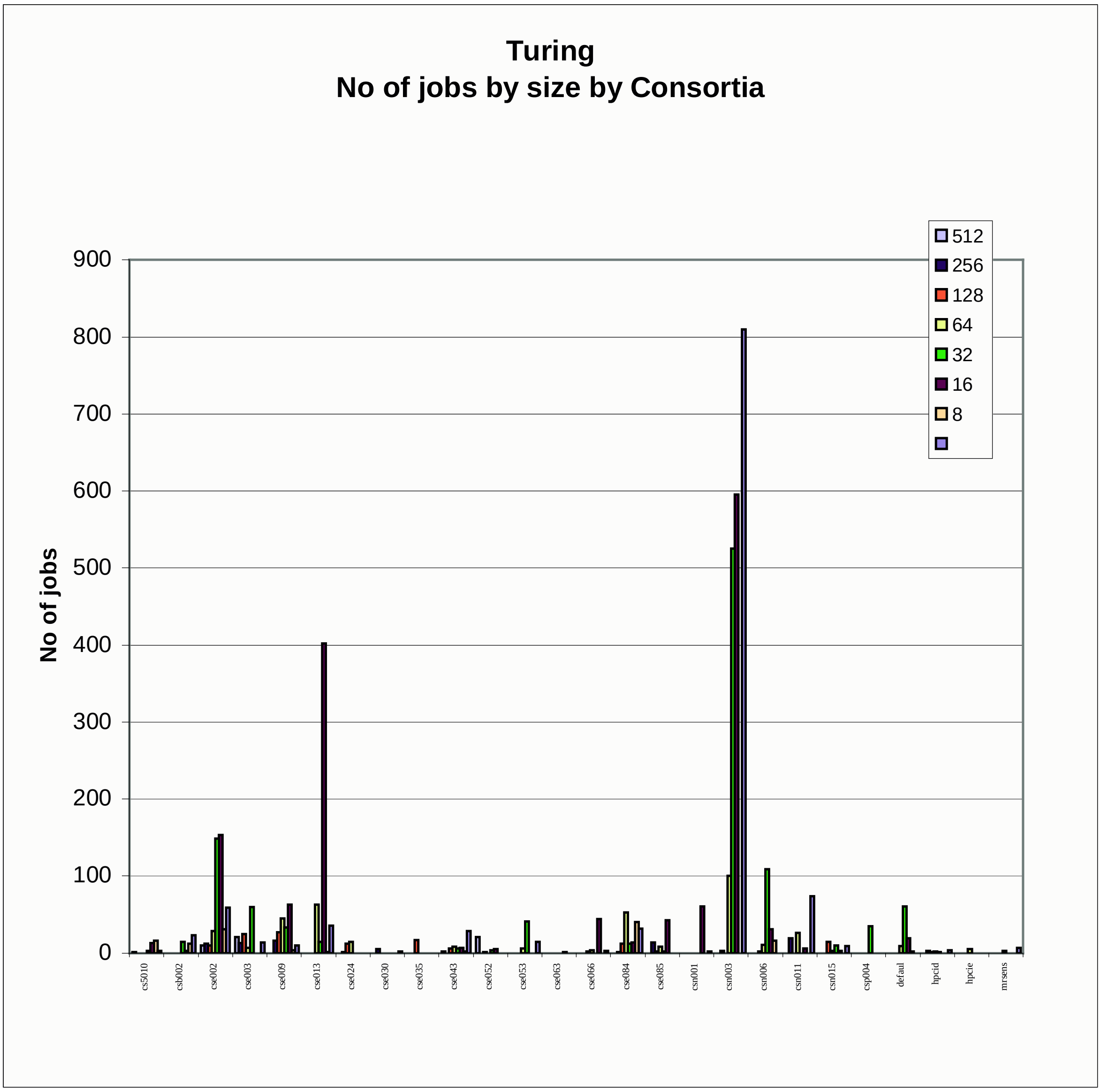


CSE003a (Taylor), CSE004 (Sandham), CSE024 (Tennyson), CSE085 (Sandham), CSN001 (Webb), CSN003 (O'Neill) & CSN015 (Proctor) were the major users of HSM resource.


HSM Usage by Research Council
( Actual usage at end of month)
Gbytes
18000
16000
14000
12000
10000
8000
6000
4000
2000
0
EPSRC
HPCI
NERC
BBSRC
ESRC
PPARC

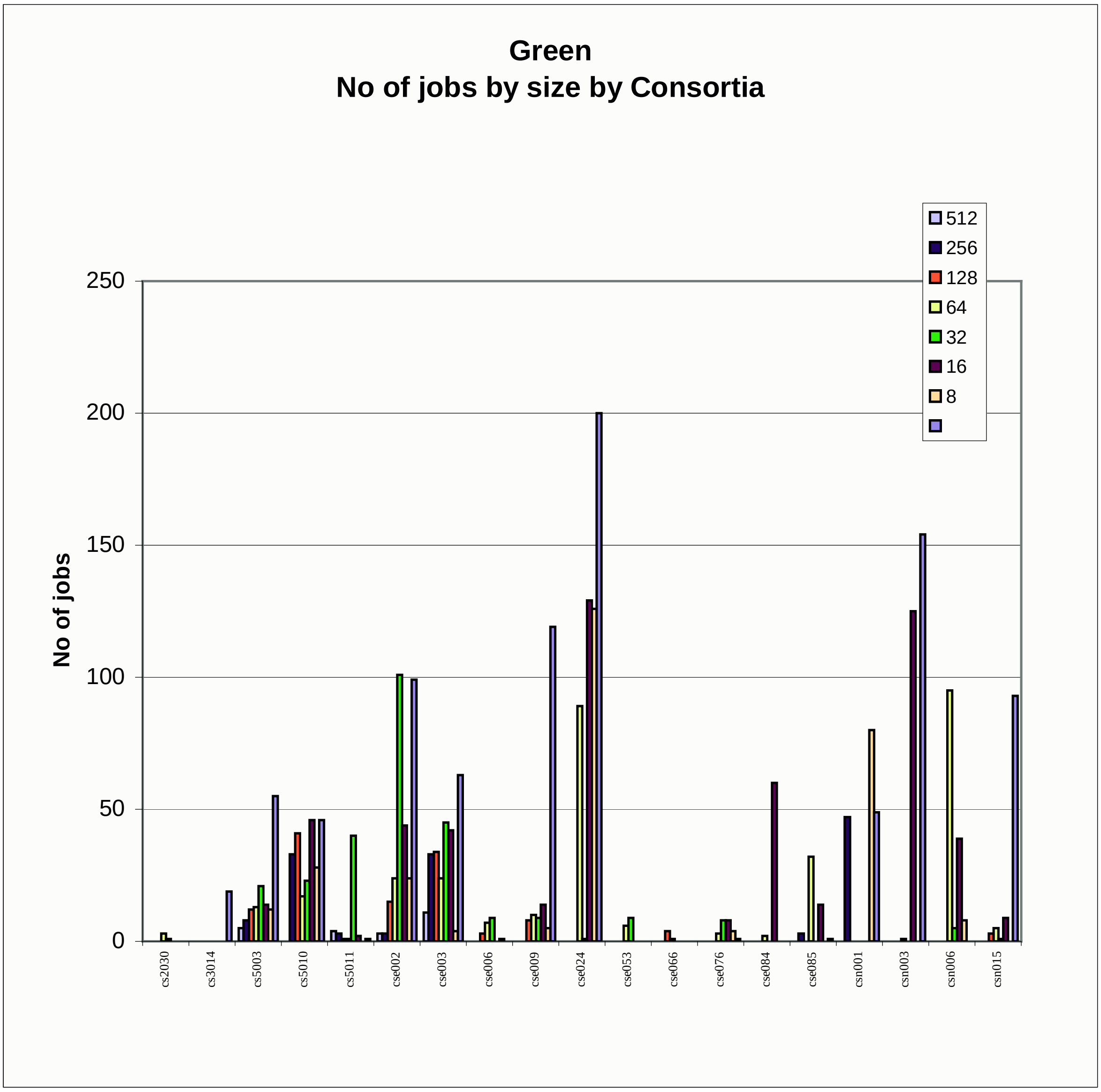
## 4.6 Processor Usage and Job Statistics Charts

Job statistics for Turing:



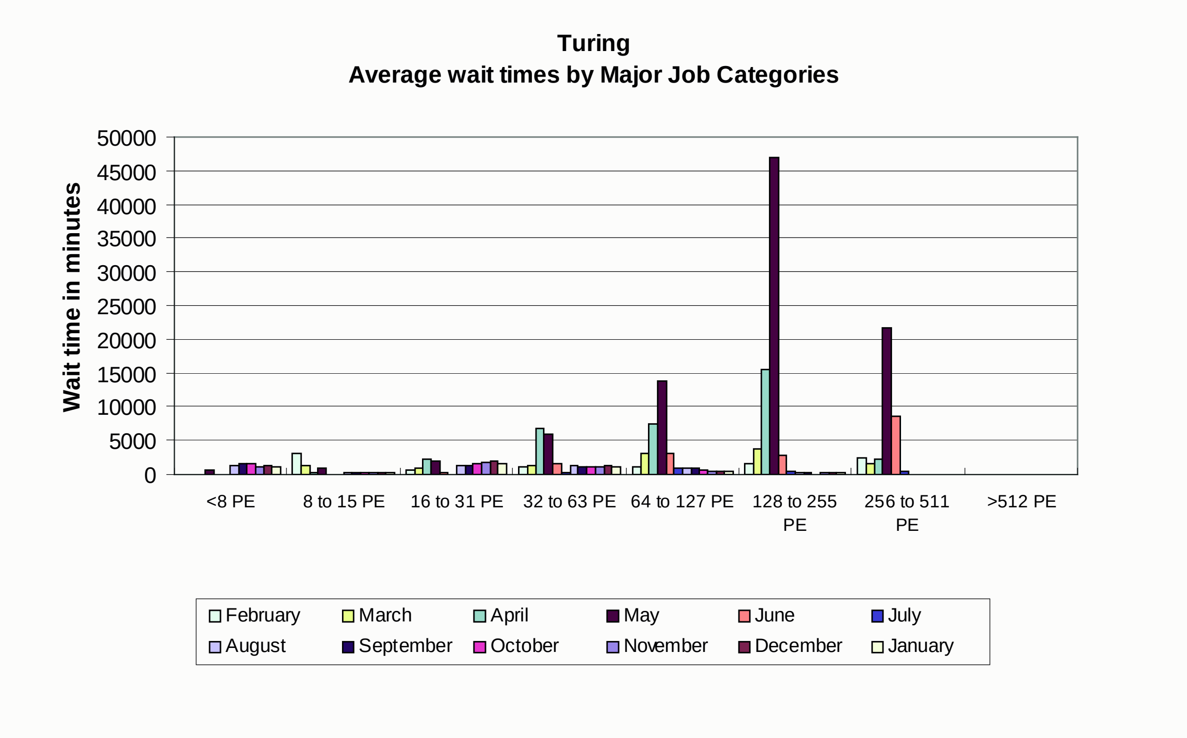
The above graph shows the number of jobs of the major sizes run in the period $1^{st}$ to 31st January 2002.

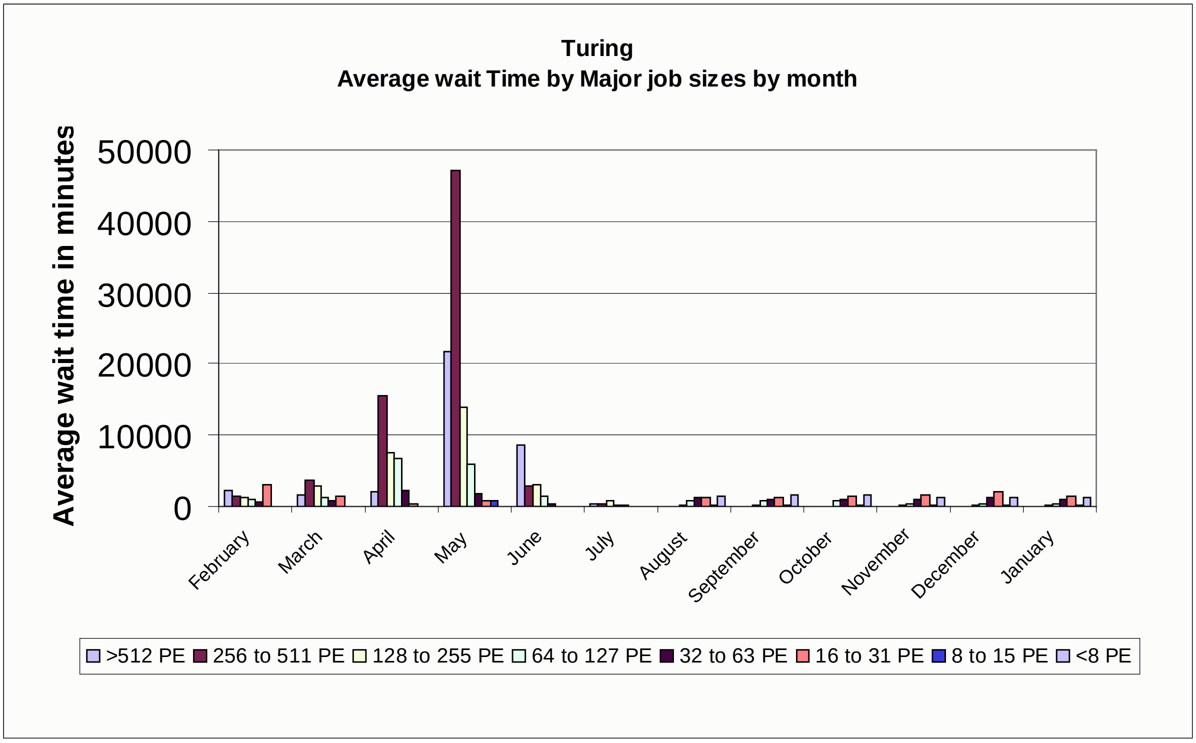
Job statistics for Green:



The above graph shows the number of jobs of the major sizes run in the period 1st to 31st January 2002.

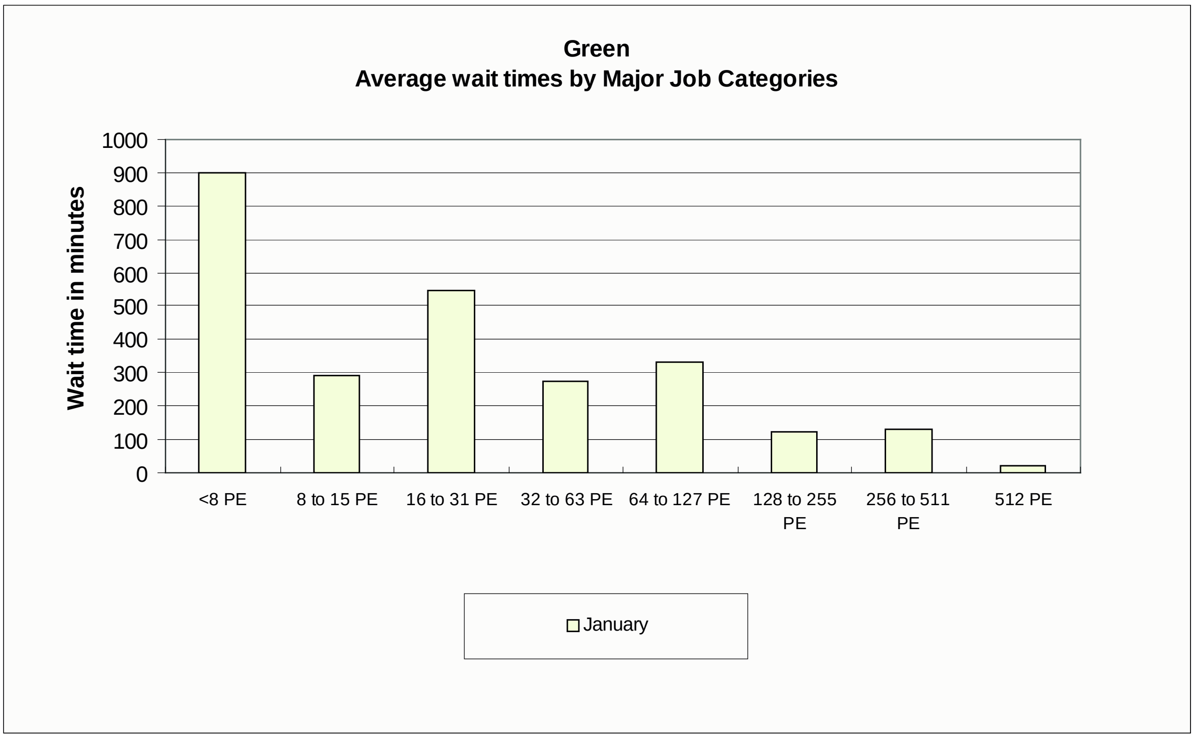
The next graph shows the wait times in minutes on Turing for the major categories of jobs.

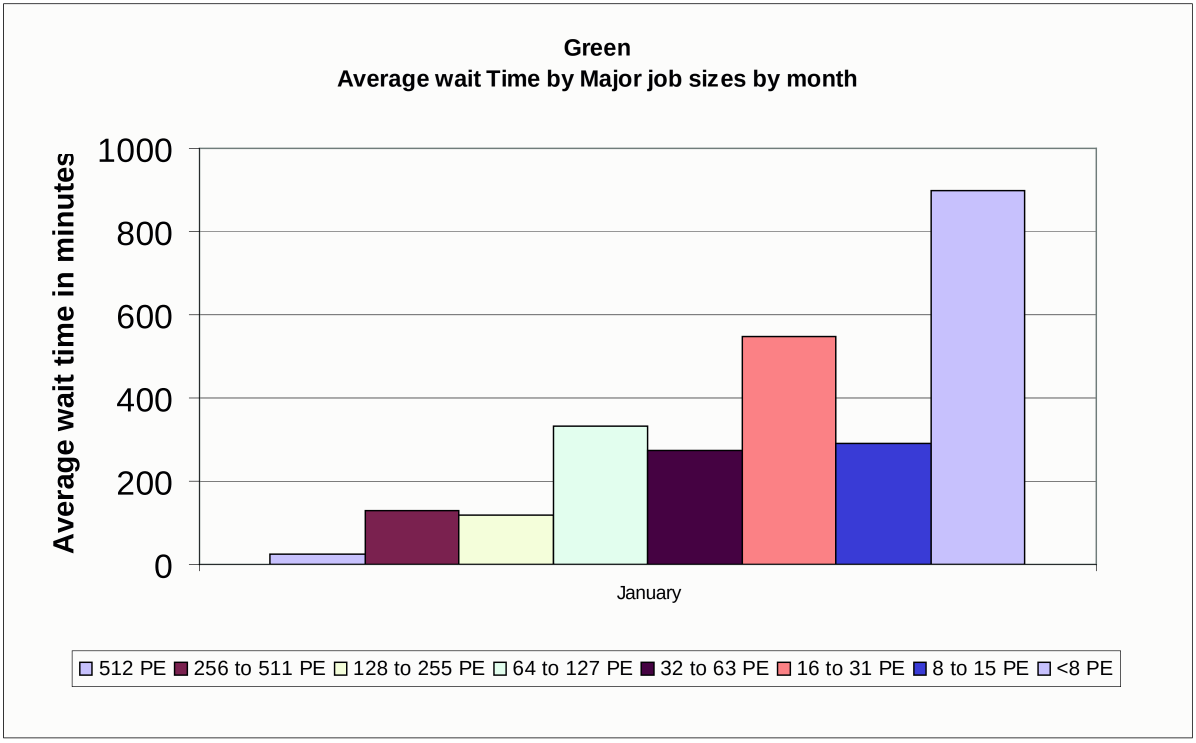




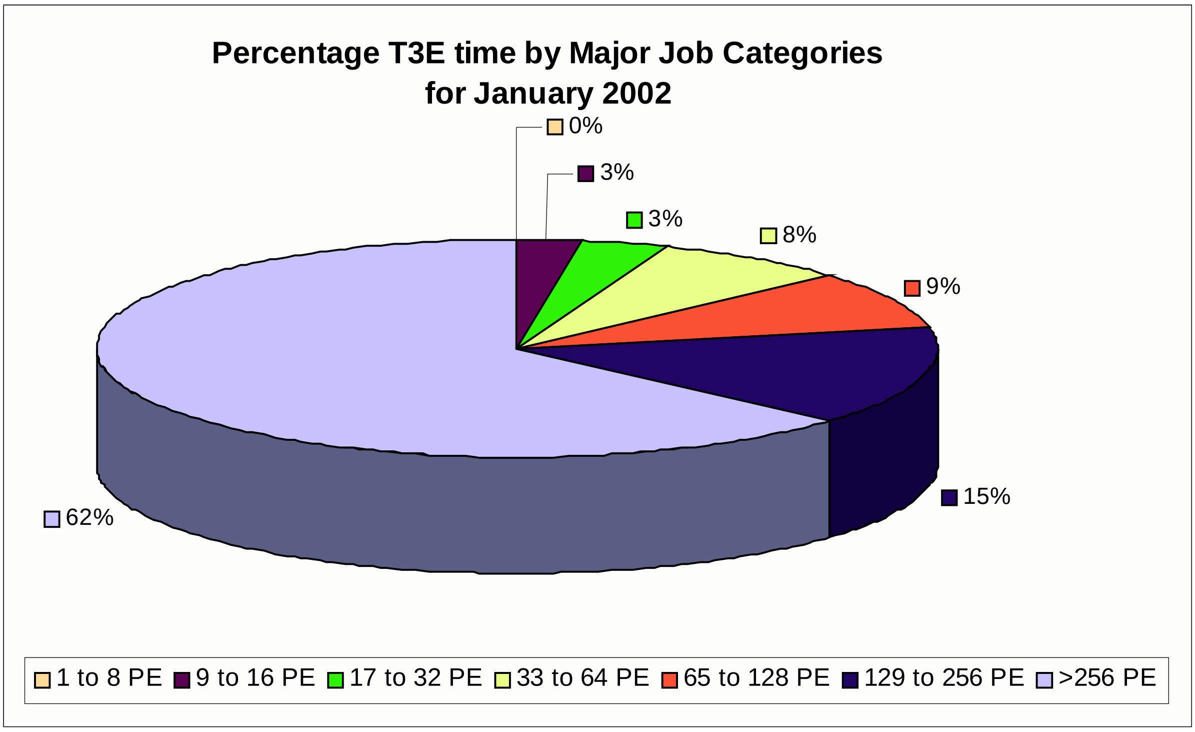
The chart above shows the average wait time trend on Turing over the last 12 months. Wait times for all jobs had fallen as Green is now in full production usage as a 512 PE machine. The trend now shows a slight fall in overall wait times over the November figures.

The next graph shows the wait times in minutes on Green for the major categories of jobs.

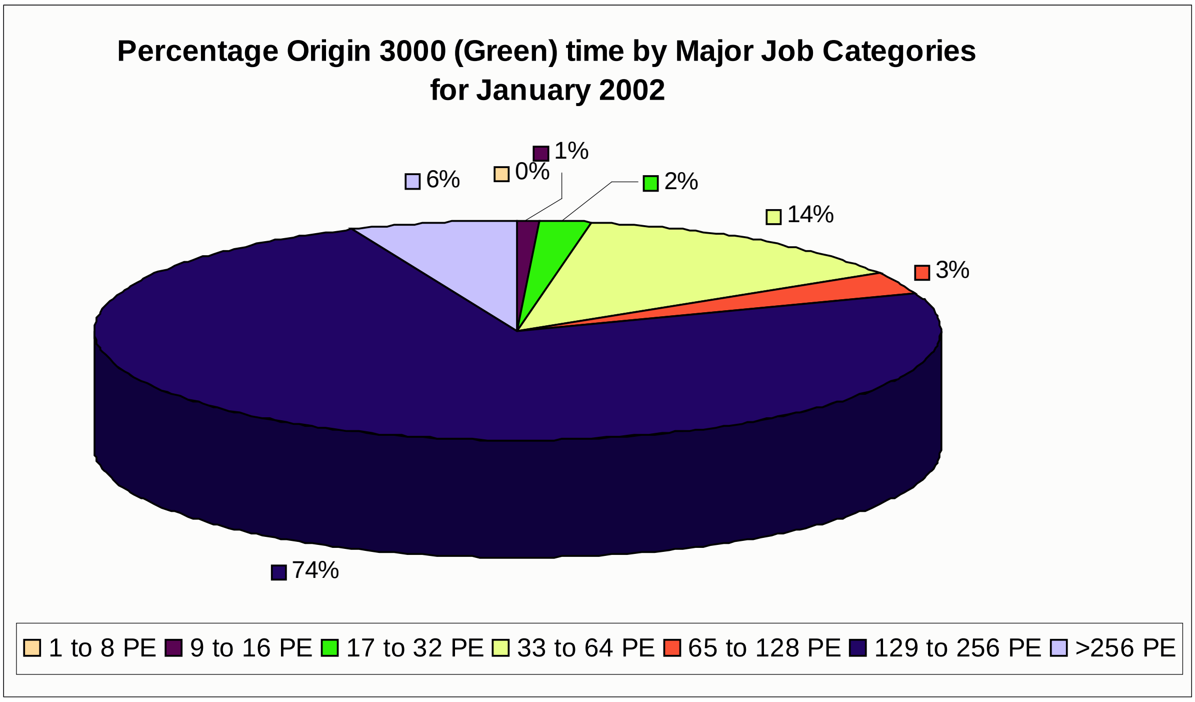




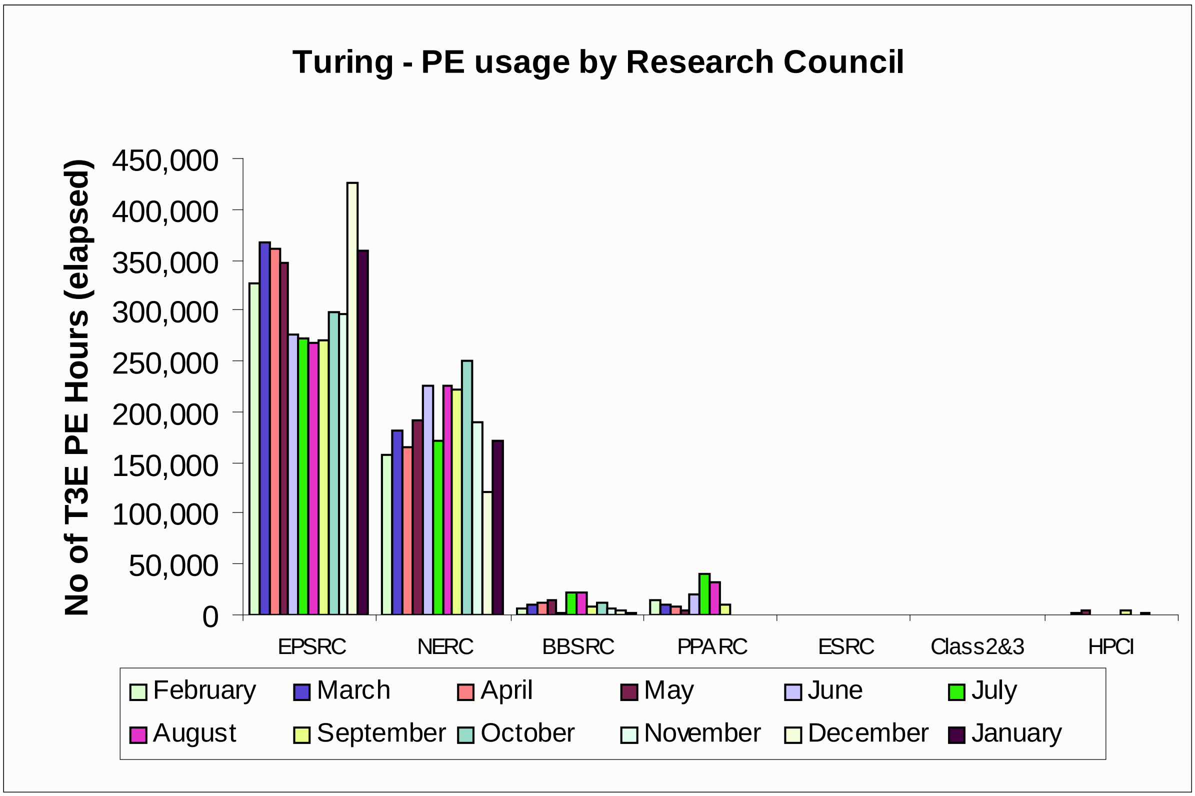
The chart above shows the average wait time trend on Green for January.



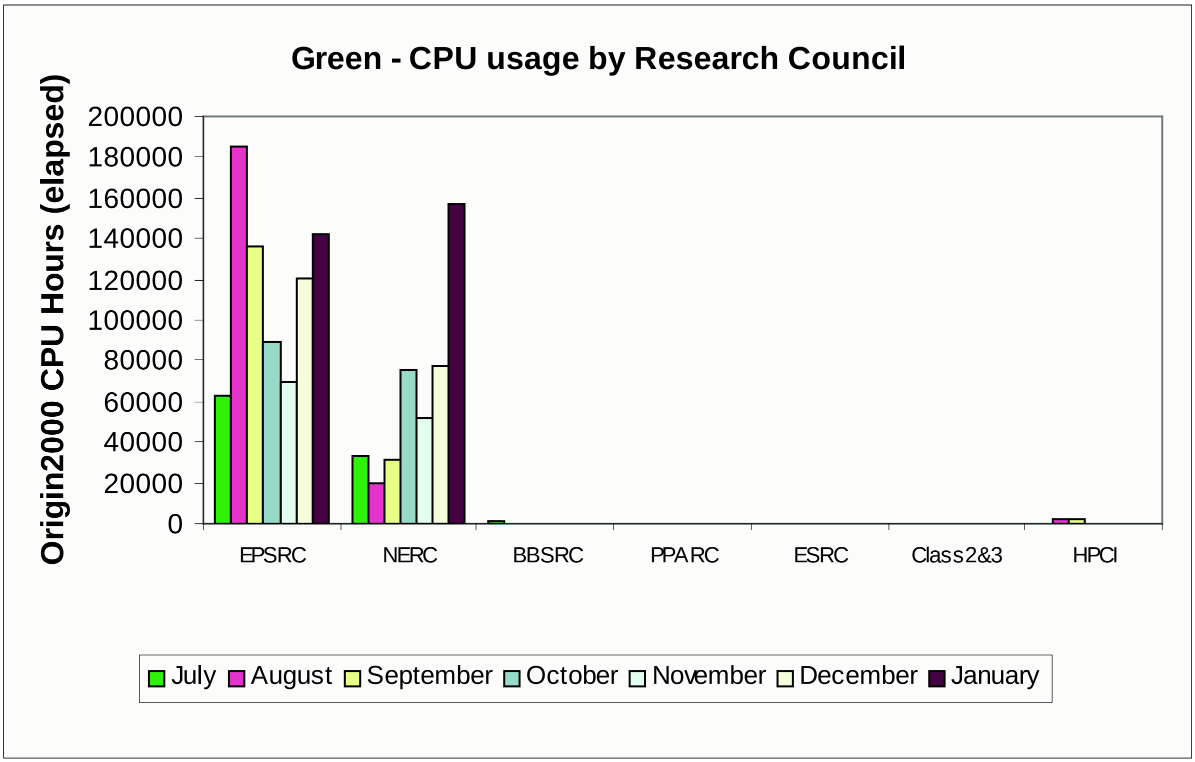
The largest proportion of the workload on Turing, 86%, was greater than 64 PEs in size.



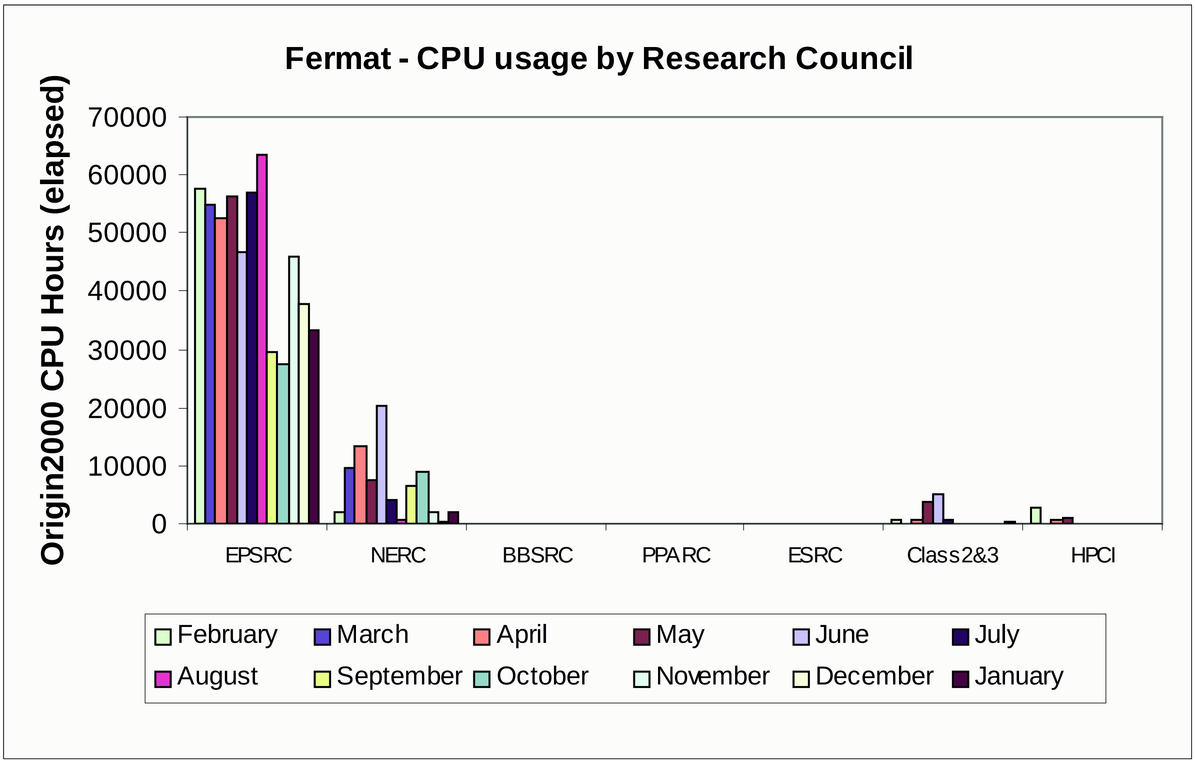
The major allocation of the workload on Green, 83%, was greater than 64 PEs in size.



Turing PE usage is shown by Research Council during the past 12 months of service in the above chart.



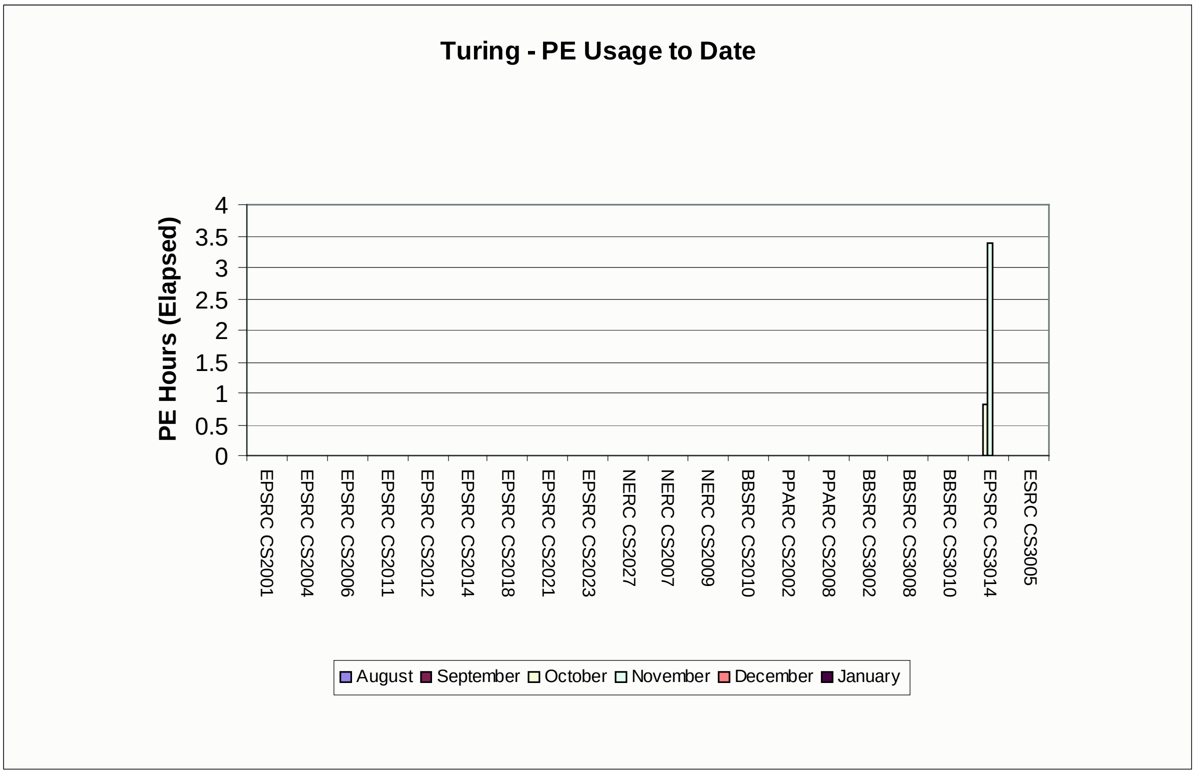
The above chart shows Green CPU usage by Research Council during the past 7 months of service.



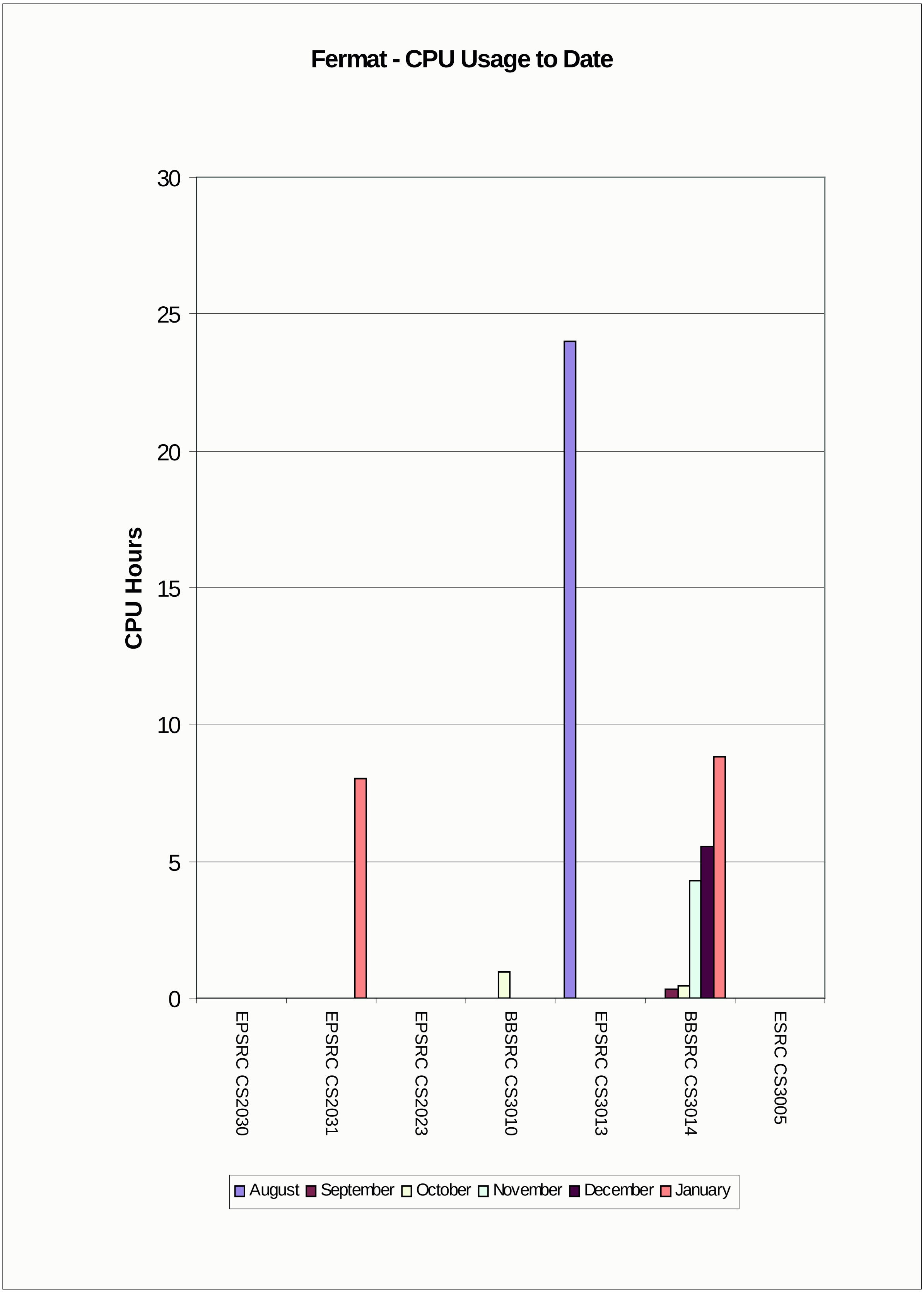
Origin 2000 CPU usage is shown by Research Council during the past 12 months of service in the above chart.

## 4.7 Class 2 & 3 Usage Charts

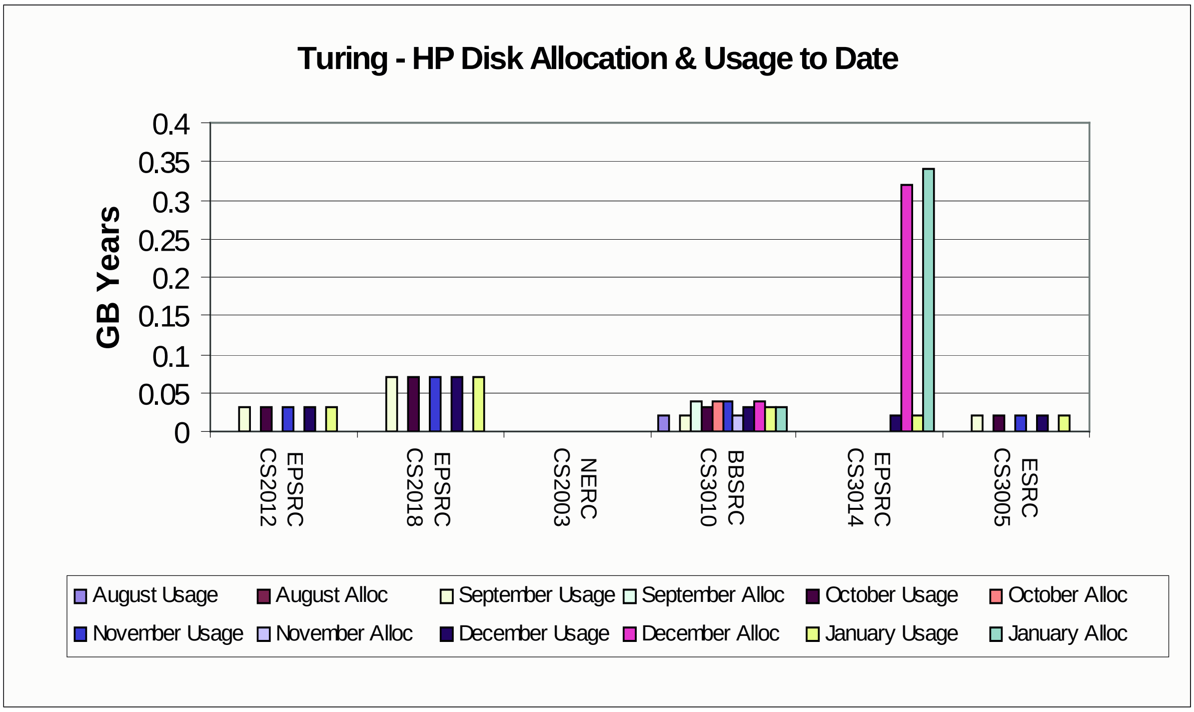
The next series of charts show the usage of the system by the class 2 & class 3 users. The usage is shown by project and identifies the Research Council of the individual projects.



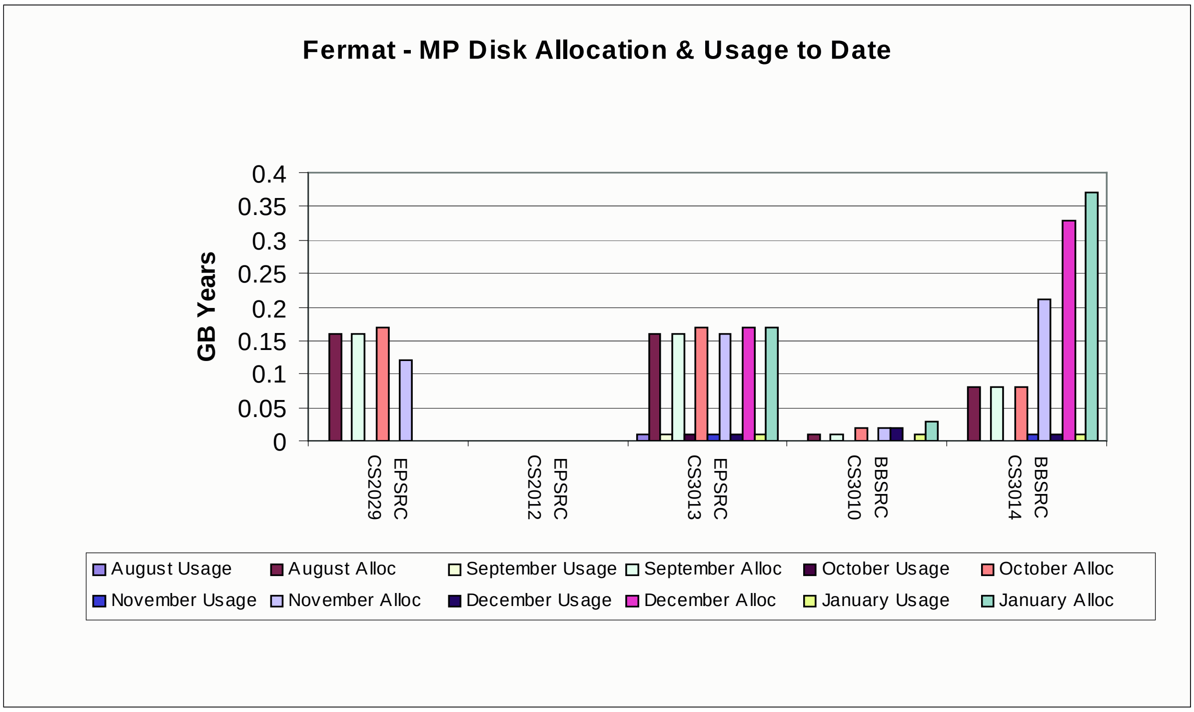
The above chart shows the most significant PE usage of the Turing system by class 2 and class 3 users.



The above chart shows the CPU usage of the Fermat system by class 2 and class 3 users.



The above chart shows the most significant disk allocations on the Turing system for class 2 and class 3 users.

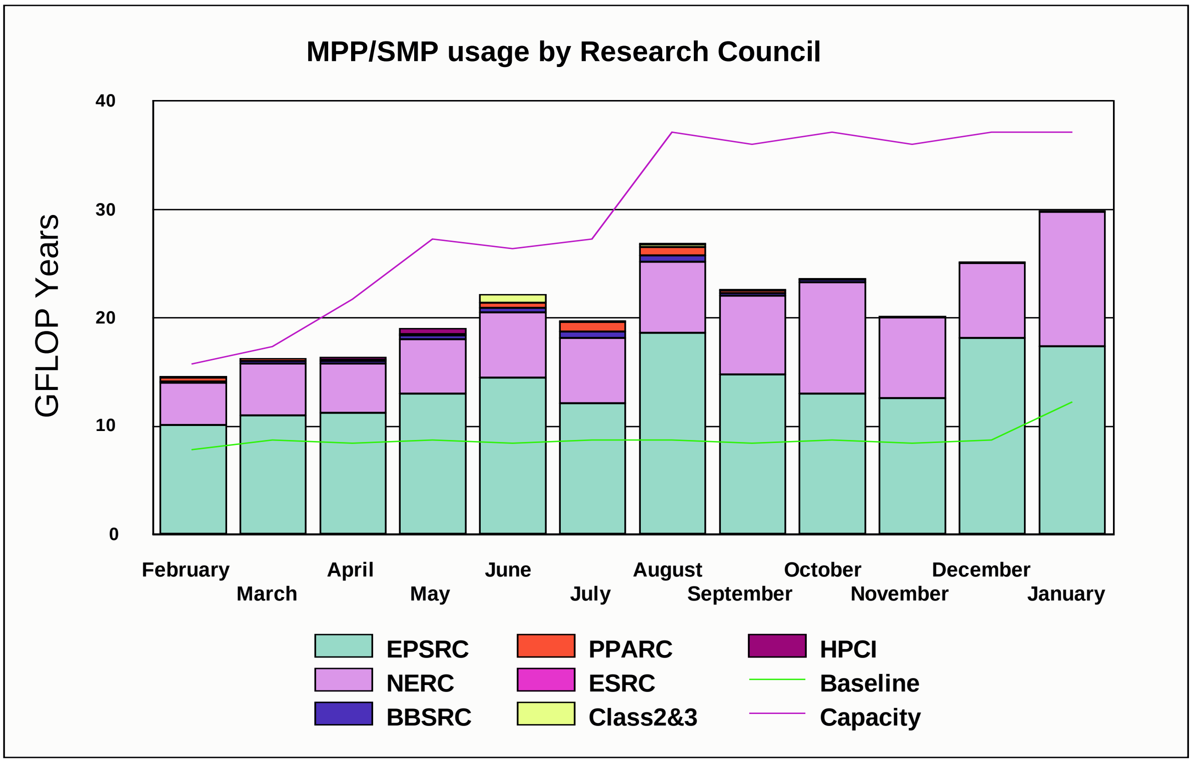


The above chart shows the most significant disk allocations on the Fermat system for class 2 and class 3 users. There is currently no HSM usage by class 2 and class 3 users.

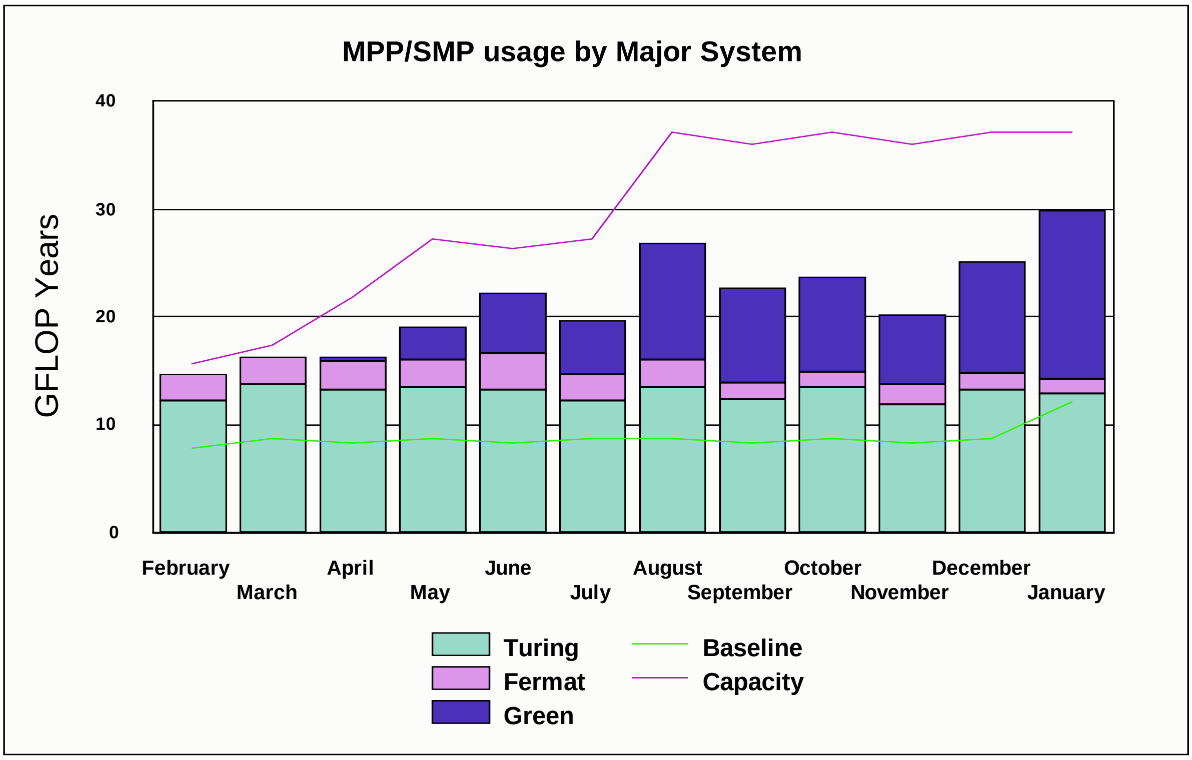
## 4.8 Charts of Historical Usage

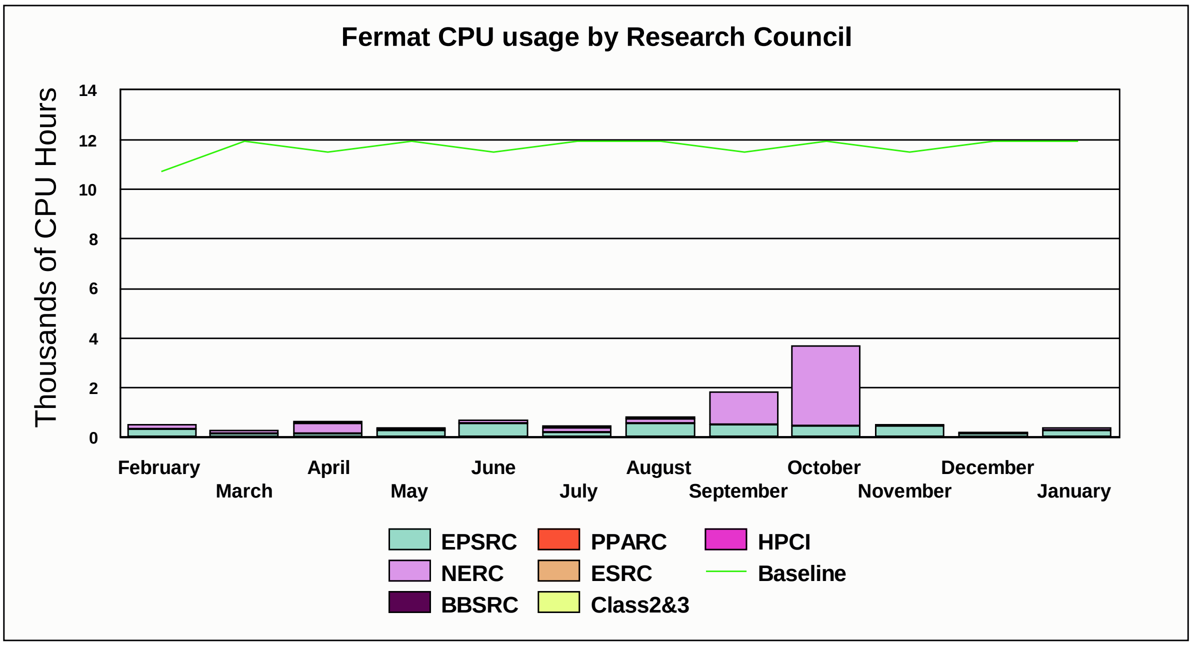
In all the Usage Charts, the baseline varies dependant on the number of days in each month, within a 365-day year.

The graph below shows the GFLOP Year utilisation on Turing and Fermat by Research Council for the previous 12 months; usage in July being reduced due to the outage for the major Green system upgrade.



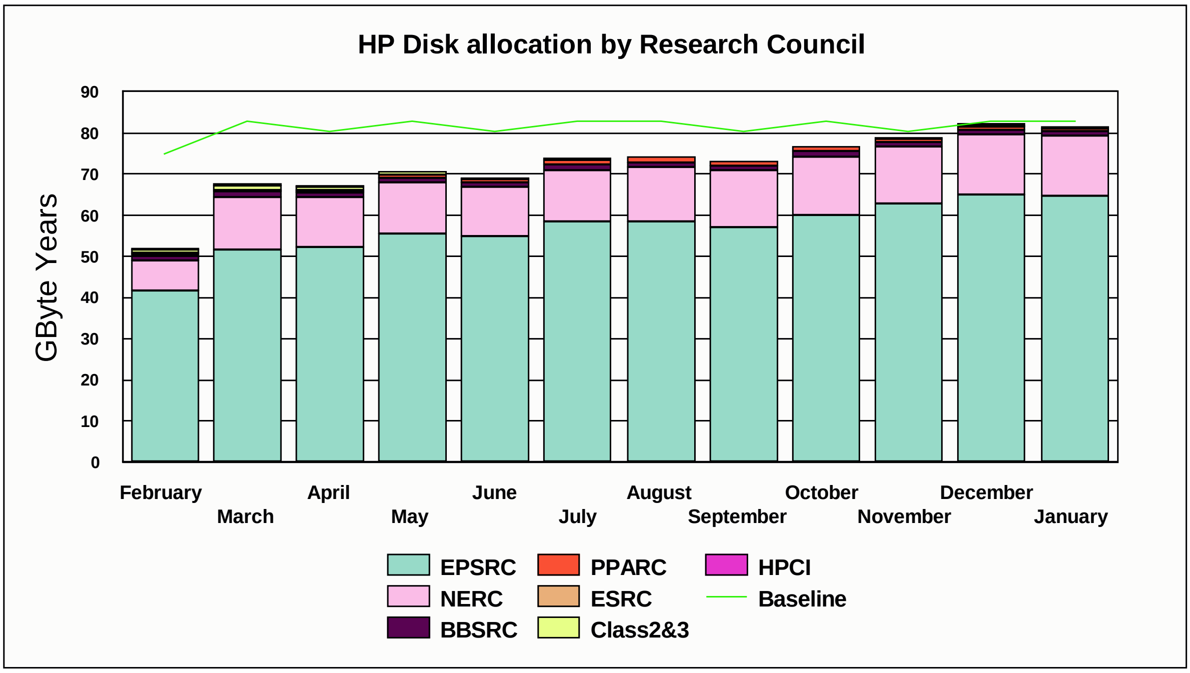
The graph below shows the historic SMP/MPP usage on the major systems, with the upgrades to Fermat showing in January 2002 and Green showing in April to January 2002.



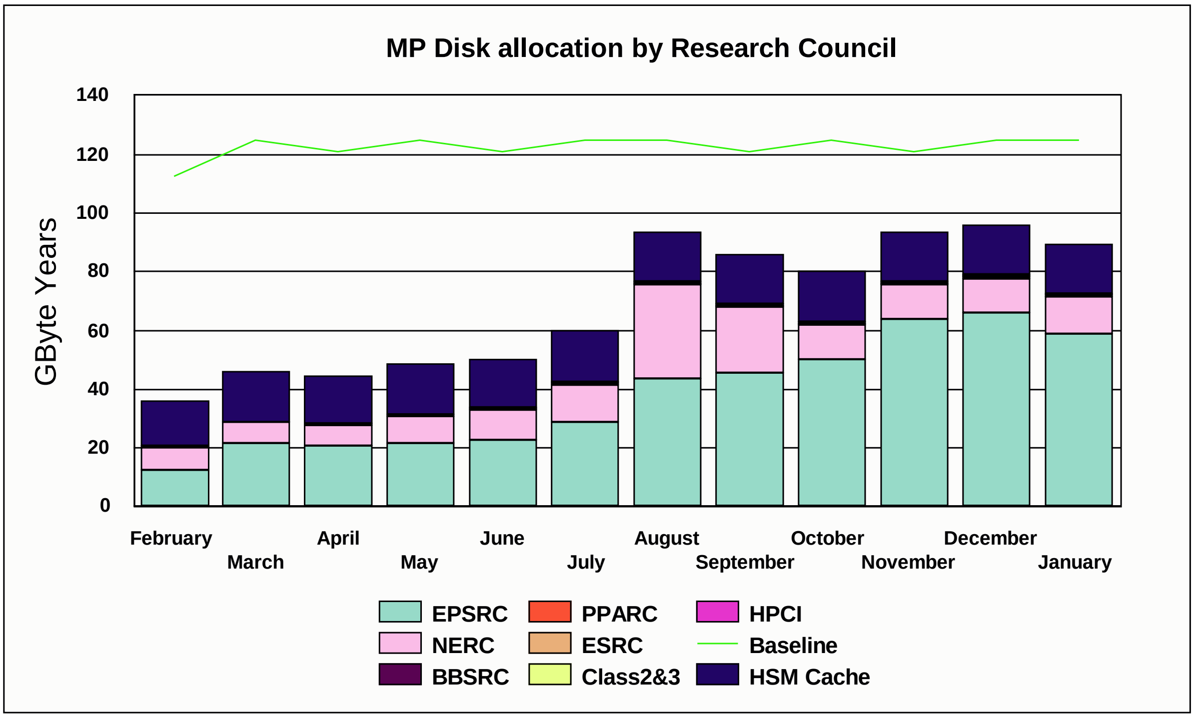


The above graph shows the historic interactive usage of the 'Baseline' Fermat system (equivalent to 16@250Mhz CPU's)

The next series of graphs illustrates the usage of the disk and HSM resources of the system.

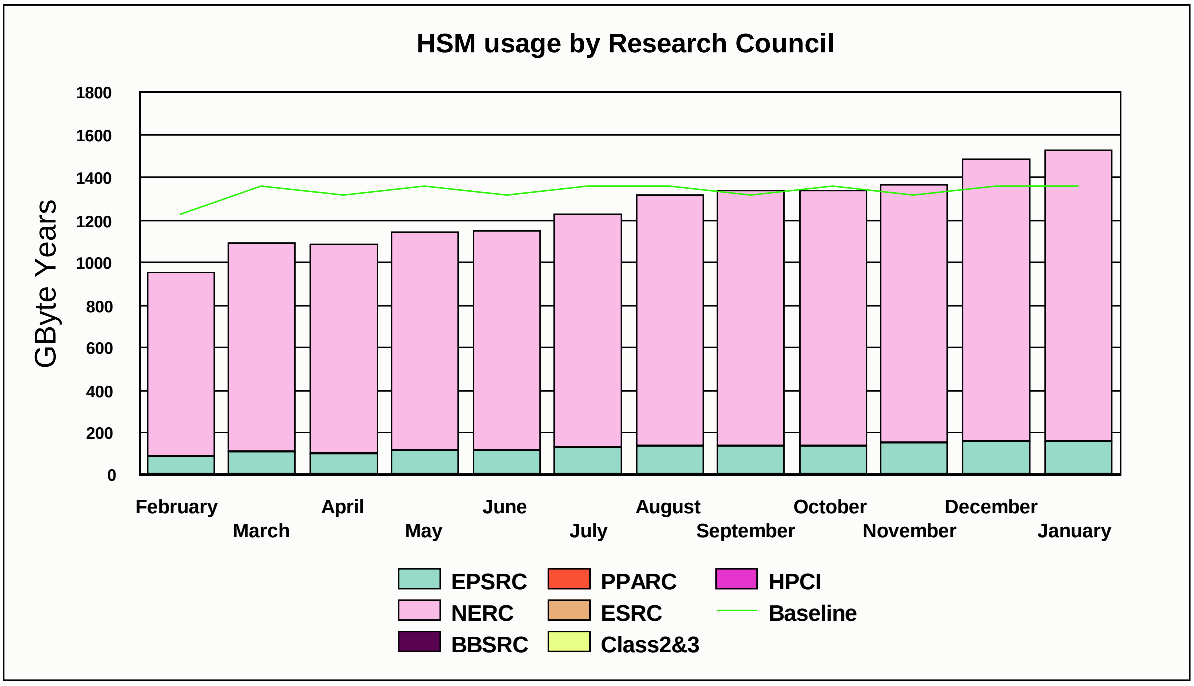


The preceding graph illustrates the historic allocation of the High Performance Disk on Turing, which has now reached the Baseline level.

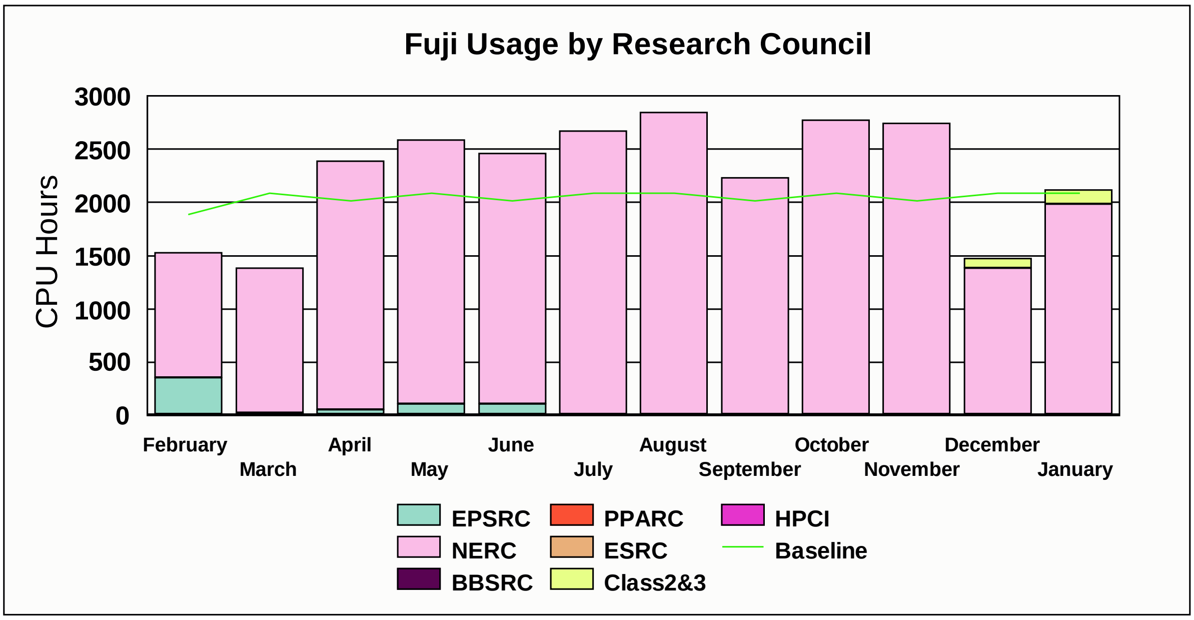


The graph above illustrates the historic allocation of the Medium Performance Disk on Fermat, which is now beginning to grow more rapidly with the growth in usage of both Fermat and Green.

The graph below shows the historic HSM usage by Research Council funded projects, now close to Baseline. The primary usage is for NERC.



The next chart shows the historic usage of the Fuji system.



The Fujitsu system usage was below baseline this month; however there was some Class 2/3 usage this month by CS2032 (Vekstein).

### 4.8 Guest System Usage Charts

There is currently no Guest System usage.

## 5. Service Status, Issues and Plans

### 5.1 Status

The service continues to run almost at full capacity.

During the month, 86% of the jobs run on Turing were larger than 64 PEs in size.

During the month, 83% of the jobs run on Green were larger than 64 PEs in size.

### 5.2 Issues

The new drives are performing well, migration of the data from the Redwoods is continuing.

### 5.3 Plans

The plan to implement a £1.2M SAN is to be presented to the CSAR Management Board in February.

## 6. Conclusion

January 2002 saw the overall CPARS rating at Green with the baseline being exceeded by 48%.

The largest proportion of the workload, on the major systems (Turing & Green), continues to be of the larger job sizes the largest shift in this area was in the range of 128 and above, although the larger jobs were run on Turing.

Continued management attention will be given to maximise the throughput of the Service, whilst balancing as fairly as practicable the shares between Projects and jobs of the varying sizes.

**Appendix 1** contains the accounts for January 2002

**Appendix 2** contains the Percentage shares by Consortium for January 2002

**Appendix 3** contains the Percentage shares by Research Council for January 2002

**Appendix 4** contains the Training, Applications and Optimisation support figures to the end of January 2002

**Appendix 5** contains a breakdown of resource usage by Consortia to the end of January 2002.

**Appendix 6** contains a reference table of the Consortia name, the subject area and the PI name.

**Appendix 1**

The summary accounts for the month of January 2002 can be found at the URL below

http://www.csar.cfs.ac.uk/admin/accounts/summary.shtml

## Appendix 2

**Percentage PE time per consortia for Turing in January 2002**

| Consortia | % Machine Time |
|---|---|
| CSE002 | 16.63 |
| CSE003 | 10.72 |
| CSE021 | 0.00 |
| CSE023 | 0.00 |
| CSE025 | 0.00 |
| CSE030 | 1.85 |
| CSE051 | 0.00 |
| CSE055 | 0.00 |
| CSE057 | 0.00 |
| CSE084 | 4.68 |
| CSE006 | 0.15 |
| CSE004 | 0.00 |
| CSE013 | 11.16 |
| CSE014 | 0.00 |
| CSE016 | 0.00 |
| CSE027 | 0.00 |
| CSE040 | 0.00 |
| CSE041 | 0.00 |
| CSE043 | 0.12 |
| CSE052 | 7.32 |
| CSE053 | 0.27 |
| CSE056 | 0.00 |
| CSE063 | 0.01 |
| CSE085 | 2.21 |
| CSE008 | 0.00 |
| CSE009 | 9.40 |
| CSE024 | 0.43 |
| CSE033 | 0.00 |
| CSE035 | 3.01 |
| CSE019 | 0.00 |
| CSE020 | 0.00 |
| CSE066 | 0.37 |
| CSE076 | 0.00 |
| CSE034 | 0.00 |
| CSE036 | 0.00 |
| HPCI Southampton | 0.00 |
| HPCI Daresbury | 0.00 |
| HPCI Edinburgh | 0.04 |
| CSN001 | 1.25 |
| CSN003 | 25.57 |
| CSN005 | 0.00 |
| CSN006 | 2.22 |
| CSN007 | 0.00 |
| CSN010 | 0.00 |
| CSN011 | 0.90 |
| CSN012 | 0.00 |
| CSN015 | 2.25 |
| CSN017 | 0.00 |
| CSN036 | 0.00 |
| CSB001 | 0.00 |
| CSB002 | 0.52 |
| CSP002 | 0.00 |
| CSP003 | 0.00 |
| CSP004 | 0.06 |
| CS2018 | 0.00 |
| CS2029 | 0.00 |
| CS3001 | 0.00 |
| CS3002 | 0.00 |
| CS3005 | 0.00 |
| CS3007 | 0.00 |
| CS3008 | 0.00 |
| CS3010 | 0.00 |
| CS3012 | 0.00 |
| CS3013 | 0.00 |
| CS3014 | 0.00 |

**Percentage CPU time per consortia for Fermat in January 2002**

| Consortia | % Machine Time |
|---|---|
| CSE002 | 25.18 |
| CSE003 | 1.05 |
| CSE021 | 0.00 |
| CSE023 | 0.00 |
| CSE025 | 0.00 |
| CSE030 | 0.03 |
| CSE051 | 0.00 |
| CSE055 | 0.00 |
| CSE057 | 0.00 |
| CSE084 | 0.00 |
| CSE006 | 6.02 |
| CSE004 | 0.00 |
| CSE013 | 1.03 |
| CSE014 | 0.00 |
| CSE016 | 0.00 |
| CSE027 | 0.00 |
| CSE040 | 0.00 |
| CSE041 | 0.01 |
| CSE043 | 0.00 |
| CSE052 | 0.00 |
| CSE053 | 0.06 |
| CSE056 | 0.00 |
| CSE063 | 0.00 |
| CSE085 | 0.05 |
| CSE008 | 0.00 |
| CSE009 | 0.18 |
| CSE024 | 2.53 |
| CSE033 | 0.00 |
| CSE035 | 0.00 |
| CSE019 | 0.00 |
| CSE020 | 0.00 |
| CSE066 | 0.11 |
| CSE076 | 56.94 |
| CSE034 | 0.00 |
| CSE036 | 0.02 |
| HPCI Southampton | 0.00 |
| HPCI Daresbury | 0.00 |
| HPCI Edinburgh | 0.00 |
| CSN001 | 0.19 |
| CSN003 | 0.74 |
| CSN005 | 0.00 |
| CSN006 | 3.41 |
| CSN007 | 0.00 |
| CSN010 | 0.00 |
| CSN011 | 0.00 |
| CSN012 | 0.00 |
| CSN015 | 1.10 |
| CSN017 | 0.00 |
| CSN036 | 0.00 |
| CSB001 | 0.00 |
| CSB002 | 0.00 |
| CSP002 | 0.00 |
| CSP003 | 0.00 |
| CSP004 | 0.01 |
| CS2018 | 0.00 |
| CS2029 | 0.00 |
| CS3001 | 0.00 |
| CS3002 | 0.00 |
| CS3005 | 0.00 |
| CS3007 | 0.00 |
| CS3008 | 0.00 |
| CS3010 | 0.00 |
| CS3012 | 0.00 |
| CS3013 | 0.00 |
| CS3014 | 0.02 |

**Percentage CPU time per consortia for Green in January 2002**

| Consortia | % Machine Time |
|---|---|
| CSE002 | 9.37 |
| CSE003 | 5.41 |
| CSE084 | 3.91 |
| CSE006 | 0.04 |
| CSE053 | 0.03 |
| CSE085 | 12.08 |
| CSE009 | 3.03 |
| CSE024 | 9.84 |
| CSE066 | 0.00 |
| CSE076 | 3.64 |
| CSN001 | 35.90 |
| CSN003 | 4.51 |
| CSN006 | 9.19 |
| CSN015 | 2.88 |
| CS2030 | 0.06 |
| CS3014 | 0.00 |

## Appendix 2

**Percentage disc allocation by Consortia for Turing in January 2002**

| Consortia | %Allocation |
|---|---|
| CSE002 | 23.79 |
| CSE003 | 7.02 |
| CSE021 | 0.00 |
| CSE023 | 0.06 |
| CSE025 | 0.00 |
| CSE030 | 20.12 |
| CSE051 | 0.00 |
| CSE055 | 0.10 |
| CSE057 | 0.04 |
| CSE084 | 1.25 |
| CSE006 | 0.83 |
| CSE004 | 0.00 |
| CSE013 | 1.31 |
| CSE014 | 0.00 |
| CSE016 | 0.12 |
| CSE027 | 0.00 |
| CSE040 | 0.00 |
| CSE041 | 0.05 |
| CSE043 | 0.05 |
| CSE052 | 0.31 |
| CSE053 | 0.10 |
| CSE056 | 0.00 |
| CSE063 | 1.04 |
| CSE085 | 15.64 |
| CSE008 | 0.00 |
| CSE009 | 5.22 |
| CSE024 | 0.37 |
| CSE033 | 0.00 |
| CSE035 | 0.72 |
| CSE019 | 0.00 |
| CSE020 | 0.00 |
| CSE066 | 1.14 |
| CSE076 | 0.00 |
| CSE034 | 0.00 |
| CSE036 | 0.02 |
| HPCI Southampton | 0.00 |
| HPCI Daresbury | 0.10 |
| HPCI Edinburgh | 0.10 |
| CSN001 | 10.42 |
| CSN003 | 2.19 |
| CSN005 | 0.00 |
| CSN006 | 4.17 |
| CSN007 | 0.00 |
| CSN010 | 0.00 |
| CSN011 | 0.75 |
| CSN012 | 0.00 |
| CSN015 | 0.21 |
| CSN017 | 0.01 |
| CSN036 | 0.05 |
| CSB001 | 0.05 |
| CSB002 | 1.35 |
| CSP002 | 0.00 |
| CSP003 | 0.02 |
| CSP004 | 0.72 |
| CS2018 | 0.00 |
| CS2026 | 0.00 |
| CS2029 | 0.00 |
| CS2031 | 0.00 |
| CS3001 | 0.00 |
| CS3002 | 0.00 |
| CS3005 | 0.00 |
| CS3010 | 0.04 |
| CS3012 | 0.00 |
| CS3013 | 0.21 |
| CS3014 | 0.42 |

**Percentage disc allocation by Consortia for Fermat in January 2002**

| Consortia | %Allocation |
|---|---|
| CSE002 | 7.40 |
| CSE003 | 9.37 |
| CSE021 | 0.00 |
| CSE023 | 4.17 |
| CSE025 | 0.00 |
| CSE030 | 41.53 |
| CSE051 | 0.00 |
| CSE055 | 0.00 |
| CSE057 | 0.00 |
| CSE084 | 1.17 |
| CSE006 | 0.70 |
| CSE004 | 0.00 |
| CSE013 | 0.23 |
| CSE014 | 0.00 |
| CSE016 | 0.00 |
| CSE027 | 0.34 |
| CSE040 | 0.00 |
| CSE041 | 0.11 |
| CSE043 | 0.12 |
| CSE052 | 0.00 |
| CSE053 | 0.11 |
| CSE056 | 0.00 |
| CSE063 | 0.00 |
| CSE085 | 12.87 |
| CSE008 | 0.00 |
| CSE009 | 1.43 |
| CSE024 | 0.11 |
| CSE033 | 0.00 |
| CSE035 | 0.00 |
| CSE019 | 0.00 |
| CSE020 | 0.00 |
| CSE066 | 1.28 |
| CSE076 | 0.29 |
| CSE034 | 0.00 |
| CSE036 | 0.01 |
| HPCI Southampton | 0.00 |
| HPCI Daresbury | 0.06 |
| HPCI Edinburgh | 0.11 |
| CSN001 | 11.70 |
| CSN003 | 1.75 |
| CSN005 | 0.00 |
| CSN006 | 2.20 |
| CSN007 | 0.00 |
| CSN010 | 0.00 |
| CSN011 | 0.00 |
| CSN012 | 0.00 |
| CSN015 | 1.17 |
| CSN017 | 0.11 |
| CSN036 | 0.00 |
| CSB001 | 0.00 |
| CSB002 | 0.11 |
| CSP002 | 0.00 |
| CSP003 | 0.04 |
| CSP004 | 0.58 |
| CS2018 | 0.00 |
| CS2026 | 0.00 |
| CS2029 | 0.00 |
| CS2031 | 0.04 |
| CS3001 | 0.00 |
| CS3002 | 0.00 |
| CS3005 | 0.00 |
| CS3010 | 0.04 |
| CS3012 | 0.00 |
| CS3013 | 0.23 |
| CS3014 | 0.51 |

**Appendix 2**

**Percentage HSM usage by Research Council for December 2001**

| Research Council | % usage | |
|---|---|---|
| EPSRC | 10.64 | |
| HPCI | 0 | |
| NERC | 89.24 | |
| BBSRC | 0 | |
| ESRC | 0 | |
| PPARC | 0 | |

## Appendix 3

**Percentage PE usage on Turing by Reserch Council for December 2001**

| **Research Council** | **% Usage** |
|---|---|
| EPSRC | 77.35 |
| HPCI | 0.08 |
| NERC | 22.00 |
| BBSRC | 0.57 |
| ESRC | 0.00 |
| PPARC | 0.00 |

**Percentage CPU usage on Fermat by Reserch Council for December 2001**

| **Research Council** | **% Usage** |
|---|---|
| EPSRC | 99.52 |
| HPCI | 0.00 |
| NERC | 0.46 |
| BBSRC | 0.03 |
| ESRC | 0.00 |
| PPARC | 0.00 |

**Percentage CPU usage on Green by Research Council for January 2002**

| **Research Council** | **% Usage** |
|---|---|
| EPSRC | 47.52 |
| HPCI | 0.00 |
| NERC | 52.47 |
| BBSRC | 0.00 |
| ESRC | 0.00 |
| PPARC | 0.00 |

**Percentage Disc allocated on Turing by Research Council for December 2001**

| **Research Council** | **% Allocated** |
|---|---|
| EPSRC | 79.53 |
| HPCI | 0.21 |
| NERC | 17.67 |
| BBSRC | 1.84 |
| ESRC | 0.00 |
| PPARC | 0.76 |

**Percentage Disc allocated on Fermat by Research Council for December 2001**

| **Research Council** | **% Allocated** |
|---|---|
| EPSRC | 83.57 |
| HPCI | 0.16 |
| NERC | 15.18 |
| BBSRC | 0.53 |
| ESRC | 0.00 |
| PPARC | 0.57 |

**Percentage usage of HSM by Consortium for December 2001**

| Consortium | % Usage |
|---|---|
| CSE002 | 0.70 |
| CSE003 | 0.11 |
| CSE023 | 0.12 |
| CSE030 | 2.70 |
| CSE004 | 0.00 |
| CSE013 | 0.06 |
| CSE027 | 0.00 |
| CSE041 | 0.43 |
| CSE085 | 4.79 |
| CSE024 | 1.67 |
| CSE033 | 0.01 |
| CSE035 | 0.05 |
| CSN001 | 18.88 |
| CSN003 | 63.45 |
| CSN015 | 6.91 |

## Appendix 4

The following tables show the training and support resource usage by the consortias in person days to the current month. Optimisation support for January totalled 0 man days.

| Code | PI | Subject | Liaison Officer | Support Bought | Application Support for January 2002 | Total Application Support from July 2000 | Optimisation Support for January 2002 | Total Optimisation Support from July 2000 | Total Support Used | Training Bought | Training Used |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cse002 | Dr Phil Lindan | Support for the UKCP | Stephen Pickles | 446.7 | | 10.75 | | | 142.75 | 74 | 3 |
| Cse003 | Prof. Ken Taylor | HPC Consortiums 98-2000 | Martyn Foster | 25.27 | | 6 | | 15.5 | 24.5 | 10 | 6 |
| Cse004 | Dr Neil Sandham | UK Turbulence | Keith Taylor | | | | | | | 2 | 2 |
| Cse006 | Dr Patrick Briddon | Covalently Bonded Materials | Kevin Roy | 4 | | | 4 | | 4 | | |
| Cse007 | Dr Matthew Foulkes | Quantum Many Body Theory | Martyn Foster | 4 | | | | | 1 | 2 | 2 |
| Cse008 | Dr Mark Vincent (Hillier) | Model Chemical Reactivity | Robin Pinning | | | | | | | | |
| Cse009 | Dr Ben Slater (Catlow) | HPC in Materials Chemistry | Stephen Pickles | 275.5 | | 6 | | 3 | 9 | 26.5 | |
| Cse010 | Dr John Williams | Free Surface Flows | Dan Kidger | 15.95 | | | | | 15.95 | 0 | |
| Cse011 | Dr John Williams | Open Channel Flood Plains | Dan Kidger | 2.18 | | | | | 2.18 | 1 | |
| Cse013 | Prof Michael Leschziner | Complex Engineering Flows | Keith Taylor | 9 | | | | | | 57.5 | 3 |
| Cse014 | Dr Cassiano de Oliverira (Goddard) | Probs in Nuclear Safety | Dan Kidger | 3 | | | | | | | |
| Cse016 | Dr Stewart Cant | Turbulent Combustion | Keith Taylor | | | | | | | | |
| Cse017 | Dr Kai Luo | Large Eddy Simulation and Modelling of Buoyant Plumes and Smoke Spread in Enclosures | - | 2.44 | | | | | | 5 | |
| Cse018 | Dr Stewart Cant | Turbulent Flames | Keith Taylor | | | | | | | | |
| Cse019 | Dr Jason Lander (Berzins) | ROPA | Kevin Roy | | | | | | | | |
| Cse020 | Dr Marek Szularz | Symmetric Eigenproblem | Kevin Roy | | | | | | | | |
| Cse021 | Dr Julie Staunton | Magentisim | John Brooke | 0.2 | | | | | | 1.04 | 1 |
| Cse022 | Mr Niall Branley (Jones) | Turbulent Flames | Keith Taylor | | | | | | | | |
| Cse023 | Allen | Liquid Crystalline Materials | Robin Pinning | | | | | | | | |
| Cse024 | Dr Robert Allan (Tennyson) | ChemReact 98-2000 | Ben Jesson | 24 | | | | | | 300 | - |
| Cse025 | Dr Niels Rene Walet(Bishop) | Nuclear Theory Progamme | Martyn Foster | | | | | | | 2 | 1.5 |
| Cse026 | Dr Maureen Neal | Molecular Dynamics | | | | | | | | | |
| Cse027 | Dr M Imregun | Excitation Mechanisims | | - | | | | | | | |
| Cse028 | Prof. P.W. Bearman | Bridge Design | | | | | | | | | |
| Cse029 | Dr David Aspley (Leschziner) | Validation of Turbulence Models | Keith Taylor | | | | | | | | |
| Cse030 | Prof M Cates (VIPAR) | HPC for Complex Fluids | Robin Pinning | 103 | | 21 | | 5 | 51 | 31 | 7 |
| Cse033 | Dr M Imregun | Turbomachinery core compressor | | - | | | | | | | |
| Cse034 | Dr Paul Durham | R&D of liner/non-linear | Kevin Roy | | | | | | | | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | systems | | | | | | | | | |
| Cse035 | Dr Stephen Jenkins | Ab Initio Simulations | | | | | | | | | |
| Cse036 | Prof Iain Duff | R&D of linear/non-linear systems | | | | | | | | | |
| Cse040 | Dr Ken Badcock | - | Keith Taylor | | | | | | | | |
| Cse041 | Dr M Imregun | Flutter and Noise Generation | Keith Taylor | 60 | | | | | | 5 | |
| Cse043 | Dr J J R Williams | Numerical Simulation of flow over a rough bed | Kevin Roy | 2 | | | | 2 | 2 | 4 | 4 |
| Cse051 | Prof B. L. Gyorffy | Ab initio calculations of magnetic anisodropies in Fe | - | - | | | | | | - | - |
| Cse052 | Miss Francesca Di Mare (Heyes) | Heat Transfer in Gas Turbine Combustors | - | 10 | | | | | | 25 | - |
| Cse053 | Prof M. A. Leschziner | Coupling Rans Near-Wall Turbulence Models with Large Eddy Simulation Strategies | - | 15 | | | | | | 8 | - |
| Cse055 | Dr Julia Staunton | Ab-initio theory of magnetic antiotropy in transition metal ferromagnets | - | 5 | | | | | | 10 | - |
| Cse056 | Dr Mehmet Imregun | Aerothermoelasticity modelling of air riding seals for large gas turbines | - | 5 | | | | | | 10 | - |
| Cse066 | Dr Keir Novik | Novel clay-polymer nanocomposites using diversity-discovery methods: synthesis, processing and testing | - | 21 | | | | | | 6 | 3 |
| Cse076 | Dr Patrick Briddon | Covalently bonded materials | - | 20 | | | 1.5 | 1.5 | 1.5 | | |
| Csn001 | Mrs Beverly de Cuevas (Webb) | HPCI Global Ocean Consortium | Dan Kidger | 23 | | 1 | | | 3 | 20 | 1 |
| Csn002 | Dr Mark Vincent (Hillier) | Pollutant Sorption on Mineral Surf | Robin Pinning | | | | | | | | |
| Csn003 | Dr Lois Steenman-Clark (O'Neill) | UGAMP | Dan Kidger | | | | | | | 4 | 4 |
| Csn005 | Dr Huw Davies | Constraining Earth Mantle | Fumie Costen | 27 | | | | | 27 | 6 | 6 |
| Csn006 | Dr John Brodholt (Price) | Density Functional Methods | Stephen Pickles | | | | | | | | |
| Csn007 | Dr John Brodholt (Price) | Density Functional Methods | Stephen Pickles | | | | | | | | |
| Csn008 | Hulton | Sub-Glacial Process | Michael Bane | | | | | | | | |
| Csn009 | Dr Roger Proctor | | Michael Bane | | | | | | | | |
| Csn010 | Dr Jason Lander (Mobbs) | Flow over Complex terrain | Kevin Roy | 2 | | | | | - | 5 | - |
| Csn011 | Dr Ed Dicks (Thorpe) | Exchange of Polluted Air | | | | | | | | | |
| Csn012 | Prof Tennyson | fuji user | Ben Jesson | | | | | | | | |
| Csn013 | Dr L Steenman-Clark (Voke) | Large-Eddy Simulation Extended by Extreme Value Theory for the Prediction of Dispersion, Concentration Threshold Boundaries and Field Connectivity | - | | | | | | | | |
| Csn014 | Prof Llewellyn-Jones | A new Data Assimilation Scheme to optimise the information on | - | - | | | | | | - | |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | the surface-atmosphere interface from satellite observations of Top-of-the Atmosphere Brightness Temperature | | | | | | | | | |
| Csn015 | Dr Roger Proctor | Atlantic Margin Metocean Project | - | 20 | | 2 | | | 2 | 10 | 3 |
| Csn017 | Dr Antony Payne | Stability of the Antarctic Ice Sheet | - | 16 | | | | | | 18 | 2 |
| Csn036 | Prof Keith Haines | Assimilation of Altimeter, Radiometer and in situ data into the OCCAM Model. Analysis of water properties and transports. | - | 2 | | | | | | 5 | - |
| Csb001 | Dr David Houldershaw (Goodfellow) | Macromolecular Interactions | Robin/Fumie | 6 | | 1.5 | | | 3.5 | 4 | 2 |
| Csb002 | Dr Adrian Mulholland (Danson) | Stability of Enzymes at high temp | Robin Pinning | | | | | | | | |
| Csb003 | Dr John Carling (Williams) | Anguilliform Swimming | | | | | | | | 3 | - |
| Csp002 | Dr Sandra Chapman | Nonlinear process in solar system and astrophysical plasmas | - | 2 | | | | | | 8 | 4 |
| Csp003 | Prof Andrew Lyne | Computing Resources for Precision timing of Millisecond Pulsars | Stephen Pickles | 11.79 | 8 | 10 | | | 11 | 12 | 12 |
| Csp004 | Prof K L Bell | A Programme for Atomic Physics for Astrophysics at Queen's University, Belfast (2001 - 2005) | | 7 | | | | | | 8 | |
| Css001 | Dr I J Turton | Human Systems Modelling | John Brooke | | | | | | | 20 | |
| Css002 | Dr Robert Crouchley | Dropout in panel surveys | John Brooke | | | | | | | 2.5 | 2 |
| Hpcid | Dr Robert Allan | | Keith Taylor | | | | | | | 1 | 1 |
| Hpcie | Dr David Henty | | Stephen Pickles | | | | | | | | |
| Hpcis | Dr Denis Nicole | | Dan Kidger | | | | | | | | |
| ukhec | Ms K Jaffri | | - | | | | | | | 2 | 2 |
| Cs2001 | Dr Sudhir Jain | 3D Ising Spin Glass | Stephen Pickles | | | | | | | 10 | - |
| Cs2002 | Dr Ingrid Stairs (Lyne) | Millisecond Pulsars | John Brooke | 0.25 | | | | | 0.25 | 0 | - |
| Cs2004 | Dr A. Paul Watkins | Internal Combustion Engine | Keith Taylor | | | | | | | | |
| Cs2006 | Prof. Walter Temmerman | Superconductivity & Magmetisim | Mike Pettipher | | | | | | | | |
| Cs2007 | Choularton | Precipitation in the Mountains | | | | | | | | 1 | 1 |
| Cs2008 | Dr Matthew Genge | Extraterrestrial Mineral Surfaces | Robin Pinning | 7.91 | | | | | 7.91 | | |
| Cs2009 | Dr Roger Proctor | Atlantic Margin Metocean Project | Michael Bane | | | | | | | | |
| Cs2010 | Dr Christopher Dempsey | Helical membrane-lytic peptides | | | | | | | | | |
| Cs2011 | Dr D Drikakis | Transition & Turbulence in Physiological Flows | | | | | | | | - | |
| Cs2012 | Prof Ning Qin | Monotone Integrated Large Eddy Simulation | | | | | | | | 1.5 | 1.5 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Cs2014 | Dr Vladimir Karlin | Dynamics of intrinsically unstable premixed flames | | | | | | | | 2 | 2 |
| Cs2015 | Mr Pablo Tejera-Cuesta | Nonlinear Methods in Aerodynamics | Keith Taylor | | | | | | | 3 | 1.5 |
| Cs2016 | Dr Jim Miles | Investigation of Scaline Properties of Hierarchical Micromagnetic Models | - | 2 | | | | | | - | - |
| Cs2017 | Mr Markus Eisenbach | Ab initio calculations of magnetic anisotropies in Fe inclusions in Cu | - | - | | | | | | - | - |
| Cs2018 | Mr Maxim Chichkine | Study of defect clusters in silicon for sub-micron technologies | - | - | | | | | | - | - |
| Cs2019 | Dr Guy H Grant | Theoretical studies of flavoproteins | - | - | | | | | | - | - |
| Cs2020 | Prof John Barker | Predicting the applicability of Aquifer Storage Recovery (ASR) in the UK | - | 1 | | | | | | - | - |
| Cs2021 | Dr A R Mount | A Computational Study of the Luminescence of Substituted Indoles | - | - | | | | | | 6 | 1 |
| Cs2022 | Dr Philippa Browning | Numerical simulation of forced magnetic reconnection | - | - | | | | | | 3 | 2 |
| Cs2023 | Prof W Ewen Smith | The use of DFT methods for the accurate prediction of the Ramen spectrum of large molecules | - | - | | | | | | - | - |
| Cs2024 | Prof J G Doyle | Modelling of late-type stellar chromospheres | - | - | | | | | | - | - |
| Cs2026 | Dr R J Greenall | Molecular dynamics simlulations of AT-tract DNA | - | - | | | | | | 1 | - |
| Cs2027 | Dr Anthony Kay | Mathematical Model of the Circulation of Lake Baikal | - | 6 | | | | | | 4 | - |
| Cs2028 | Dr James F Annett | Numerical Tests of Disorder Effects in D-Wave Superconductors | - | 2 | | | | | | 2 | - |
| Cs2029 | Prof B L Gyorffy | Ab-initio calculations of unconventional electronic, magnetic and lattice properties of magnitudes | - | - | | | | | | - | - |
| Cs2030 | Prof G J Morgan | Spin Diffusion in Magnetic Multilayers | - | - | | | | | | 1 | 1 |
| Cs3001 | Mr John Andrew Staveley | Helical Coherent Structures | | 6.8 | | | | | 0 | 10.45 | 3 |
| Cs3002 | Dr Keir Novik | Simulations of DNA oligomers | | | | | | | | 2 | 2 |
| Cs3003 | Dr Eric Chambers | Band III peptide fragments | | | | | | | | | |
| Cs3004 | Prof Nick Avis | Computational Steering and Interactive Virtual Environments | Jo Leng | 19 | | | | | | 12 | 1 |
| Cs3005 | Mr Behrouz Zarei | Simulation of Queuing Networks | John Brooke | 10 | | | | | | 5 | 3 |
| Cs3006 | Mr F Li | Quantifying Room Acoustic Quality | - | 4 | | | | | | 5 | 1 |
| Cs3007 | Emma Finch | Development ofa 3D Crustal Lattice Solid Model | - | 37 | | 7 | | 5 | 12 | 5 | - |
| Cs3008 | Dr B J | Development of | - | 3 | | | | | - | 13 | - |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Alsberg | a 3D QSAR method based on quantum topological descriptors | | | | | | | | | |
| Cs3009 | Dr D Flower | Epitope Prediction Methods based on molecular dynamics simulation | - | 2 | | | | | - | 3 | - |
| Cs3010 | Dr K Kemsley | Investigation of electromyographic recordings of muscle activity during chewing, and of relationships with perceived flavour and texture, in model and real food systems | - | 4 | | | | | - | 8 | 1 |
| Cs3012 | Prof Jim Austin | Evaluation of binary neural networks on a vector parallel processor | - | 5 | | | | 3 | 3 | 3 | 2 |
| Cs3013 | Prof Rasmita Raval | Structure and function of Chiral Bioarrays: A fundamental approach to proteomic devices | - | 2 | | | | | - | - | - |
| Cs3014 | Dr John Brooke | Enabling UK Academic Grid Application Development and Testing | - | 2 | | | | | - | - | - |

## Appendix 5

The following tables show resource utilisation by Consortia to the end of January 2002.

```
cs2030 Morgan
Usage:
Last Trade: Wed Oct 17 09:28:43 2001  Start:  End:
 0.1 of 6.7 Hour SMP CPU (0.0 of 0.3 G.S.T), 1.5%
 0.0 of 2.5 GByteYear MP Disk (0.0 of 10.7 G.S.T), 0.0%
 334.5 of 1400.7 Hour Green CPU (17.5 of 73.2 G.S.T), 23.9%
 0.0 of 1.0 PersonDay Support (0.0 of 27.8 G.S.T), 0.0%
 1.0 of 1.0 Day Training (10.8 of 10.8 G.S.T), 100.0%
Total usage for project cs2030 28.2 of 122.7 Generic Service Tokens, 23.0%
```

```
Usage:
Last Trade: Fri Oct  5 15:41:11 2001  Start:  End:
 479.0 of 2518.7 Hour SMP CPU (18.6 of 97.9 G.S.T), 19.0%
 0.0 of 0.5 GByteYear MP Disk (0.1 of 2.1 G.S.T), 6.0%
Total usage for project cs2031 18.7 of 100.0 Generic Service Tokens, 18.7%
```

```
Usage:
Last Trade: Fri Jan 25 15:42:16 2002  Start:  End:
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T), 100.0%
 0.0 of 0.0 GByteYear MP Disk (0.0 of 0.0 G.S.T)
 224.1 of 187.4 Hour VPP_CPU (246.0 of 205.8 G.S.T), 119.6%
 0.0 of 0.0 GByteYear Fuji Disk (0.0 of 0.0 G.S.T)
 0.0 of 0.0 PersonDay Support (0.0 of 0.0 G.S.T)
 0.0 of 0.0 Day Training (0.0 of 0.0 G.S.T)
Total usage for project cs2032 246.0 of 205.8 Generic Service Tokens, 119.6%
```

```
Usage:
Last Trade: Mon Dec  3 16:10:52 2001  Start:  End:
 0.0 of 237.3 Hour SMP CPU (0.0 of 9.2 G.S.T), 0.0%
 0.0 of 0.1 GByteYear MP Disk (0.0 of 0.4 G.S.T), 0.0%
 0.0 of 6.0 PersonDay Support (0.0 of 166.7 G.S.T), 0.0%
 0.0 of 5.0 Day Training (0.0 of 53.8 G.S.T), 0.0%
Total usage for project cs2033 0.0 of 230.1 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: Fri Apr  6 14:25:12 2001  Start:  End:
 10130.4 of 11959.9 Hour SMP CPU (393.6 of 464.7 G.S.T), 84.7%
 1.6 of 4.0 GByteYear MP Disk (6.8 of 17.2 G.S.T), 39.7%
 0.0 of 2.0 PersonDay Support (0.0 of 55.6 G.S.T), 0.0%
Total usage for project cs3013 400.4 of 537.4 Generic Service Tokens, 74.5%
```

```
Usage:
Last Trade: Fri Jun  1 11:04:43 2001  Start:  End:
 4.2 of 1000.0 PEHour MPP PE CPU (0.1 of 24.2 G.S.T), 0.4%
 0.9 of 20.0 GByteYear HP Disk (6.6 of 154.8 G.S.T), 4.3%
 20.1 of 1000.0 Hour SMP CPU (0.8 of 38.9 G.S.T), 2.0%
 1.2 of 15.0 GByteYear MP Disk (5.1 of 64.3 G.S.T), 8.0%
 0.0 of 40.0 GByteYear HSM/Tape (0.0 of 24.9 G.S.T), 0.0%
 8.2 of 1000.0 Hour Green CPU (0.4 of 52.3 G.S.T), 0.8%
 0.0 of 210.1 Hour VPP_CPU (0.0 of 230.6 G.S.T), 0.0%
 0.0 of 10.0 GByteYear Fuji Disk (0.0 of 42.9 G.S.T), 0.0%
Total usage for project cs3014 13.1 of 632.9 Generic Service Tokens, 2.1%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 148619.6 of 250989.4 PEHour MPP PE CPU (3593.4 of 6068.6 G.S.T), 59.2%
 7.6 of 48.1 GByteYear HP Disk (58.6 of 372.5 G.S.T), 15.7%
 0.3 of 1.2 Hour SMP CPU (0.0 of 0.0 G.S.T), 22.4%
 6.1 of 13.7 GByteYear MP Disk (26.3 of 58.9 G.S.T), 44.7%
 0.0 of 115.0 GByteYear HSM/Tape (0.0 of 71.7 G.S.T), 0.0%
 2454.8 of 12444.9 Hour Green CPU (128.3 of 650.3 G.S.T), 19.7%
 3.5 of 6.0 PersonDay Support (97.2 of 166.7 G.S.T), 58.3%
 2.0 of 4.0 Day Training (21.5 of 43.2 G.S.T), 49.8%
Total usage for project csb001 3925.4 of 7431.8 Generic Service Tokens, 52.8%
```

```
Usage:
Last Trade: Fri Nov 23 15:30:49 2001  Start:  End:
 78295.1 of 84867.4 PEHour MPP PE CPU (1893.1 of 2052.0 G.S.T), 92.3%
 32.8 of 57.0 GByteYear HP Disk (254.2 of 441.3 G.S.T), 57.6%
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 2.5 of 0.8 GByteYear MP Disk (10.6 of 3.6 G.S.T), 296.7%
Total usage for project csb002 2157.9 of 2496.8 Generic Service Tokens, 86.4%
```

```
Usage:
Last Trade: Fri Oct  8 15:16:30 1999  Start:  End:
 0.0 of 12.4 PEHour MPP PE CPU (0.0 of 0.3 G.S.T), 0.0%
 0.1 of 0.1 GByteYear HP Disk (0.5 of 0.7 G.S.T), 65.2%
Total usage for project cse001 0.5 of 1.0 Generic Service Tokens, 45.6%
```

```
Usage:
Last Trade: Wed Jan 30 13:53:19 2002  Start:  End:
 2232670.7 of 3597478.7 PEHour MPP PE CPU (53983.1 of 86982.4 G.S.T), 62.1%
 518.7 of 1322.0 GByteYear HP Disk (4016.1 of 10235.4 G.S.T), 39.2%
 45822.9 of 70288.7 Hour SMP CPU (1780.3 of 2730.8 G.S.T), 65.2%
 199.7 of 1222.0 GByteYear MP Disk (856.7 of 5242.0 G.S.T), 16.3%
 245.7 of 414.5 GByteYear HSM/Tape (153.2 of 258.4 G.S.T), 59.3%
 34886.8 of 78962.0 Hour Green CPU (1822.9 of 4125.9 G.S.T), 44.2%
 142.8 of 152.8 PersonDay Support (3965.3 of 4243.1 G.S.T), 93.5%
 3.0 of 9.0 Day Training (32.3 of 96.8 G.S.T), 33.3%
Total usage for project cse002 66609.9 of 113914.7 Generic Service Tokens, 58.5%
```

```
Usage:
Last Trade: never  Start:  End:
 283557.8 of 586480.0 PEHour MPP PE CPU (6856.1 of 14180.3 G.S.T), 48.3%
 103.7 of 200.0 GByteYear HP Disk (802.6 of 1548.5 G.S.T), 51.8%
 7611.2 of 9950.0 Hour SMP CPU (295.7 of 386.6 G.S.T), 76.5%
 26.7 of 48.9 GByteYear MP Disk (114.5 of 209.8 G.S.T), 54.6%
 65.5 of 106.0 GByteYear HSM/Tape (40.8 of 66.1 G.S.T), 61.8%
 495.7 of 2000.0 Hour Green CPU (25.9 of 104.5 G.S.T), 24.8%
Total usage for subproject cse002a 8135.7 of 16495.7 Generic Service Tokens, 49.3%
```

```
Usage:
Last Trade: never  Start:  End:
 152255.6 of 313170.0 PEHour MPP PE CPU (3681.3 of 7572.0 G.S.T), 48.6%
 50.9 of 52.4 GByteYear HP Disk (394.0 of 405.7 G.S.T), 97.1%
 2800.4 of 3000.0 Hour SMP CPU (108.8 of 116.6 G.S.T), 93.3%
 3.4 of 44.9 GByteYear MP Disk (14.4 of 192.6 G.S.T), 7.5%
 0.0 of 3.0 GByteYear HSM/Tape (0.0 of 1.8 G.S.T), 0.0%
```

```
Total usage for subproject cse002b 4198.6 of 8288.8 Generic Service Tokens, 50.7%



Usage:
Last Trade: never  Start:  End:
 248714.3 of 331396.0 PEHour MPP PE CPU (6013.6 of 8012.7 G.S.T), 75.1%
 38.8 of 54.4 GByteYear HP Disk (300.6 of 421.2 G.S.T), 71.4%
 0.0 of 3000.0 Hour SMP CPU (0.0 of 116.6 G.S.T), 0.0%
 18.2 of 50.4 GByteYear MP Disk (78.1 of 216.2 G.S.T), 36.1%
 7.8 of 52.0 GByteYear HSM/Tape (4.9 of 32.4 G.S.T), 15.0%
Total usage for subproject cse002c 6397.1 of 8799.1 Generic Service Tokens, 72.7%


Usage:
Last Trade: never  Start:  End:
 61517.6 of 105971.0 PEHour MPP PE CPU (1487.4 of 2562.2 G.S.T), 58.1%
 5.0 of 26.7 GByteYear HP Disk (38.4 of 206.7 G.S.T), 18.6%
 1736.2 of 2900.0 Hour SMP CPU (67.5 of 112.7 G.S.T), 59.9%
 11.8 of 27.7 GByteYear MP Disk (50.8 of 118.8 G.S.T), 42.8%
 0.0 of 27.0 GByteYear HSM/Tape (0.0 of 16.8 G.S.T), 0.0%
Total usage for subproject cse002d 1644.1 of 3017.3 Generic Service Tokens, 54.5%


Usage:
Last Trade: never  Start:  End:
 455233.5 of 462619.0 PEHour MPP PE CPU (11007.0 of 11185.5 G.S.T), 98.4%
 96.6 of 145.0 GByteYear HP Disk (748.0 of 1122.6 G.S.T), 66.6%
 0.0 of 3075.0 Hour SMP CPU (0.0 of 119.5 G.S.T), 0.0%
 24.9 of 50.5 GByteYear MP Disk (106.8 of 216.6 G.S.T), 49.3%
 50.7 of 75.0 GByteYear HSM/Tape (31.6 of 46.8 G.S.T), 67.6%
Total usage for subproject cse002e 11893.4 of 12691.0 Generic Service Tokens, 93.7%


Usage:
Last Trade: never  Start:  End:
 84029.4 of 294561.0 PEHour MPP PE CPU (2031.7 of 7122.1 G.S.T), 28.5%
 18.7 of 59.1 GByteYear HP Disk (145.1 of 457.6 G.S.T), 31.7%
 0.0 of 3450.0 Hour SMP CPU (0.0 of 134.0 G.S.T), 0.0%
 17.4 of 54.6 GByteYear MP Disk (74.8 of 234.2 G.S.T), 31.9%
 0.0 of 3.3 GByteYear HSM/Tape (0.0 of 2.0 G.S.T), 0.0%
Total usage for subproject cse002f 2251.6 of 7950.0 Generic Service Tokens, 28.3%


Usage:
Last Trade: never  Start:  End:
 117801.0 of 192112.0 PEHour MPP PE CPU (2848.3 of 4645.0 G.S.T), 61.3%
 6.5 of 32.8 GByteYear HP Disk (50.0 of 253.9 G.S.T), 19.7%
 61.8 of 1875.0 Hour SMP CPU (2.4 of 72.8 G.S.T), 3.3%
 14.9 of 30.8 GByteYear MP Disk (64.1 of 132.1 G.S.T), 48.5%
 0.0 of 2.2 GByteYear HSM/Tape (0.0 of 1.4 G.S.T), 0.0%
Total usage for subproject cse002g 2964.7 of 5105.3 Generic Service Tokens, 58.1%


Usage:
Last Trade: never  Start:  End:
 249127.3 of 304793.0 PEHour MPP PE CPU (6023.6 of 7369.5 G.S.T), 81.7%
 33.6 of 51.0 GByteYear HP Disk (260.0 of 394.9 G.S.T), 65.8%
 0.0 of 2800.0 Hour SMP CPU (0.0 of 108.8 G.S.T), 0.0%
 9.7 of 46.5 GByteYear MP Disk (41.6 of 199.5 G.S.T), 20.9%
 0.0 of 2.8 GByteYear HSM/Tape (0.0 of 1.8 G.S.T), 0.0%
Total usage for subproject cse002i 6325.2 of 8074.4 Generic Service Tokens, 78.3%
```

```
Usage:
Last Trade: never  Start:  End:
 179254.4 of 219888.0 PEHour MPP PE CPU (4334.1 of 5316.6 G.S.T), 81.5%
 50.9 of 100.0 GByteYear HP Disk (394.4 of 774.2 G.S.T), 50.9%
 0.0 of 2350.0 Hour SMP CPU (0.0 of 91.3 G.S.T), 0.0%
 6.0 of 33.6 GByteYear MP Disk (25.9 of 144.1 G.S.T), 18.0%
 1.3 of 100.0 GByteYear HSM/Tape (0.8 of 62.3 G.S.T), 1.3%
 10219.6 of 42604.0 Hour Green CPU (534.0 of 2226.1 G.S.T), 24.0%
Total usage for subproject cse002j 5289.3 of 8614.8 Generic Service Tokens, 61.4%
```

```
Usage:
Last Trade: never  Start:  End:
 30738.4 of 50000.0 PEHour MPP PE CPU (743.2 of 1208.9 G.S.T), 61.5%
 6.9 of 45.0 GByteYear HP Disk (53.7 of 348.4 G.S.T), 15.4%
 0.0 of 3000.0 Hour SMP CPU (0.0 of 116.6 G.S.T), 0.0%
 6.4 of 45.0 GByteYear MP Disk (27.6 of 193.0 G.S.T), 14.3%
Total usage for subproject cse002k 824.6 of 1866.9 Generic Service Tokens, 44.2%
```

```
Usage:
Last Trade: never  Start:  End:
 0.0 of 50000.0 PEHour MPP PE CPU (0.0 of 1208.9 G.S.T), 0.0%
 1.3 of 5.0 GByteYear HP Disk (9.8 of 38.7 G.S.T), 25.3%
 0.0 of 3000.0 Hour SMP CPU (0.0 of 116.6 G.S.T), 0.0%
 10.2 of 30.0 GByteYear MP Disk (43.6 of 128.7 G.S.T), 33.9%
Total usage for subproject cse002l 53.4 of 1492.9 Generic Service Tokens, 3.6%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 1233259.4 of 1308433.4 PEHour MPP PE CPU (29818.6 of 31636.2 G.S.T), 94.3%
 166.3 of 185.6 GByteYear HP Disk (1287.6 of 1437.1 G.S.T), 89.6%
 4390.8 of 8086.8 Hour SMP CPU (170.6 of 314.2 G.S.T), 54.3%
 51.5 of 136.8 GByteYear MP Disk (220.8 of 586.8 G.S.T), 37.6%
 30.9 of 50.0 GByteYear HSM/Tape (19.3 of 31.2 G.S.T), 61.9%
 164591.5 of 232177.6 Hour Green CPU (8600.2 of 12131.8 G.S.T), 70.9%
 24.5 of 24.5 PersonDay Support (680.6 of 680.7 G.S.T), 100.0%
 6.0 of 6.0 Day Training (64.5 of 64.5 G.S.T), 100.0%
Total usage for project cse003 40862.3 of 46882.5 Generic Service Tokens, 87.2%
```

```
Usage:
Last Trade: never  Start:  End:
 60075.5 of 68000.0 PEHour MPP PE CPU (1452.5 of 1644.2 G.S.T), 88.3%
 29.3 of 31.0 GByteYear HP Disk (227.2 of 240.0 G.S.T), 94.7%
 625.6 of 1200.0 Hour SMP CPU (24.3 of 46.6 G.S.T), 52.1%
 17.4 of 20.0 GByteYear MP Disk (74.6 of 85.8 G.S.T), 86.9%
 0.0 of 20.0 GByteYear HSM/Tape (0.0 of 12.5 G.S.T), 0.0%
 49929.7 of 111409.0 Hour Green CPU (2608.9 of 5821.4 G.S.T), 44.8%
Total usage for subproject cse003a 4387.6 of 7850.4 Generic Service Tokens, 55.9%
```

```
Usage:
Last Trade: never  Start:  End:
 790713.3 of 800000.0 PEHour MPP PE CPU (19118.4 of 19343.0 G.S.T), 98.8%
```

```
 35.6 of 38.0 GByteYear HP Disk (275.3 of 294.2 G.S.T), 93.6%
 0.5 of 5.0 Hour SMP CPU (0.0 of 0.2 G.S.T), 9.5%
 5.7 of 8.0 GByteYear MP Disk (24.5 of 34.3 G.S.T), 71.5%
 0.0 of 40.0 GByteYear HSM/Tape (0.0 of 24.9 G.S.T), 0.0%
 100096.8 of 100560.0 Hour Green CPU (5230.3 of 5254.5 G.S.T), 99.5%
Total usage for subproject cse003b 24648.5 of 24951.1 Generic Service Tokens, 98.8%
```

```
Usage:
Last Trade: never  Start:  End:
 0.0 of 1.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 0.0%
 0.2 of 2.0 GByteYear HP Disk (1.8 of 15.5 G.S.T), 11.9%
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 0.2 of 0.8 GByteYear MP Disk (0.7 of 3.4 G.S.T), 20.7%
 0.0 of 10.0 GByteYear HSM/Tape (0.0 of 6.2 G.S.T), 0.0%
Total usage for subproject cse003c 2.6 of 25.2 Generic Service Tokens, 10.2%
```

```
Usage:
Last Trade: never  Start:  End:
 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)
 0.0 of 0.5 GByteYear HP Disk (0.0 of 3.9 G.S.T), 0.0%
 0.0 of 100.0 Hour SMP CPU (0.0 of 3.9 G.S.T), 0.0%
 0.0 of 0.2 GByteYear MP Disk (0.0 of 0.9 G.S.T), 0.0%
 0.0 of 2.5 GByteYear HSM/Tape (0.0 of 1.6 G.S.T), 0.0%
Total usage for subproject cse003d 0.0 of 10.2 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: never  Start:  End:
 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)
 0.0 of 1.0 GByteYear HP Disk (0.0 of 7.7 G.S.T), 0.0%
 0.0 of 206.0 Hour SMP CPU (0.0 of 8.0 G.S.T), 0.0%
 0.0 of 0.4 GByteYear MP Disk (0.0 of 1.7 G.S.T), 0.0%
 0.0 of 5.0 GByteYear HSM/Tape (0.0 of 3.1 G.S.T), 0.0%
Total usage for subproject cse003e 0.0 of 20.6 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: never  Start:  End:
 16072.7 of 16072.7 PEHour MPP PE CPU (388.6 of 388.6 G.S.T), 100.0%
 1.3 of 2.0 GByteYear HP Disk (10.0 of 15.5 G.S.T), 64.6%
 0.0 of 5.0 Hour SMP CPU (0.0 of 0.2 G.S.T), 0.7%
 0.1 of 0.8 GByteYear MP Disk (0.3 of 3.4 G.S.T), 9.3%
 0.0 of 10.0 GByteYear HSM/Tape (0.0 of 6.2 G.S.T), 0.0%
Total usage for subproject cse003f 398.9 of 414.0 Generic Service Tokens, 96.4%
```

```
Usage:
Last Trade: never  Start:  End:
 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)
 0.0 of 1.4 GByteYear HP Disk (0.0 of 10.8 G.S.T), 0.0%
 0.0 of 288.0 Hour SMP CPU (0.0 of 11.2 G.S.T), 0.0%
 0.0 of 0.6 GByteYear MP Disk (0.0 of 2.4 G.S.T), 0.0%
 0.0 of 7.0 GByteYear HSM/Tape (0.0 of 4.4 G.S.T), 0.0%
Total usage for subproject cse003g 0.0 of 28.8 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: never  Start:  End:
 53142.7 of 53123.5 PEHour MPP PE CPU (1284.9 of 1284.5 G.S.T), 100.0%
 12.6 of 12.5 GByteYear HP Disk (97.8 of 96.8 G.S.T), 101.0%
```

```
 389.9 of 373.0 Hour SMP CPU (15.1 of 14.5 G.S.T), 104.5%
 6.5 of 6.5 GByteYear MP Disk (28.0 of 27.9 G.S.T), 100.3%
 0.0 of 4.0 GByteYear HSM/Tape (0.0 of 2.5 G.S.T), 0.0%
Total usage for subproject cse003h 1425.8 of 1426.1 Generic Service Tokens, 100.0%




Usage:
Last Trade: never  Start:  End:
 36451.3 of 36159.1 PEHour MPP PE CPU (881.3 of 874.3 G.S.T), 100.8%
 19.3 of 20.0 GByteYear HP Disk (149.7 of 154.8 G.S.T), 96.7%
 61.0 of 70.0 Hour SMP CPU (2.4 of 2.7 G.S.T), 87.1%
 1.7 of 2.0 GByteYear MP Disk (7.3 of 8.6 G.S.T), 85.2%
 28.0 of 30.0 GByteYear HSM/Tape (17.4 of 18.7 G.S.T), 93.2%
 0.0 of 0.0 Hour Green CPU (0.0 of 0.0 G.S.T)
Total usage for subproject cse003i 1058.1 of 1059.1 Generic Service Tokens, 99.9%


Usage:
Last Trade: never  Start:  End:
 2987.6 of 4000.0 PEHour MPP PE CPU (72.2 of 96.7 G.S.T), 74.7%
 10.7 of 12.0 GByteYear HP Disk (82.9 of 92.9 G.S.T), 89.2%
 0.0 of 1000.0 Hour SMP CPU (0.0 of 38.9 G.S.T), 0.0%
 3.2 of 5.0 GByteYear MP Disk (13.9 of 21.4 G.S.T), 64.8%
 0.0 of 10.0 GByteYear HSM/Tape (0.0 of 6.2 G.S.T), 0.0%
 297.5 of 6000.0 Hour Green CPU (15.5 of 313.5 G.S.T), 5.0%
Total usage for subproject cse003j 184.6 of 569.7 Generic Service Tokens, 32.4%


Usage:
Last Trade: never  Start:  End:
 33624.7 of 34000.0 PEHour MPP PE CPU (813.0 of 822.1 G.S.T), 98.9%
 1.6 of 2.0 GByteYear HP Disk (12.3 of 15.5 G.S.T), 79.7%
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 0.0 of 1.6 GByteYear MP Disk (0.2 of 6.9 G.S.T), 2.9%
 0.0 of 20.0 GByteYear HSM/Tape (0.0 of 12.5 G.S.T), 0.0%
Total usage for subproject cse003k 825.5 of 856.9 Generic Service Tokens, 96.3%


Usage:
Last Trade: never  Start:  End:
 15426.3 of 15500.0 PEHour MPP PE CPU (373.0 of 374.8 G.S.T), 99.5%
 2.1 of 3.0 GByteYear HP Disk (16.1 of 23.2 G.S.T), 69.2%
 0.0 of 1.0 Hour SMP CPU (0.0 of 0.0 G.S.T), 1.7%
 0.1 of 0.6 GByteYear MP Disk (0.3 of 2.4 G.S.T), 13.7%
 0.0 of 7.0 GByteYear HSM/Tape (0.0 of 4.4 G.S.T), 0.0%
Total usage for subproject cse003m 389.4 of 404.8 Generic Service Tokens, 96.2%


Usage:
Last Trade: never  Start:  End:
 7850.2 of 7851.0 PEHour MPP PE CPU (189.8 of 189.8 G.S.T), 100.0%
 34.3 of 35.0 GByteYear HP Disk (265.2 of 271.0 G.S.T), 97.9%
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 0.1 of 0.6 GByteYear MP Disk (0.2 of 2.4 G.S.T), 10.5%
 0.6 of 7.0 GByteYear HSM/Tape (0.4 of 4.4 G.S.T), 8.3%
Total usage for subproject cse003n 455.7 of 467.5 Generic Service Tokens, 97.5%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 2308008.7 of 2307186.8 PEHour MPP PE CPU (55804.7 of 55784.8 G.S.T), 100.0%
 20.6 of 19.6 GByteYear HP Disk (159.2 of 151.7 G.S.T), 104.9%
 451474.5 of 453998.9 Hour SMP CPU (17540.5 of 17638.6 G.S.T), 99.4%
 5.4 of 5.0 GByteYear MP Disk (23.1 of 21.4 G.S.T), 107.7%
 46546.3 of 46681.5 Hour Green CPU (2432.1 of 2439.2 G.S.T), 99.7%
 4.0 of 4.0 PersonDay Support (111.1 of 111.1 G.S.T), 100.0%
 0.0 of 0.0 Day Training (0.0 of 0.0 G.S.T)
Total usage for project cse006 76070.7 of 76146.9 Generic Service Tokens, 99.9%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 1023909.4 of 1846749.2 PEHour MPP PE CPU (24756.8 of 44652.0 G.S.T), 55.4%
 138.0 of 712.2 GByteYear HP Disk (1068.4 of 5514.0 G.S.T), 19.4%
 22474.2 of 49491.7 Hour SMP CPU (873.2 of 1922.8 G.S.T), 45.4%
 11.0 of 646.7 GByteYear MP Disk (47.3 of 2774.2 G.S.T), 1.7%
 0.0 of 714.9 GByteYear HSM/Tape (0.0 of 445.7 G.S.T), 0.0%
 26174.6 of 191719.6 Hour Green CPU (1367.7 of 10017.7 G.S.T), 13.7%
 9.0 of 25.5 PersonDay Support (250.0 of 708.3 G.S.T), 35.3%
 0.0 of 10.0 Day Training (0.0 of 107.5 G.S.T), 0.0%
Total usage for project cse009 28363.3 of 66142.4 Generic Service Tokens, 42.9%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 806632.5 of 4797760.0 PEHour MPP PE CPU (19503.3 of 116003.7 G.S.T), 16.8%
 21.5 of 195.8 GByteYear HP Disk (166.3 of 1516.3 G.S.T), 11.0%
 6887.5 of 29364.5 Hour SMP CPU (267.6 of 1140.9 G.S.T), 23.5%
 9.6 of 308.0 GByteYear MP Disk (41.3 of 1321.2 G.S.T), 3.1%
 21.0 of 504.0 GByteYear HSM/Tape (13.1 of 314.2 G.S.T), 4.2%
 0.0 of 9.0 PersonDay Support (0.0 of 250.0 G.S.T), 0.0%
 3.0 of 57.5 Day Training (32.3 of 618.3 G.S.T), 5.2%
Total usage for project cse013 20023.9 of 121164.6 Generic Service Tokens, 16.5%
```

```
Usage:
Last Trade: never  Start:  End:
 48.2 of 20000.0 PEHour MPP PE CPU (1.2 of 483.6 G.S.T), 0.2%
 0.5 of 2.0 GByteYear HP Disk (3.9 of 15.5 G.S.T), 24.9%
 0.0 of 500.0 Hour SMP CPU (0.0 of 19.4 G.S.T), 0.0%
 0.1 of 5.0 GByteYear MP Disk (0.2 of 21.4 G.S.T), 1.0%
 0.0 of 2.0 GByteYear HSM/Tape (0.0 of 1.2 G.S.T), 0.0%
Total usage for subproject cse013a 5.2 of 541.2 Generic Service Tokens, 1.0%
```

```
Usage:
Last Trade: never  Start:  End:
 285676.1 of 300000.0 PEHour MPP PE CPU (6907.3 of 7253.6 G.S.T), 95.2%
 4.1 of 8.0 GByteYear HP Disk (32.1 of 61.9 G.S.T), 51.9%
 3275.6 of 3800.0 Hour SMP CPU (127.3 of 147.6 G.S.T), 86.2%
 1.5 of 15.0 GByteYear MP Disk (6.6 of 64.3 G.S.T), 10.3%
 0.0 of 5.0 GByteYear HSM/Tape (0.0 of 3.1 G.S.T), 0.0%
Total usage for subproject cse013b 7073.3 of 7530.7 Generic Service Tokens, 93.9%
```

```
Usage:
Last Trade: never  Start:  End:
 39528.5 of 80000.0 PEHour MPP PE CPU (955.7 of 1934.3 G.S.T), 49.4%
 4.0 of 8.0 GByteYear HP Disk (31.3 of 61.9 G.S.T), 50.5%
 0.0 of 1800.0 Hour SMP CPU (0.0 of 69.9 G.S.T), 0.0%
 0.7 of 15.0 GByteYear MP Disk (3.0 of 64.3 G.S.T), 4.7%
```

```
 0.0 of 5.0 GByteYear HSM/Tape (0.0 of 3.1 G.S.T), 0.0%
Total usage for subproject cse013c 990.1 of 2133.6 Generic Service Tokens, 46.4%


Usage:
Last Trade: never  Start:  End:
 481379.7 of 600000.0 PEHour MPP PE CPU (11639.1 of 14507.2 G.S.T), 80.2%
 7.1 of 8.0 GByteYear HP Disk (55.2 of 61.9 G.S.T), 89.1%
 0.6 of 1800.0 Hour SMP CPU (0.0 of 69.9 G.S.T), 0.0%
 2.2 of 15.0 GByteYear MP Disk (9.4 of 64.3 G.S.T), 14.6%
 21.0 of 30.0 GByteYear HSM/Tape (13.1 of 18.7 G.S.T), 69.9%
Total usage for subproject cse013d 11716.8 of 14722.1 Generic Service Tokens, 79.6%


Usage:
Last Trade: Tue Jun 29 13:31:17 1999  Start:  End:
 3077.3 of 129784.5 PEHour MPP PE CPU (74.4 of 3138.0 G.S.T), 2.4%
 9.1 of 19.4 GByteYear HP Disk (70.1 of 150.6 G.S.T), 46.6%
 0.1 of 1.5 GByteYear MP Disk (0.3 of 6.2 G.S.T), 4.7%
 0.0 of 150.9 GByteYear HSM/Tape (0.0 of 94.1 G.S.T), 0.0%
Total usage for project cse016 144.8 of 3388.9 Generic Service Tokens, 4.3%


Last Trade: Tue Oct  2 19:13:36 2001  Start:   End
 572.9 of 1055.1 PEHour MPP PE CPU (13.9 of 25.5 G.S.T), 54.3%
 1.4 of 5.0 GByteYear HP Disk (10.6 of 38.7 G.S.T), 27.3%
 5389.9 of 6000.0 Hour SMP CPU (209.4 of 233.1 G.S.T), 89.8%
 50.2 of 55.0 GByteYear MP Disk (215.5 of 235.9 G.S.T), 91.3%
 6.9 of 100.0 GByteYear HSM/Tape (4.3 of 62.3 G.S.T), 6.9%
 180568.6 of 181276.0 Hour Green CPU (9435.1 of 9472.0 G.S.T), 99.6%
Toatl usage for project cse023 9888.7 of 10067.6 Generic Service Tokens, 98.2%


Usage:
Last Trade: re-enabled  Start:  End:
 814770.3 of 825202.6 PEHour MPP PE CPU (19700.1 of 19952.3 G.S.T), 98.7%
 47.9 of 115.0 GByteYear HP Disk (370.5 of 890.4 G.S.T), 41.6%
 9196.2 of 8586.1 Hour SMP CPU (357.3 of 333.6 G.S.T), 107.1%
 41.7 of 78.1 GByteYear MP Disk (178.8 of 335.2 G.S.T), 53.3%
 650.9 of 705.1 GByteYear HSM/Tape (405.8 of 439.6 G.S.T), 92.3%
 60893.5 of 67342.6 Hour Green CPU (3181.8 of 3518.8 G.S.T), 90.4%
 0.0 of 24.0 PersonDay Support (0.0 of 666.7 G.S.T), 0.0%
 0.0 of 0.0 Day Training (0.0 of 0.0 G.S.T)
Total usage for project cse024 24194.3 of 26136.6 Generic Service Tokens, 92.6%


Usage:
Last Trade: Tue Jul 31 19:50:13 2001  Start:  End:
 245677.2 of 341463.6 PEHour MPP PE CPU (5940.2 of 8256.2 G.S.T), 71.9%
 290.0 of 344.9 GByteYear HP Disk (2245.4 of 2670.6 G.S.T), 84.1%
 11256.4 of 24873.2 Hour SMP CPU (437.3 of 966.4 G.S.T), 45.3%
 292.7 of 389.5 GByteYear MP Disk (1255.8 of 1670.8 G.S.T), 75.2%
 334.0 of 634.1 GByteYear HSM/Tape (208.2 of 395.3 G.S.T), 52.7%
 15274.3 of 120865.6 Hour Green CPU (798.1 of 6315.5 G.S.T), 12.6%
 51.0 of 76.0 PersonDay Support (1416.7 of 2111.1 G.S.T), 67.1%
 7.0 of 12.0 Day Training (75.3 of 129.0 G.S.T), 58.3%
Total usage for project cse030 12376.9 of 22514.9 Generic Service Tokens, 55.0%


Usage:
Last Trade: never  Start:  End:
 64053.8 of 91000.0 PEHour MPP PE CPU (1548.7 of 2200.3 G.S.T), 70.4%
 150.8 of 178.0 GByteYear HP Disk (1167.5 of 1378.1 G.S.T), 84.7%
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 2920.1 of 6500.0 Hour SMP CPU (113.5 of 252.5 G.S.T), 44.9%
 68.2 of 95.0 GByteYear MP Disk (292.5 of 407.5 G.S.T), 71.8%
 252.6 of 300.0 GByteYear HSM/Tape (157.5 of 187.0 G.S.T), 84.2%
 0.0 of 14000.0 Hour Green CPU (0.0 of 731.5 G.S.T), 0.0%
Total usage for subproject cse030a 3279.7 of 5157.0 Generic Service Tokens, 63.6%



Usage:
Last Trade: never  Start:  End:
 160871.1 of 180000.0 PEHour MPP PE CPU (3889.7 of 4352.2 G.S.T), 89.4%
 124.5 of 150.0 GByteYear HP Disk (964.1 of 1161.4 G.S.T), 83.0%
 42.3 of 3600.0 Hour SMP CPU (1.6 of 139.9 G.S.T), 1.2%
 205.0 of 240.0 GByteYear MP Disk (879.4 of 1029.5 G.S.T), 85.4%
 34.2 of 135.8 GByteYear HSM/Tape (21.3 of 84.6 G.S.T), 25.2%
 0.0 of 30000.0 Hour Green CPU (0.0 of 1567.6 G.S.T), 0.0%
Total usage for subproject cse030b 5756.0 of 8335.1 Generic Service Tokens, 69.1%


Usage:
Last Trade: never  Start:  End:
 18310.7 of 18310.7 PEHour MPP PE CPU (442.7 of 442.7 G.S.T), 100.0%
 1.1 of 1.7 GByteYear HP Disk (8.6 of 13.2 G.S.T), 65.2%
 0.0 of 1000.0 Hour SMP CPU (0.0 of 38.9 G.S.T), 0.0%
 4.3 of 10.0 GByteYear MP Disk (18.6 of 42.9 G.S.T), 43.4%
 0.0 of 0.0 GByteYear HSM/Tape (0.0 of 0.0 G.S.T)
 0.0 of 3500.0 Hour Green CPU (0.0 of 182.9 G.S.T), 0.0%
Total usage for subproject cse030c 469.9 of 720.5 Generic Service Tokens, 65.2%


Usage:
Last Trade: never  Start:  End:
 0.0 of 2000.0 PEHour MPP PE CPU (0.0 of 48.4 G.S.T), 0.0%
 8.9 of 12.0 GByteYear HP Disk (68.7 of 92.9 G.S.T), 73.9%
 0.0 of 500.0 Hour SMP CPU (0.0 of 19.4 G.S.T), 0.0%
 10.5 of 20.0 GByteYear MP Disk (45.1 of 85.8 G.S.T), 52.5%
 0.0 of 20.0 GByteYear HSM/Tape (0.0 of 12.5 G.S.T), 0.0%
Total usage for subproject cse030d 113.7 of 259.0 Generic Service Tokens, 43.9%


Usage:
Last Trade: never  Start:  End:
 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T)
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear MP Disk (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear HSM/Tape (0.0 of 0.0 G.S.T)
Total usage for subproject cse030e 0.0 of 0.0 Generic Service Tokens, 0.0%


Usage:
Last Trade: never  Start:  End:
 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T)
 0.0 of 1000.0 Hour SMP CPU (0.0 of 38.9 G.S.T), 0.0%
```

```
 0.0 of 8.0 GByteYear MP Disk (0.0 of 34.3 G.S.T), 0.0%
 0.0 of 10.0 GByteYear HSM/Tape (0.0 of 6.2 G.S.T), 0.0%
 0.0 of 3500.0 Hour Green CPU (0.0 of 182.9 G.S.T), 0.0%
Total usage for subproject cse030f 0.0 of 262.3 Generic Service Tokens, 0.0%


Usage:
Last Trade: never  Start:  End:
 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T)
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear MP Disk (0.0 of 0.0 G.S.T)
 0.0 of 0.0 GByteYear HSM/Tape (0.0 of 0.0 G.S.T)
Total usage for subproject cse030g 0.0 of 0.0 Generic Service Tokens, 0.0%




Usage:
Last Trade: Fri Feb  2 16:20:49 2001  Start:  End:
 409128.3 of 425689.3 PEHour MPP PE CPU (9892.2 of 10292.6 G.S.T), 96.1%
 14.4 of 18.0 GByteYear HP Disk (111.5 of 139.4 G.S.T), 80.0%
 0.0 of 0.3 Hour SMP CPU (0.0 of 0.0 G.S.T), 6.0%
 0.0 of 0.6 GByteYear MP Disk (0.0 of 2.4 G.S.T), 1.4%
 10.3 of 26.0 GByteYear HSM/Tape (6.4 of 16.2 G.S.T), 39.8%
Total usage for project cse035 10010.1 of 10450.6 Generic Service Tokens, 95.8%


Usage:
Last Trade: re-enabled  Start:  End:
 10.9 of 617.1 PEHour MPP PE CPU (0.3 of 14.9 G.S.T), 1.8%
 0.4 of 3.0 GByteYear HP Disk (3.4 of 23.2 G.S.T), 14.8%
 84.2 of 399.9 Hour SMP CPU (3.3 of 15.5 G.S.T), 21.1%
 0.3 of 3.0 GByteYear MP Disk (1.1 of 12.9 G.S.T), 8.7%
Total usage for project cse036 8.1 of 66.6 Generic Service Tokens, 12.2%


Usage:
Last Trade: re-enabled  Start:  End:
 588.6 of 12981.4 PEHour MPP PE CPU (14.2 of 313.9 G.S.T), 4.5%
 0.8 of 119.7 GByteYear HP Disk (6.1 of 926.6 G.S.T), 0.7%
 1176.4 of 4531.4 Hour SMP CPU (45.7 of 176.1 G.S.T), 26.0%
 0.2 of 123.5 GByteYear MP Disk (0.8 of 529.6 G.S.T), 0.1%
 29.0 of 230.3 GByteYear HSM/Tape (18.1 of 143.6 G.S.T), 12.6%
 0.0 of 60.0 PersonDay Support (0.0 of 1666.7 G.S.T), 0.0%
 0.0 of 5.0 Day Training (0.0 of 53.8 G.S.T), 0.0%
Total usage for project cse041 84.9 of 3810.1 Generic Service Tokens, 2.2%


Usage:
Last Trade: Thu Oct 18 15:49:55 2001  Start:  End:
 2768.5 of 149987.2 PEHour MPP PE CPU (66.9 of 3626.5 G.S.T), 1.8%
 1.1 of 10.0 GByteYear HP Disk (8.3 of 77.4 G.S.T), 10.8%
 0.0 of 6.2 Hour SMP CPU (0.0 of 0.2 G.S.T), 0.2%
 1.4 of 4.8 GByteYear MP Disk (6.0 of 20.8 G.S.T), 29.0%
 0.0 of 28.8 GByteYear HSM/Tape (0.0 of 17.9 G.S.T), 0.0%
 2.0 of 2.0 PersonDay Support (55.6 of 55.6 G.S.T), 100.0%
 4.0 of 4.0 Day Training (43.0 of 43.0 G.S.T), 100.1%
Total usage for project cse043 179.9 of 3841.4 Generic Service Tokens, 4.7%


Usage:
Last Trade: Fri Jul 27 09:18:59 2001  Start:  End:
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 0.0 of 104742.3 PEHour MPP PE CPU (0.0 of 2532.5 G.S.T), 0.0%
 0.0 of 11.0 GByteYear HP Disk (0.0 of 85.2 G.S.T), 0.0%
 0.0 of 1300.0 Hour SMP CPU (0.0 of 50.5 G.S.T), 0.0%
 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 G.S.T), 0.0%
 0.0 of 20.0 PersonDay Support (0.0 of 555.6 G.S.T), 0.0%
 0.0 of 10.0 Day Training (0.0 of 107.5 G.S.T), 0.0%
Total usage for project cse050 0.0 of 3334.1 Generic Service Tokens, 0.0%


Usage:
Last Trade: Fri Jun 15 10:36:37 2001  Start:  End:
 87279.6 of 274025.7 PEHour MPP PE CPU (2110.3 of 6625.6 G.S.T), 31.9%
 1.7 of 8.5 GByteYear HP Disk (13.1 of 65.8 G.S.T), 19.9%
 0.0 of 600.0 Hour SMP CPU (0.0 of 23.3 G.S.T), 0.0%
 0.0 of 8.5 GByteYear MP Disk (0.0 of 36.5 G.S.T), 0.0%
 0.0 of 3.0 GByteYear HSM/Tape (0.0 of 1.9 G.S.T), 0.0%
 0.0 of 10.0 PersonDay Support (0.0 of 277.8 G.S.T), 0.0%
 0.0 of 25.0 Day Training (0.0 of 268.8 G.S.T), 0.0%
Total usage for project cse052 2123.4 of 7299.6 Generic Service Tokens, 29.1%


Usage:
Last Trade: Mon Oct 15 12:52:06 2001  Start:  End:
 9536.8 of 319557.6 PEHour MPP PE CPU (230.6 of 7726.5 G.S.T), 3.0%
 0.6 of 115.0 GByteYear HP Disk (4.5 of 890.4 G.S.T), 0.5%
 68.2 of 14000.0 Hour SMP CPU (2.6 of 543.9 G.S.T), 0.5%
 0.2 of 85.0 GByteYear MP Disk (0.8 of 364.6 G.S.T), 0.2%
 0.0 of 100.0 GByteYear HSM/Tape (0.0 of 62.3 G.S.T), 0.0%
 608.9 of 1850.9 Hour Green CPU (31.8 of 96.7 G.S.T), 32.9%
 0.0 of 15.0 PersonDay Support (0.0 of 416.7 G.S.T), 0.0%
 0.0 of 8.0 Day Training (0.0 of 86.0 G.S.T), 0.0%
Total usage for project cse053 270.3 of 10187.1 Generic Service Tokens, 2.7%


Usage:
Last Trade: Mon Aug  6 09:05:54 2001  Start:  End:
 939.4 of 24604.0 PEHour MPP PE CPU (22.7 of 594.9 G.S.T), 3.8%
 0.6 of 2.5 GByteYear HP Disk (4.4 of 19.4 G.S.T), 22.6%
 0.0 of 3.1 Hour SMP CPU (0.0 of 0.1 G.S.T), 0.0%
 0.0 of 5.0 PersonDay Support (0.0 of 138.9 G.S.T), 0.0%
 0.0 of 10.0 Day Training (0.0 of 107.5 G.S.T), 0.0%
Total usage for project cse055 27.1 of 860.8 Generic Service Tokens, 3.1%


Usage:
Last Trade: Fri Jul 20 08:55:22 2001  Start:  End:
 0.0 of 53852.2 PEHour MPP PE CPU (0.0 of 1302.1 G.S.T), 0.0%
 0.0 of 40.0 GByteYear HP Disk (0.0 of 309.7 G.S.T), 0.0%
 71.7 of 622.3 Hour SMP CPU (2.8 of 24.2 G.S.T), 11.5%
 0.0 of 5.0 PersonDay Support (0.0 of 138.9 G.S.T), 0.0%
 0.0 of 10.0 Day Training (0.0 of 107.5 G.S.T), 0.0%
Total usage for project cse056 2.8 of 1882.4 Generic Service Tokens, 0.1%


Usage:
Last Trade: Fri Sep  7 11:39:20 2001  Start:  End:
 2310.0 of 86751.6 PEHour MPP PE CPU (55.9 of 2097.5 G.S.T), 2.7%
 0.2 of 30.0 GByteYear HP Disk (1.4 of 232.3 G.S.T), 0.6%
 1.7 of 62.2 Hour SMP CPU (0.1 of 2.4 G.S.T), 2.7%
 0.5 of 462.7 Hour Green CPU (0.0 of 24.2 G.S.T), 0.1%
 0.0 of 20.0 PersonDay Support (0.0 of 555.6 G.S.T), 0.0%
 0.0 of 10.0 Day Training (0.0 of 107.5 G.S.T), 0.0%
Total usage for project cse057 57.4 of 3019.5 Generic Service Tokens, 1.9%
```

```
Usage:
Last Trade: Tue Dec 11 09:17:13 2001  Start:  End:
 458.3 of 404163.7 PEHour MPP PE CPU (11.1 of 9772.2 G.S.T), 0.1%
 2.0 of 100.0 GByteYear HP Disk (15.3 of 774.2 G.S.T), 2.0%
 0.0 of 0.6 Hour SMP CPU (0.0 of 0.0 G.S.T), 0.1%
 0.0 of 50.0 GByteYear MP Disk (0.0 of 214.5 G.S.T), 0.0%
 0.0 of 525.0 GByteYear HSM/Tape (0.0 of 327.3 G.S.T), 0.0%
 0.0 of 30.0 PersonDay Support (0.0 of 833.3 G.S.T), 0.0%
 0.0 of 10.0 Day Training (0.0 of 107.5 G.S.T), 0.0%
Total usage for project cse063 26.4 of 12029.1 Generic Service Tokens, 0.2%
```

```
Usage:
Last Trade: Mon Jan 21 16:36:28 2002  Start:  End:
 0.0 of 165039.1 PEHour MPP PE CPU (0.0 of 3990.4 G.S.T), 0.0%
 0.0 of 35.0 GByteYear HP Disk (0.0 of 271.0 G.S.T), 0.0%
 0.0 of 22000.0 Hour SMP CPU (0.0 of 854.7 G.S.T), 0.0%
 0.0 of 33.0 GByteYear MP Disk (0.0 of 141.6 G.S.T), 0.0%
 0.0 of 4.0 GByteYear HSM/Tape (0.0 of 2.5 G.S.T), 0.0%
 0.0 of 10.0 PersonDay Support (0.0 of 277.8 G.S.T), 0.0%
 0.0 of 8.0 Day Training (0.0 of 86.0 G.S.T), 0.0%
Total usage for project cse064 0.0 of 5624.0 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: Mon Sep  3 10:18:08 2001  Start:  End:
 13259.3 of 87981.1 PEHour MPP PE CPU (320.6 of 2127.3 G.S.T), 15.1%
 4.3 of 90.0 GByteYear HP Disk (33.0 of 696.8 G.S.T), 4.7%
 272.8 of 15000.0 Hour SMP CPU (10.6 of 582.8 G.S.T), 1.8%
 4.3 of 18.0 GByteYear MP Disk (18.4 of 77.4 G.S.T), 23.7%
 725.3 of 64652.8 Hour Green CPU (37.9 of 3378.2 G.S.T), 1.1%
 0.0 of 21.0 PersonDay Support (0.0 of 583.3 G.S.T), 0.0%
 3.0 of 6.0 Day Training (32.3 of 64.5 G.S.T), 50.0%
Total usage for project cse066 452.7 of 7510.4 Generic Service Tokens, 6.0%
```

```
Usage:
Last Trade: Fri Oct  5 16:21:54 2001  Start:  End:
 0.0 of 3729.7 Hour VPP_CPU (0.0 of 4094.1 G.S.T), 0.0%
 0.0 of 20.0 GByteYear Fuji Disk (0.0 of 85.8 G.S.T), 0.0%
 0.0 of 5.0 PersonDay Support (0.0 of 138.9 G.S.T), 0.0%
 0.0 of 6.0 Day Training (0.0 of 64.5 G.S.T), 0.0%
Total usage for project cse071 0.0 of 4383.3 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: Wed Jan  2 15:22:45 2002  Start:  End:
 0.0 of 15370.1 PEHour MPP PE CPU (0.0 of 371.6 G.S.T), 0.0%
 0.0 of 6.0 GByteYear HP Disk (0.0 of 46.5 G.S.T), 0.0%
 0.0 of 600.0 Hour SMP CPU (0.0 of 23.3 G.S.T), 0.0%
 0.0 of 9.0 GByteYear MP Disk (0.0 of 38.6 G.S.T), 0.0%
Total usage for project cse074 0.0 of 480.0 Generic Service Tokens, 0.0%
```

```
cse075 GR/R59540 Coveney
Usage:
Last Trade: Wed Oct 10 16:28:38 2001  Start:  End:
 0.0 of 438021.5 PEHour MPP PE CPU (0.0 of 10590.8 G.S.T), 0.0%
 0.0 of 217.0 GByteYear HP Disk (0.0 of 1679.9 G.S.T), 0.0%
 0.0 of 150.0 GByteYear MP Disk (0.0 of 643.4 G.S.T), 0.0%
 0.0 of 300000.0 Hour Green CPU (0.0 of 15675.6 G.S.T), 0.0%
 0.0 of 34.0 PersonDay Support (0.0 of 944.4 G.S.T), 0.0%
 0.0 of 14.0 Day Training (0.0 of 150.5 G.S.T), 0.0%
Total usage for project cse075 0.0 of 29684.7 Generic Service Tokens, 0.0%
```

```
Usage:
Last Trade: Thu Jan 17 16:38:17 2002  Start:  End:
 0.0 of 2000.0 PEHour MPP PE CPU (0.0 of 48.4 G.S.T), 0.0%
 20317.7 of 150000.0 Hour SMP CPU (789.4 of 5827.7 G.S.T), 13.5%
 0.2 of 15.0 GByteYear MP Disk (0.9 of 64.4 G.S.T), 1.4%
 10716.6 of 342397.5 Hour Green CPU (560.0 of 17891.0 G.S.T), 3.1%
 0.0 of 20.0 PersonDay Support (0.0 of 555.6 G.S.T), 0.0%
Total usage for project cse076 1350.2 of 24387.0 Generic Service Tokens, 5.5%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 65138.3 of 306225.8 PEHour MPP PE CPU (1575.0 of 7404.1 G.S.T), 21.3%
 3.9 of 270.0 GByteYear HP Disk (30.5 of 2090.4 G.S.T), 1.5%
 1.0 of 600.0 Hour SMP CPU (0.0 of 23.3 G.S.T), 0.2%
 2.5 of 69.1 GByteYear MP Disk (10.8 of 296.6 G.S.T), 3.6%
 16992.5 of 78664.5 Hour Green CPU (887.9 of 4110.4 G.S.T), 21.6%
 0.0 of 34.0 PersonDay Support (0.0 of 944.4 G.S.T), 0.0%
 0.0 of 24.0 Day Training (0.0 of 258.1 G.S.T), 0.0%
Total usage for project cse084 2504.2 of 15127.4 Generic Service Tokens, 16.6%
```

```
Usage:
Last Trade: Tue Dec 11 09:51:37 2001  Start:  End:
 57343.5 of 1388400.0 PEHour MPP PE CPU (1386.5 of 33569.7 G.S.T), 4.1%
 40.7 of 650.0 GByteYear HP Disk (315.2 of 5032.5 G.S.T), 6.3%
 1753.4 of 4045.2 Hour SMP CPU (68.1 of 157.2 G.S.T), 43.3%
 28.6 of 750.0 GByteYear MP Disk (122.8 of 3217.2 G.S.T), 3.8%
 232.5 of 1375.0 GByteYear HSM/Tape (144.9 of 857.2 G.S.T), 16.9%
 87138.0 of 655628.0 Hour Green CPU (4553.1 of 34257.9 G.S.T), 13.3%
 0.0 of 257.1 Hour VPP_CPU (0.0 of 282.3 G.S.T), 0.0%
 0.0 of 0.6 GByteYear Fuji Disk (0.0 of 2.4 G.S.T), 0.0%
 0.0 of 15.0 PersonDay Support (0.0 of 416.7 G.S.T), 0.0%
 0.0 of 6.0 Day Training (0.0 of 64.5 G.S.T), 0.0%
Total usage for project cse085 6590.7 of 77857.7 Generic Service Tokens, 8.5%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 395137.9 of 559253.1 PEHour MPP PE CPU (9553.9 of 13522.0 G.S.T), 70.7%
 214.1 of 320.3 GByteYear HP Disk (1657.9 of 2479.6 G.S.T), 66.9%
 31467.6 of 84584.3 Hour SMP CPU (1222.6 of 3286.2 G.S.T), 37.2%
 201.1 of 362.3 GByteYear MP Disk (862.5 of 1554.1 G.S.T), 55.5%
 5061.6 of 15221.7 GByteYear HSM/Tape (3155.6 of 9489.8 G.S.T), 33.3%
 268818.6 of 290781.5 Hour Green CPU (14046.3 of 15193.9 G.S.T), 92.4%
 607.0 of 838.8 Hour VPP_CPU (666.3 of 920.8 G.S.T), 72.4%
 2.2 of 6.3 GByteYear Fuji Disk (9.7 of 27.1 G.S.T), 35.6%
 3.0 of 29.2 PersonDay Support (83.3 of 811.1 G.S.T), 10.3%
 1.0 of 26.0 Day Training (10.8 of 279.5 G.S.T), 3.8%
Total usage for project csn001 31268.8 of 47564.2 Generic Service Tokens, 65.7%
```

```
Usage:
Last Trade: Fri Nov 30 09:28:54 2001  Start:  End:
 2769926.1 of 3013062.0 PEHour MPP PE CPU (66973.3 of 72852.0 G.S.T), 91.9%
 56.9 of 113.9 GByteYear HP Disk (440.8 of 881.6 G.S.T), 50.0%
 16790.5 of 17527.5 Hour SMP CPU (652.3 of 681.0 G.S.T), 95.8%
 53.6 of 93.8 GByteYear MP Disk (229.7 of 402.3 G.S.T), 57.1%
 21513.6 of 23729.9 GByteYear HSM/Tape (13412.5 of 14794.2 G.S.T), 90.7%
 19006.9 of 96407.7 Hour Green CPU (993.2 of 5037.5 G.S.T), 19.7%
 54741.2 of 62034.1 Hour VPP_CPU (60089.1 of 68094.5 G.S.T), 88.2%
 281.9 of 326.4 GByteYear Fuji Disk (1209.2 of 1400.0 G.S.T), 86.4%
 0.0 of 3.0 Hour Compaq EV67 CPU (0.0 of 1.1 G.S.T), 0.0%
 0.0 of 1.7 GByteYear Compaq Disk (0.0 of 7.1 G.S.T), 0.0%
 0.0 of 0.0 PersonDay Support (0.0 of 0.0 G.S.T)
 4.0 of 4.0 Day Training (43.0 of 43.0 G.S.T), 100.0%
Total usage for project csn003 144043.0 of 164194.2 Generic Service Tokens, 87.7%



Usage:
Last Trade: Mon Dec 17 11:56:22 2001  Start:  End:
 1367285.4 of 1458538.9 PEHour MPP PE CPU (33059.2 of 35265.6 G.S.T), 93.7%
 95.1 of 122.2 GByteYear HP Disk (736.7 of 946.4 G.S.T), 77.8%
 69410.3 of 72226.1 Hour SMP CPU (2696.7 of 2806.1 G.S.T), 96.1%
 14.0 of 65.5 GByteYear MP Disk (60.1 of 281.0 G.S.T), 21.4%
 0.0 of 20.3 GByteYear HSM/Tape (0.0 of 12.6 G.S.T), 0.0%
 92714.7 of 108161.2 Hour Green CPU (4844.5 of 5651.6 G.S.T), 85.7%
Total usage for project csn006 41397.2 of 44963.4 Generic Service Tokens, 92.1%


Usage:
Last Trade: re-enabled  Start:  End:
 22029.7 of 33013.2 PEHour MPP PE CPU (532.6 of 798.2 G.S.T), 66.7%
 7.8 of 13.6 GByteYear HP Disk (60.5 of 105.0 G.S.T), 57.6%
 0.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T)
 0.6 of 30.1 GByteYear HSM/Tape (0.4 of 18.8 G.S.T), 2.0%
Total usage for project csn011 593.5 of 922.0 Generic Service Tokens, 64.4%


Usage:
Last Trade: re-enabled  Start:  End:
 0.0 of 1.2 GByteYear MP Disk (0.0 of 5.0 G.S.T), 0.2%
 4395.6 of 4850.7 Hour VPP_CPU (4825.0 of 5324.6 G.S.T), 90.6%
 7.8 of 9.3 GByteYear Fuji Disk (33.4 of 40.0 G.S.T), 83.6%
Total usage for project csn012 4858.5 of 5369.6 Generic Service Tokens, 90.5%


Usage:
Last Trade: re-enabled  Start:  End:
 925.2 of 1711.2 Hour VPP_CPU (1015.6 of 1878.4 G.S.T), 54.1%
 0.0 of 2.3 GByteYear Fuji Disk (0.0 of 9.9 G.S.T), 0.0%
Total usage for project csn013 1015.6 of 1888.3 Generic Service Tokens, 53.8%


Usage:
Last Trade: re-enabled  Start:  End:
```

```
 0.0 of 658.3 PEHour MPP PE CPU (0.0 of 15.9 G.S.T), 0.0%
 0.0 of 15.0 GByteYear HP Disk (0.0 of 116.1 G.S.T), 0.0%
 0.0 of 12.9 Hour SMP CPU (0.0 of 0.5 G.S.T), 0.0%
 0.0 of 5.0 GByteYear MP Disk (0.0 of 21.4 G.S.T), 0.0%
Total usage for project csn014 0.0 of 154.0 Generic Service Tokens, 0.0%


Usage:
Last Trade: Mon Jan 28 10:01:44 2002  Start:  End:
 193024.5 of 265982.6 PEHour MPP PE CPU (4667.1 of 6431.1 G.S.T), 72.6%
 2.4 of 5.0 GByteYear HP Disk (18.4 of 38.7 G.S.T), 47.4%
 661.7 of 1662.0 Hour SMP CPU (25.7 of 64.6 G.S.T), 39.8%
 38.7 of 99.3 GByteYear MP Disk (165.9 of 425.8 G.S.T), 38.9%
 1287.8 of 2450.1 GByteYear HSM/Tape (802.9 of 1527.5 G.S.T), 52.6%
 70967.3 of 87684.5 Hour Green CPU (3708.2 of 4581.7 G.S.T), 80.9%
 0.0 of 3451.8 Hour VPP_CPU (0.0 of 3789.0 G.S.T), 0.0%
 0.0 of 4.9 GByteYear Fuji Disk (0.0 of 21.0 G.S.T), 0.0%
 2.0 of 10.0 PersonDay Support (55.6 of 277.8 G.S.T), 20.0%
 3.0 of 7.0 Day Training (32.3 of 75.3 G.S.T), 42.9%
Total usage for project csn015 9475.9 of 17232.5 Generic Service Tokens, 55.0%


Usage:
Last Trade: Fri May 18 14:22:04 2001  Start:  End:
 435.9 of 5031.5 PEHour MPP PE CPU (10.5 of 121.7 G.S.T), 8.7%
 0.2 of 5.0 GByteYear HP Disk (1.5 of 38.7 G.S.T), 3.8%
 512.6 of 2237.4 Hour SMP CPU (19.9 of 86.9 G.S.T), 22.9%
 1.2 of 5.0 GByteYear MP Disk (5.1 of 21.4 G.S.T), 23.9%
 0.0 of 16.0 PersonDay Support (0.0 of 444.4 G.S.T), 0.0%
 2.0 of 18.0 Day Training (21.5 of 193.5 G.S.T), 11.1%
Total usage for project csn017 58.6 of 906.7 Generic Service Tokens, 6.5%


Usage:
Last Trade: Mon Jun 11 15:58:18 2001  Start:  End:
 0.1 of 128237.1 PEHour MPP PE CPU (0.0 of 3100.6 G.S.T), 0.0%
 0.3 of 60.0 GByteYear HP Disk (2.1 of 464.5 G.S.T), 0.5%
 90.0 of 400.0 Hour SMP CPU (3.5 of 15.5 G.S.T), 22.5%
 0.0 of 60.0 GByteYear MP Disk (0.0 of 257.4 G.S.T), 0.0%
 0.0 of 700.0 GByteYear HSM/Tape (0.0 of 436.4 G.S.T), 0.0%
 0.0 of 2.0 PersonDay Support (0.0 of 55.6 G.S.T), 0.0%
 0.0 of 5.0 Day Training (0.0 of 53.8 G.S.T), 0.0%
Total usage for project csn036 5.6 of 4383.8 Generic Service Tokens, 0.1%


Last Trade: Fri Jan 18 13:18:14 2002  Start:   End
 8020.9 of 8039.2 PEHour MPP PE CPU (193.9 of 194.4 G.S.T), 99.8%
 0.6 of 1.0 GByteYear HP Disk (4.8 of 7.7 G.S.T), 61.5%
 13.4 of 13.9 Hour SMP CPU (0.5 of 0.5 G.S.T), 96.5%
 0.7 of 1.5 GByteYear MP Disk (3.0 of 6.4 G.S.T), 47.4%
 0.0 of 1.0 GByteYear HSM/Tape (0.0 of 0.6 G.S.T), 0.0%
 11.0 of 11.8 PersonDay Support (305.6 of 328.6 G.S.T), 93.0%
 12.0 of 12.2 Day Training (129.0 of 130.9 G.S.T), 98.6%
Total usage for project csp003 636.9 of 669.2 Generic Service Tokens, 95.2%


Usage:
Last Trade: Thu Mar 29 12:49:04 2001  Start:  End:
```

```
 4692.1 of 86221.7 PEHour MPP PE CPU (113.4 of 2084.7 G.S.T), 5.4%
 4.6 of 47.0 GByteYear HP Disk (35.3 of 363.9 G.S.T), 9.7%
 35.5 of 4274.0 Hour SMP CPU (1.4 of 166.1 G.S.T), 0.8%
 3.2 of 24.0 GByteYear MP Disk (13.9 of 103.0 G.S.T), 13.5%
 0.0 of 7.0 PersonDay Support (0.0 of 194.4 G.S.T), 0.0%
 0.0 of 8.0 Day Training (0.0 of 86.0 G.S.T), 0.0%
Total usage for project csp004 164.0 of 2998.1 Generic Service Tokens, 5.5%
```

```
Usage:
Last Trade: Tue Jan 22 15:39:20 2002  Start:  End:
 34457.1 of 34482.9 PEHour MPP PE CPU (833.1 of 833.8 G.S.T), 99.9%
 3.2 of 3.8 GByteYear HP Disk (24.5 of 29.6 G.S.T), 82.9%
 4061.3 of 4120.4 Hour SMP CPU (157.8 of 160.1 G.S.T), 98.6%
 1.5 of 1.7 GByteYear MP Disk (6.5 of 7.2 G.S.T), 89.7%
 10817.5 of 10497.3 Hour Green CPU (565.2 of 548.5 G.S.T), 103.1%
 1.0 of 1.0 Day Training (10.8 of 10.8 G.S.T), 99.7%
Total usage for project hpcid 1597.9 of 1589.9 Generic Service Tokens, 100.5%
```

```
Usage:
Last Trade: Wed Jul 11 12:09:29 2001  Start:  End:
 1480.9 of 4070.6 PEHour MPP PE CPU (35.8 of 98.4 G.S.T), 36.4%
 3.2 of 4.7 GByteYear HP Disk (24.4 of 36.6 G.S.T), 66.6%
 698.4 of 770.8 Hour SMP CPU (27.1 of 29.9 G.S.T), 90.6%
 2.1 of 2.8 GByteYear MP Disk (8.8 of 12.0 G.S.T), 73.1%
 1728.7 of 1739.8 Hour Green CPU (90.3 of 90.9 G.S.T), 99.4%
Total usage for project hpcie 186.5 of 267.9 Generic Service Tokens, 69.6%
```

```
Usage:
Last Trade: re-enabled  Start:  End:
 737.9 of 5825.0 PEHour MPP PE CPU (17.8 of 140.8 G.S.T), 12.7%
 31.7 of 31.6 GByteYear HP Disk (245.7 of 244.8 G.S.T), 100.4%
 37.8 of 1074.0 Hour SMP CPU (1.5 of 41.7 G.S.T), 3.5%
 3.1 of 3.0 GByteYear MP Disk (13.4 of 12.8 G.S.T), 104.6%
Total usage for project hpcis 278.4 of 440.2 Generic Service Tokens, 63.2%
```

```
Usage:
Last Trade: Thu Oct 18 17:45:15 2001  Start:  End:
 0.0 of 10000.0 PEHour MPP PE CPU (0.0 of 241.8 G.S.T), 0.0%
 0.0 of 10.0 GByteYear HP Disk (0.0 of 77.4 G.S.T), 0.0%
 0.0 of 10000.0 Hour SMP CPU (0.0 of 388.5 G.S.T), 0.0%
 0.0 of 10.0 GByteYear MP Disk (0.0 of 42.9 G.S.T), 0.0%
 0.0 of 5302.4 Hour Green CPU (0.0 of 277.1 G.S.T), 0.0%
 0.0 of 750.0 Hour VPP_CPU (0.0 of 823.3 G.S.T), 0.0%
 0.0 of 3.0 GByteYear Fuji Disk (0.0 of 12.9 G.S.T), 0.0%
 2.0 of 2.0 Day Training (21.5 of 21.6 G.S.T), 99.7%
Total usage for project ukhec 21.5 of 1885.4 Generic Service Tokens, 1.1%
```

## Appendix 6

| Code | PI | Subject | Subject Area |
|---|---|---|---|
| | | | |
| Cse002 | Dr Nicolas Harrison (Gillan) | Support for the UKCP | Physics |
| Cse003 | Prof. Ken Taylor | HPC Consortiums 98- 2000 | Physics |
| Cse004 | Dr Neil Sandham | UK Turbulence | Engineering |
| Cse006 | Dr Patrick Briddon | Covalently Bonded Materials | Materials |
| Cse007 | Dr Matthew Foulkes | Quantum Many Body Theory | Physics |
| Cse008 | Dr Mark Vincent (Hillier) | Model Chemical Reactivity | Chemistry |
| Cse009 | Dr Ben Slater (Catlow) | HPC in Materials Chemistry | Chemistry |
| Cse010 | Dr John Williams | Free Surface Flows | Engineering |
| Cse011 | Dr John Williams | Open Channel Flood Plains | Engineering |
| Cse013 | Dr David Aspley (Leschziner) | Complex Engineering Flows | Engineering |
| Cse014 | Dr Cassiano de Oliverira (Goddard) | Probs in Nuclear Safety | Engineering |
| Cse016 | Dr Stewart Cant | Turbulent Combustion | Engineering |
| Cse018 | Dr Stewart Cant | Turbulent Flames | Engineering |
| Cse019 | Dr Jason Lander (Berzins) | ROPA | Information Technology |
| Cse020 | Dr Marek Szularz | Symmetric Eigenproblem | Information Technology |
| Cse021 | Dr Julie Staunton | Magentisim | Physics |
| Cse022 | Mr Niall Branley (Jones) | Turbulent Flames | Engineering |
| Cse023 | Allen | Liquid Crystalline Materials | Robin Pinning |
| Cse024 | Dr Robert Allan (Tennyson) | ChemReact 98-2000 | Chemistry |
| Cse025 | Dr Niels Rene Walet (Bishop) | Nuclear Theory Progamme | Physics |
| Cse026 | Dr Maureen Neal | J90 move | |
| Cse027 | Dr M Imregun | J90 move | |
| Cse028 | Prof. P.W. Bearman | J90 move | |
| Cse029 | Dr David Aspley (Leschziner) | J90 move | Engineering |
| Cse030 | Prof M Cates | HPC for Complex Fluids | Physics |
| Cse031 | Brebbia | J90 move | |
| Cse033 | Dr M Imregun | Tubomachinery core compressor | Chemistry |
| Cse034 | Dr Paul Durham | R&D of liner/non-linear systems | Mathematics |
| Csn001 | Mrs Beverly de Cuevas (Webb) | HPCI Global Ocean Consortium | |
| Csn002 | Dr Mark Vincent (Hillier) | Pollutant Sorption on Mineral Surf | |
| Csn003 | Dr Lois Steenman-Clark (O'Neill) | UGAMP | |
| Csn005 | Dr Huw Davies | Constraining Earth Mantle | |
| Csn006 | Dr John Brodholt (Price) | Density Functional Methods | |
| Csn007 | Dr John Brodholt (Price) | Density Functional Methods | |
| Csn008 | Hulton | Sub-Glacial Process | |
| Csn009 | Dr Roger Proctor | | |
| Csn010 | Dr Jason Lander (Mobbs) | Flow over Complex terrain | |
| Csn011 | Dr Ed Dicks (Thorpe) | J90 move | |
| Csb001 | Dr David Houldershaw (Goodfellow) | Macromolecular Interactions | |
| Csb002 | Dr Adrian Mulholland (Danson) | Stability of Enzymes at high temp | |
| Csb003 | Dr John Carling (Williams) | J90 move | |
| Css001 | Dr Stan Openhaw | Human Systems Modelling | |
| Css002 | Dr Robert Crouchley | Dropout in panel surveys | |
| Hpcid | Dr Robert Allan | | |
| Hpcie | Dr David Henty | | |
| Hpcis | Dr Denis Nicole | | |
| Cs2001 | Dr Sudhir Jain | 3D Ising Spin Glass | |
| Cs2002 | Dr Ingrid Stairs (Lyne) | Millisecond Pulsars | |
| Cs2003 | Mr Tom Coulthard | Holocene Sediment Fluxes | |
| Cs2004 | Dr A. Paul Watkins | Internal Combustion Engine | |
| Cs2005 | Mr Sean Walsh | Arabidopsis Genome | |
| Cs2006 | Prof. Walter Temmerman | Superconductivity & Magmetisim | |
| Cs2007 | Choularton | Precipitation in the Mountains | |
| Cs2008 | Dr Matthew Genge | Extraterrestrial Mineral Surfaces | |
| Cs3001 | Mr John Andrew Staveley | Helical Coherent Structures | |