

CSAR Service - Management Report

May 1999

This report documents the quality of the CSAR service during the month of May 1999.

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 authorised 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 is listed for selection.

1. Introduction

This month has seen the first take-up of the new sub consortia facility that was recently introduced. The service suffered three unscheduled breaks due to PE failures and one maintenance session was taken during the month.

This document gives information on Service Quality and on actual usage of the CSAR Service during the reporting period of May 1999. The information, in particular, covers the availability and usage of the following two main CSAR Service High Performance Computing (HPC) systems:

- Cray T3E-1200E/576 (Turing)
- SGI Origin2000/16 (Fermat).

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

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

Service Quality Measure	Performance Targets					
	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
Help Desk						
Non In-depth Queries - Maximum Time to resolve 50% of all queries (working days)	< 1/4	< 1/2	< 1	< 2	< 4	4 or more
Non In-depth Queries - Maximum Time to resolve 95% of all queries (working days)	< 1/2	< 1	< 2	< 3	< 5	5 or more
Administrative Queries - Maximum Time to resolve 95% of all queries (working days)	< 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 in month (working days)	< 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 scheduled 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 May 1st to 31st inclusive. Overall, the CPARS Performance Achievement was just below satisfactory (see Table 3), i.e. green measured against the CPARS performance targets.

CSAR Service - Service Quality Report - Actual Performance Achievement

Service Quality Measure	1998		1999						
	Nov.	Dec.	Jan	Feb	March	April	May	June	July
HPC Services Availability									
Availability in Core Time (% of time)	99.99%	97.20%	99.70%	100%	100%	97.10%	98.50%		
Availability out of Core Time (% of time)	98.53%	98.41%	100%	99.40%	98.51%	98.10%	99.71%		
Number of Failures in month	2	5	1	3	1	1	3		
Mean Time between failures in 52 week rolling period (hours)	400	174.1	744	354	432	480	453		
Help Desk									
Non In-depth Queries - Maximum Time to resolve 50% of all queries (working days)	1	<0.25	<0.25	<0.25	<0.25	<0.25	<0.25		
Non In-depth Queries - Maximum Time to resolve 95% of all queries (working days)	4	5	<1	<2	<2	<1	<3		
Administrative Queries - Maximum Time to resolve 95% of all queries (working days)	2	<1	<1	<5	<2	<2	<2		
Help Desk Telephone - % of calls answered within 2 minutes	100%	100%	100%	100%	100%	100%	100%		
Others									
Normal Media Exchange Requests - average response time in month (working days)	0.5	0	<0.5	0	<0.5	<0.5	<0.5		
New User Registration Time (working days)	2	0	<2	0	0	0	0		
Management Report Delivery Times (working days)	10	10	10	10	10	10	10		
System Maintenance - no. of scheduled sessions taken per system in the month	4	1	2	2	2	0	1		

Table 2

Notes:

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

$$[\text{Turing availability} \times 122 / (122 + 3.5)] + [\text{Fermat availability} \times 3.5 / (122 + 3.5)]$$
- Mean Time between failures for Service Credits is formally calculated from Go-Live Date.

Table 3 gives Service Credit values for the month of May. 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 Credits

Service Quality Measure	1998		1999						
	Nov.	Dec.	Jan	Feb	March	April	May	June	July
HPC Services Availability									
Availability in Core Time (% of time)	-0.058	0.078	-0.039	-0.058	-0.058	0.078	0.039		
Availability out of Core Time (% of time)	0.000	0.039	-0.047	0.000	0.000	0.039	-0.039		
Number of Failures in month	0.000	0.016	-0.008	0.000	-0.008	-0.008	0		
Mean Time between failures in 52 week rolling period (hours)	0.000	0.016	-0.009	0.000	0.000	0.000	0		
Help Desk									
Non In-depth Queries - Maximum Time to resolve 50% of all queries (working days)	0.000	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019		
Non In-depth Queries - Maximum Time to resolve 95% of all queries (working days)	0.031	0.046	-0.016	0.000	0.000	-0.016	0.016		
Administrative Queries - Maximum Time to resolve 95% of all queries (working days)	0.000	-0.016	-0.016	0.031	0.000	0.000	0		
Help Desk Telephone - % of calls answered within 2 minutes	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004		
Others									
Normal Media Exchange Requests - average response time in month (working days)	-0.002	0.000	-0.002	0.000	-0.002	-0.002	-0.002		
New User Registration Time (working days)	0.000	0.000	0.000	0.000	0.000	0.000	0		
Management Report Delivery Times (working days)	0.000	0.000	0.000	0.000	0.000	0.000	0		
System Maintenance - no. of scheduled sessions taken per system in the month	0.006	-0.003	0.000	0.000	0.000	-0.004	-0.003		
Monthly Total & overall Service Quality Rating for each period:	-0.01	0.08	-0.08	-0.02	-0.05	0.03	-0.01	0.00	0.00

Table 3

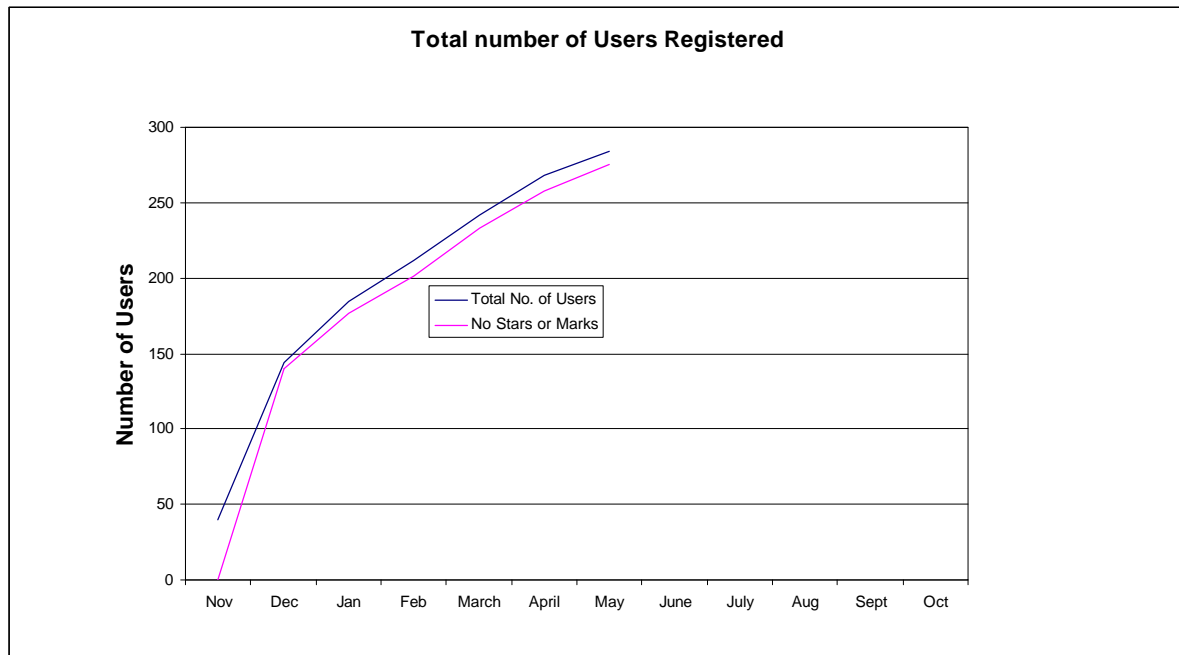
2.2 Service Quality Tokens

The current position at the end of May 1999 is that 10 of the 268 registered users of the CSAR Service had used Service Quality Tokens. See below:

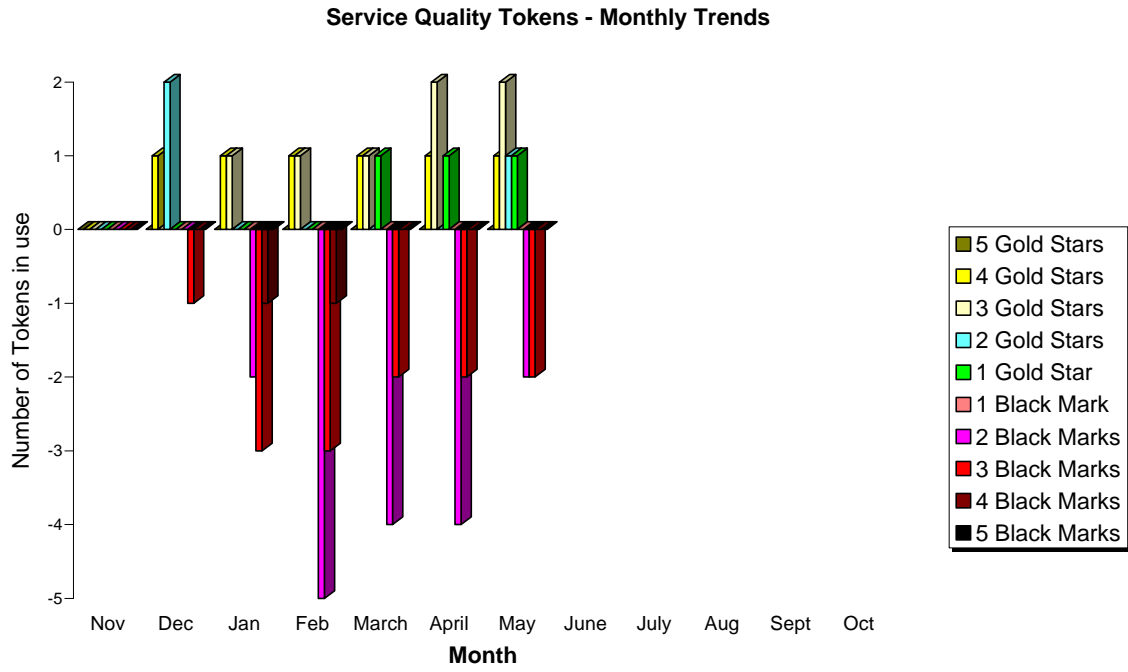
Service Quality Tokens

	Position as at end of each month											
	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct
5 Gold Stars	0	0	0	0	0	0	0					
4 Gold Stars	0	1	1	1	1	1	1					
3 Gold Stars	0	0	1	1	1	2	2					
2 Gold Stars	0	2	0	0	0	0	1					
1 Gold Star	0	0	0	0	1	1	1					
No Stars or Marks	0	140	177	201	233	258	275					
1 Black Mark	0	0	0	0	0	0	0					
2 Black Marks	0	0	2	5	4	4	2					
3 Black Marks	0	1	3	3	2	2	2					
4 Black Marks	0	0	1	1	0	0	0					
5 Black Marks	0	0	0	0	0	0	0					
	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug	Sept	Oct
Total No. of Users	40	144	185	212	242	268	284					
No Stars or Marks	0	140	177	201	233	258	275					

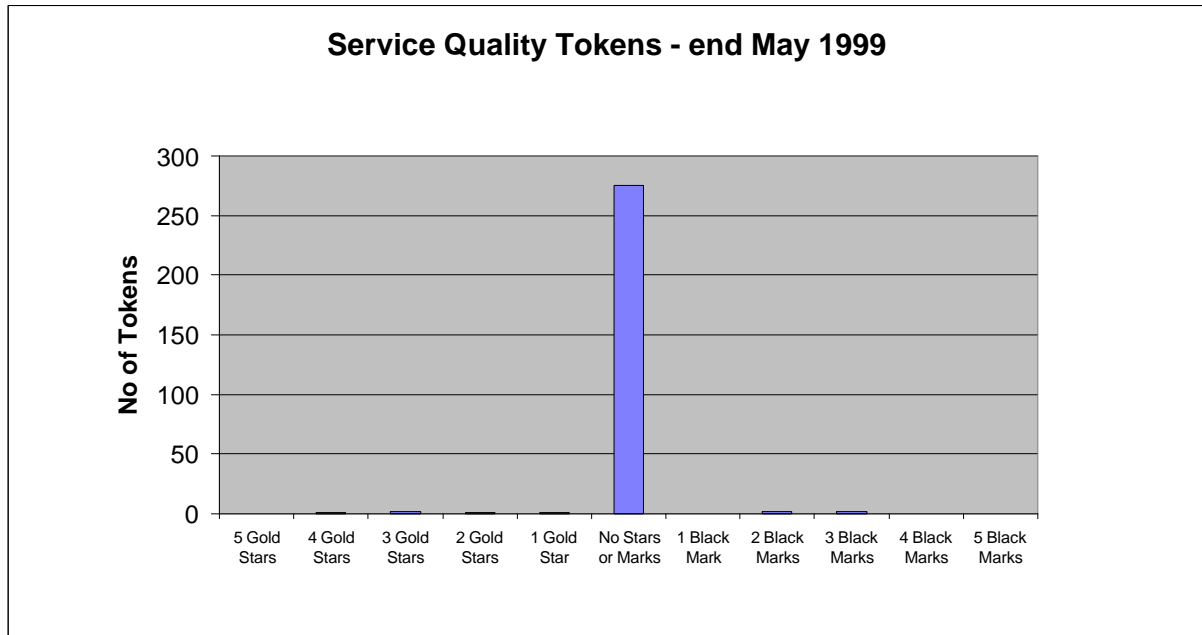
The graph below shows the total number of registered users on the CSAR Service and the number of users holding a neutral view of the service.



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



In the form of a bar chart, the current statistics are:



SUMMARY OF SERVICE QUALITY TOKEN USAGE

No of Stars or Marks	Consortia	Date Allocated	Reason Given
3 Black Marks	CSE002	08/12/98	Early problems experienced by the Consortium.
3 Black Marks	HPCI Daresbury	07/05/99	Complaints re:priority of batch work over interactive.
2 Black Marks	CSE002	04/02/99	Lack of group level CPU management for UKCP.
2 Black Marks	CSE002	05/02/99	Lack of group level CPU management for UKCP.
1 Gold Star	CSE002	31/03/99	Improvements in Registration system page speed.
2 Gold Stars	CSE002	07/05/99	Earlier problems now resolved.
3 Gold Stars	CSE003	29/04/99	Very pleased with helpdesk responses.
3 Gold Stars	CSE007	07/05/99	Re-allocation. Continued satisfaction with the service.
4 Gold Stars	CSE006	07/12/99	Good job throughput and rapid response to queries

The above table summarises the currently allocated Service Quality Tokens, detailing the reason given for the allocation of the tokens.

2.3 Throughput Target against Baseline

The Baseline Target for throughput was achieved this month with the majority of jobs being of short duration and using a small number of PEs. The actual usage for the 31-day period of May was 100.3% of Baseline.

Job Throughput Against Baseline CSAR Service Provision

Period: 1st to 31st May 1999

	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?	361,804	363,132	100.37%
2. Have Users submitted work demanding > 110% of the Baseline during period?	361,804	359,109	No
3. Are there User Jobs outstanding at the end of the period over 4 days old?		Number of Jobs at least 4 days old at end Period 0	Number of Jobs at least 4 days old at end Period is not zero (Yes/No)? No
4. Have Users submitted work demands above 90% of the Baseline during period?		Minimum Job Time Demands as % of Baseline during Period 37%	Minimum Job Time Demand above 90% of Baseline during Period (Yes/No)? No
5. Majority of Job Queues contained jobs from Users for more than 97% during period?	4	Average % of time each queue contained jobs in the Period 82.3%	Average % of time each queue contained jobs in the Period is > 97%? No

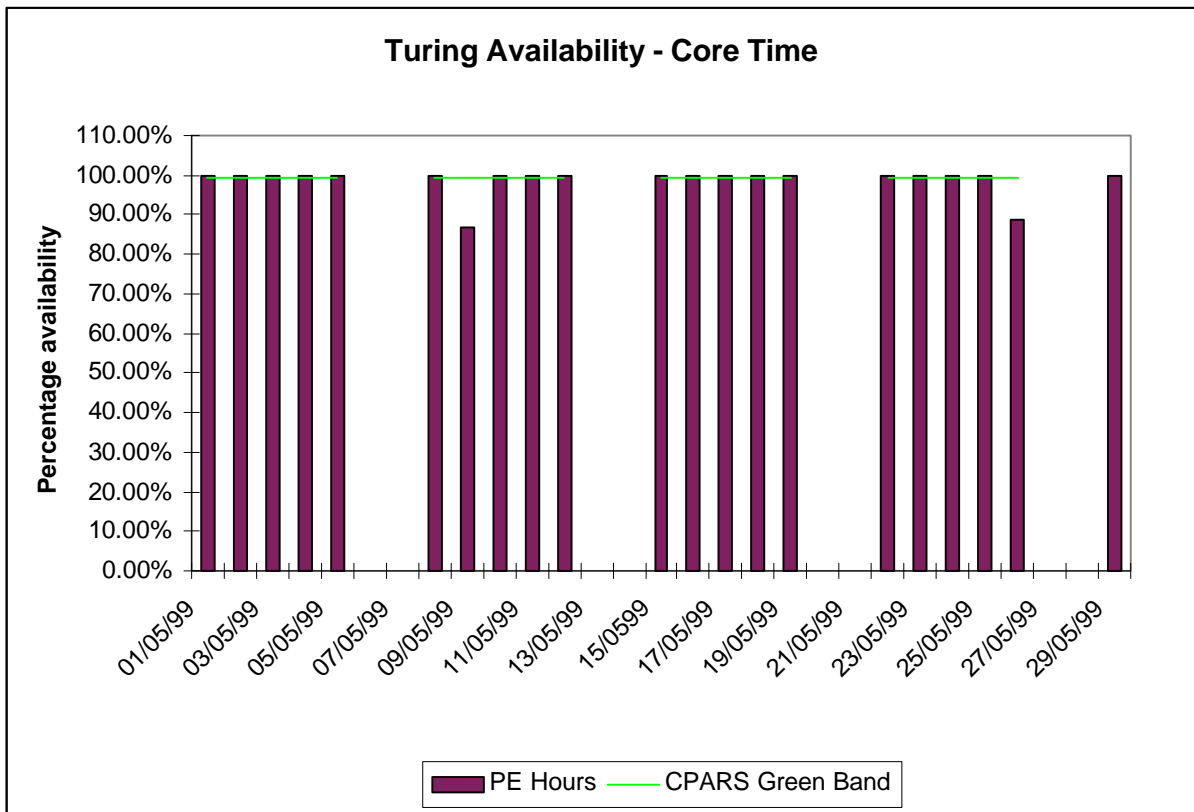
3. System Availability

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.

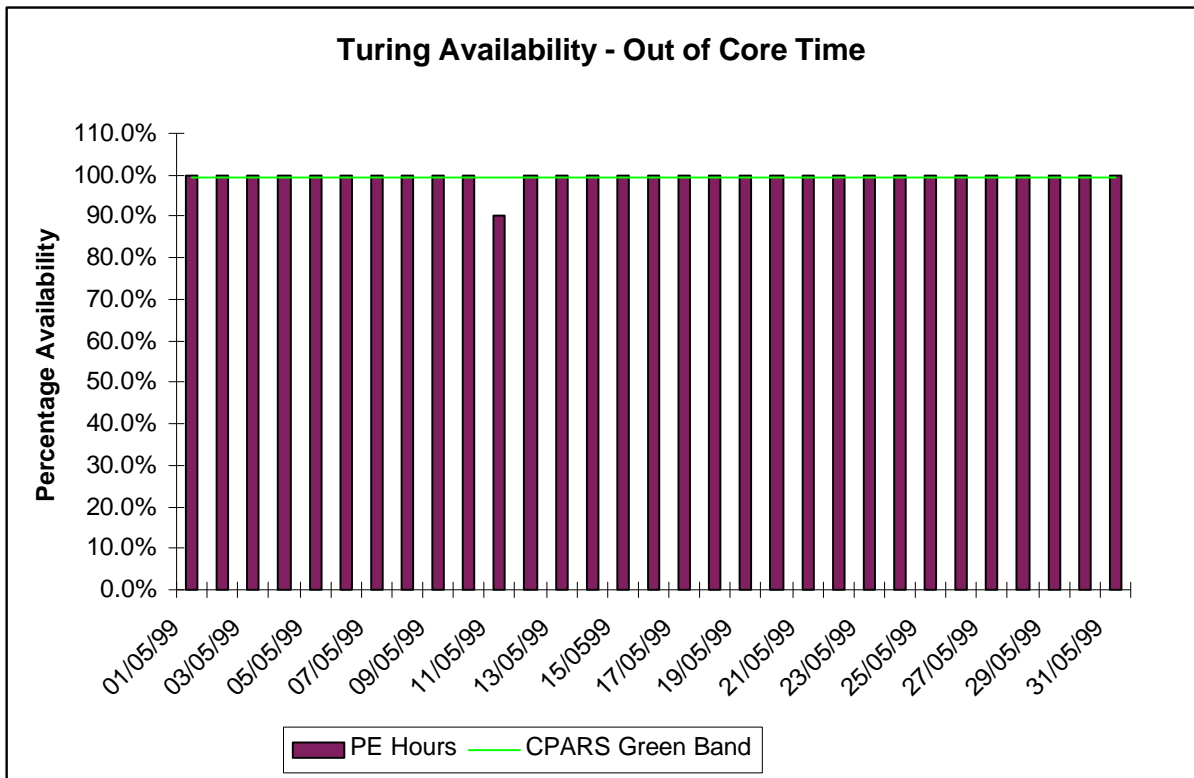
3.1 Cray T3E-1200E System (Turing)

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 May.

Turing availability for May:



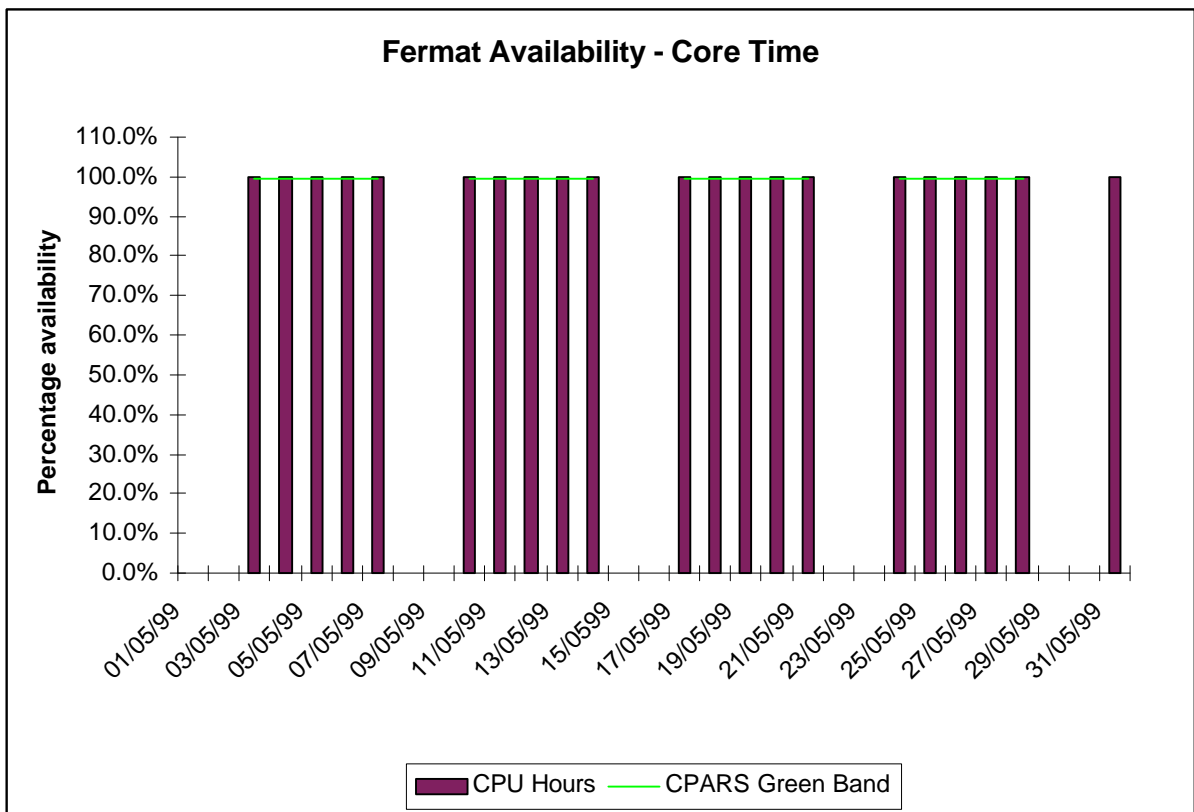
Availability of Turing in core time during May was good with the exception of the three PE failures, which had the effect of lowering core time availability to the orange band in CPARS terms.



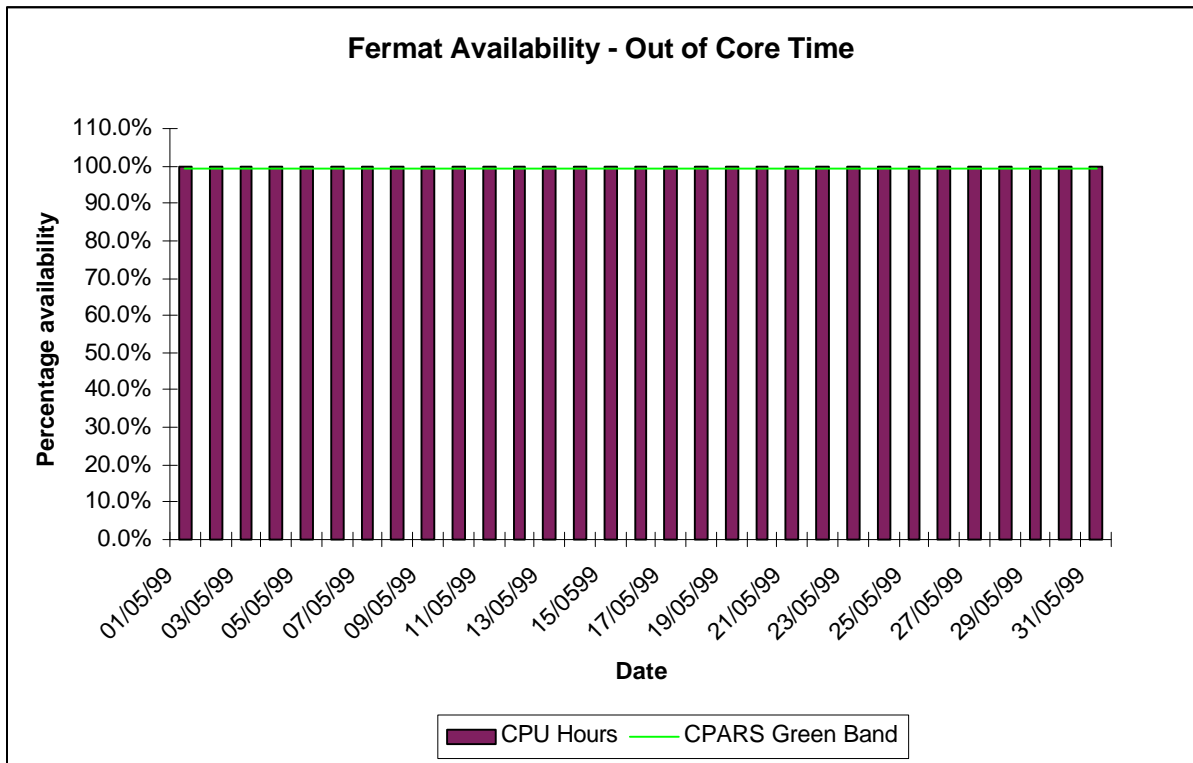
Availability of Turing out of core time during was good with the exception of the three PE failures, which had minimal effect on out of core time availability.

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 May was excellent.



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

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 May 1st to 31st is provided by Project/User Group, totalled by Research Council and overall. This covers:

- | | | |
|------------------------|--------------------------|----------------------------|
| • CPU usage | Turing: 363,132 PE Hours | Fermat: 4,737.23 CPU Hours |
| • User Disk allocation | Turing: 51.25 GB Years | Fermat: 28.64 GB Years |
| • HSM/tape usage | 344.02 GB Years | |

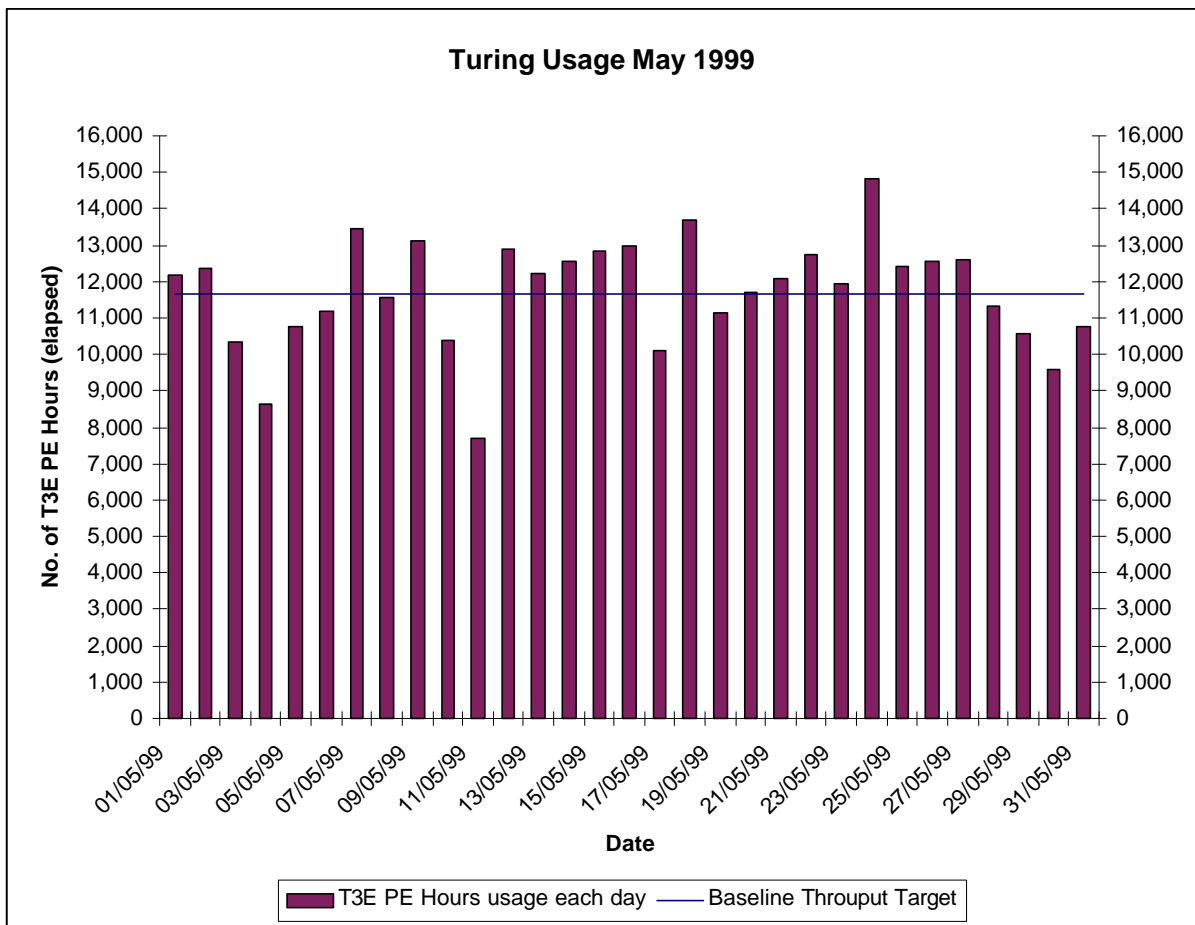
In addition, the following graphs are provided to illustrate usage per month, historically:

- MPP (T3E) Usage by month, showing usage each month of CPU (T3E PE Elapsed Hours), split by Research Council and giving the equivalent GFLOP-Years as per NPB. The Baseline Capacity (103 GFLOP-Years) is shown by an overlaid horizontal line.
- 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 (3.5 GFLOP-Years) is shown by an overlaid horizontal line.
- 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.
- 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.
- 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 May 1999. 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 12 hour limit on jobs, so that they are check-pointed, and computational time lost due to any failure is well managed.

Turing usage for May:

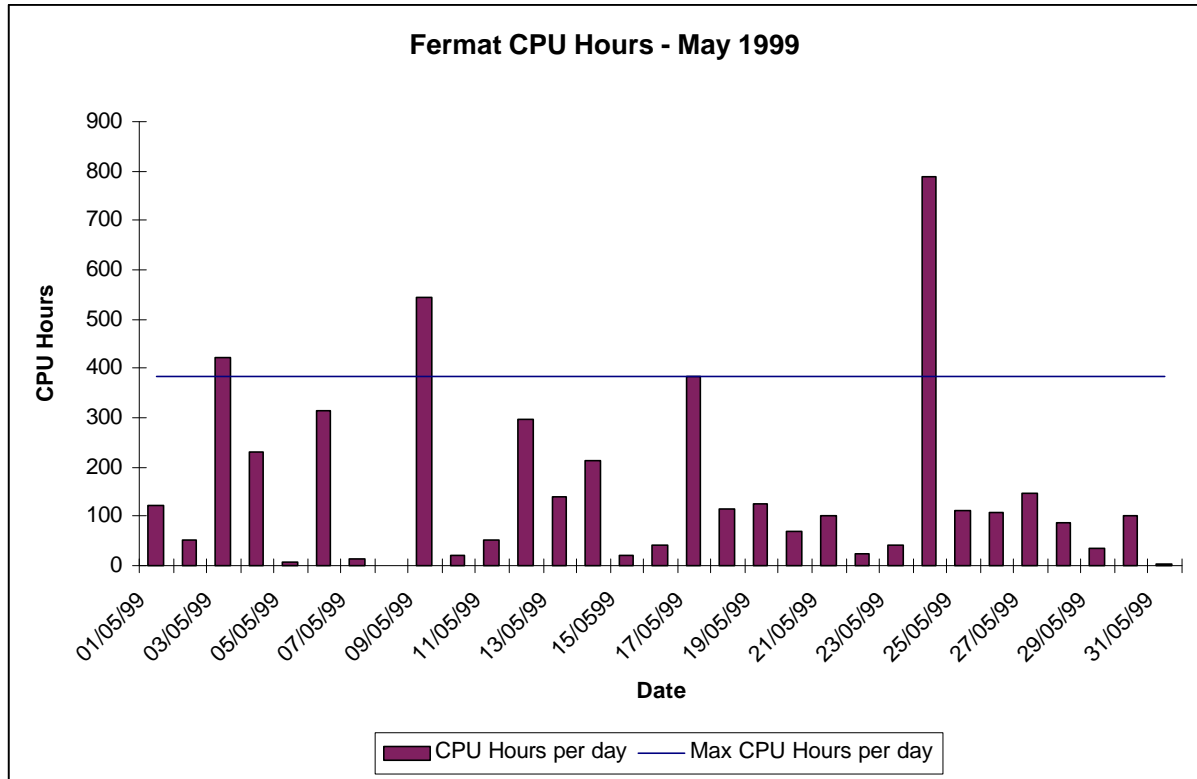


The above usage graph for the Turing system shows that the overall workload was variable.

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.

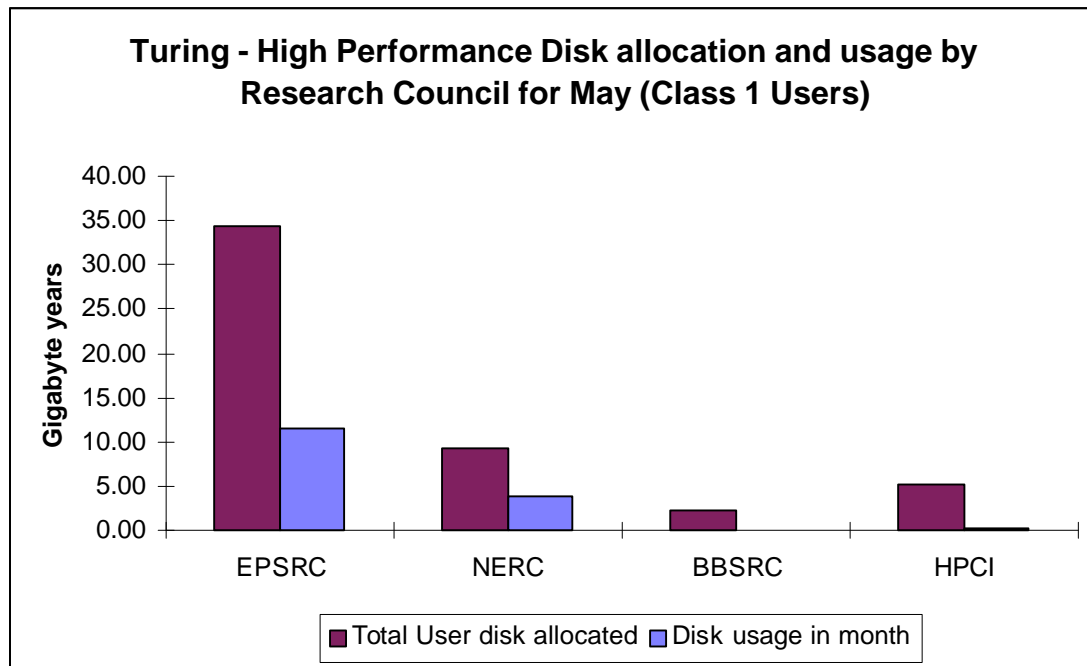
4.2 SGi Origin2000 System (Fermat)

The usage of the Origin system was good for the month with the daily usage of the system averaging 39% of theoretical maximum. This figure does not show that in some periods CPU time is running at 99.9% of the total available CPU time. The groups most heavily using the Fermat system are CSE002, CSE009 and also CS2003.

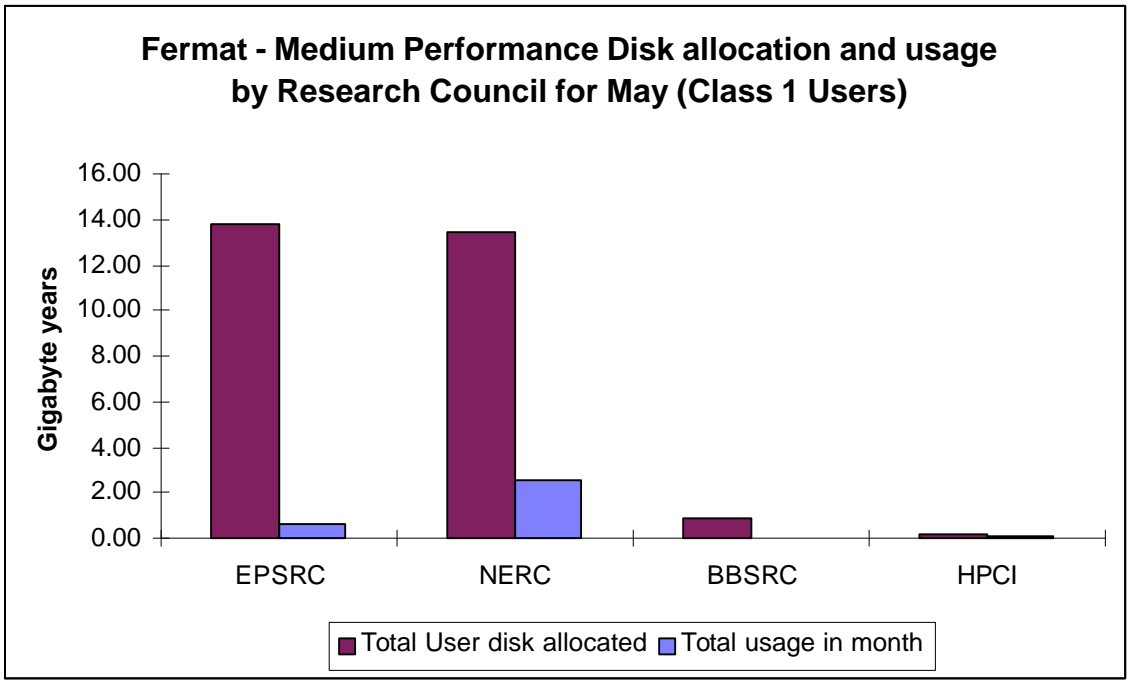


4.3 Disk/HSM Usage Charts

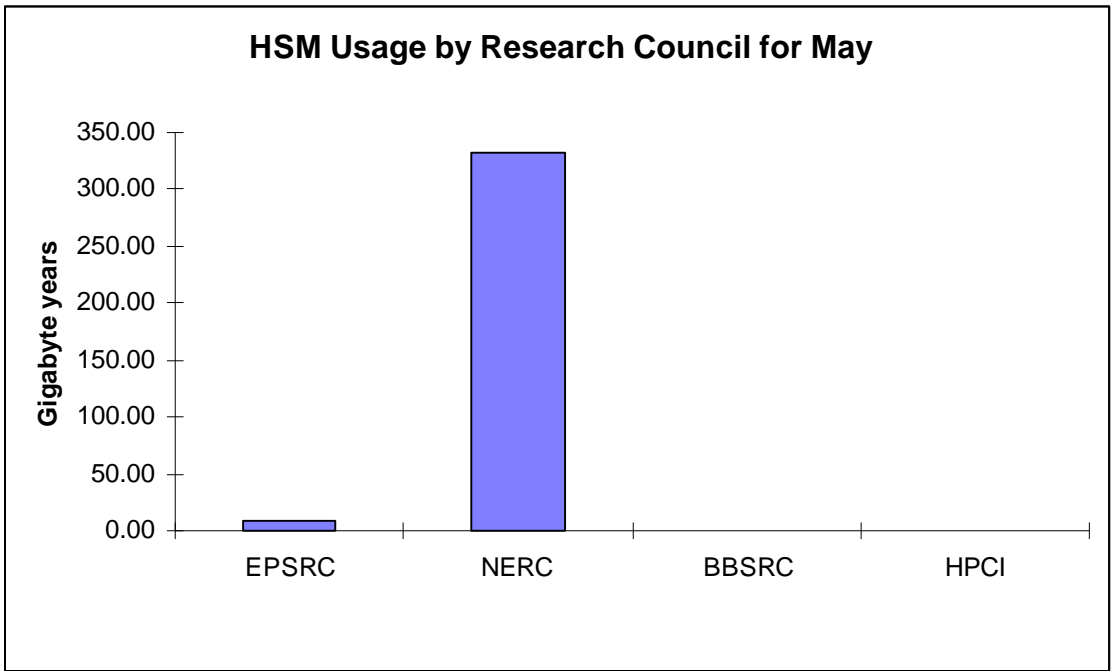
The graphs below show current disk and HSM allocations and usage.



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

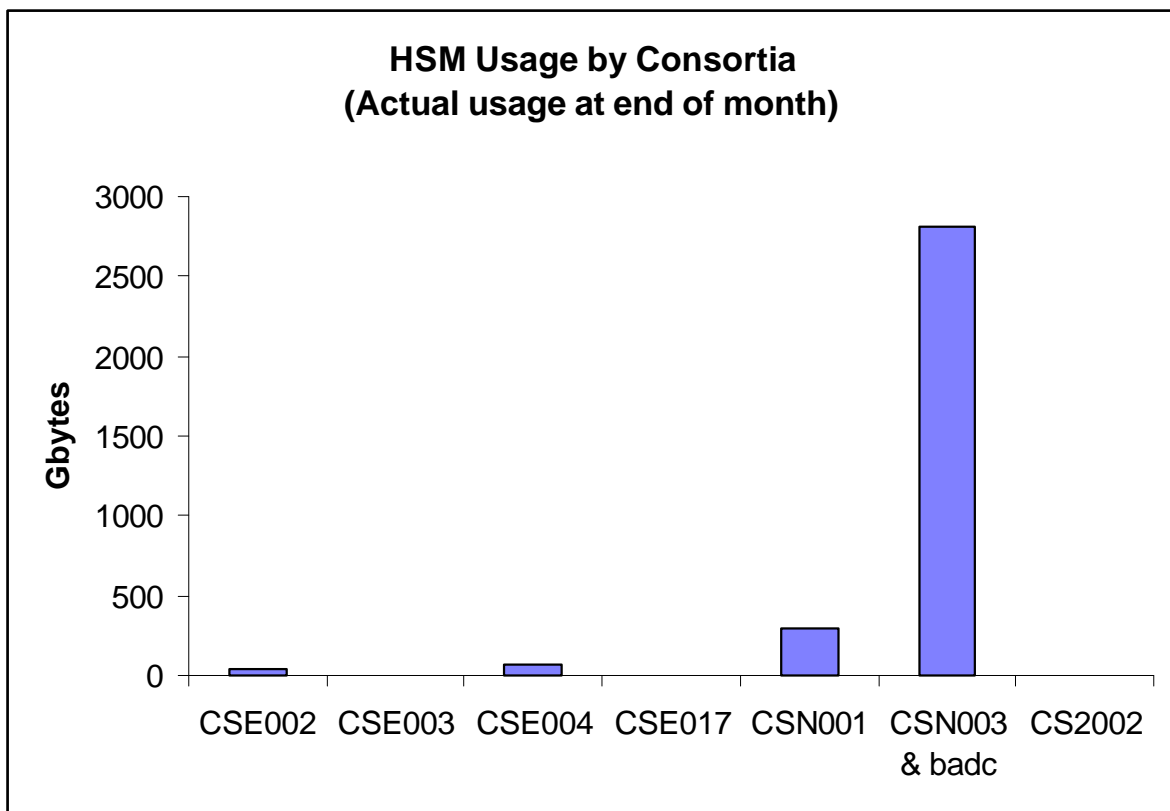
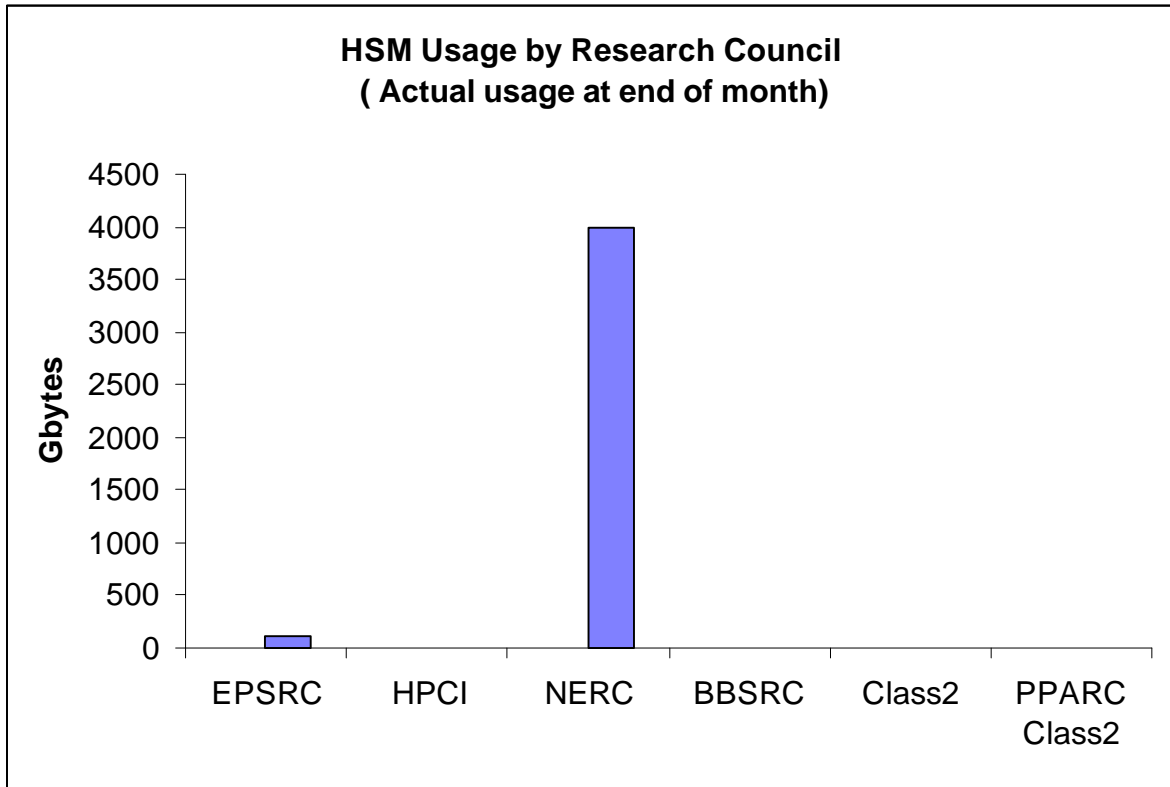


The above graph shows the disk allocations against usage on average of the disk on Fermat.

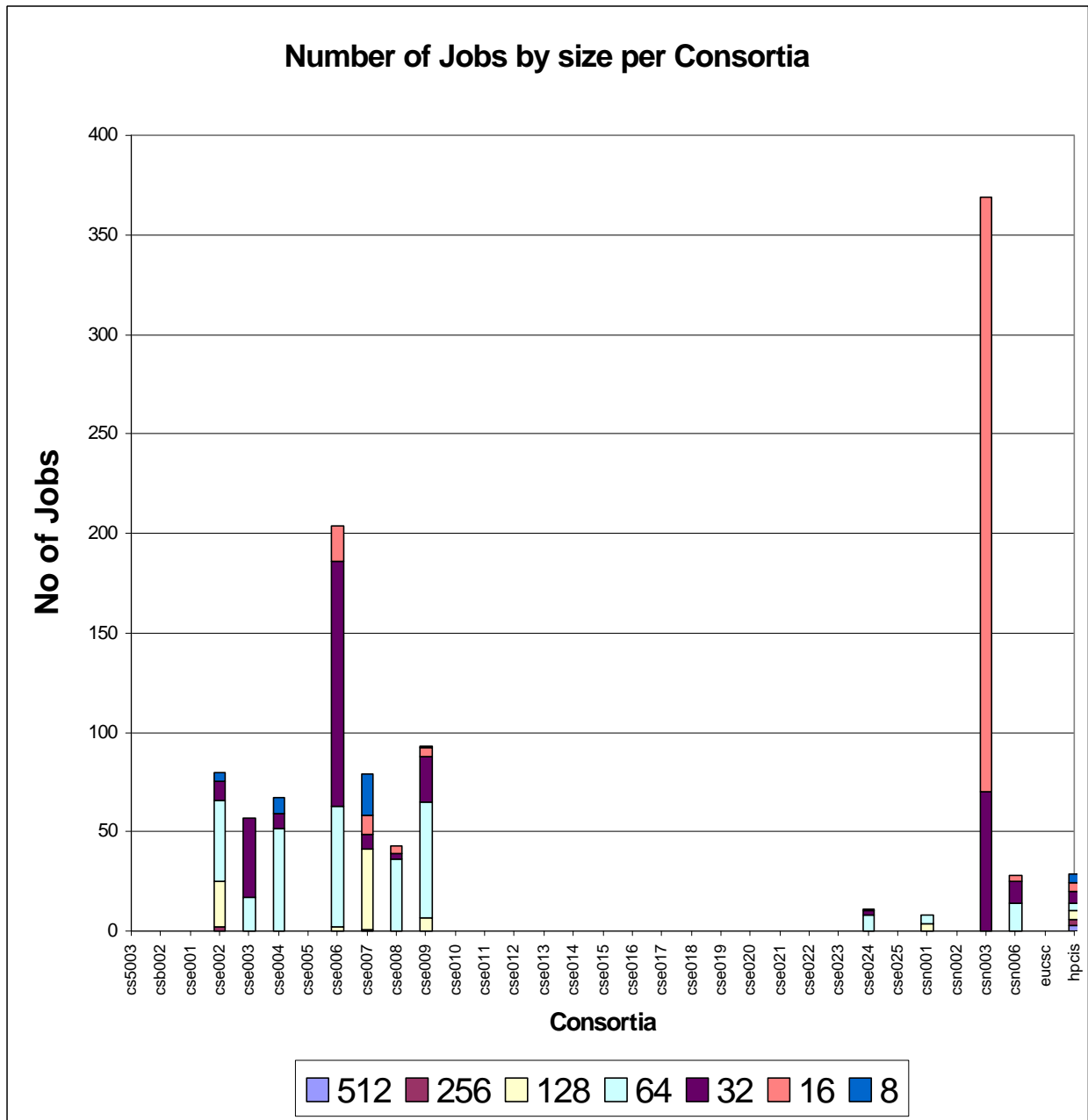


The above graph shows the total usage of the HSM facility by Research Council.

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

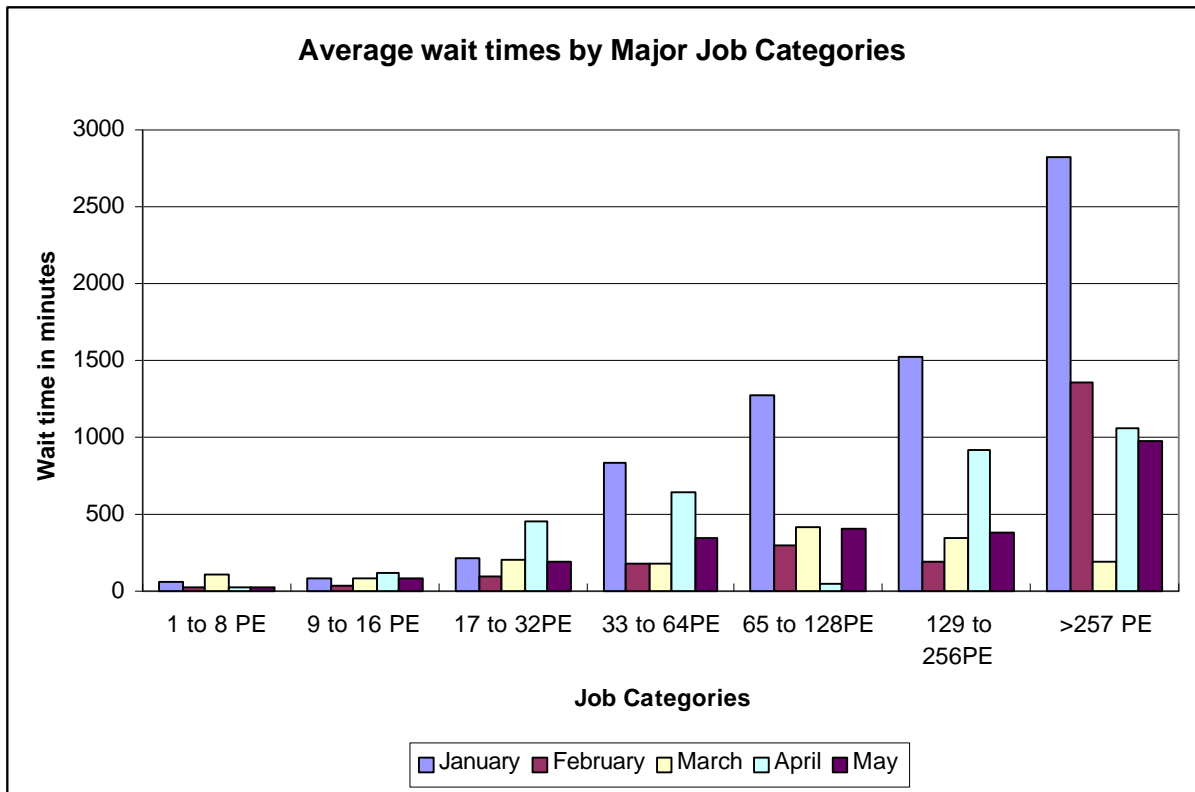


Job statistics for Turing:

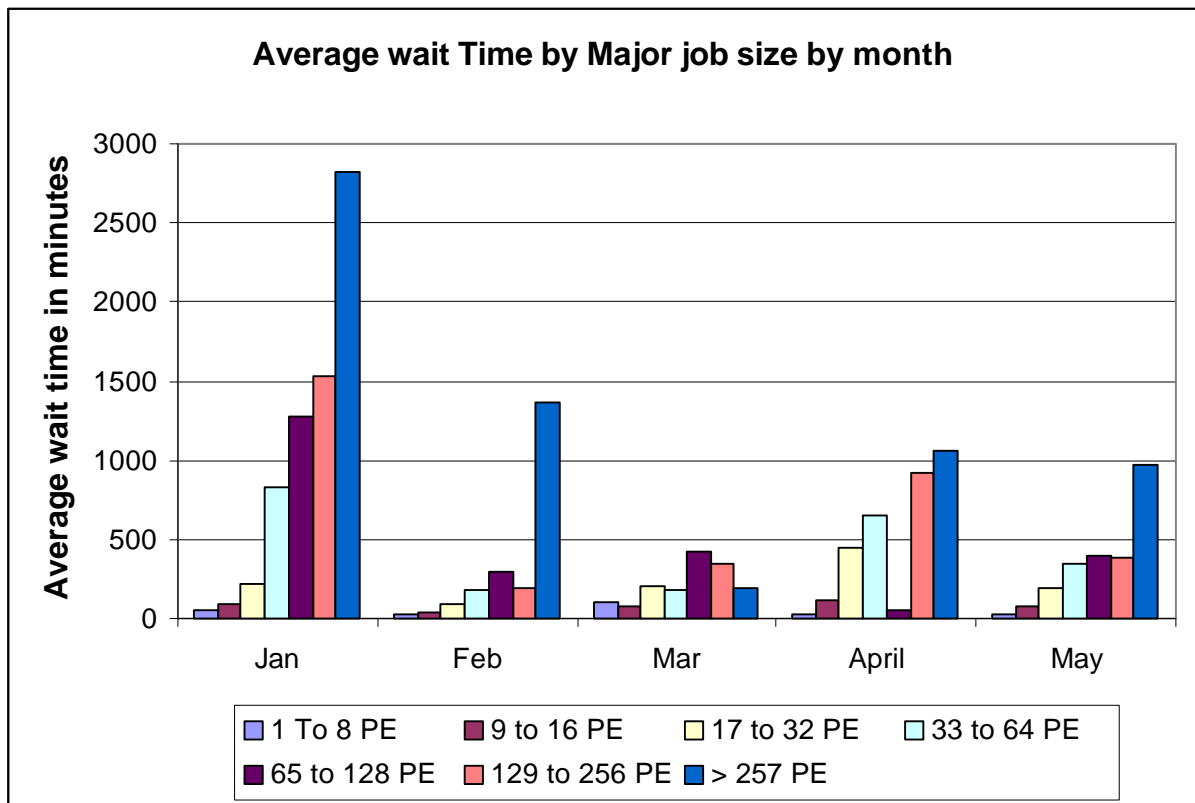


The above graph shows the number of jobs of the major sizes run in the period 1st to 31st May 1999.

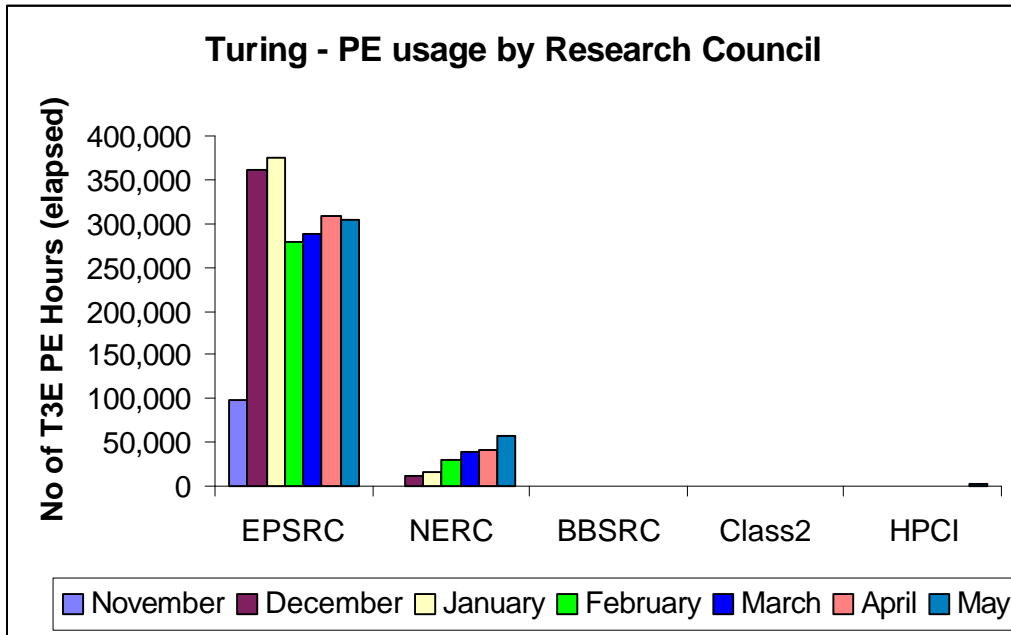
The next graph shows the wait times in minutes for the major categories of jobs.



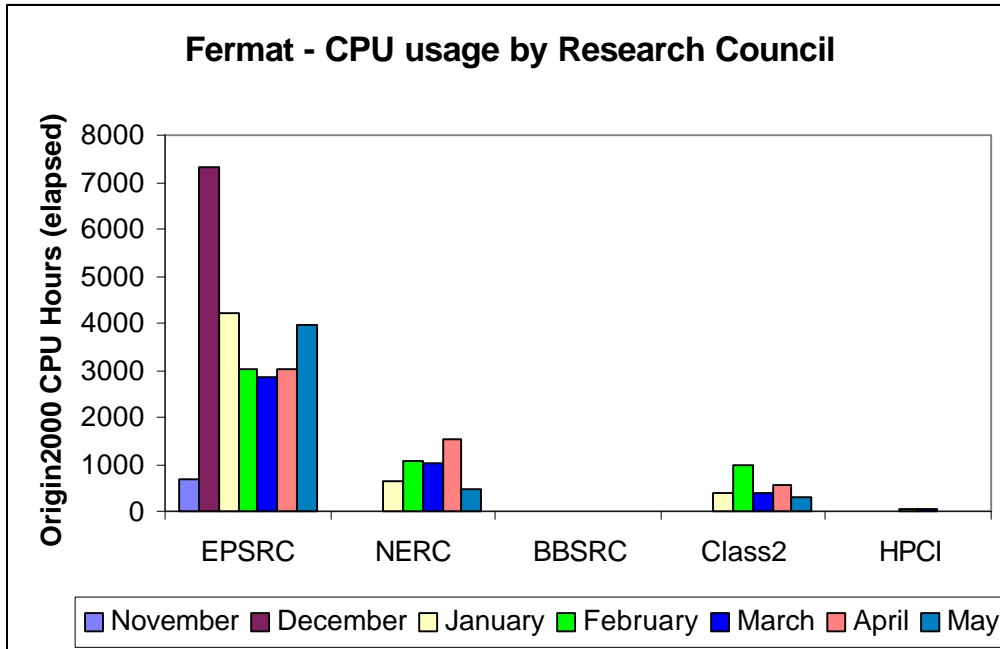
The above chart shows the average wait time trend over the months from January to date.



It can be seen from the above graph that enhancements to the scheduling on Turing have reduced the average wait times however attention must be paid to ensure sufficient head room exists in the system to prevent wait times from rising.



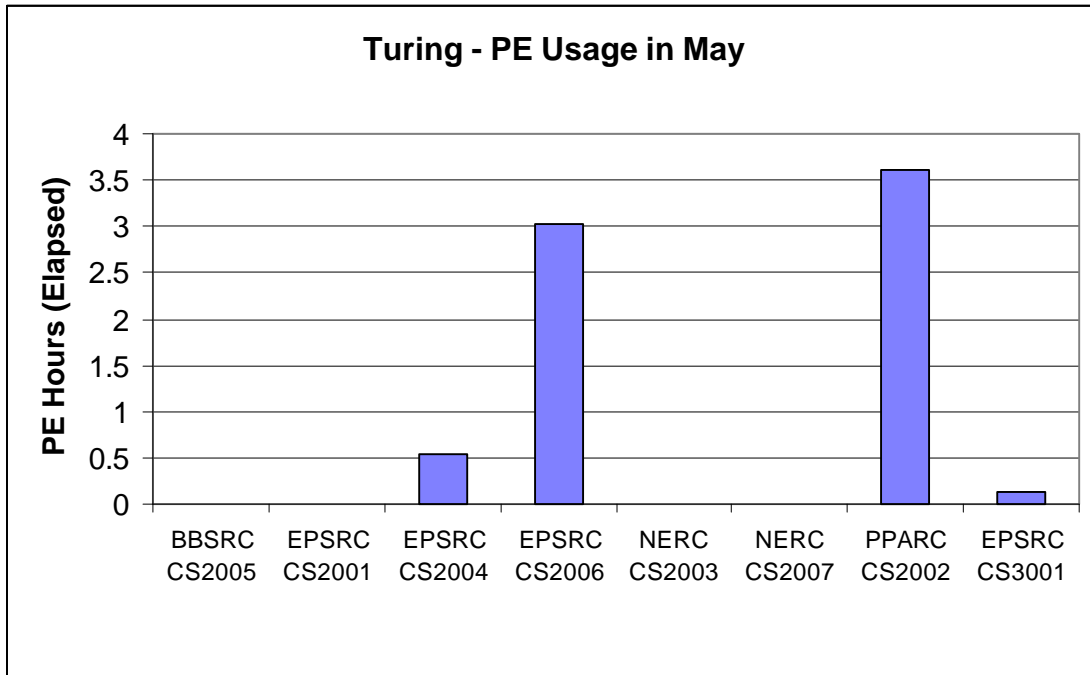
Turing PE usage is shown by Research Council during the months of service to date in the above chart.



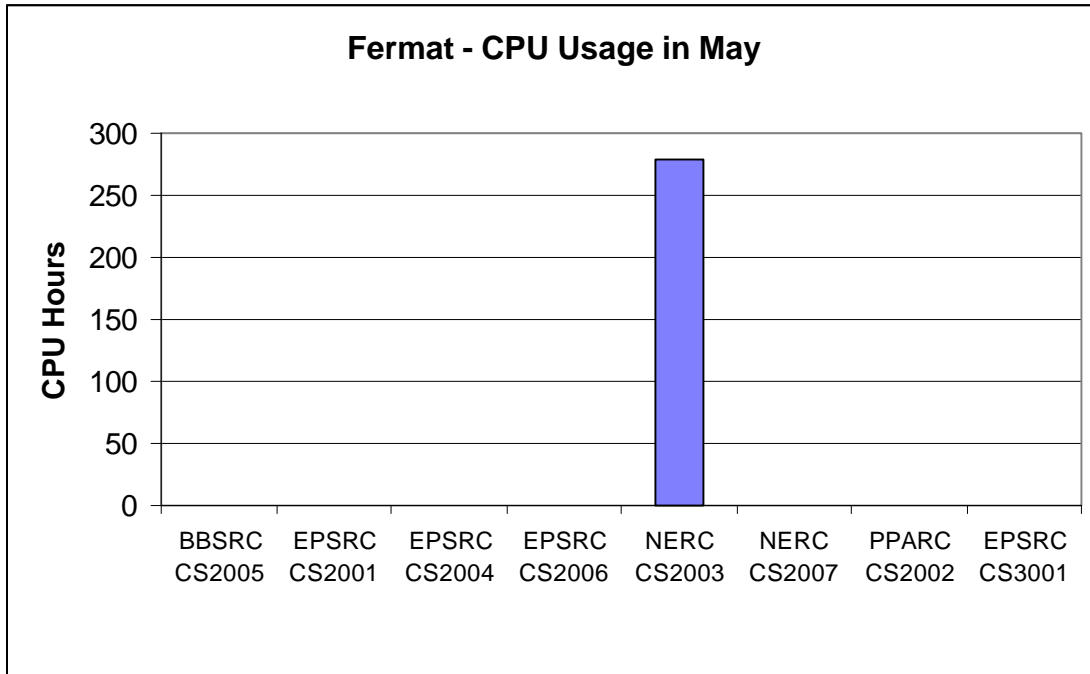
Origin 2000 CPU usage is shown by Research Council during the months of service to date in the above chart.

4.4 Class 2 & 3 Usage Charts

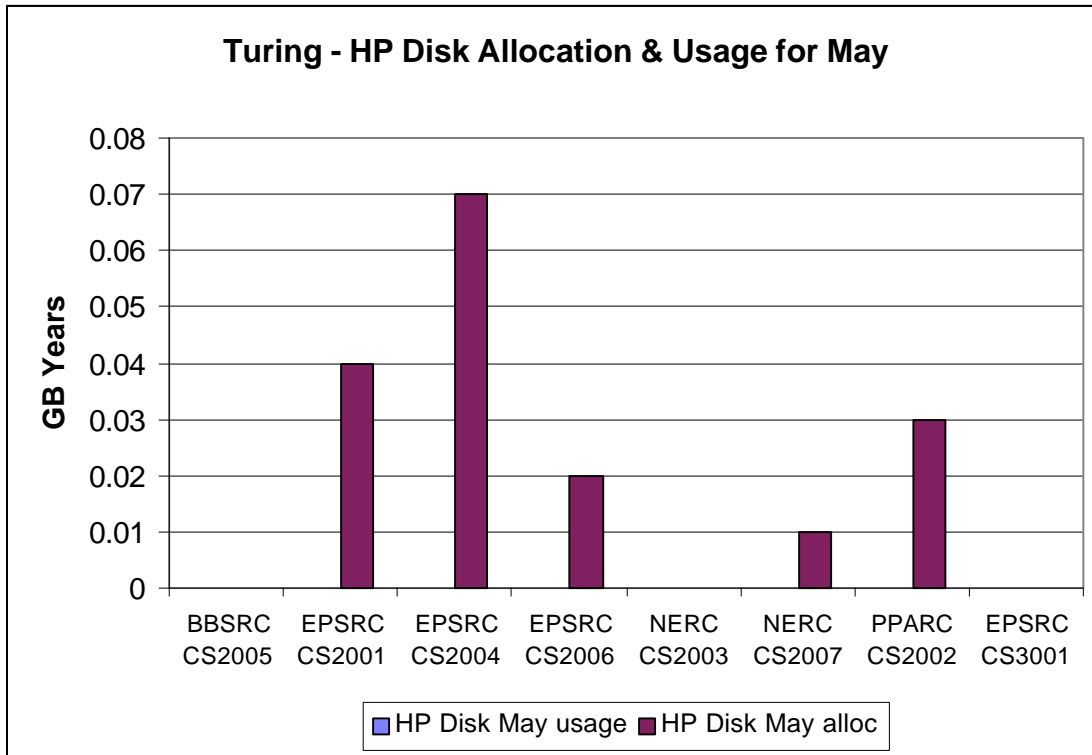
The next series of charts show the usage of the system by the class 2 & class 3 users. The usage is shown by project and identifies the Research Council of the individual projects.



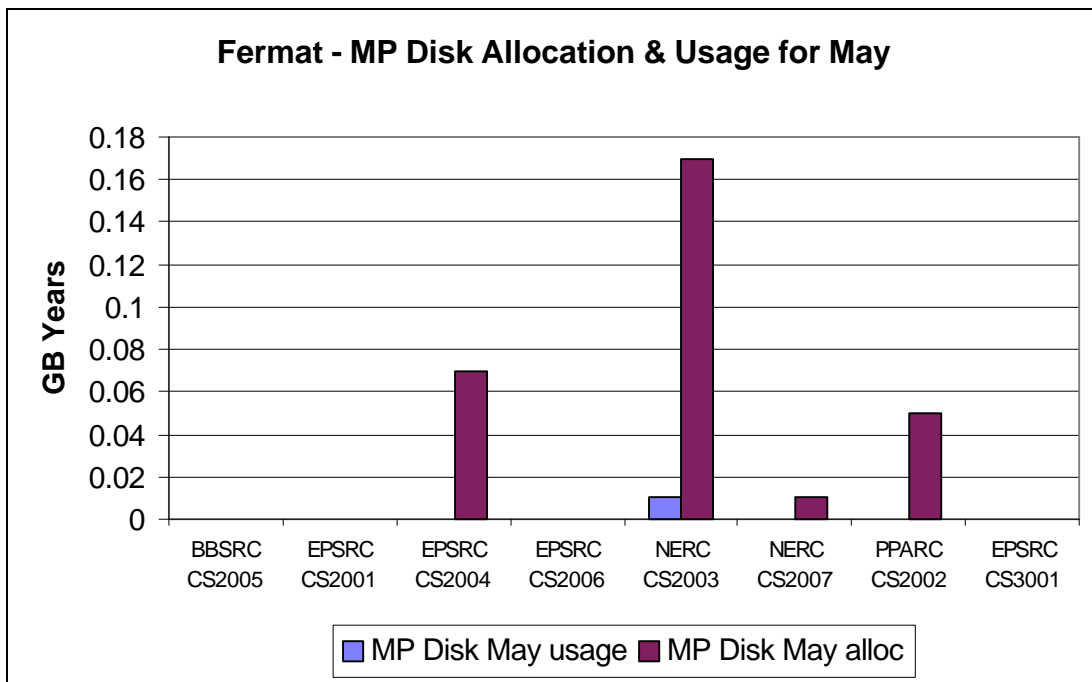
The above chart shows the PE usage of the Turing system.



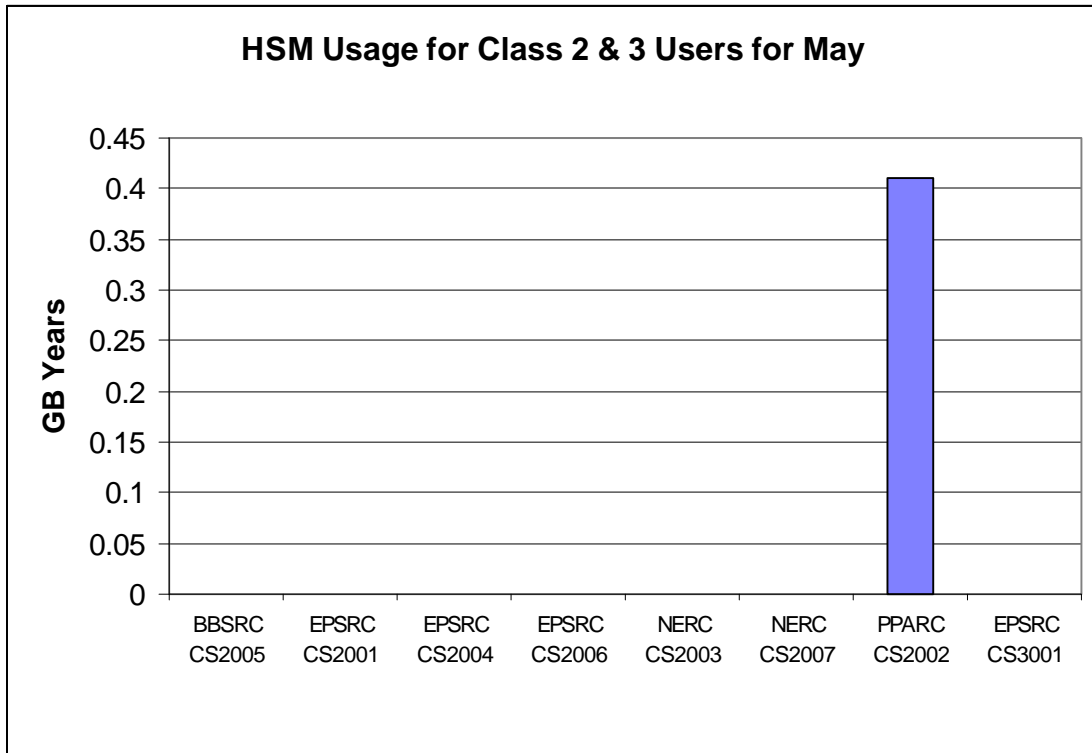
The above chart shows the CPU usage of the Fermat system.



The above chart shows the disk allocations on the Turing system.



The above chart shows the disk allocations on the Fermat system.

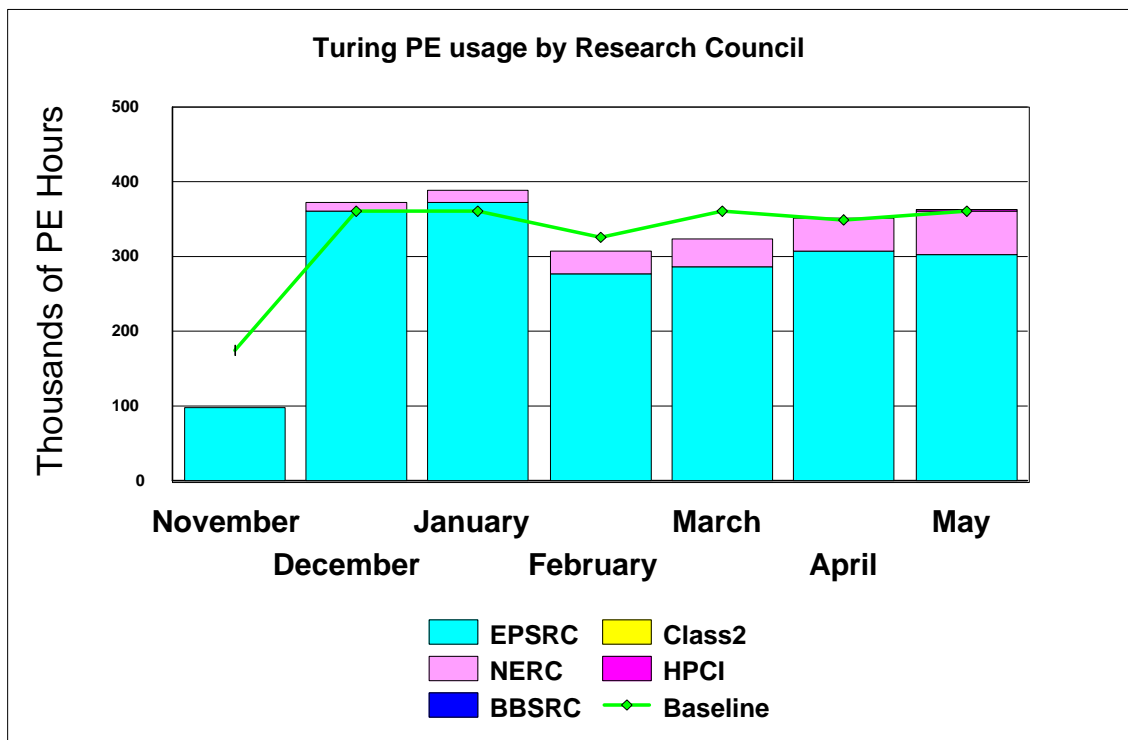


The above chart shows the HSM usage.

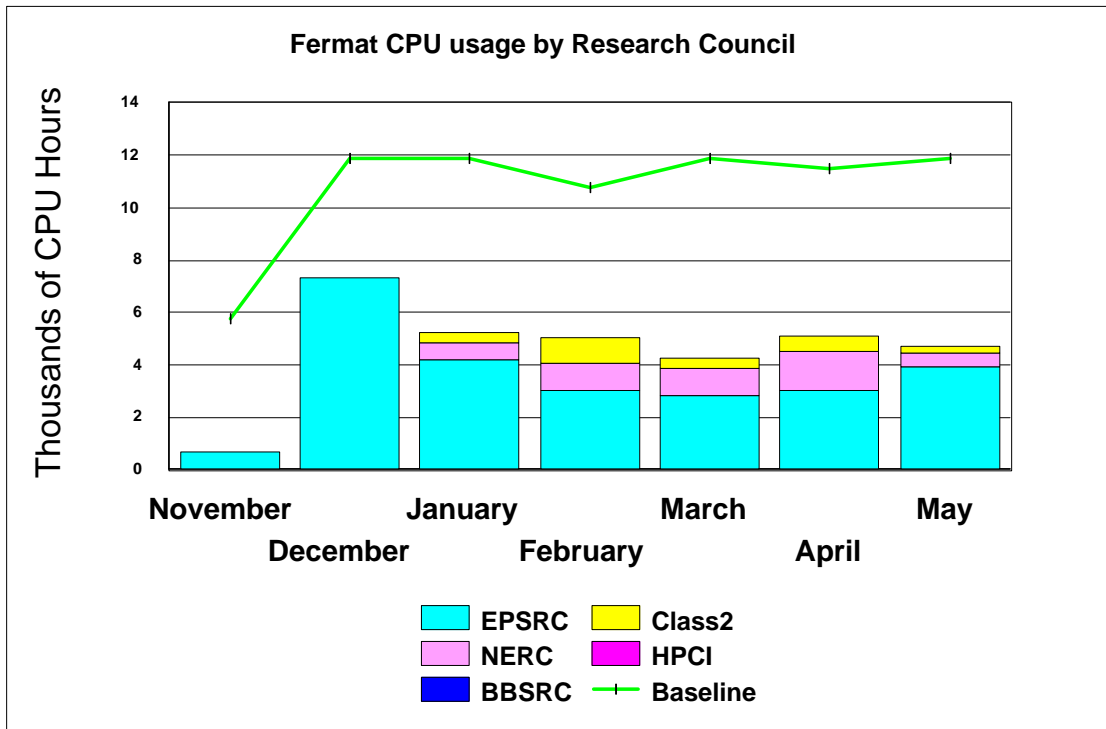
4.5 Charts Historical Usage

In all the Usage Charts, the baseline varies dependant on the number of days in each month, within a 365-day year. The reduced Baseline in November 1998 represents half a month.

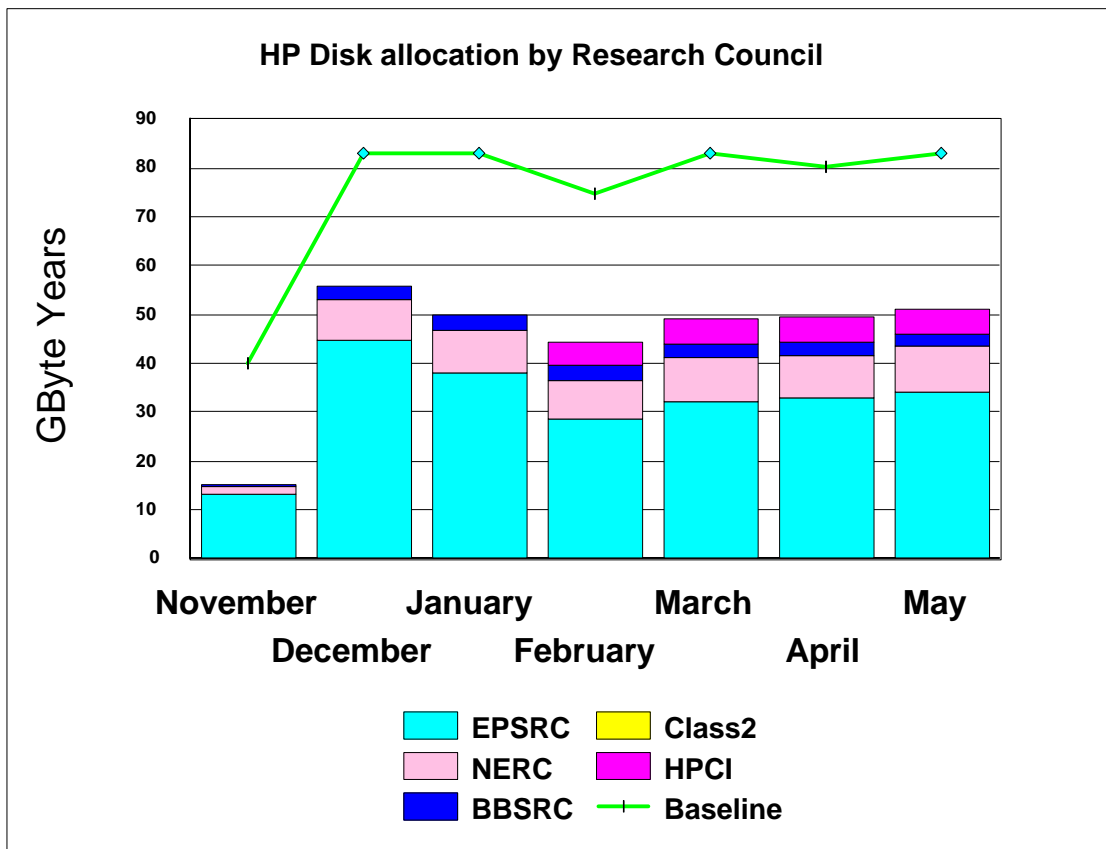
The graph below shows the PE hour's utilisation on Turing by Research Council from November 1998.



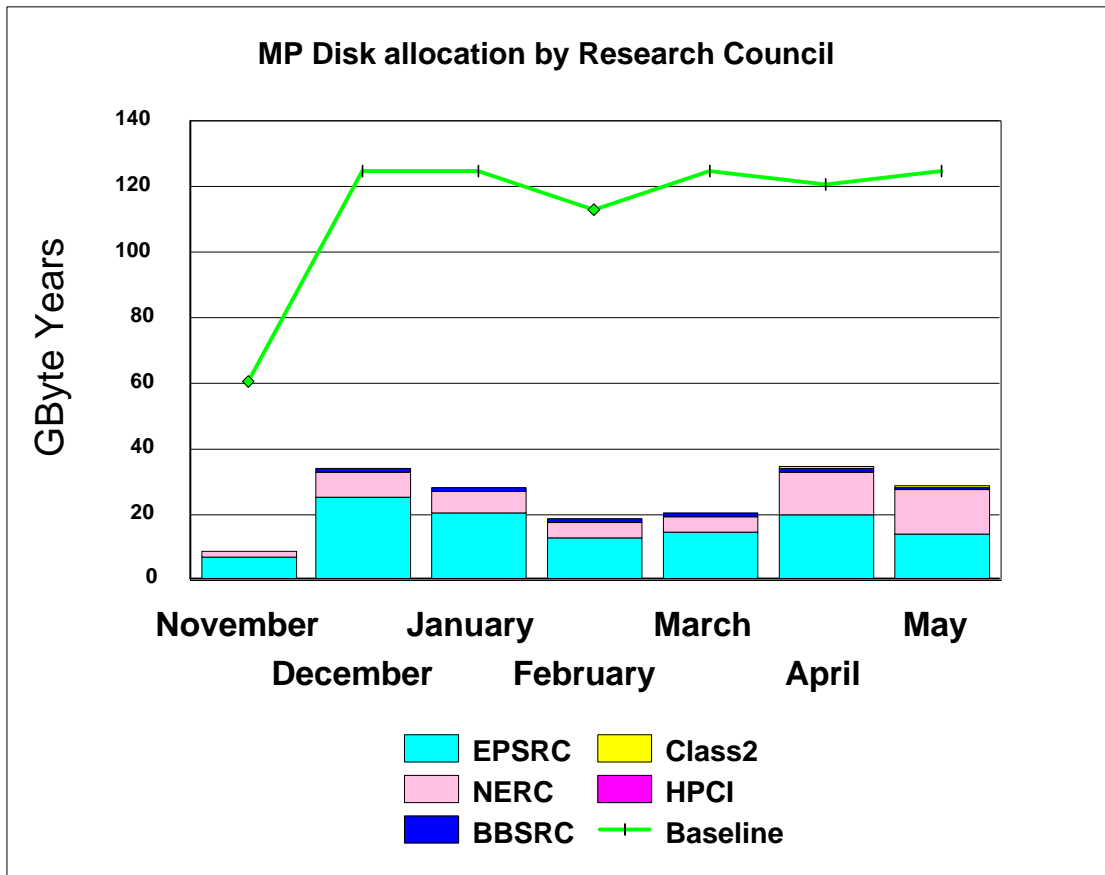
The graph below shows the historic CPU usage on Fermat by Research Council from November.



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

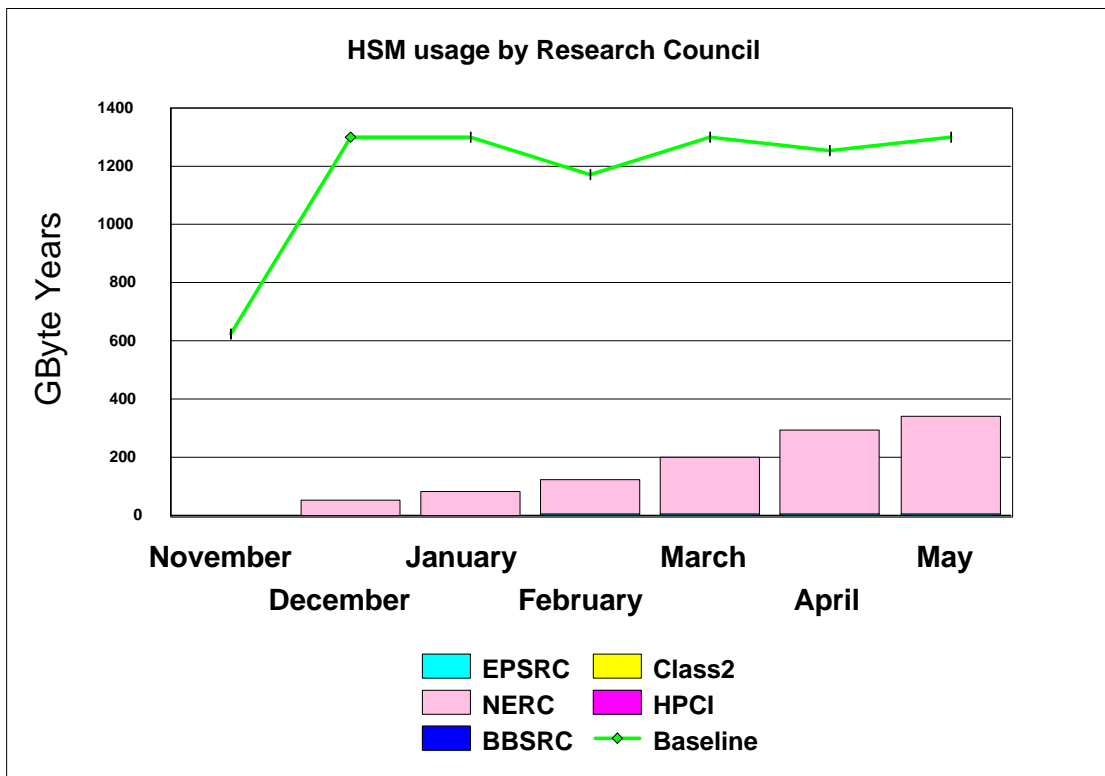


The preceding graph illustrates the historic allocation of the High Performance Disk on Turing.



The graph above illustrates the historic allocation of the Medium Performance Disk on Fermat.

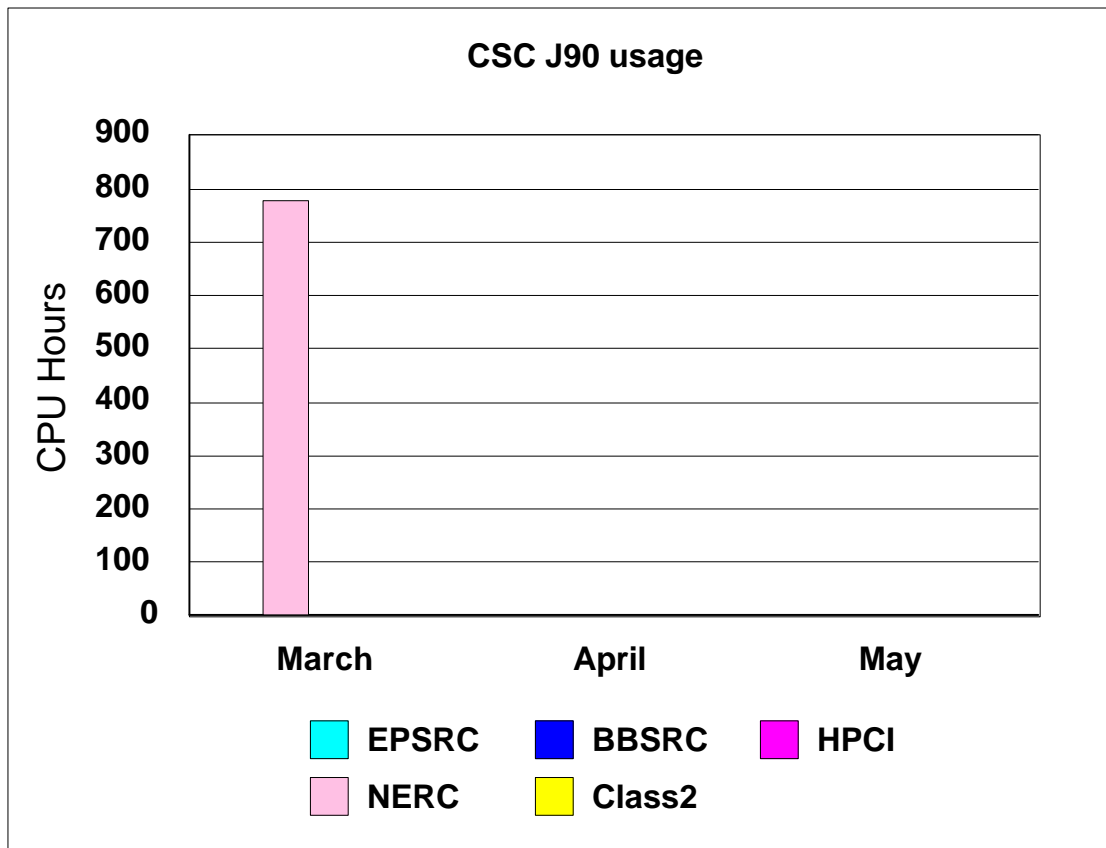
The graph below shows the historic HSM usage by Research Council funded projects. The primary usage is for NERC.



4.5 Guest System Usage Charts

The following graph shows the CPU usage on the current two available CSAR guest systems.

The Fujitsu usage graph has not been included this month due to an error in the basic accounting that is currently under investigation by Fujitsu.



The usage on the CSCJ90 guest system was just over one hour during this period, as indicated by the above graph.

5. Service Status, Issues and Plans

5.1 Status

The system this month suffered three unscheduled periods of down time, all due to PE failures. The baseline throughput target was again achieved.

5.2 Issues

There have been some major ATM issues on the local Manchester ATM network which did cause access problems, however this had no effect on batch work. These ATM issues have now been resolved.

Manchester networks are now investigating the possibility of utilising GIGABIT networking technology.

5.3 Plans

It is planned to upgrade the operating systems of both Fermat and Turing during the course of June. These upgrades are to provide additional functionality to both systems.

6. Conclusion

May 1999 saw the overall CPARS rating returning to green after last month's yellow rating, with the Baseline Capacity for job throughput again being achieved.

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 May 1999

Appendix 2 contains the Percentage shares by Consortium for May 1999

Appendix 3 contains the Percentage shares by Research Council for May 1999

Appendix 4 contains the Training and support figures to the end of May 1999

Appendix 1

CfS Supercomputer Service
Usage report for Research Council Projects

From Saturday 1-May-99 to Monday 31-May-99

Account		----- CPU Usage (Hours) -----				--- Storage (GB-Years) ---			
		Inter	Priority	Normal	Low	Total	D-Usage	D-Allocn	HSM
CSE001 Admin users	turing	-	-	-	-	-	0.00	0.01	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject									
EPSRC Administration	turing	-	-	-	-	-	0.00	0.01	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE002 gr/m01753 Gillan	turing	24.90	280.47	15095.96	-	15401.32	5.62	10.41	-
	fermat	1381.12	-	-	-	1381.12	0.27	5.31	3.88
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE003 gr/m01784 Taylor	turing	183.85	93.07	2905.69	-	3182.61	0.67	1.34	-
	fermat	7.33	-	-	-	7.33	0.01	0.13	0.25
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE007 gr m05348 Foulkes	turing	9.00	0.73	52659.24	-	52668.97	0.20	0.51	-
	fermat	-	-	-	-	-	0.00	0.30	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
cse021 GR/L95427 Staunton	turing	0.02	-	168.11	-	168.13	0.00	0.08	-
	fermat	-	-	-	-	-	0.00	0.08	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE025 GR/L22331 Bishop	turing	0.05	-	-	-	0.05	0.00	0.04	-
	fermat	-	-	-	-	-	0.00	0.04	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE030 GR/M56234 Cates	turing	7.76	1210.85	1.25	-	1219.87	0.05	0.42	-
	fermat	4.15	-	-	-	4.15	0.00	0.42	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject									
Physics	turing	225.58	1585.12	70830.24	-	72640.94	6.54	12.82	-
	fermat	1392.60	-	-	-	1392.60	0.28	6.28	4.14
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE006 gr/m05201 Briddon	turing	566.53	-	68822.43	-	69388.96	0.14	0.42	-
	fermat	-	-	-	-	-	0.00	0.01	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject									
Materials	turing	566.53	-	68822.43	-	69388.96	0.14	0.42	-
	fermat	-	-	-	-	-	0.00	0.01	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-

Cfs Supercomputer Service

Account			----- CPU Usage (Hours) -----				--- Storage (GB-Years) ---			
			Inter	Priority	Normal	Low	Total	D-Usage	D-Alloca	HSM
CSE004	gr/m08424	Sandham	178.98	-	76496.48	-	76675.46	2.32	3.52	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.21	2.97	5.33
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
CSE010	gr/l04108	Williams	-	-	-	-	-	0.00	0.00	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	0.00	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
CSE011	gr/k52317	Williams	0.55	-	24133.12	-	24133.67	0.66	3.40	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	0.00	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
cse013	gr/k43902	Leschzine	-	-	-	-	-	0.00	0.44	-
		turing	-	-	-	-	-	-	-	-
		fermat	6.80	-	-	-	6.80	0.00	0.44	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
cse014	GR/K73466	Goddard	-	-	-	-	-	0.00	0.09	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	-	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
CSE016	GR/K96519	Cant	-	-	-	-	-	0.00	0.00	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	0.00	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
cse017	GR/L58699	Luo	-	-	-	-	-	0.16	0.29	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.02	0.17	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
cse018	GR/L68353	Cant	-	-	-	-	-	0.00	0.00	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	0.00	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
cse022	GR/L98527	Jones	-	-	-	-	-	0.02	0.85	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	-	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
CSE029	GR/L58804	Leschzine	-	-	-	-	-	0.00	0.04	-
		turing	-	-	-	-	-	-	-	-
		fermat	6.95	-	-	-	6.95	0.00	0.04	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
Total for Subject Engineering			179.53	-	100629	-	100809	3.16	8.62	-
		turing	-	-	-	-	-	-	-	-
		fermat	13.75	-	-	-	13.75	0.23	3.63	5.33
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
CSE008	GR/M07624	Hillier	1.80	0.80	15844.32	-	15846.93	0.02	0.07	-
		turing	-	-	-	-	-	-	-	-
		fermat	-	-	-	-	-	0.00	0.00	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-
CSE009	gr/m07441	Catlow	312.45	1645.52	40993.75	-	42951.72	1.64	6.79	-
		turing	2563.25	-	-	-	2563.25	0.01	0.85	-
		fermat	-	-	-	-	-	-	-	-
		fuji	-	-	-	-	-	-	-	-
		CSCJ90	-	-	-	-	-	-	-	-

CfS Supercomputer Service

Account		----- CPU Usage (Hours) -----					--- Storage (GB-Years) ---		
		Inter	Priority	Normal	Low	Total	D-Usage	D-Allocn	HSM
cse024 GR/M44453 Tennyson	turing	30.52	1226.12	960.12	-	2216.75	0.07	2.97	-
	fermat	0.05	-	-	-	0.05	0.10	2.97	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject	turing	344.77	2872.44	57798.19	-	61015.40	1.73	9.84	-
Chemistry	fermat	2563.30	-	-	-	2563.30	0.11	3.82	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE019 cr/173104 Berzins	turing	0.00	-	-	-	0.00	0.02	0.08	-
	fermat	-	-	-	-	-	0.00	0.08	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE020 GR/L75139 Szularz	turing	27.17	-	-	-	27.17	0.01	-	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject	turing	27.18	-	-	-	27.18	0.03	0.08	-
Information Technology	fermat	-	-	-	-	-	0.00	0.08	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSE034 gr/m78342 Durham	turing	-	-	-	-	-	0.00	0.05	-
	fermat	-	-	-	-	-	-	0.05	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject	turing	-	-	-	-	-	0.00	0.05	-
Mathematics	fermat	-	-	-	-	-	-	0.05	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council	turing	1343.59	4457.56	298080	-	303881	11.60	31.84	-
EPSRC	fermat	3969.65	-	-	-	3969.65	0.63	13.88	9.46
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
HPCI Southampton	turing	3.34	0.00	616.70	-	620.04	0.19	5.10	-
	fermat	5.27	-	-	-	5.27	0.10	0.08	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
HPCI Daresbury	turing	29.35	1205.95	70.90	-	1306.19	0.04	0.08	-
	fermat	0.08	-	-	-	0.08	0.00	0.08	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
HPCI Edinburgh	turing	0.30	-	-	-	0.30	0.00	0.08	-
	fermat	1.10	-	-	-	1.10	0.01	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council	turing	32.99	1205.95	687.60	-	1926.53	0.23	5.27	-
HPCI	fermat	6.45	-	-	-	6.45	0.11	0.17	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-

CfS Supercomputer Service

Account		----- CPU Usage (Hours) -----				--- Storage (GB-Years) ---			
		Inter	Priority	Normal	Low	Total	D-Usage	D-Allocn	HSM
CSN001 SOC Core Strategic	turing	0.80	-	8053.39	-	8054.20	2.07	4.25	-
	fermat	433.45	-	-	-	433.45	0.22	4.25	24.23
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSN002 gr3.10789 Hillier	turing	-	-	-	-	-	0.00	0.00	-
	fermat	-	-	-	-	-	-	0.00	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
badc	turing	-	-	-	-	-	-	-	-
	fermat	10.40	-	-	-	10.40	2.25	-	80.21
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSN003 UGAMP O'Neill	turing	12.96	76.67	30088.73	1017.60	31195.95	0.53	0.85	-
	fermat	37.97	-	-	-	37.97	0.05	9.16	227.86
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	0.13	1.09	-	-	1.22	-	-	-
CSN005 GR9/2909 Davies	turing	1.55	-	3347.04	-	3348.59	0.93	1.44	-
	fermat	-	-	-	-	-	0.00	0.00	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSN006 GR9/3550 Price	turing	102.68	-	3133.19	-	3235.87	0.27	2.29	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSN007 GST/02/1454 Price	turing	9.45	-	11449.95	-	11459.40	0.07	0.34	-
	fermat	-	-	-	-	-	0.00	0.00	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSN009 GST/02/1472 Proctor	turing	-	-	-	-	-	0.00	0.05	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSN011 GST/02/1889 Thorpe	turing	0.10	-	22.45	-	22.55	0.05	0.06	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council NERC	turing	127.55	76.67	56094.75	1017.60	57316.55	3.92	9.28	-
	fermat	481.82	-	-	-	481.82	2.53	13.41	332.30
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	0.13	1.09	-	-	1.22	-	-	-
CSB001 27/B07117 Goodfello	turing	0.00	-	-	-	0.00	0.00	1.02	-
	fermat	-	-	-	-	-	0.00	0.92	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSB002 86/B10059 Danson	turing	0.05	-	-	-	0.05	0.02	1.14	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CSB003 117/S09645 Williams	turing	0.00	-	-	-	0.00	0.01	0.03	-
	fermat	-	-	-	-	-	0.00	0.00	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council BBSRC	turing	0.06	-	-	-	0.06	0.03	2.19	-
	fermat	-	-	-	-	-	0.00	0.92	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-

Account		----- CPU Usage (Hours) -----				--- Storage (GB-Years) ---			
		Inter	Priority	Normal	Low	Total	D-Usage	D-Allocn	HSM
cs2001 CompApps3D Jain	turing	0.00	-	0.01	-	0.01	0.00	0.04	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CS2004 ICE Watkins	turing	0.55	-	-	-	0.55	0.00	0.07	-
	fermat	0.68	-	-	-	0.68	0.00	0.07	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CS2006 AISSM Temmerman EPS	turing	3.03	-	-	-	3.03	0.00	0.02	-
	fermat	-	-	-	-	-	0.00	0.00	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council EPSRC Class2	turing	3.58	-	0.01	-	3.59	0.01	0.13	-
	fermat	0.68	-	-	-	0.68	0.00	0.07	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
cs2003 GST/02/0760 Coultha	turing	-	-	-	-	-	-	-	-
	fermat	278.33	-	-	-	278.33	0.01	0.17	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CS2007 SNOW Choularton NER	turing	0.00	-	-	-	0.00	0.00	0.01	-
	fermat	-	-	-	-	-	0.00	0.01	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council NERC Class2	turing	0.00	-	-	-	0.00	0.00	0.01	-
	fermat	278.33	-	-	-	278.33	0.01	0.18	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CS2005 ISAAG Walsh BBSRC	turing	0.00	-	-	-	0.00	0.00	-	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council BBSRC Class2	turing	0.00	-	-	-	0.00	0.00	-	-
	fermat	-	-	-	-	-	0.00	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CS2002 PTMP Lyne	turing	3.62	0.00	-	-	3.62	0.00	0.03	-
	fermat	0.30	-	-	-	0.30	0.00	0.05	0.41
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council PPARC Class2	turing	3.62	0.00	-	-	3.62	0.00	0.03	-
	fermat	0.30	-	-	-	0.30	0.00	0.05	0.41
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
CS3001 Stavely	turing	0.06	-	0.07	-	0.14	0.00	0.00	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council EPSRC Class3	turing	0.06	-	0.07	-	0.14	0.00	0.00	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-

CfS Supercomputer Service

Account		----- CPU Usage (Hours) -----				--- Storage (GB-Years) ---			
		Inter	Priority	Normal	Low	Total	D-Usage	D-Allocn	HSM
euukcp	turing	-	-	-	-	-	1.10	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
eugamp	turing	0.00	-	-	-	0.00	0.05	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
euqub	turing	-	-	-	-	-	0.00	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
euocam	turing	-	-	-	-	-	0.14	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
euqmw	turing	-	-	-	-	-	2.85	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
euhpci	turing	-	-	-	-	-	0.19	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
euston	turing	-	-	-	-	-	0.03	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
eural	turing	-	-	-	-	-	1.92	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
eubbk	turing	-	-	-	-	-	0.08	-	-
	fermat	-	-	-	-	-	-	-	-
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
earlyu	turing	-	-	-	-	-	-	-	-
	fermat	-	-	-	-	-	0.11	-	1.84
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Subject eu accounts	turing	0.06	-	0.07	-	0.14	6.35	0.00	-
	fermat	-	-	-	-	-	0.11	-	1.84
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-
Total for Council Research	turing	0.06	-	0.07	-	0.14	6.35	0.00	-
	fermat	-	-	-	-	-	0.11	-	1.84
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	-	-	-	-	-	-	-	-

CfS Supercomputer Service

Usage report for All Research Councils

From Saturday 1-May-99 to Monday 31-May-99

Account Total	----- CPU Usage (Hours) -----					--- Storage (GB-Years) ---			HSM
	Inter	Priority	Normal	Low	Total	D-Usage	D-Allocn		
Research Councils	turing	1511.45	5740.17	354862	1017.60	363132	22.14	48.75	-
	fermat	4737.23	-	-	-	4737.23	3.39	28.69	344.02
	fuji	-	-	-	-	-	-	-	-
	CSCJ90	0.13	1.09	-	-	1.22	-	-	-

Appendix 2

Percentage PE time per consortia for Turing in May 1999		Percentage CPU time per consortia for Fermat in May 1999	
Consortia	% Machine Time	Consortia	% Machine Time
CSE002	4.24	CSE002	29.15
CSE003	0.88	CSE003	0.15
CSE007	14.50	CSE007	0.00
CSE021	0.05	CSE021	0.00
CSE025	0.00	CSE025	0.00
CSE030	0.34	CSE030	0.09
CSE006	19.11	CSE006	0.00
CSE004	21.12	CSE004	0.00
CSE010	0.00	CSE010	0.00
CSE011	6.65	CSE011	0.00
CSE013	0.00	CSE013	0.14
CSE014	0.00	CSE014	0.00
CSE016	0.00	CSE016	0.00
CSE018	0.00	CSE018	0.00
CSE022	0.00	CSE022	0.00
CSE029	0.00	CSE029	0.15
CSE008	4.36	CSE008	0.00
CSE009	11.83	CSE009	54.11
CSE024	0.61	CSE024	0.00
CSE019	0.00	CSE019	0.00
CSE020	0.01	CSE020	0.00
HPCI Southampton	0.17	HPCI Southampton	0.11
HPCI Daresbury	0.36	HPCI Daresbury	0.00
HPCI Edinburgh	0.00	HPCI Edinburgh	0.02
CSN001	2.22	CSN001	9.15
CSN002	0.00	CSN002	0.00
BADC	0.00	BADC	0.22
CSN003	8.59	CSN003	0.80
CSN005	0.92	CSN005	0.00
CSN006	0.89	CSN006	0.00
CSN007	3.16	CSN007	0.00
CSN009	0.00	CSN009	0.00
CSN011	0.01	CSN011	0.00
CSB001	0.00	CSB001	0.00
CSB002	0.00	CSB002	0.00
CSB003	0.00	CSB003	0.00
CS2001	0.00	CS2001	0.00
CS2002	0.00	CS2002	0.01
CS2003	0.00	CS2003	5.88
CS2004	0.00	CS2004	0.01
CS2005	0.00	CS2005	0.00
CS2006	0.00	CS2006	0.00
CS2007	0.00	CS2007	0.00
CS3001	0.00	CS3001	0.00

Appendix 2

Percentage disc allocation by Consortia for Turing in May 1999		Percentage disc allocation by Consortia for Fermat in May 1999	
<u>Consortia</u>	<u>%Allocation</u>	<u>Consortia</u>	<u>%Allocation</u>
CSE002	20.31	CSE002	18.54
CSE003	2.61	CSE003	0.45
CSE007	1.00	CSE007	1.05
CSE021	0.16	CSE021	0.28
CSE025	0.08	CSE025	0.14
CSE030	0.82	CSE030	1.47
CSE006	5.80	CSE006	0.03
CSE004	6.87	CSE004	10.37
CSE010	0.00	CSE010	0.00
CSE011	6.63	CSE011	0.00
CSE013	0.86	CSE013	1.54
CSE014	0.18	CSE014	0.00
CSE016	0.00	CSE016	0.00
CSE017	0.57	CSE017	0.59
CSE018	0.00	CSE018	0.00
CSE022	1.66	CSE022	0.00
CSE029	0.08	CSE029	0.14
CSE008	0.14	CSE008	0.00
CSE009	13.25	CSE009	2.97
CSE024	5.80	CSE024	10.37
CSE019	0.16	CSE019	0.28
CSE020	0.00	CSE020	0.00
HPCI Southampton	9.95	HPCI Southampton	0.28
HPCI Daresbury	0.16	HPCI Daresbury	0.28
HPCI Edinburgh	0.16	HPCI Edinburgh	0.00
CSN001	8.29	CSN001	14.84
CSN002	0.00	CSN002	0.00
BADC	0.00	BADC	0.00
CSN003	1.66	CSN003	31.98
CSN005	2.81	CSN005	0.00
CSN006	4.47	CSN006	0.00
CSN007	0.66	CSN007	0.00
CSN009	0.10	CSN009	0.00
CSN011	0.12	CSN011	0.00
CSB001	1.99	CSB001	3.21
CSB002	2.22	CSB002	0.00
CSB003	0.06	CSB003	0.00
CS2001	0.08	CS2001	0.00
CS2002	0.06	CS2002	0.17
CS2003	0.33	CS2003	0.59
CS2004	0.14	CS2004	0.24
CS2005	0.00	CS2005	0.00
CS2006	0.04	CS2006	0.00
CS2007	0.02	CS2007	0.03
CS3001	0.00	CS3001	0.00

Appendix 2

Percentage usage of HSM by Consortium for May 1999	
Consortium	% Usage
CSE002	1.13
CSE003	0.07
CSE007	0.00
CSE021	0.00
CSE025	0.00
CSE030	0.00
CSE006	0.00
CSE004	1.55
CSE010	0.00
CSE011	0.00
CSE013	0.00
CSE014	0.00
CSE016	0.00
CSE017	0.00
CSE018	0.00
CSE022	0.00
CSE029	0.00
CSE008	0.00
CSE009	0.00
CSE024	0.00
CSE019	0.00
CSE020	0.00
HPCI Southampton	0.00
HPCI Daresbury	0.00
HPCI Edinburgh	0.00
CSN001	7.04
CSN002	0.00
BADC	23.32
CSN003	66.23
CSN005	0.00
CSN006	0.00
CSN007	0.00
CSN009	0.00
CSN011	0.00
CSB001	0.00
CSB002	0.00
CSB003	0.00
CS2001	0.00
CS2002	0.12
CS2003	0.00
CS2004	0.00
CS2005	0.00
CS2006	0.00
CS2007	0.00
CS3001	0.00

Appendix 3

<u>Percentage PE usage on Turing by Reserch Council for May 1999</u>			<u>Percentage CPU usage on Fermat by Reserch Council for May 1999</u>		
<u>Research Council</u>	<u>% Usage</u>		<u>Research Council</u>	<u>% Usage</u>	
EPSRC	83.68		EPSRC	83.80	
HPCI	0.001		HPCI	0.00	
NERC	15.78		NERC	10.17	
BBSRC	0		BBSRC	0	

<u>Percentage Disc allocated on Turing by Research Council for May 1999</u>			<u>Percentage Disc allocated on Fermat by Research Council for May 1999</u>		
<u>Research Council</u>	<u>% Allocated</u>		<u>Research Council</u>	<u>% Allocated</u>	
EPSRC	67.00		EPSRC	48.29	
HPCI	10.28		HPCI	0.59	
NERC	18.11		NERC	46.82	
BBSRC	4.27		BBSRC	3.21	

<u>Percentage HSM usage by Research Council for May 1999</u>		
<u>Research Council</u>	<u>% usage</u>	
EPSRC	2.75	
HPCI	0	
NERC	96.59	
BBSRC	0	

Appendix 4**Support Used to end of May**

Project	Used
cse009 GR/M07441 Catlow	0
cse006 gr/m05201 Briddon	0
cse002 gr/m01753 Gillan	7
cse011 GR/K52317 Williams	0
csn001 SOC Core Strategic Webb	0
cse007 gr/m05348 Foulkes	0
cse017 GR/L58699 Luo	0
cse008 GR/M07624 Hillier	0
cse024 GR/M44453 Tennyson	0
cse021 GR/L95427 Staunton	0
cse010 GR/L04108 Williams	0
cse030 GR/M56234 Cates	0
cs2002 PTMP Lyne	0
csn005 GR9/2909 Davies	0
cs2005 ISAAG Walsh	0
cse003 gr/m01784 Taylor	0

Training Used to end of May

Project	Used
cse009 GR/M07441 Catlow	0
csn001 SOC Core Strategic Webb	0
cse017 GR/L58699 Luo	0
cse024 GR/M44453 Tennyson	0
cse002 gr/m01753 Gillan	0
cse007 gr/m05348 Foulkes	0
cse003 gr/m01784 Taylor	0
cs2001 CompApps3D Jain	0
csb003 117/SO9645 Williams	0
cse011 GR/K52317 Williams	0
cse010 GR/L04108 Williams	0
csn003 UGAMP O'Neill	4
cse030 GR/M56234 Cates	4
cs2002 PTMP Lyne	0
cs3001 - Staveley	3
cs2005 ISAAG Walsh	0
cs2007 SNOW Choularton	1
csb001 27/B07117 Goodfellow	0