CSAR Service - Management Report

August 2004

This report documents the quality of the CSAR service during the month of August 2004.

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 August 2004. The information, in particular, covers the availability and usage of the main CSAR Service High Performance Computing (HPC) systems:

- SGI Altix3700/256 (Newton)
- SGI Origin3000/512 (Green)
- SGI Origin2000/128 (Fermat)
- SGI Origin300/16 (Wren)

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

August has seen the workload of the three primary systems at variable levels, with the workload on the Altix system Newton continuing to increase.

The final two phases of a three-phase operation to upgrade Newton has been completed this month, with an additional 128 1.5GHz processor node added to the system and additional memory installed to the processors of the original 4 x 64 PE Newton nodes.

The CSAR Service has been granted an 18 month extension of service contract until June 30th 2006.

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

<u>Table 1</u> 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		
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

<u>Table 2</u> gives actual performance information for the period of August 1st to 31st inclusive. Overall, the CPARS Performance Achievement in August was acceptable (see Table 3); i.e. Green measured against the CPARS performance targets.

CSAR Service - Service Quality Report - Actual Performance Achievement

									2003/4			
Service Quality Measure	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug
HPC Services Availability												
Availability in Core Time (% of time)	96.62%	98.84%	98.95%	98.75%	97.49%	98.16%	98.51%	89.39%	94.21%	97.49%	97.97%	100%
Availability out of Core Time (% of time)	98.48%	99.28%	97.74%	98.3%	98.88%	97.9%	99.48%	91.90%	99.73%	97.85%	100%	99.2%
Number of Failures in month	4	4	3	5	5	4	3	5	3	4	2	2
Mean Time between failures in 52 week rolling period (hours)	417	365	337	283	265	243	325	274	247	220	211	201
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	<2	<1	<1	<2	<2	<2	<2	<3	<2	<2	<1
Administrative Queries - Max Time to resolve 95% of all queries	<1	<1	<1	<1	<0.5	<0.5	<0.5	<0.5	<0.5	<1	<0.5	<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	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<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	10	10	10	10	10	10	10	10	10	10
System Maintenance - no. of sessions taken per system in the mon	2	2	2	2	2	2	2	2	2	2	2	2

Table 2

Notes:

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

[Fermat availability x 40/ (40+233+343)] + [Green availability x 233/(40+233+343)] + [Newton availability x 343/(40+233+343)] + [Newton availability x 343/(40+23+343)] + [Newton availability x 34/(40+23+34)] + [Newton availability x 34/(40+23+34)

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

<u>Table 3</u> gives Service Credit values for the month of August. 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.

										2003/4		
Service Quality Measure	Sept	Oct	Nov	Dec	Jan	Feb	March	April	May	June	July	Aug
HPC Services Availability												
Availability in Core Time (% of time)	0.078	0.039	0.039	0.039	0.078	0.078	0.039	0.195	0.195	0.078	0.078	-0.058
Availability out of Core Time (% of time)	0.078	-0.039	0.078	0.078	0	0.078	0	0.039	0	0.078	-0.047	0
Number of Failures in month	0.008	0.008	0	0.0004	0.0004	0.008	0	0.0004	0.0	0.008	0	0
Mean Time between failures in 52 week rolling period (hours)	0	0	0	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Help Desk												
Non In-depth Queries - Max Time to resolve 50% of all queries	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019
Non In-depth Queries - Max Time to resolve 95% of all queries	0.0312	0	-0.016	-0.016	0	0	0	0	0.016	0	0	-0.016
Administrative Queries - Max Time to resolve 95% of all queries	-0.01551	-0.01551	-0.016	-0.016	-0.019	-0.019	-0.019	0	-0.019	-0.016	-0.019	-0.019
Help Desk Telephone - % of calls answered within 2 minutes	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004	-0.004
Others												
Normal Media Exchange Requests - average response time	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
New User Registration Time (working days)	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019	-0.019
Management Report Delivery Times (working days)	0	0	0	0	0	0	0	0	0	0	0	0
System Maintenance - no. of sessions taken per system in the mon	0	0	0	0	0	0	0	0	0	0	0	0
Monthly Total & overall Service Quality Rating for each period:	0.07	-0.03	0.02	0.02	0.01	0.05	-0.01	0.09	0.07	0.05	-0.02	-0.07

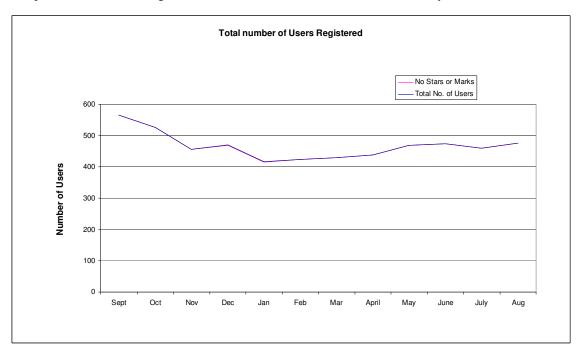
CSAR Service - Service Quality Report - Service Credits

Table 3

The Service Availability issues are receiving close management attention, to determine the root causes and the most appropriate solutions to overcome the problems at least risk to the overall service.

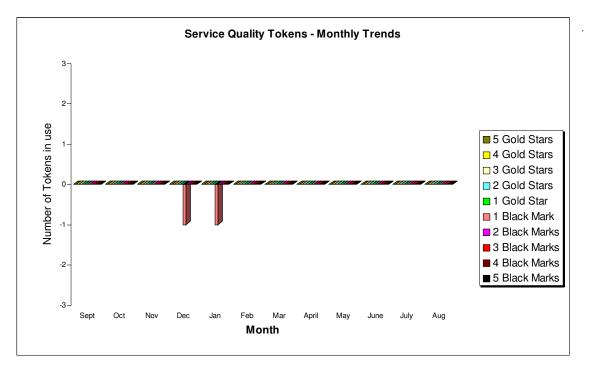
2.2 Service Quality Tokens

The position at the end of August 2004 is that none of the 476 users have awarded any tokens to 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 or gold stars allocated to the service.

2.3 Throughput Target against Baseline

The baseline is shown in GFLOP-Years for consistency with the other information contained within this report.

The Baseline Target for throughput was achieved this month. The actual usage figure was 200.5% of Baseline capacity.

Job Throughput Against Baseline CSAR Service Provision

Period: 1st to 31st August 2004

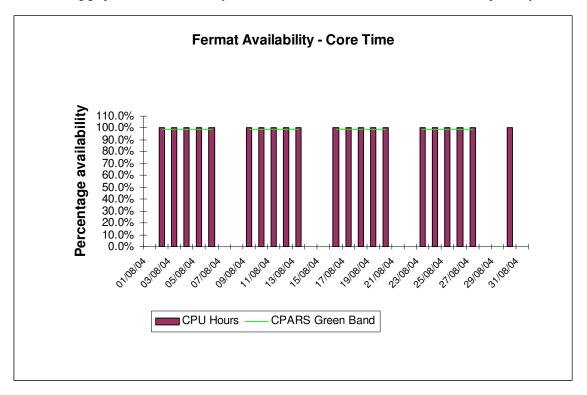
	Baseline	Actual Usage in	Actual % Utilisation c/w
	Capacity for	Period	Baseline during Period
	Period	(GFLOP Years)	Ū
	(GFLOP Years)	(,	
	(********		
1. Has CfS failed to deliver Baseline MPP Computing Capacity for EPSRC?	15.37	30.82	200.5%
	Baseline	Job Time Demands	Job Demand above
	Capacity for	in Period	110% of Baseline during
	Period		Period (Yes/No)?
	(GFLOP Years)		. ,
	(********		
2. Have Users submitted work demanding > 110% of the Baseline during period?	15.37	31.9	Yes
		Number of Jobs at	Number of Jobs at least
		least 4 days old at	4 days old at end
		end Period	Period is not zero
			(Yes/No)?
			(100110).
3. Are there User Jobs oustanding at the end of the period over 4 days old?		4	Yes
		Minimum Job Time	Minimum Job Time
		Demands as % of	Demand above 90% of
		Baseline during	Baseline during Period
		Period	(Yes/No)?
4. Have Users submitted work demands above 90% of the Baseline during period?		84%	No
4. Have users submitted work demands above 50 % of the baseline during period :		04 /0	NO
	Number of	Average % of time	Average % of time each
	standard Job	each queue	queue contained jobs in
	Queues (ignoring	contained jobs in	the Period is > 97%?
	priorities)	the Period	
5. Majority of Job Queues contained jobs from Users for more than 97% during period?	4	82%	No
o. Majonty of ood Quedes contained jobs norm Osers for more than 37% during period :	4	02/8	110

3. System Availability

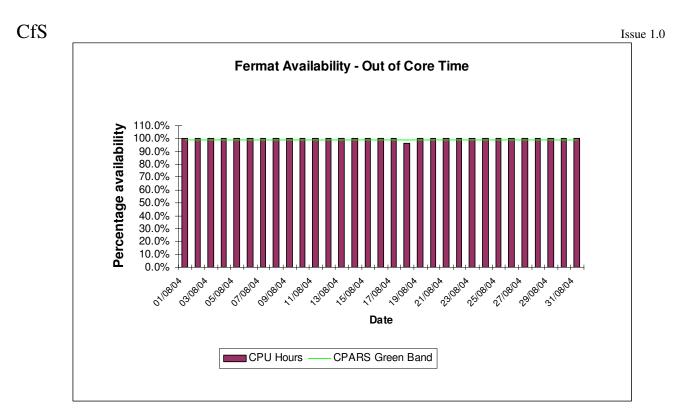
Service availability each reporting period is calculated as a percentage of actual availability time over theoretical maximum time, after accounting for planned breaks in service for preventative maintenance.

3.1 SGI Origin2000 System (Fermat)

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



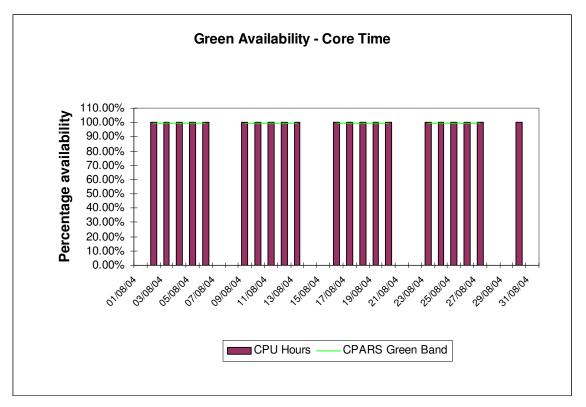
Availability of Fermat in core time during August was excellent, with no outages.



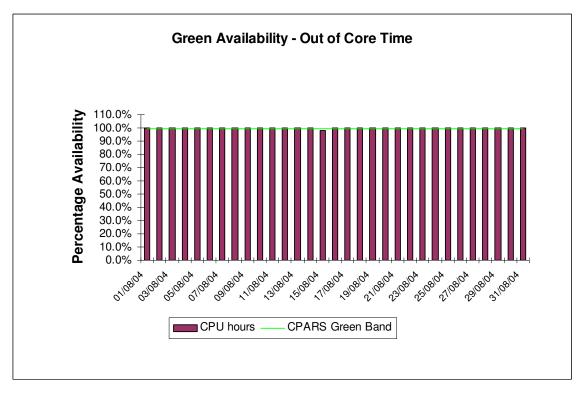
Availability of Fermat out of core time during August was very good, with one brief outage on the 18th.

3.2 SGI Origin3000 System (Green)

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



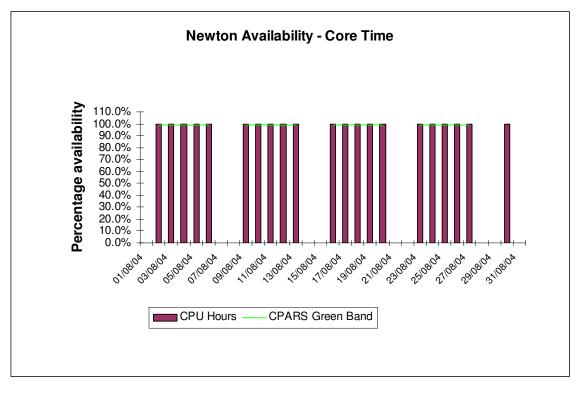
Availability of Green in core time during August was excellent, with no outages.



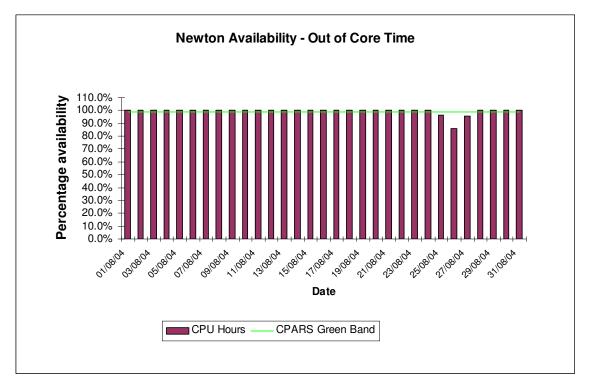
Availability of Green out of core time during August was very good, with one very short outage on the 15th.

3.3 SGI Altix3700 System (Newton)

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



Availability of Newton in core time during August was excellent, with no outages.



Availability of Newton out of core time during August was acceptable, with three brief outages.

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

• CPU usage	Newton:	133,236 CPU Hours
	Green:	189,308 CPU Hours
	Fermat:	14,981.78 CPU Hours
	Wren (Batch):	190.33 CPU Hours
	Wren (Interactive):	206.17 CPU Hours
User Disk allocation	Medium Performance:	113.27 GB Years
	SAN HV:	29.73 GB Years
 HSM/tape usage 		4,479.36 GB Years

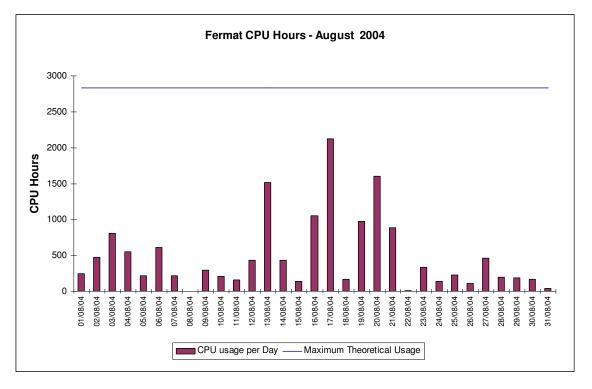
In addition, the following graphs are provided to illustrate usage per month, historically:

- a) SMP (Altix/Origin) Usage by month, showing usage each month of CPU (GFLOP-Years as per NPB), split by Research Council and by system. Overlaid horizontal lines show the overall Capacities.
- 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. Overlaid horizontal lines show the Baseline and overall Capacity.
- c) Medium Performance Disk, combined Origin and SAN, 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.
- d) HSM/Tape Usage 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.

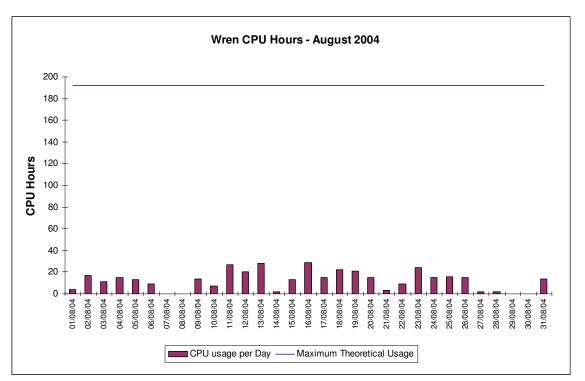
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4.1 SGI Origin2000 System (Fermat)

The Origin2000 was reasonably utilised this month. The groups most heavily using the Fermat system are CSN001 (De Cuevas), CSN003 (Steenman-Clark) and CSN006 (Price).



4.2 SGI Origin300 System (Wren)

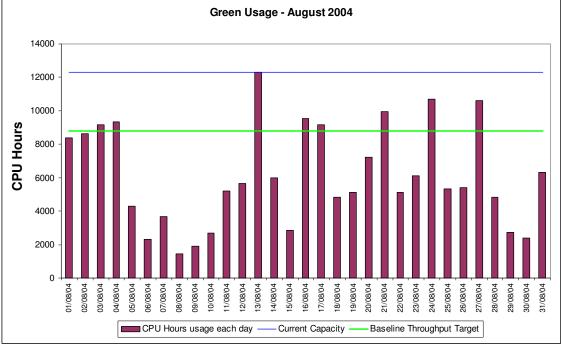


The above graph shows the utilisation of the interactive system Wren for the month of August.

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4.3 SGI Origin3000 System (Green)

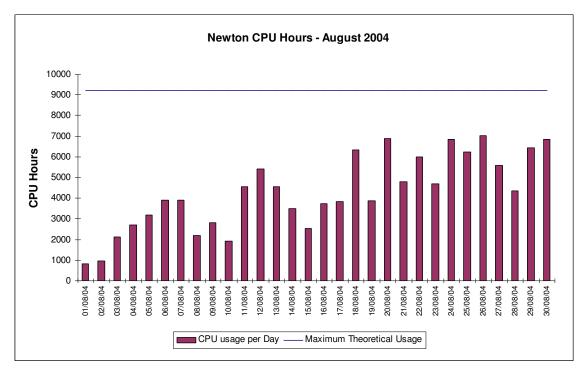
Issue 1.0



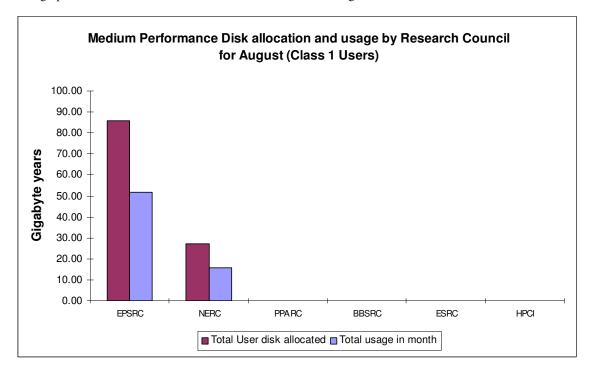
The above graph shows the utilisation of Green for the month of August, which was slightly below Baseline.

4.4 SGI Altix3700 System (Newton)

The following graph shows the daily usage during August for the Altix system Newton.



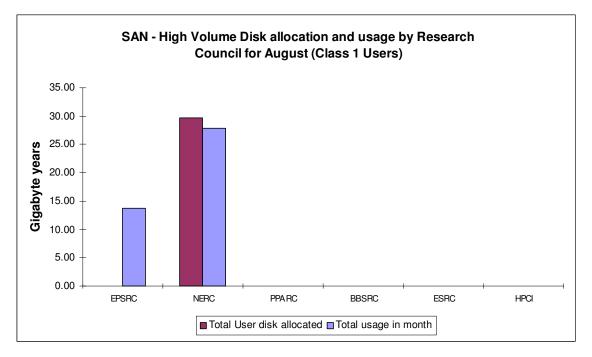
4.5 Disk/HSM Usage Chart

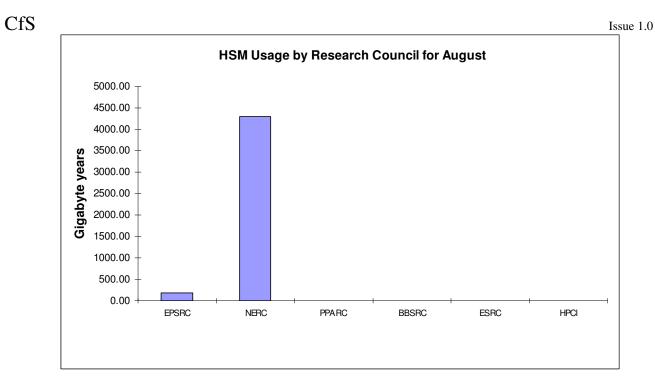


The graphs below show current disk and HSM allocations and usage.

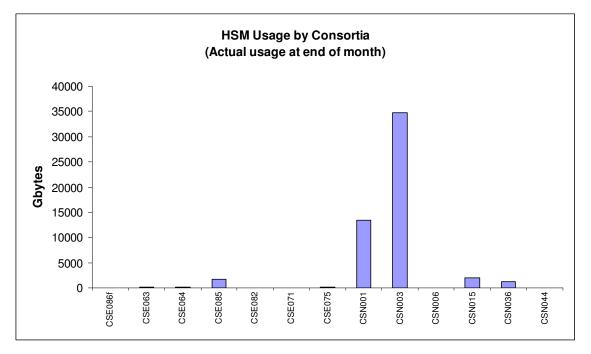
Shown above is the disk allocation against usage on average of the Medium Performance (MP) disk.

The following graph shows the disk allocation against usage on average of the SAN High Volume (HV) disk.





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

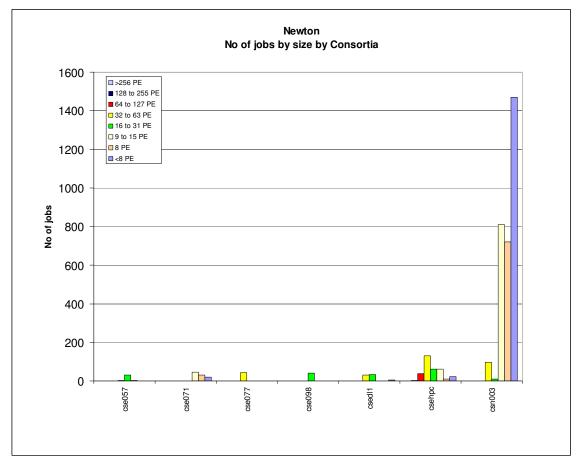


The next graph gives actual usage of HSM by Consortia.

CSE085 (Sandham), CSN001 (De Cuevas), CSN003 (Steenman-Clark), CSN015 (Proctor) & CSN036 (Woolf) were the major users of HSM resource.

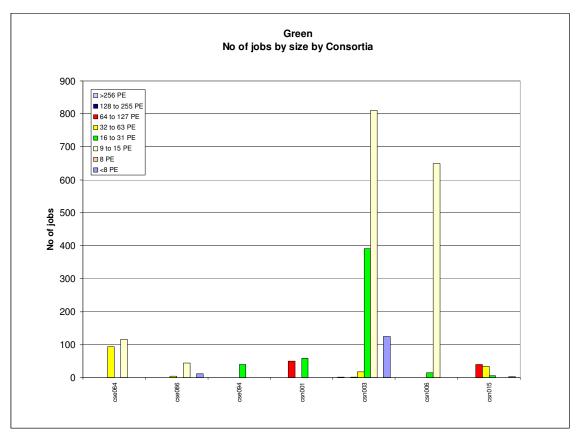
4.6 **Processor Usage and Job Statistics Charts**

Job statistics for Newton:



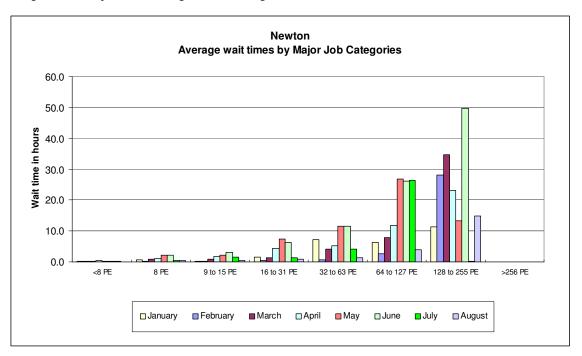
The above graph shows the number of jobs of the major sizes run in the period 1^{st} to 31^{st} August 2004.

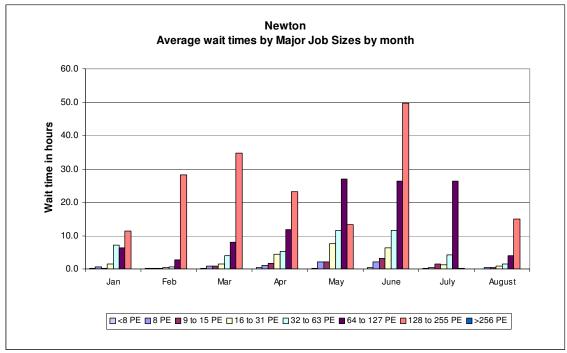
Job statistics for Green:



The above graph shows the number of jobs of the major sizes run in the period 1st to 31st August 2004.

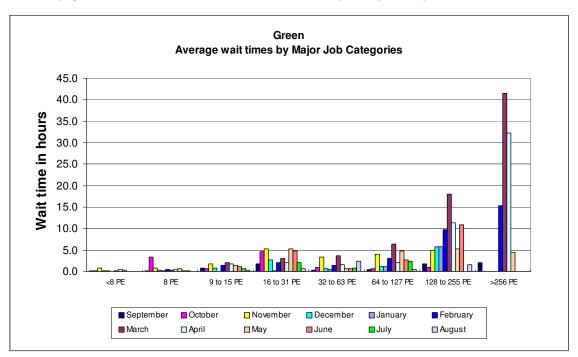
The next graph shows the wait times in hours on Newton for the major categories of jobs, larger jobs requesting tiling across multiple nodes having to wait the longest times.

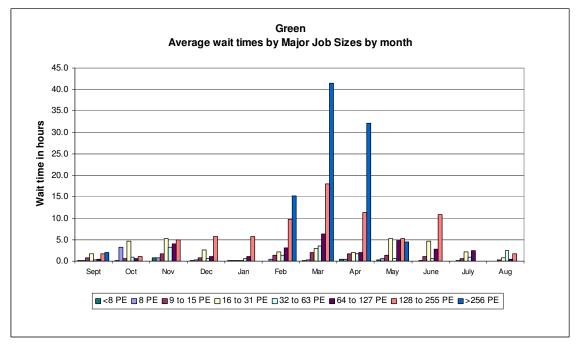




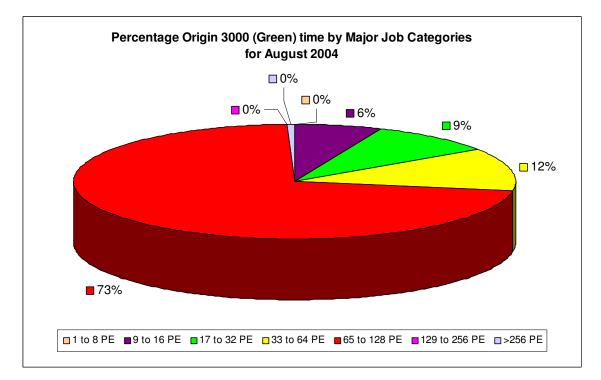
The chart above shows the average wait time trend on Newton so far this year.

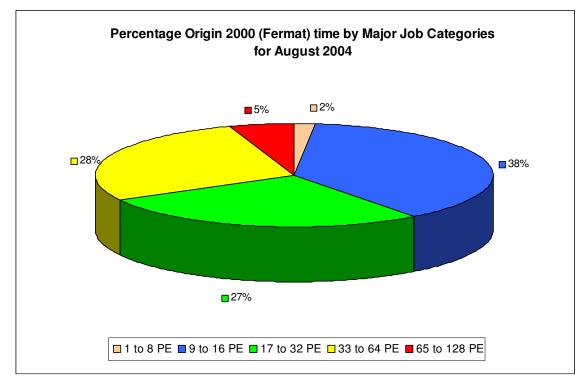
The next graph shows the wait times in hours on Green for the major categories of jobs:





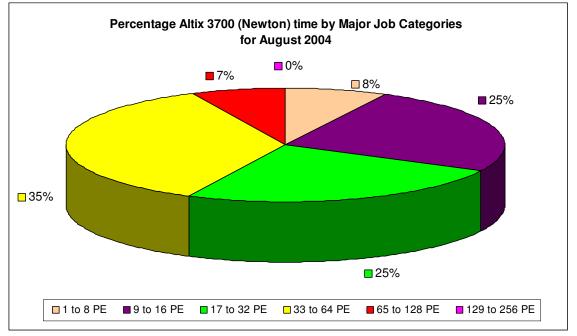
The chart above shows the average wait time trend on Green for the last 12 month period.



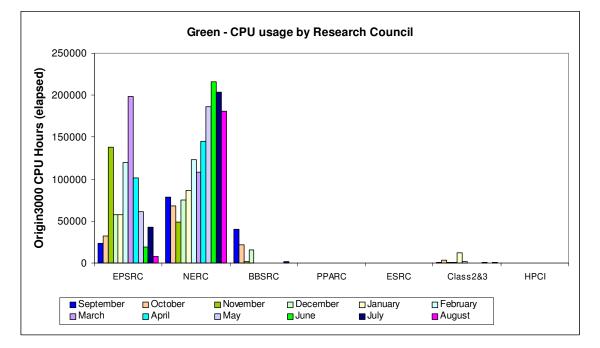


The greatest percentage of the workload on Green in August was in the 65 to 128 PE range, at 73%.

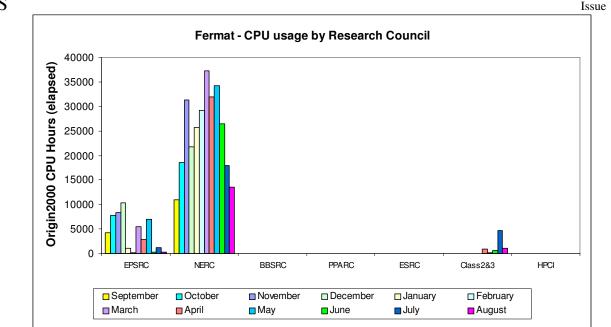
The workload on Fermat for August was fairly evenly spread across the mid-range of PEs.



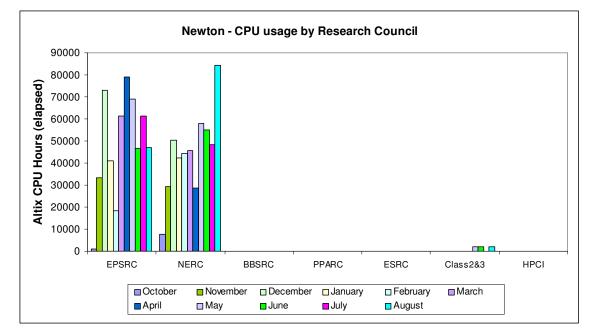
August saw a good spread of work on the Altix system Newton, with most ranges of PEs being well utilised.



The above chart shows Green CPU usage by Research Council during the past 12 months of service.



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

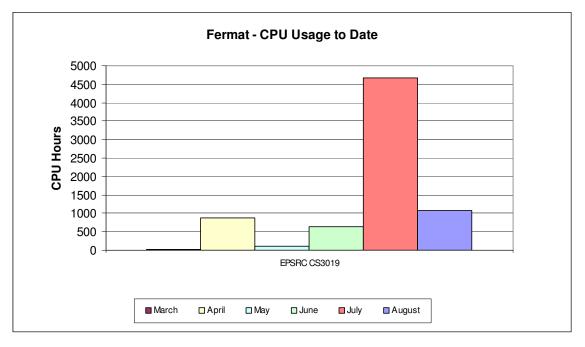


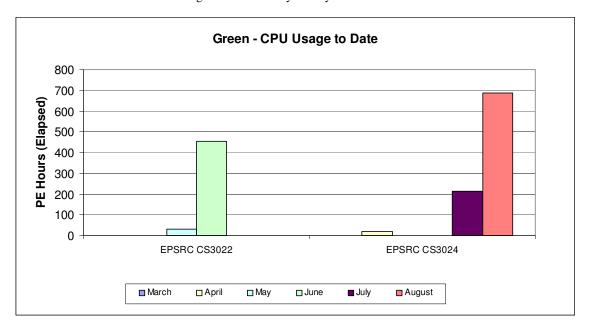
The following chart shows CPU usage to date of the Altix 3700 Newton.

- 21 -

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.

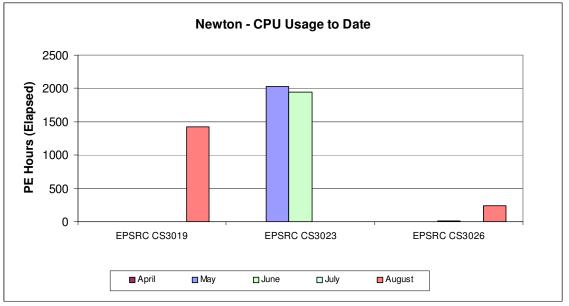




The above chart shows the CPU usage of the Fermat system by class 2 and class 3 users.

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





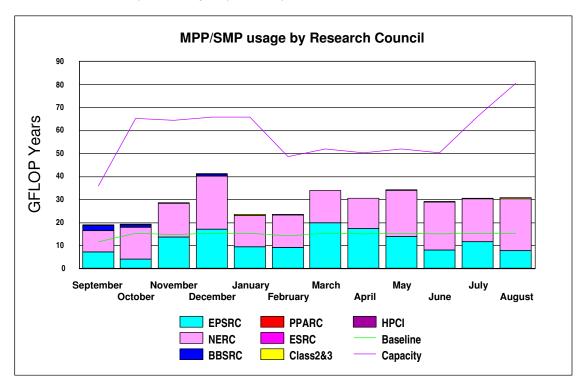
The above chart shows Newton usage by class 2 and class 3 users.

There is currently no MP disk or HSM usage by class 2 and class 3 users.

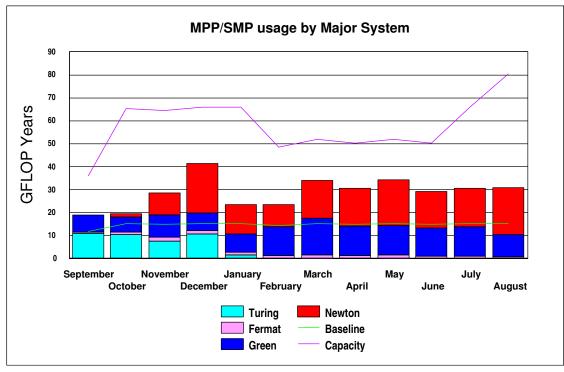
4.9 Charts of Historical Usage

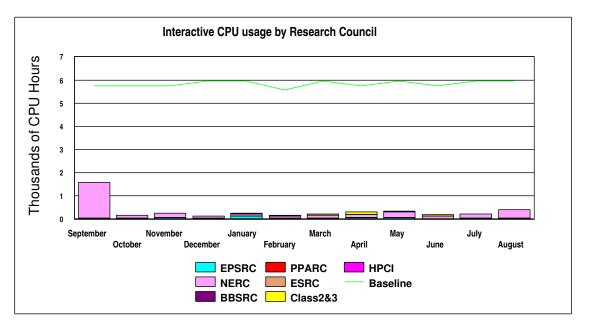
In all the Usage Charts, the baseline varies dependant on the number of days in each month, within a 365-day year.

The graph below shows the GFLOP Year utilisation by Research Council for the previous 12 months, showing the raise in baseline and capacity with the introduction of the Altix system Newton and subsequent fall following the removal of the T3E system Turing early in January.

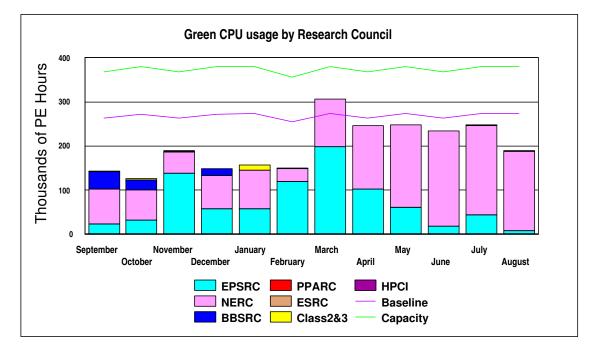


The graph below shows the historic SMP/MPP usage on the major systems. The increase in capacity reflects the expansion of Newton by a further 128 CPUs in August.



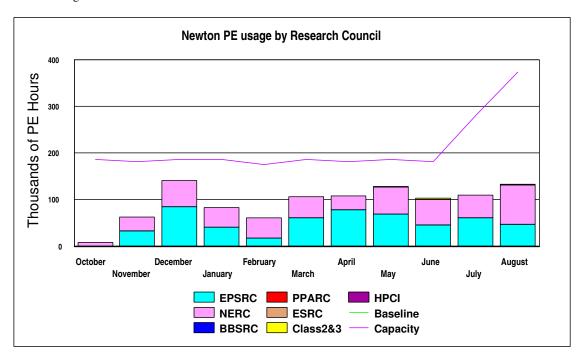


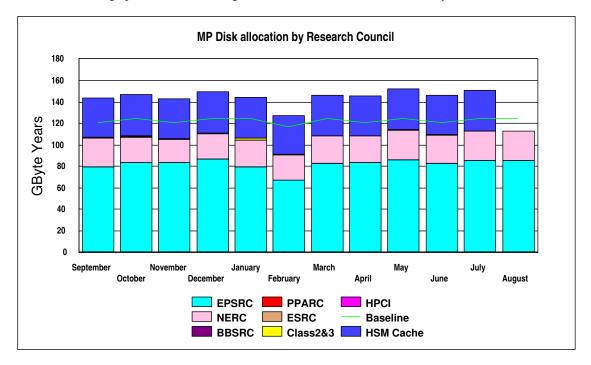
The above graph shows the historic interactive usage of the Origin 300 system (Wren). Eight of the higher speed 500Mhz CPUs in Wren deliver the baseline capacity equivalent to that which was previously available on the Origin 3000 system (Fermat) for interactive usage.



The following graph details the historic usage by Research council of the Origin 3000 system (Green).

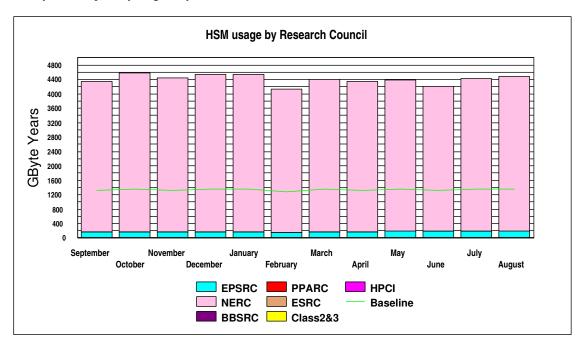
The graph below displays the historic usage by Research Council of the Altix 3700 system (Newton), introduced into the service in October 2003. The increase in capacity reflects the expansion of Newton by a further 128 CPUs in August.





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

The graph above illustrates the historic allocation of the Medium Performance Disk on Fermat and the SAN. From August the HSM Cache is no longer displayed, as it has been moved from the MP Disk area to the HP Disk area. The graph below shows the historic HSM usage by Research Council funded projects, now above Baseline at 48 Terabytes. The primary usage is by NERC.



4.8 Guest System Usage Charts

There is currently no Guest System usage.

5. Capability Incentives

Capability incentives were historically given on the T3E system Turing for jobs of 512 PEs and above. In August 2003 it was announced that discounts for capability jobs available on all CSAR systems had been aproved to include the SGI Origin 3000 system (Green) and the new SGI Altix 3700 system (Newton).

These capability incentives were agreed with the Research Councils to encourage capability usage of the national supercomputers for greater scientific achievement, and offer the following discounts:

System	No of Processors	Discount
newton	192+ CPUs	15% discount
newton	128+ CPUs	10% discount
green	384+ CPUs	15% discount
green	256+ CPUs	10% discount

Discounts are given in the form of refunded Service Tokens.

Changes in usage patterns will be monitored and, subject to reviews, CfS reserve the right to change the incentives at any future date.

The following table displays the capability incentive discounts granted for August.

	Service T	okens Re	funded:	August2	2004 Usa	ge	
System			Conso	rtia			Total
System	csn003	cse133					Total
Green 256+ PEs							0
Green 384+ PEs	3.39						3.39
Newton 128+ PEs		9.31					9.31
Newton 192+ PEs							0
Total Tokens							12.7

6.1 Status

The service utilisation in August exceeded baseline.

During the month there was a balanced spread of work across all major systems.

The second and third phases of the planned three-phase Newton upgrade were completed during August, with the memory on the original 256 processor system upgraded to 2GB per processor and a further 128 processors to Newton, making it a 512 processor system in total. The new 128 processors added during August are the faster 1.5GHz processor chips.

6.2 Issues

The increased stability gained after having completed extensive operating system upgrades over the past few months mean that there are no issues to report for August.

6.3 Plans

It is planned to combine the 4×64 processor original Newton nodes into one 256 processor Single System Image. This work is expected to be carried out during the last quarter of the year, with further details to be announced nearer the time.

7. Conclusion

August 2004 saw the overall CPARS rating at Green with the baseline being exceeded by 100%.

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 August 2004

Appendix 2 contains the Percentage shares by Consortium for August 2004

Appendix 3 contains the Percentage shares by Research Council for August 2004

Appendix 4 contains the Training, Applications and Optimisation support figures to the end of August 2004

Appendix 5 contains a breakdown of resource usage by Consortia to the end of August 2004.

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

Appendix 1

The summary accounts for the month of August 2004 can be found at the URL below

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

Percentage CPU time per cons	ortia for Green in August 2004	Percentage CPU time per consortia f	or Newton in August 2004
Consortia	% Machine Time	Consortia	% Machine Time
CSE086	0.38	CSEdl1	4.59
CSE098	1.54	CSE057	8.56
CSE064	2.04	CSE098	5.71
CSE085	1.87	CSE072	0.29
CSE110	0.00	CSE085	0.00
CSE066	0.13	CSE077	7.01
CSE075	0.00	CSE071	3.35
CSN001	26.11	CSE133	4.46
CSN003	21.32	CSN001	0.00
CSN006	19.58	CSN003	63.24
CSN015	28.52	CS2048	0.17
CS3024	0.36	CS3019	1.07
		CS3026	0.18
		CSEHPCX	1.35
Percentage CPU time per con	ortia for Fermat in August 2004	Percentage CPU time per consortia fo	r Wren in August 2004
Consortia	% Machine Time	Consortia	% Machine Time
CSE086	2.49	CSE084	0.00
CSE085	0.02	CSE086	4.09
CSE075	0.00	CSE098	0.01
CSN001	0.00	CSE064	0.67
CSN003	90.31	CSE085	0.11
CSN006	0.00	CSE075	0.06
CSN015	0.00	CSN001	38.53
CS3019	7.18	CSN003	44.41
		CSN006	0.84
		CSN015	5.09
		CS2046	0.03
		CS3019	0.01

Percentage Medium Performance disc allocation by Consortia in August 2004						
<u>Consortia</u>	%Allocation					
CSEdl1	0.75					
CSE057	0.07					
CSE084	1.50					
CSE086	10.50					
CSE098	0.22					
CSE050	1.57					
CSE064	0.22					
CSE085	8.25					
CSE082	7.50					
CSE071	0.15					
CSE066	0.04					
CSE075	43.80					
CSE076	0.59					
HPCI Daresbury	0.04					
HPCI Edinburgh	0.07					
CSN001	11.25					
CSN003	3.37					
CSN006	4.50					
CSN015	2.62					
CSN052	2.25					
CS3024	0.10					
HPCX	0.37					

Percentage usage of	Percentage usage of HSM by Consortium for August 2004							
Consortium	% Usage							
CSE086	0.03							
CSE063	0.21							
CSE064	0.39							
CSE085	3.23							
CSE082	0.00							
CSE071	0.01							
CSE075	0.38							
CSN001	25.09							
CSN003	64.66							
CSN006	0.01							
CSN015	3.64							
CSN036	2.33							
CSN044	0.02							

Percentage CPU usa	ge on Green by Research Council	or August 2004 Percer	ntage CPU usage on Newton by Resea	rch Council for August 2004
Research Council	<u>% Usage</u>	Resear	rch Council % Usage	
EPSRC	4.47	EPSRO	C 36.76	
HPCI	0.00	HPCI	0.00	
NERC	95.53	NERC	63.24	
BBSRC	0.00	BBSRC	0.00	
ESRC	0.00	ESRC	0.00	
PPARC	0.00	PPARC	0.00	
	on Fermat by Research Council	r August 2004 Percer	ntage CPU usage on Wren by Research	Council for August 2004
Percentage PE usage	e on Fermat by Research Council : <u>% Usage</u>			n Council for August 2004
Percentage PE usage Research Council			ntage CPU usage on Wren by Research	1 Council for August 2004
	<u>% Usage</u>	Resear	ntage CPU usage on Wren by Research	n Council for August 2004
Percentage PE usage Research Council EPSRC HPCI	<u>% Usage</u> 9.69	Resear EPSRC	ntage CPU usage on Wren by Research rch Council <u>% Usage</u> C 11.12	<u>n Council for August 2004</u>
Percentage PE usage Research Council EPSRC	<u>% Usage</u> 9.69 0.00	Resear EPSRC HPCI	ntage CPU usage on Wren by Research rch Council % Usage C 11.12 0.00 88.88	n Council for August 2004

Percentage MP Disc allo	ercentage MP Disc allocated by Research Council for August 2004		Percentage Disc allocated as SAN HV by Research Council for Augus			
Research Council	% Allocated		EPSRC	0.00		
EPSRC	75.89		HPCI	0.00		
HPCI	0.11		NERC	100.00		
NERC	24.00		BBSRC	0.00		
BBSRC	0.00		ESRC	0.00		
ESRC	0.00		PPARC	0.00		
PPARC	0.00		PPARC	0.00		

PPARC

0.00

Percentage HSM usa	ge by Research Council for Aug	<u>ust 2004</u>
Research Council	<u>% usage</u>	
EPSRC	4.25	
HPCI	0.00	
NERC	95.75	
BBSRC	0.00	
ESRC	0.00	
PPARC	0.00	

0.00

PPARC

The following tables show the training and support resource usage by current consortia in person days to the current month.

Project	PI Name	Subject	Liaison Officer	Support Bought	Apps Support	Total Apps Support	Opt Support	Total Opt Support	Total Support Used	Training Bought	Training Used
csedl1	Blake, R									6	6
cse050	Bradley, D (Prof)	Flame Instabilities: their influence on turbulent combustion & incorporation in mathematical models.		20						10	
cse060	Robb, M (Prof)	CCP1 Renewal plus flagship project on Car-Parrinello in Chemistry	Neil Stringfellow	10						10	1
cse063	Sandham, N (Prof)	Computational Aerocaustics for Turbulent Plane Jets	Adrian Tate	30						10	
cse064	Leschziner, M (Prof)	Improvement of predictive performance of anisotropy-resolving turbulence models in post-reattachment recovery region of separated flow using Large Eddy Simulation	Mike Pettipher	10						8	
cse066	Coveney, P V (Prof)	New clay-polymer nanocomposites using diversity- discovery methods: synthesis, processing and testing	Neil Stringfellow	21						6	3
cse071	Iacovides (Dr)	The Practical Computation of Three-Dimensional Time-Dependent Turbulent Flows in Rotating Cavities	Mike Pettipher	5		0.5	1	1	1.5	6	2
cse072	Karlin, V (Dr)	Structure & Dynamics of Unstable Premixed Laminar Flames	Jon Gibson	18						9	7
cse074	Luo (Dr)	Consortium on Computational Combustion for Engineering Applications	Jon Gibson								
cse075	Coveney, PV (Dr)	The Reality Grid - a tool for investigating condensed matter & materials	Neil Stringfellow	14		5			5	14	
cse076	Briddon, P (Dr)	HPC facilities for the first principles simulation of covalently bonded materials	Adrian Tate	20				11	11		
cse077	Kronenburg, A (Dr)	Combustion Model Development for Large-Eddy Simulation of Non- Premixed Reactive Flows.								2	
cse082	Barakos, G (Dr)	CFD Study of Three- Dimensional Dynamic Shelf		5						1	
cse084	Needs, R (Dr)	The Consortium for Computational Quantum Many-Body Theory	Adrian Tate	19							10

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											Issu
cse085	Sandham, N (Prof)	UK Turbulence Consortium	Adrian Tate	15				2	2	8	8
cse086	Taylor, K (Prof)	Multiphoton, Electron Collisions and BEC HPC Consortium 2002- 2004	Kevin Roy	35				5	5	116	
cse089	Wiercigroch, M (Dr)	Nonlinear Dynamics & Rock Contact Fracture Mechanics in Modelling of Vibration Enhanced Drilling	Keith Taylor	15						7	
cse098	De Souza M M (Dr)	Indium interactionsin silicon for ULSI technologies		5						5	
cse106	Augarde (Dr)	Parametric Studies of multiple tunnels		25						10	
cse108	Holden, AV (Prof)	Large-scale parallelisation of electro-physiological & mechanical cardiac virtual tissues		10						6	
cse110	Leach, S A (Dr)	Application of HE Computing to Develop Complex Stochastic Models to aid Public Health & National Operational Responses to Infectious Disease Threats		30						25	
cse111	Avital, Eldad (Dr)	A numerical study of three dimensional wakes generated by free surface piecing circular cylinders									
cse112	Chemyshenko, S I (Prof)	Master-mode analysis of the genesis of organised structures in turbulent flows									
cse116	John, N (Dr)	An advanced environment for enabling visual supercomputing		16						8	
cse117	Theodoropoulos K (Dr)	Modelling of Microreactors: An Integrated Multi- Scale Approach									
cse118	Gavaghan, David (Dr)	EPSRC e-Science pilot in Integrative Biology									
csn001	Webb, D J (Dr)	OCCAM	Zoe Chaplin	70.5		1		58	61	20	3
csn003	O'Neill, A (Prof)	UGAMP	Zoe Chaplin	9.25				8.25	1	34	30
csn006	Price, D (Dr)	HPC for Mineral Physics	Zoe Chaplin								
csn015	Proctor, R (Dr)	A Testbed for Zooplankton Models of the Irish Sea	Zoe Chaplin	20		2			2	10	3
csn043	Haines			20						36	
csn044	Steenman-Clark, L (Dr)	Earth Observation Project	Zoe Chaplin								
csn050	Challenor	The probability of rapid climate change				1	1				

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csn052	Mackay, R (Prof)	Quantifying the scaling of physical transport in structured heterogeneous porous media.	Zoe Chaplin				5	5
csn059	Watson, A J (Prof)	Circulation, overflow & deep connection in the Nordic seas		45			4	
csb006	Sansom, M (Prof)	DFT calculations for ion channels and transport proteins	Neil Stringfellow					
csp007	Hibbert, A (Prof)	A Programme for Atomic Physics for Astrophysics at Queen's University Belfast (2003-2007)	Kevin Roy					
HPCID	Allan, R (Dr)						1	1
HPCIE	Henty, D (Dr)							
cs3019	Bengough (Dr)	Lattice-Boltzmann simulation of water & solute transport in porous media.	Neil Stringfellow	2				
cs3022	Clint, M	Evaluation of Grab & Go Computational Models for Grid- based Iterative Eigensolvers						
cs3023	Bryce, Richard	Computer simulation of glycolipids as micellas and bilayers	Neil Stringfellow					
cs3024	Fernando, T (Prof)	Collosion Detection	Jo Leng	10				
cs3025	Welbourne, Stephen	Modelling Recovery after Damage in Single Word Reading						
cs3026	Smith, Lorna	HPCx/CSAR collaboration						
cs4001	White, P							
cs4002	Cooper, A (Miss)							

The following table shows resource utilisation by Consortia to the end of August 2004.

cs2046 Yao	
Last Trade: Mon Aug 2 13:29:05 2004	
Usage:	
0.0 of 10.1 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%	
0.0 of 0.5 GByte Year MP Disk SAN (0.0 of 1.2 G.S.T), 0.0%	
0.0 of 500.1 Hour SMP CPU (0.0 of 19.4 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 1500.0 Hour Green CPU (0.0 of 78.4 G.S.T), 0.0%	
Total usage for project cs2046 0.0 of 102.0 Generic Service Tokens, 0.0%	
as2047 Tuelon	
cs2047 Tucker Last Trade: Tue Jul 20 12:37:16 2004	
Usage:	
0.0 of 20.0 Hour Wren CPU (0.0 of 1.0 G.S.T), 0.0%	
0.0 of 2.1 GByte Year MP Disk SAN (0.0 of 5.0 G.S.T), 0.0%	
0.0 of 1800.0 Hour Green CPU (0.0 of 94.1 G.S.T), 0.0%	
Total usage for project cs2047 0.0 of 100.0 Generic Service Tokens, 0.0%	
cs2048 Kohanoff	
Last Trade: Wed Aug 4 11:24:18 2004	
Usage:	
0.0 of 620.5 Hour Newton CPU (0.0 of 95.0 G.S.T), 0.0%	
0.0 of 2.1 GByteYear MP Disk SAN (0.0 of 5.0 G.S.T), 0.0%	
Total usage for project cs2048 0.0 of 100.0 Generic Service Tokens, 0.0%	
2010 D	
cs3019 Bengough	
Last Trade: Wed Aug 25 16:42:59 2004	
Usage: 1427.2 of 1247.9 Hour Newton CPU (218.5 of 191.1 G.S.T), 114.4%	
273.8 of 276.1 Hour Wren CPU (13.6 of 13.7 G.S.T), 99.2%	
7398.7 of 7398.7 Hour SMP CPU (287.5 of 287.5 G.S.T), 100.0%	
0.0 of 3.0 GByteYear MP 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)	
Total usage for project cs3019 519.5 of 499.3 Generic Service Tokens, 104.0%	
cs3022 Clint	
Last Trade: Sat Jan 3 17:03:02 2004	
Usage:	
14032.4 of 14032.4 PEHour MPP PE CPU (339.3 of 339.3 G.S.T), 100.0%	
0.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T)	
0.1 of 459.8 Hour Wren CPU (0.0 of 22.8 G.S.T), 0.0%	
0.0 of 1.2 GByteYear MP Disk SAN (0.0 of 2.9 G.S.T), 0.0% 487.6 of 3574.0 Hour Green CPU (25.5 of 186.7 G.S.T), 13.6%	
Total usage for project cs3022 364.8 of 551.7 Generic Service Tokens, 66.1%	
cs3023 Bryce	
Last Trade: re-enabled	
Usage:	
3972.9 of 3145.3 Hour Newton CPU (608.2 of 481.5 G.S.T), 126.3%	
17.6 of 18.5 Hour Wren CPU (0.9 of 0.9 G.S.T), 94.9%	
0.0 of 1.0 GByteYear MP Disk SAN (0.0 of 2.4 G.S.T), 0.0%	<u></u>
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0.0 of 2.0 GbyteYear HV Disk SAN /v (0.0 of 2.4 G.S.T), 0.0%	
Total usage for project cs3023 609.1 of 487.2 Generic Service Tokens, 125.0%	
cs3024 - Fernando	
Last Trade: Thu Apr 8 11:22:38 2004	
Usage:	
0.0 of 796.9 Hour Newton CPU (0.0 of 122.0 G.S.T), 0.0%	
0.0 of 19.7 Hour Wren CPU (0.0 of 1.0 G.S.T), 0.1%	
0.1 of 1.0 GByte Year MP Disk SAN (0.3 of 2.4 G.S.T), 10.9%	
0.0 of 0.6 Hour SMP CPU (0.0 of 0.0 G.S.T), 0.0%	
921.5 of 1351.1 Hour Green CPU (48.1 of 70.6 G.S.T), 68.2%	
0.0 of 10.0 PersonDay Support (0.0 of 304.0 G.S.T), 0.0%	
Total usage for project cs3024 48.4 of 500.0 Generic Service Tokens, 9.7%	
cs3025 - Welbourne	
Last Trade: Fri Apr 2 13:10:35 2004	
Usage:	
0.0 of 1700.0 Hour Newton CPU (0.0 of 260.3 G.S.T), 0.0%	
0.0 of 0.0 GbyteYear HV Disk SAN /v (0.0 of 0.0 G.S.T)	
0.0 of 5.4 GByte Year MP Disk (0.0 of 12.8 G.S.T), 0.0%	
0.0 of 7.0 PersonDay Support (0.0 of 212.1 G.S.T), 0.0%	
0.0 of 1.0 Day Training (0.0 of 10.9 G.S.T), 0.0%	
Total usage for project cs3025 0.0 of 496.0 Generic Service Tokens, 0.0%	
cs3026 - Smith (EPCC)	
Last Trade: Wed Jun 2 08:28:44 2004	
Usage:	
251.7 of 3200.6 Hour Newton CPU (38.5 of 490.0 G.S.T), 7.9%	
0.0 of 0.3 Hour Wren CPU (0.0 of 0.0 G.S.T), 8.1%	
0.0 of 4.2 GByteYear MP Disk SAN (0.0 of 10.0 G.S.T), 0.0%	
Total usage for project cs3026 38.5 of 500.0 Generic Service Tokens, 7.7%	
csb006 43/B19843 Sansom	
Last Trade: re-enabled	
Usage:	
0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T)	
0.0 of 0.0 GByte Year HP Disk (0.0 of 0.0 G.S.T)	
38.6 of 4356.6 Hour Newton CPU (5.9 of 667.0 G.S.T), 0.9%	
0.1 of 2000.0 Hour Wren CPU (0.0 of 99.1 G.S.T), 0.0%	
0.0 of 0.0 GByteYear HP Disk SAN - /d (0.0 of 0.0 G.S.T)	
0.2 of 40.5 GByte Year MP Disk SAN (0.5 of 96.4 G.S.T), 0.5%	
0.0 of 1.0 Hour SMP CPU (0.0 of 0.0 G.S.T), 0.2%	
0.0 of 60000.0 Hour Green CPU (0.0 of 3135.1 G.S.T), 0.0%	
Total usage for project csb006 6.4 of 3997.6 Generic Service Tokens, 0.2%	
CSE001 - Admin users	
Last Trade: Fri Oct 8 15:16:30 1999	
Usage:	
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 (0.4 of 0.5 G.S.T), 72.9%	
Total usage for project cse001 0.4 of 0.8 Generic Service Tokens, 46.8%	
and 50 CP (N/20152 Deedlay	
cse050 GR/N/38152 Bradley	
Last Trade: re-enabled	

Usage: 1097.8 of 1059.3 PEHour MPP PE CPU (26.5 of 25.6 G.S.T), 103.6% 0.4 of 0.1 GByteYear HP Disk (2.6 of 0.6 G.S.T), 407.9% 15806.2 of 16375.2 Hour Newton CPU (2419.8 of 2506.9 G.S.T), 96.5% 0.0 of 78.4 Hour Wren CPU (0.0 of 3.9 G.S.T), 0.0% 0.3 of 1200.0 Hour SMP CPU (0.0 of 46.6 G.S.T), 0.0% 12.0 of 18.2 GByteYear MP Disk (28.7 of 43.2 G.S.T), 66.3% 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 G.S.T), 0.0%	
0.4 of 0.1 GByteYear HP Disk (2.6 of 0.6 G.S.T), 407.9% 15806.2 of 16375.2 Hour Newton CPU (2419.8 of 2506.9 G.S.T), 96.5% 0.0 of 78.4 Hour Wren CPU (0.0 of 3.9 G.S.T), 0.0% 0.3 of 1200.0 Hour SMP CPU (0.0 of 46.6 G.S.T), 0.0% 12.0 of 18.2 GByteYear MP Disk (28.7 of 43.2 G.S.T), 66.3% 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 G.S.T), 0.0%	
15806.2 of 16375.2 Hour Newton CPU (2419.8 of 2506.9 G.S.T), 96.5% 0.0 of 78.4 Hour Wren CPU (0.0 of 3.9 G.S.T), 0.0% 0.3 of 1200.0 Hour SMP CPU (0.0 of 46.6 G.S.T), 0.0% 12.0 of 18.2 GByteYear MP Disk (28.7 of 43.2 G.S.T), 66.3% 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 G.S.T), 0.0%	
0.0 of 78.4 Hour Wren CPU (0.0 of 3.9 G.S.T), 0.0% 0.3 of 1200.0 Hour SMP CPU (0.0 of 46.6 G.S.T), 0.0% 12.0 of 18.2 GByteYear MP Disk (28.7 of 43.2 G.S.T), 66.3% 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 G.S.T), 0.0%	
0.3 of 1200.0 Hour SMP CPU (0.0 of 46.6 G.S.T), 0.0% 12.0 of 18.2 GByteYear MP Disk (28.7 of 43.2 G.S.T), 66.3% 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 G.S.T), 0.0%	
12.0 of 18.2 GByteYear MP Disk (28.7 of 43.2 G.S.T), 66.3% 0.0 of 4.5 GByteYear HSM/Tape (0.0 of 2.8 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 606.1 G.S.T), 0.0%	
0.0 of 10.0 Day Training (0.0 of 108.7 G.S.T), 0.0%	
Total usage for project cse050 2477.6 of 3344.5 Generic Service Tokens, 74.1%	
ass057 CD/D22000 Krashalriak	
cse057 GR/R23909 Krushelnick	
Last Trade: Wed Aug 18 11:19:30 2004	
2310.0 of 2310.0 PEHour MPP PE CPU (55.9 of 55.9 G.S.T), 100.0%	
1.0 of 1.0 GByteYear HP Disk (5.7 of 5.7 G.S.T), 100.0%	
11407.0 of 14461.6 Hour Newton CPU (1746.3 of 2214.0 G.S.T), 78.9%	
1.7 of 62.2 Hour SMP CPU (0.1 of 2.4 G.S.T), 2.7%	
0.1 of 0.2 GByteYear MP Disk (0.2 of 0.6 G.S.T), 33.1%	
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 606.1 G.S.T), 0.0%	
0.0 of 10.0 Day Training (0.0 of 108.7 G.S.T), 0.0%	
Total usage for project cse057 1808.2 of 3017.5 Generic Service Tokens, 59.9%	
000000 CD /D17059 Dobb	
cse060 GR/R17058 Robb	
Last Trade: re-enabled	
Usage:	
113625.7 of 113625.7 PEHour MPP PE CPU (2747.3 of 2747.3 G.S.T), 100.0%	
0.0 of 0.0 GByte Year HP Disk (0.0 of 0.0 G.S.T)	
0.3 of 48.8 Hour Wren CPU (0.0 of 2.4 G.S.T), 0.5%	
0.0 of 2.6 GByteYear MP Disk SAN (0.0 of 6.2 G.S.T), 0.0%	
14254.4 of 14307.1 Hour Green CPU (744.8 of 747.6 G.S.T), 99.6%	
0.0 of 7.0 PersonDay Support (0.0 of 212.1 G.S.T), 0.0%	
1.0 of 10.0 Day Training (10.9 of 108.7 G.S.T), 10.0%	
Total usage for project cse060 3503.0 of 3824.3 Generic Service Tokens, 91.6%	
cse064 GR/R43570 Leschziner	
Last Trade: Mon May 24 10:32:16 2004	
Usage:	
56736.5 of 56736.5 PEHour MPP PE CPU (1371.8 of 1371.8 G.S.T), 100.0%	
0.6 of 0.5 GByteYear HP Disk (3.3 of 3.2 G.S.T), 103.2%	
20.5 of 3412.3 Hour Newton CPU (3.1 of 522.4 G.S.T), 0.6%	
49.2 of 78.4 Hour Wren CPU (2.4 of 3.9 G.S.T), 62.7%	
0.0 of 14.5 GByteYear HP Disk SAN - /d (0.0 of 53.3 G.S.T), 0.0%	
•	
12193.7 of 16267.0 Hour SMP CPU (473.7 of 632.0 G.S.T), 75.0%	
2.4 of 23.0 GByteYear MP Disk (5.7 of 54.8 G.S.T), 10.4%	
139.6 of 250.4 GByteYear HSM/Tape (88.1 of 158.0 G.S.T), 55.7%	
99392.8 of 139578.7 Hour Green CPU (5193.5 of 7293.3 G.S.T), 71.2%	
0.0 of 10.0 PersonDay Support (0.0 of 303.0 G.S.T), 0.0%	
2.0 of 8.0 Day Training (21.7 of 87.0 G.S.T), 25.0%	
Total usage for project cse064 7163.4 of 10482.7 Generic Service Tokens, 68.3%	

 72794.8 of 72794.8 PEHour MPP PE CPU (1760.1 of 1760.1 G.S.T), 100.0% 23.3 of 23.3 GByteYear HP Disk (138.5 of 138.5 G.S.T), 100.0% 2.2 of 7170.4 Hour Newton CPU (0.3 of 1097.7 G.S.T), 0.0% 10.0 of 78.4 Hour Wren CPU (0.5 of 3.9 G.S.T), 12.7% 0.0 of 113.8 GByteYear MP Disk SAN (0.0 of 270.9 G.S.T), 0.0% 2389.2 of 2450.4 Hour SMP CPU (92.8 of 95.2 G.S.T), 97.5% 17.7 of 28.0 GByteYear MP Disk (42.2 of 66.8 G.S.T), 63.1% 43346.8 of 71168.9 Hour Green CPU (2265.0 of 3718.7 G.S.T), 60.9% 0.0 of 5.0 PersonDay Support (0.0 of 151.5 G.S.T), 0.0% 3.0 of 6.0 Day Training (32.6 of 65.2 G.S.T), 50.0% Total usage for project cse066 4332.0 of 7368.6 Generic Service Tokens, 58.8% 	
cse071 GR/R23657 Iacovides Last Trade: Thu Jul 15 10:25:10 2004 Usage: 14049.8 of 15314.9 Hour Newton CPU (2150.9 of 2344.6 G.S.T), 91.7% 2.2 of 223.3 Hour Wren CPU (0.1 of 11.1 G.S.T), 1.0% 1.5 of 13.6 GByteYear MP Disk SAN (3.5 of 32.5 G.S.T), 10.8% 140.5 of 22708.5 Hour SMP CPU (5.5 of 882.3 G.S.T), 0.6% 1.8 of 11.3 GByteYear HSM/Tape (1.1 of 7.1 G.S.T), 15.9% 3236.6 of 16991.9 Hour Green CPU (169.1 of 887.9 G.S.T), 19.0% 1.5 of 5.0 PersonDay Support (45.5 of 151.5 G.S.T), 30.0% 2.0 of 6.0 Day Training (21.7 of 65.2 G.S.T), 33.3% Total usage for project cse071 2397.4 of 4382.1 Generic Service Tokens, 54.7%	
cse072 GR/R66692 Karlin Last Trade: Tue Apr 27 14:30:50 2004 Usage: 41583.1 of 41583.1 PEHour MPP PE CPU (1005.4 of 1005.4 G.S.T), 100.0% 0.9 of 0.8 GByteYear HP Disk (5.3 of 4.5 G.S.T), 118.1% 1909.7 of 20478.9 Hour Newton CPU (292.4 of 3135.2 G.S.T), 9.3% 0.2 of 15.7 Hour Wren CPU (0.0 of 0.8 G.S.T), 1.2% 0.0 of 4.6 GByteYear MP Disk SAN (0.0 of 10.9 G.S.T), 0.0% 0.0 of 12.0 Hour SMP CPU (0.0 of 0.5 G.S.T), 0.0% 0.0 of 4.0 GByteYear MP Disk (0.0 of 9.5 G.S.T), 0.0% 0.0 of 0.0 GByteYear MP Disk (0.0 of 545.5 G.S.T), 0.0% 0.0 of 18.0 PersonDay Support (0.0 of 545.5 G.S.T), 0.0% 7.0 of 9.0 Day Training (76.1 of 97.8 G.S.T), 77.8% Total usage for project cse072 1379.2 of 4810.1 Generic Service Tokens, 28.7%	
cse074 GR/R66197 Luo Last Trade: Thu Dec 18 10:23:19 2003 Usage: 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 2660.8 Hour Newton CPU (0.0 of 407.3 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 21.4 G.S.T), 0.0% Total usage for project cse074 0.0 of 452.1 Generic Service Tokens, 0.0%	
cse075 GR/R67699 Coveney Last Trade: re-enabled Usage: 8401.8 of 8401.8 PEHour MPP PE CPU (203.1 of 203.1 G.S.T), 100.0% 76.3 of 76.3 GByteYear HP Disk (454.2 of 454.2 G.S.T), 100.0% 0.0 of 21088.4 Hour Newton CPU (0.0 of 3228.5 G.S.T), 0.0%	

67.7 of 263.6 Hour Wren CPU (3.4 of 13.1 G.S.T), 25.7% 74.0 of 350.5 GByteYear MP Disk SAN (176.1 of 834.6 G.S.T), 21.1% 7704.1 of 31500.0 Hour SMP CPU (299.3 of 1223.8 G.S.T), 24.5% 903.2 of 1013.5 GByteYear MP Disk (2150.4 of 2413.1 G.S.T), 89.1% 457.1 of 1959.4 GByteYear HSM/Tape (288.4 of 1236.2 G.S.T), 23.3% 139691.9 of 471540.5 Hour Green CPU (7299.2 of 24639.0 G.S.T), 29.6% 0.0 of 34.0 PersonDay Support (0.0 of 1030.3 G.S.T), 0.0% 5.0 of 14.0 Day Training (54.3 of 152.2 G.S.T). 35.7% Total usage for project cse075 10928.5 of 35428.0 Generic Service Tokens, 30.8% cse076 GR/R66975 Briddon Last Trade: Tue Jan 6 08:37:11 2004 Usage: 9437.9 of 4161.1 PEHour MPP PE CPU (228.2 of 100.6 G.S.T), 226.8% 1.9 of 1.3 GByteYear HP Disk (11.3 of 8.0 G.S.T), 140.6% 272033.0 of 388618.2 Hour Newton CPU (41646.2 of 59494.5 G.S.T), 70.0% 102.4 of 504.6 Hour Wren CPU (5.1 of 25.0 G.S.T), 20.3% 268169.5 of 267888.9 Hour SMP CPU (10418.8 of 10407.9 G.S.T), 100.1% 14.2 of 23.2 GByteYear MP Disk (33.9 of 55.2 G.S.T), 61.3% 254717.4 of 259907.5 Hour Green CPU (13309.5 of 13580.7 G.S.T), 98.0% 11.0 of 20.0 PersonDay Support (333.3 of 606.1 G.S.T), 55.0% 0.0 of 0.0 Day Training (0.0 of 0.0 G.S.T) Total usage for project cse076 65986.3 of 84278.0 Generic Service Tokens, 78.3% cse076a Last Trade: never Usage: 55761.7 of 43073.5 Hour Newton CPU (8536.7 of 6594.2 G.S.T), 129.5% Total usage for subproject cse076a 8536.7 of 6594.2 Generic Service Tokens, 129.5% cse077 GR/R69792 Kronenburg Last Trade: Thu Apr 8 11:25:40 2004 Usage: 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) 27824.4 of 47380.6 Hour Newton CPU (4259.7 of 7253.6 G.S.T), 58.7% 0.4 of 30.0 Hour Wren CPU (0.0 of 1.5 G.S.T), 1.2% 0.0 of 25.0 GByteYear MP Disk SAN (0.0 of 59.5 G.S.T), 0.0% 31.1 of 33.6 Hour SMP CPU (1.2 of 1.3 G.S.T), 92.5% 0.0 of 47645.8 Hour Green CPU (0.0 of 2489.6 G.S.T), 0.0% 0.0 of 2.0 Day Training (0.0 of 21.7 G.S.T), 0.0% Total usage for project cse077 4260.9 of 9827.3 Generic Service Tokens, 43.4% cse082 GR/R79654 Barakos Last Trade: re-enabled Usage: 10.5 of 15.7 Hour Wren CPU (0.5 of 0.8 G.S.T), 66.9% 9174.1 of 9264.7 Hour SMP CPU (356.4 of 359.9 G.S.T), 99.0% 130.7 of 15.5 GByteYear MP Disk (311.2 of 36.8 G.S.T), 845.0% 0.7 of 28.7 GByteYear HSM/Tape (0.4 of 18.1 G.S.T), 2.3% 1446.5 of 1379.8 Hour Green CPU (75.6 of 72.1 G.S.T), 104.8% 0.0 of 5.0 PersonDay Support (0.0 of 151.5 G.S.T), 0.0% 0.0 of 1.0 Day Training (0.0 of 10.9 G.S.T), 0.0% Total usage for project cse082 744.1 of 650.2 Generic Service Tokens, 114.5%

cse084 GR/R47066 Needs
Last Trade: re-enabled
Usage:
312334.7 of 306225.8 PEHour MPP PE CPU (7551.9 of 7404.1 G.S.T), 102.0%
27.1 of 270.0 GByteYear HP Disk (161.3 of 1607.1 G.S.T), 10.0%
191.0 of 672.1 Hour Wren CPU (9.5 of 33.3 G.S.T), 28.4%
5516.5 of 14384.3 Hour SMP CPU (214.3 of 558.9 G.S.T), 38.4%
51.2 of 60.6 GByteYear MP Disk (121.9 of 144.3 G.S.T), 84.5%
80487.5 of 89153.1 Hour Green CPU (4205.6 of 4658.4 G.S.T), 90.3%
0.0 of 7.0 PersonDay Support (0.0 of 212.1 G.S.T), 0.0%
0.0 of 6.0 Day Training (0.0 of 65.2 G.S.T), 0.0%
Total usage for project cse084 12264.5 of 14683.6 Generic Service Tokens, 83.5%
005 CD D (4077 0 1
cse085 GR/R64957 Sandham
Last Trade: Mon Jul 26 09:21:37 2004
Usage:
1082577.4 of 1082710.0 PEHour MPP PE CPU (26175.3 of 26178.5 G.S.T), 100.0%
330.0 of 321.0 GByteYear HP Disk (1964.4 of 1910.7 G.S.T), 102.8%
47143.6 of 83632.5 Hour Newton CPU (7217.3 of 12803.5 G.S.T), 56.4%
98.8 of 791.1 Hour Wren CPU (4.9 of 39.2 G.S.T), 12.5%
6203.7 of 7979.9 Hour SMP CPU (241.0 of 310.0 G.S.T), 77.7%
312.8 of 750.0 GByteYear MP Disk (744.8 of 1785.7 G.S.T), 41.7%
3089.1 of 3268.5 GByte Year HSM/Tape (1948.9 of 2062.1 G.S.T), 94.5%
537236.2 of 598624.8 Hour Green CPU (28071.7 of 31279.4 G.S.T), 89.7%
2.0 of 2.0 PersonDay Support (60.6 of 60.6 G.S.T), 100.0%
8.0 of 8.0 Day Training (87.0 of 87.0 G.S.T), 100.0%
Total usage for project cse085 66516.0 of 76516.8 Generic Service Tokens, 86.9%
,,
cse086 GR/R83118 Taylor Last Trade: Thu May 13 09:35:22 2004 Usage: 884647.5 of 884647.5 PEHour MPP PE CPU (21389.6 of 21389.6 G.S.T), 100.0% 132.7 of 132.7 GByteYear HP Disk (789.9 of 790.0 G.S.T), 100.0% 36015.2 of 368221.5 Hour Newton CPU (5513.7 of 56371.9 G.S.T), 9.8% 894.6 of 3262.8 Hour Wren CPU (44.3 of 161.7 G.S.T), 27.4% 0.0 of 12.9 GByteYear HP Disk SAN - /d (0.0 of 47.6 G.S.T), 0.0% 0.0 of 46.6 GbyteYear HV Disk SAN - /d (0.0 of 55.5 G.S.T), 0.0% 20609.7 of 31906.3 Hour SMP CPU (800.7 of 1239.6 G.S.T), 64.6% 259.5 of 497.0 GByteYear MP Disk (618.0 of 1183.3 G.S.T), 52.2% 38.0 of 3750.0 GByteYear HSM/Tape (24.0 of 2365.9 G.S.T), 1.0% 302255.1 of 427900.0 Hour Green CPU (15793.5 of 22358.7 G.S.T), 70.6% 5.0 of 16.0 PersonDay Support (151.5 of 484.8 G.S.T), 31.3% 0.0 of 11.0 Day Training (0.0 of 119.6 G.S.T), 0.0% Total usage for project cse086 45125.2 of 106568.3 Generic Service Tokens, 42.3%
cse086a MP1 Last Trade: never Usage: 721660.7 of 750000.0 PEHour MPP PE CPU (17448.8 of 18134.0 G.S.T), 96.2% 8.5 of 10.0 GByteYear HP Disk (50.6 of 59.5 G.S.T), 85.0% 26768.9 of 30000.0 Hour Newton CPU (4098.1 of 4592.8 G.S.T), 89.2% 42.3 of 200.0 Hour Wren CPU (2.1 of 9.9 G.S.T), 21.1% 0.0 of 50.0 Hour SMP CPU (0.0 of 1.9 G.S.T), 0.0% 44.3 of 60.0 GByteYear MP Disk (105.4 of 142.9 G.S.T), 73.8% 0.0 of 1000.0 GByteYear HSM/Tape (0.0 of 630.9 G.S.T), 0.0% 26162.4 of 30000.0 Hour Green CPU (1367.0 of 1567.6 G.S.T), 87.2% Total usage for subproject cse086a 23072.1 of 25139.5 Generic Service Tokens, 91.8%

aaa006k MD2	
cse086b MP2 Last Trade: never	
Usage: 48449.5 of 56000.0 PEHour MPP PE CPU (1171.4 of 1354.0 G.S.T), 86.5%	
37.6 of 50.0 GByteYear HP Disk (223.8 of 297.6 G.S.T), 75.2%	
1929.3 of 15000.0 Hour Newton CPU (295.4 of 2296.4 G.S.T), 12.9%	
284.6 of 500.0 Hour Wren CPU (14.1 of 24.8 G.S.T), 56.9%	
9835.7 of 15000.0 Hour SMP CPU (382.1 of 582.8 G.S.T), 65.6%	
35.1 of 40.0 GByteYear MP Disk (83.7 of 95.2 G.S.T), 87.8%	
128593.1 of 150000.0 Hour Green CPU (6719.3 of 7837.8 G.S.T), 85.7%	
Total usage for subproject cse086b 8889.8 of 12488.6 Generic Service Tokens, 71.2%	
00006d MD4	
cse086d MP4	
Last Trade: never	
Usage:	
0.1 of 0.1 GByte Year HP Disk (0.5 of 0.6 G.S.T), 87.4%	
0.1 of 0.1 GByte Year MP Disk (0.3 of 0.2 G.S.T), 119.3%	
Total usage for subproject cse086d 0.8 of 0.8 Generic Service Tokens, 96.5%	
cse086e MP5	
Last Trade: never	
Usage:	
48.8 of 500.0 PEHour MPP PE CPU (1.2 of 12.1 G.S.T), 9.8%	
1.8 of 2.0 GByteYear HP Disk (10.5 of 11.9 G.S.T), 88.1%	
0.0 of 10000.0 Hour Newton CPU (0.0 of 1530.9 G.S.T), 0.0%	
453.7 of 1500.0 Hour Wren CPU (22.5 of 74.3 G.S.T), 30.2%	
0.0 of 5.0 GbyteYear HV Disk SAN /v (0.0 of 6.0 G.S.T), 0.0%	
7355.1 of 10000.0 Hour SMP CPU (285.8 of 388.5 G.S.T), 73.6%	
21.2 of 40.0 GByteYear MP Disk (50.5 of 95.2 G.S.T), 53.0%	
143013.7 of 150000.0 Hour Green CPU (7472.8 of 7837.8 G.S.T), 95.3%	
Total usage for subproject cse086e 7843.2 of 9956.8 Generic Service Tokens, 78.8%	
cse086f EC1	
Last Trade: never	
Usage:	
71.1 of 5000.0 PEHour MPP PE CPU (1.7 of 120.9 G.S.T), 1.4%	
3.8 of 5.0 GByte Year HP Disk (22.8 of 29.8 G.S.T), 76.6%	
0.8 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.4%	
4.8 of 50.0 Hour SMP CPU (0.2 of 1.9 G.S.T), 9.6%	
28.5 of 40.0 GByteYear MP Disk (67.9 of 95.2 G.S.T), 71.3%	
38.0 of 100.0 GByteYear HSM/Tape (24.0 of 63.1 G.S.T), 71.5%	
0.0 of 10000.0 Hour Green CPU (0.0 of 522.5 G.S.T), 0.0%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8%	
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Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8% cse086g EC2 Last Trade: never Usage:	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8% cse086g EC2 Last Trade: never Usage: 577.1 of 5000.0 PEHour MPP PE CPU (14.0 of 120.9 G.S.T), 11.5%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8% cse086g EC2 Last Trade: never Usage: 577.1 of 5000.0 PEHour MPP PE CPU (14.0 of 120.9 G.S.T), 11.5% 43.5 of 50.0 GByteYear HP Disk (258.9 of 297.6 G.S.T), 87.0%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8% cse086g EC2 Last Trade: never Usage: 577.1 of 5000.0 PEHour MPP PE CPU (14.0 of 120.9 G.S.T), 11.5% 43.5 of 50.0 GByteYear HP Disk (258.9 of 297.6 G.S.T), 87.0% 112.7 of 200.0 Hour Wren CPU (5.6 of 9.9 G.S.T), 56.3% 852.5 of 1000.0 Hour SMP CPU (33.1 of 38.9 G.S.T), 85.3%	
Total usage for subproject cse086f 116.7 of 843.4 Generic Service Tokens, 13.8% cse086g EC2 Last Trade: never Usage: 577.1 of 5000.0 PEHour MPP PE CPU (14.0 of 120.9 G.S.T), 11.5% 43.5 of 50.0 GByteYear HP Disk (258.9 of 297.6 G.S.T), 87.0% 112.7 of 200.0 Hour Wren CPU (5.6 of 9.9 G.S.T), 56.3%	

CfS

se086h EC3	
ast Trade: never	
Jsage:	
46335.1 of 50000.0 PEHour MPP PE CPU (1120.3 of 1208.9 G.S.T),	92.7%
7.0 of 10.0 GByteYear HP Disk (41.5 of 59.5 G.S.T), 69.7%	
0.0 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.0%	
219.9 of 250.0 Hour SMP CPU (8.5 of 9.7 G.S.T), 87.9%	
15.0 of 20.0 GByteYear MP Disk (35.7 of 47.6 G.S.T), 75.0% 0.0 of 10000.0 Hour Green CPU (0.0 of 522.5 G.S.T), 0.0%	
Total usage for subproject cse086h 1206.1 of 1858.2 Generic Service T	Okens, 64.9%
se086i EC4	
ast Trade: never	
Jsage:	
0.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8%	
0.1 of 0.1 GByteYear MP Disk (0.3 of 0.2 G.S.T), 119.3%	
Total usage for subproject cse086i 0.8 of 0.8 Generic Service Tokens, 9	96.1%
se086j BEC1	
ast Trade: never	
Jsage:	0.6 4.61
67505.3 of 70000.0 PEHour MPP PE CPU (1632.2 of 1692.5 G.S.T),	96.4%
1.7 of 3.0 GByte Year HP Disk (9.8 of 17.9 G.S.T), 55.1%	
7317.0 of 9000.0 Hour Newton CPU (1120.2 of 1377.8 G.S.T), 81.3% 0.0 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.0%	
0.0 of 0.1 Hour SMP CPU (0.0 of 0.0 G.S.T), 0.0%	
1.3 OF 3.0 GBVIE YEAR IVE DISK (1.1 OF 11.9 G.S.T), 9.3%	
0.5 of 5.0 GByteYear MP Disk (1.1 of 11.9 G.S.T), 9.3% 0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0%	
J.5 of 5.0 GByte Year MP Disk (1.1 of 11.9 G.S.1), 9.3% 0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0%	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0%	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% otal usage for subproject cse086j 2763.3 of 3162.3 Generic Service T	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 .ast Trade: never Jsage:	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 .ast Trade: never Jsage: 0.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8%	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 Last Trade: never Jsage: 0.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% 0.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2%	okens, 87.4%
0.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 Last Trade: never Jsage: 0.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% 0.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8%	okens, 87.4%
 D.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 	okens, 87.4%
 D.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByte Year HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByte Year MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% 	
 D.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 	
 D.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service Total 	
 D.0 of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se0889 GR/R85556 Wiercigroch 	
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 D. of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se089 GR/R85556 Wiercigroch ast Trade: re-enabled Jsage: D.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% D.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T) 	
 D. of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se089 GR/R85556 Wiercigroch ast Trade: re-enabled Jsage: D.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% D.0 of 9.0 GByteYear HP Disk (0.0 of 0.0 G.S.T) D.0 of 1952.1 Hour Wren CPU (0.0 of 96.7 G.S.T), 0.0% 	
 D. of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByte Year HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByte Year MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se0889 GR/R85556 Wiercigroch ast Trade: re-enabled Jsage: D.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% D.0 of 1952.1 Hour Wren CPU (0.0 of 96.7 G.S.T), 0.0% D.0 of 44.0 GByte Year HP Disk SAN - /d (0.0 of 162.4 G.S.T), 0.0% 	
 D. of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se0889 GR/R85556 Wiercigroch ast Trade: re-enabled Jsage: D.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% D.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T) D.0 of 1952.1 Hour Wren CPU (0.0 of 96.7 G.S.T), 0.0% D.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T), 86.3% 	
 D. of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByte Year HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByte Year MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se0889 GR/R85556 Wiercigroch ast Trade: re-enabled Jsage: D.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% D.0 of 1952.1 Hour Wren CPU (0.0 of 96.7 G.S.T), 0.0% D.0 of 44.0 GByte Year HP Disk SAN - /d (0.0 of 162.4 G.S.T), 0.0% 	
 D. of 1000.0 Hour Green CPU (0.0 of 52.3 G.S.T), 0.0% Total usage for subproject cse086j 2763.3 of 3162.3 Generic Service T se086k BEC2 ast Trade: never Jsage: D.1 of 0.1 GByteYear HP Disk (0.5 of 0.6 G.S.T), 86.8% D.5 of 200.0 Hour Wren CPU (0.0 of 9.9 G.S.T), 0.2% 2341.7 of 5000.0 Hour SMP CPU (91.0 of 194.3 G.S.T), 46.8% 19.1 of 25.0 GByteYear MP Disk (45.6 of 59.5 G.S.T), 76.6% 1385.0 of 20000.0 Hour Green CPU (72.4 of 1045.0 G.S.T), 6.9% Total usage for subproject cse086k 209.5 of 1309.3 Generic Service To se0889 GR/R85556 Wiercigroch ast Trade: re-enabled Jsage: D.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% D.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T) D.0 of 1952.1 Hour Wren CPU (0.0 of 96.7 G.S.T), 0.0% D.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T), 86.3% D.0 of 0.0 Hour SMP CPU (0.0 of 0.0 G.S.T), 0.0% 	

cse098 GR/S20062 De Souza Last Trade: Wed Aug 11 10:42:49 2004 Usage: 0.0 of 0.0 PEHour MPP PE CPU (0.0 of 0.0 G.S.T), 100.0% 0.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T) 7612.5 of 27304.8 Hour Newton CPU (1165.4 of 4180.2 G.S.T), 27.9% 0.1 of 10.0 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.9% 0.1 of 3975.4 Hour SMP CPU (0.0 of 154.5 G.S.T), 0.0% 3.7 of 60.0 GByteYear MP Disk (8.8 of 142.9 G.S.T), 6.2% 0.0 of 100.0 GByteYear HSM/Tape (0.0 of 63.1 G.S.T), 0.0% 7905.1 of 82589.8 Hour Green CPU (413.1 of 4315.5 G.S.T), 9.6% 0.0 of 5.0 PersonDay Support (0.0 of 151.5 G.S.T), 0.0% 0.0 of 5.0 Day Training (0.0 of 54.3 G.S.T), 0.0% Total usage for project cse098 1587.3 of 9062.4 Generic Service Tokens, 17.5% cse106 GR/S42712 Augarde Last Trade: Wed Nov 5 15:06:00 2003 Usage: 0.0 of 2500.0 Hour Wren CPU (0.0 of 123.9 G.S.T), 0.0% 0.0 of 37.4 GByteYear MP Disk SAN (0.0 of 89.2 G.S.T), 0.0% 0.0 of 50000.0 Hour Green CPU (0.0 of 2612.6 G.S.T), 0.0% 0.0 of 25.0 PersonDay Support (0.0 of 757.6 G.S.T), 0.0% 0.0 of 10.0 Day Training (0.0 of 108.7 G.S.T), 0.0% Total usage for project cse106 0.0 of 3691.9 Generic Service Tokens, 0.0% cse108 GR/S43498 Holden Last Trade: Wed Nov 5 15:55:15 2003 Usage: 0.3 of 700.0 Hour Wren CPU (0.0 of 34.7 G.S.T), 0.0% 0.0 of 832.1 GByteYear MP Disk SAN (0.0 of 1981.3 G.S.T), 0.0% 0.0 of 40000.0 Hour Green CPU (0.0 of 2090.1 G.S.T), 0.0% 0.0 of 10.0 PersonDay Support (0.0 of 303.0 G.S.T), 0.0% 0.0 of 6.0 Day Training (0.0 of 65.2 G.S.T), 0.0% Total usage for project cse108 0.0 of 4474.3 Generic Service Tokens, 0.0% cse110 GR/S43214 Leach Last Trade: Wed Nov 5 16:16:25 2003 Usage: 0.0 of 6000.0 Hour Wren CPU (0.0 of 297.3 G.S.T), 0.0% 0.0 of 67.6 GByteYear HP Disk SAN - /d (0.0 of 249.4 G.S.T), 0.0% 0.0 of 20.0 GByteYear MP Disk SAN (0.0 of 47.6 G.S.T), 0.0% 2.9 of 42000.0 Hour Green CPU (0.2 of 2194.6 G.S.T), 0.0% 0.0 of 30.0 PersonDay Support (0.0 of 909.1 G.S.T), 0.0% 0.0 of 25.0 Day Training (0.0 of 271.7 G.S.T), 0.0% Total usage for project cse110 0.2 of 3969.7 Generic Service Tokens, 0.0% cse111 GR/S46239 Avital

Last Trade: Fri Apr 16 14:41:37 2004 Usage: 0.0 of 800.1 Hour Wren CPU (0.0 of 39.6 G.S.T), 0.0% 0.0 of 272.3 GByteYear MP Disk SAN (0.0 of 648.4 G.S.T), 0.0% 0.0 of 56.3 GbyteYear HV Disk SAN /v (0.0 of 67.1 G.S.T), 0.0% 0.0 of 849.9 Hour SMP CPU (0.0 of 33.0 G.S.T), 0.0% 0.0 of 84.6 GByteYear HSM/Tape (0.0 of 53.4 G.S.T), 0.0% 0.0 of 94500.0 Hour Green CPU (0.0 of 4937.8 G.S.T), 0.0%

0.0 of 5.0 PersonDay Support (0.0 of 152.5 G.S.T), 0.0%	
0.0 of 6.0 Day Training (0.0 of 65.5 G.S.T), 0.0% Total usage for project cse111 0.0 of 5997.3 Generic Service Tokens, 0.0%	
cse112 GR/S67029 Chernyshenko Last Trade: Wed Apr 14 14:35:22 2004	
Usage:	
0.0 of 300.0 GByteYear MP Disk SAN (0.0 of 714.3 G.S.T), 0.0%	
0.0 of 160000.0 Hour Green CPU (0.0 of 8360.3 G.S.T), 0.0%	
0.0 of 16.5 PersonDay Support (0.0 of 499.3 G.S.T), 0.0%	
0.0 of 5.0 Day Training (0.0 of 54.5 G.S.T), 0.0%	
Total usage for project cse112 0.0 of 9628.4 Generic Service Tokens, 0.0%	
cse116 GR/S46567 John Last Trade: Thu Nov 6 10:47:31 2003	
Usage:	
0.0 of 558.1 Hour Wren CPU (0.0 of 27.7 G.S.T), 0.0%	
0.0 of 2.0 GByteYear MP Disk SAN (0.0 of 4.8 G.S.T), 0.0%	
0.0 of 2.0 GByteYear HSM/Tape (0.0 of 1.3 G.S.T), 0.0%	
0.0 of 5950.0 Hour Green CPU (0.0 of 310.9 G.S.T), 0.0%	
0.0 of 16.0 PersonDay Support (0.0 of 484.8 G.S.T), 0.0% 0.0 of 8.0 Day Training (0.0 of 87.0 G.S.T), 0.0%	
Total usage for project cse116 0.0 of 916.4 Generic Service Tokens, 0.0%	
cse117 Theodoropoulos	
Last Trade: Thu Apr 1 11:47:27 2004	
Usage:	
0.0 of 4000.1 Hour Wren CPU (0.0 of 198.2 G.S.T), 0.0%	
0.0 of 26.5 GByteYear MP Disk SAN (0.0 of 63.1 G.S.T), 0.0% 0.0 of 11499.9 Hour SMP CPU (0.0 of 446.8 G.S.T), 0.0%	
0.0 of 15500.1 Hour Green CPU (0.0 of 809.9 G.S.T), 0.0%	
Total usage for project cse117 0.0 of 1518.0 Generic Service Tokens, 0.0%	
cse118 GR/S72023 Gavaghan	
Last Trade: Wed Apr 28 14:12:37 2004	
Usage: 0.0 of 150000.0 Hour Newton CPU (0.0 of 22963.9 G.S.T), 0.0%	
0.0 of 40.4 Hour Wren CPU (0.0 of 2.0 G.S.T), 0.0%	
0.0 of 184.2 GByteYear MP Disk SAN (0.0 of 438.5 G.S.T), 0.0%	
0.0 of 22.0 PersonDay Support (0.0 of 666.7 G.S.T), 0.0%	
0.0 of 11.0 Day Training (0.0 of 119.6 G.S.T), 0.0%	
Total usage for project cse118 0.0 of 24190.6 Generic Service Tokens, 0.0%	
cse120 Harding	
Last Trade: Tue Aug 31 16:01:28 2004	
Usage:	
0.0 of 554000.0 Hour Newton CPU (0.0 of 84813.2 G.S.T), 0.0%	
0.0 of 100.0 GByteYear MP Disk SAN (0.0 of 238.0 G.S.T), 0.0%	
0.0 of 10.0 Day Training (0.0 of 108.8 G.S.T), 0.0%	
Total usage for project cse120 0.0 of 85160.0 Generic Service Tokens, 0.0%	
cse121 GR/S88116 Shluger	
Last Trade: Tue Jul 6 15:32:01 2004	
Usage:	
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0.0 of 280118.3 Hour Newton CPU (0.0 of 42884.0 G.S.T), 0.0% 0.0 of 20.2 Hour Wren CPU (0.0 of 1.0 G.S.T), 0.0% 0.0 of 10.1 GByteYear MP Disk SAN (0.0 of 24.0 G.S.T), 0.0% 0.0 of 40.1 PersonDay Support (0.0 of 1215.0 G.S.T), 0.0% 0.0 of 10.1 Day Training (0.0 of 110.0 G.S.T), 0.0% Total usage for project cse121 0.0 of 44234.0 Generic Service Tokens, 0.0%
cse133 GR/S13422 Catlow Last Trade: Mon May 10 14:48:07 2004 Usage: 20181.5 of 399686.4 Hour Newton CPU (3089.6 of 61189.0 G.S.T), 5.0% 0.0 of 8.0 Hour Wren CPU (0.0 of 0.4 G.S.T), 0.0% 0.0 of 20.0 GByte Year MP Disk SAN (0.0 of 47.6 G.S.T), 0.0% Total usage for project cse133 3089.6 of 61237.0 Generic Service Tokens, 5.0%
cse139 GR/S71552 McDougall Last Trade: Tue Aug 3 10:44:04 2004 Usage: 0.0 of 89000.0 Hour Newton CPU (0.0 of 13625.2 G.S.T), 0.0% 0.0 of 500.0 Hour Wren CPU (0.0 of 24.8 G.S.T), 0.0% 0.0 of 157.0 GByteYear MP Disk SAN (0.0 of 373.8 G.S.T), 0.0% 0.0 of 105.0 GByteYear HSM/Tape (0.0 of 66.2 G.S.T), 0.0% 0.0 of 15000.0 Hour Green CPU (0.0 of 783.8 G.S.T), 0.0% 0.0 of 34.0 PersonDay Support (0.0 of 1030.3 G.S.T), 0.0% 0.0 of 16.0 Day Training (0.0 of 173.9 G.S.T), 0.0% Total usage for project cse139 0.0 of 16078.0 Generic Service Tokens, 0.0%
csedl1 - Castep port to Altix Last Trade: re-enabled Usage: 31169.6 of 49578.0 Hour Newton CPU (4771.8 of 7590.0 G.S.T), 62.9% 11.9 of 500.0 Hour Wren CPU (0.6 of 24.8 G.S.T), 2.4% 7.1 of 69.2 GByte Year MP Disk SAN (16.9 of 164.8 G.S.T), 10.2% 0.0 of 125.0 GByte Year HSM/Tape (0.0 of 78.9 G.S.T), 0.0% 6.0 of 6.0 Day Training (65.2 of 65.3 G.S.T), 99.9% Total usage for project csedl1 4854.5 of 7923.8 Generic Service Tokens, 61.3%
csedl1a Computational Cemistry Last Trade: never Usage: 0.0 of 3500.0 Hour Newton CPU (0.0 of 535.8 G.S.T), 0.0% 0.0 of 150.0 Hour Wren CPU (0.0 of 7.4 G.S.T), 0.0% 0.0 of 19.5 GByteYear MP Disk SAN (0.0 of 46.4 G.S.T), 0.0% 0.0 of 37.0 GByteYear HSM/Tape (0.0 of 23.3 G.S.T), 0.0% Total usage for subproject csedl1a 0.0 of 613.0 Generic Service Tokens, 0.0%
csedl1b Molecular Simulation Last Trade: never Usage: 1.5 of 3493.0 Hour Newton CPU (0.2 of 534.8 G.S.T), 0.0% 0.0 of 50.0 Hour Wren CPU (0.0 of 2.5 G.S.T), 0.0% 0.8 of 7.5 GByteYear MP Disk SAN (2.0 of 17.9 G.S.T), 11.3% 0.0 of 13.0 GByteYear HSM/Tape (0.0 of 8.2 G.S.T), 0.0% Total usage for subproject csedl1b 2.2 of 563.3 Generic Service Tokens, 0.4%

csedl1c Materials Last Trade: never Usage: 29382.0 of 33800.0 Hour Newton CPU (4498.2 of 5174.5 G.S.T), 86.9% 1.5 of 100.0 Hour Wren CPU (0.1 of 5.0 G.S.T), 1.5% 3.2 of 15.0 GByteYear MP Disk SAN (7.7 of 35.7 G.S.T), 21.7% 0.0 of 25.0 GBvteYear HSM/Tape (0.0 of 15.8 G.S.T), 0.0% Total usage for subproject csedl1c 4506.0 of 5231.0 Generic Service Tokens, 86.1% csedl1d - Band Theory Last Trade: never Usage: 0.0 of 3500.0 Hour Newton CPU (0.0 of 535.8 G.S.T), 0.0% 0.0 of 50.0 Hour Wren CPU (0.0 of 2.5 G.S.T), 0.0% 0.0 of 7.5 GByteYear MP Disk SAN (0.0 of 17.9 G.S.T), 0.0% 0.0 of 13.0 GByteYear HSM/Tape (0.0 of 8.2 G.S.T), 0.0% Total usage for subproject csedl1d 0.0 of 564.4 Generic Service Tokens, 0.0% csedl1e High End Computing Last Trade: never Usage: 0.0 of 3500.0 Hour Newton CPU (0.0 of 535.8 G.S.T), 0.0% 10.3 of 150.0 Hour Wren CPU (0.5 of 7.4 G.S.T), 6.9% 3.0 of 19.5 GByteYear MP Disk SAN (7.1 of 46.4 G.S.T), 15.3% 0.0 of 37.0 GByteYear HSM/Tape (0.0 of 23.3 G.S.T), 0.0% Total usage for subproject csedl1e 7.6 of 613.0 Generic Service Tokens, 1.2% csehpcx - benchmarking Last Trade: Mon Dec 22 17:17:41 2003 Usage: 11200.6 of 11200.4 PEHour MPP PE CPU (270.8 of 270.8 G.S.T), 100.0% 16.1 of 15.6 GByteYear HP Disk (95.9 of 92.8 G.S.T), 103.3% 8128.2 of 11615.0 Hour Newton CPU (1244.4 of 1778.2 G.S.T), 70.0% 1.7 of 1464.1 Hour Wren CPU (0.1 of 72.5 G.S.T), 0.1% 16.9 of 1867.0 Hour SMP CPU (0.7 of 72.5 G.S.T), 0.9% 9.7 of 61.9 GByteYear MP Disk (23.2 of 147.3 G.S.T), 15.8% 22589.0 of 46273.2 Hour Green CPU (1180.3 of 2417.9 G.S.T), 48.8% Total usage for project csehpcx 2815.3 of 4852.0 Generic Service Tokens, 58.0% csn001 Webb & GST/02/2846 Killworth & T/S/2001/00187 New Last Trade: Fri Aug 20 12:10:16 2004 Usage: 403672.6 of 403672.5 PEHour MPP PE CPU (9760.3 of 9760.3 G.S.T), 100.0% 307.2 of 306.0 GByteYear HP Disk (1828.6 of 1821.4 G.S.T), 100.4% 1518.9 of 3266.0 Hour Newton CPU (232.5 of 500.0 G.S.T), 46.5% 858.1 of 2741.4 Hour Wren CPU (42.5 of 135.8 G.S.T), 31.3% 246574.1 of 249662.1 Hour SMP CPU (9579.8 of 9699.8 G.S.T), 98.8% 575.4 of 722.2 GByteYear MP Disk (1370.1 of 1719.4 G.S.T), 79.7% 34338.8 of 36368.7 GByteYear HSM/Tape (21664.8 of 22945.5 G.S.T), 94.4% 1136181.0 of 1158296.3 Hour Green CPU (59367.8 of 60523.4 G.S.T), 98.1% 61.0 of 61.5 PersonDay Support (1848.5 of 1863.6 G.S.T), 99.2% 3.0 of 5.3 Day Training (32.6 of 57.5 G.S.T), 56.7% Total usage for project csn001 105727.6 of 109026.8 Generic Service Tokens, 97.0% 17

csn003 UGAMP O'Neill
Last Trade: Thu Aug 12 11:50:05 2004
Usage:
7500413.8 of 7500414.8 PEHour MPP PE CPU (181350.4 of 181350.4 G.S.T), 100.0%
113.5 of 113.5 GByteYear HP Disk (675.6 of 675.6 G.S.T), 100.0%
433773.4 of 493995.4 Hour Newton CPU (66407.4 of 75627.0 G.S.T), 87.8%
3479.9 of 6045.2 Hour Wren CPU (172.4 of 299.5 G.S.T), 57.6%
529.6 of 740.6 GbyteYear HV Disk SAN /v (631.2 of 882.8 G.S.T), 71.5%
208759.9 of 239545.9 Hour SMP CPU (8110.6 of 9306.7 G.S.T), 87.1%
125.4 of 373.8 GByteYear MP Disk (298.6 of 889.9 G.S.T), 33.6%
96183.6 of 116324.4 GByteYear HSM/Tape (60683.6 of 73390.8 G.S.T), 82.7%
730788.0 of 871684.1 Hour Green CPU (38185.2 of 45547.3 G.S.T), 83.8%
8.0 of 13.3 PersonDay Support (242.4 of 401.6 G.S.T), 60.4%
30.0 of 34.0 Day Training (326.1 of 369.9 G.S.T), 88.2%
Total usage for project csn003 357083.6 of 388741.4 Generic Service Tokens, 91.9%
csn006 GR9/3550 Price
Last Trade: Fri Apr 30 15:00:17 2004
Usage:
1618734.3 of 1618734.0 PEHour MPP PE CPU (39138.9 of 39138.9 G.S.T), 100.0%
191.1 of 192.2 GByteYear HP Disk (1137.6 of 1144.3 G.S.T), 99.4%
· · · · · · · · · · · · · · · · · · ·
47205.2 of 159047.2 Hour Newton CPU (7226.8 of 24348.9 G.S.T), 29.7%
631.4 of 78.4 Hour Wren CPU (31.3 of 3.9 G.S.T), 805.2%
79341.9 of 340287.6 Hour SMP CPU (3082.6 of 13220.7 G.S.T), 23.3%
89.5 of 169.5 GByte Year MP Disk (213.1 of 403.6 G.S.T), 52.8%
14.0 of 20.3 GByte Year HSM/Tape (8.8 of 12.8 G.S.T), 68.9%
779003.3 of 1009032.8 Hour Green CPU (40704.5 of 52724.0 G.S.T), 77.2%
Total usage for project csn006 91543.6 of 130997.1 Generic Service Tokens, 69.9%
csn015 Proctor
Last Trade: Thu Aug 19 14:25:19 2004
Usage:
e e e e e e e e e e e e e e e e e e e
257682.2 of 257682.2 PEHour MPP PE CPU (6230.4 of 6230.4 G.S.T), 100.0%
6.8 of 6.8 GByteYear HP Disk (40.4 of 40.4 G.S.T), 100.0%
0.0 of 40204.2 Hour Newton CPU (0.0 of 6155.0 G.S.T), 0.0%
270.1 of 381.3 Hour Wren CPU (13.4 of 18.9 G.S.T), 70.8%
2696.7 of 6776.8 Hour SMP CPU (104.8 of 263.3 G.S.T), 39.8%
89.9 of 99.3 GByteYear MP Disk (214.1 of 236.4 G.S.T), 90.6%
4876.7 of 6269.3 GByteYear HSM/Tape (3076.8 of 3955.4 G.S.T), 77.8%
536182.3 of 568213.3 Hour Green CPU (28016.6 of 29690.3 G.S.T), 94.4%
7.0 of 22.0 PersonDay Support (212.1 of 667.2 G.S.T), 31.8%
3.0 of 13.0 Day Training (32.6 of 141.3 G.S.T), 23.1%
Total usage for project csn015 37941.3 of 47398.6 Generic Service Tokens, 80.0%
101ai usage 101 project esti015 57741.5 01 47596.0 Genetic Service Tokells, 80.0%
csn043 NER/T/S/2001/01159 Haines
Last Trade: Mon Jan 12 10:47:00 2004
0.0 of 10.0 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%
0.0 of 288.0 GByteYear MP Disk SAN (0.0 of 685.7 G.S.T), 0.0%
0.0 of 25544.0 Hour SMP CPU (0.0 of 992.4 G.S.T), 0.0%
0.001200+4.01100100010101010000000000000000000
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0%
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0% 0.0 of 20.0 PersonDay Support (0.0 of 606.1 G.S.T), 0.0%
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0% 0.0 of 20.0 PersonDay Support (0.0 of 606.1 G.S.T), 0.0% 0.0 of 36.0 Day Training (0.0 of 391.3 G.S.T), 0.0%
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0% 0.0 of 20.0 PersonDay Support (0.0 of 606.1 G.S.T), 0.0%
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0% 0.0 of 20.0 PersonDay Support (0.0 of 606.1 G.S.T), 0.0% 0.0 of 36.0 Day Training (0.0 of 391.3 G.S.T), 0.0%
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0% 0.0 of 20.0 PersonDay Support (0.0 of 606.1 G.S.T), 0.0% 0.0 of 36.0 Day Training (0.0 of 391.3 G.S.T), 0.0%
0.0 of 19200.0 Hour Green CPU (0.0 of 1003.2 G.S.T), 0.0% 0.0 of 20.0 PersonDay Support (0.0 of 606.1 G.S.T), 0.0% 0.0 of 36.0 Day Training (0.0 of 391.3 G.S.T), 0.0%

Last Trade: Wed Aug 28 11:09:50 2002	
Usage:	
9948.9 of 13857.9 PEHour MPP PE CPU (240.6 of 335.1 G.S.T), 71.8%	
0.0 of 5.0 GByteYear HP Disk (0.0 of 30.0 G.S.T), 0.0%	
0.0 of 28.4 Hour Wren CPU (0.0 of 1.4 G.S.T), 0.0%	
0.2 of 73.9 Hour SMP CPU (0.0 of 2.9 G.S.T), 0.3%	
0.0 of 5.0 GByteYear MP Disk (0.0 of 11.9 G.S.T), 0.0%	
19.0 of 53.8 GByteYear HSM/Tape (12.0 of 33.9 G.S.T), 35.2%	
Total usage for project csn044 252.5 of 415.2 Generic Service Tokens, 60.8%	
csn050 NER/T/S/2002/00450 Challenor	
Last Trade: Thu Jan 8 16:12:46 2004	
Usage:	
0.0 of 32773.8 Hour Newton CPU (0.0 of 5017.4 G.S.T), 0.0%	
0.0 of 10.0 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%	
0.0 of 100.0 GByteYear MP Disk SAN (0.0 of 238.1 G.S.T), 0.0%	
0.0 of 100.0 GByteYear HSM/Tape (0.0 of 63.1 G.S.T), 0.0%	
Total usage for project csn050 0.0 of 5319.1 Generic Service Tokens, 0.0%	
csn056 NER/T/S/2002/00441 Hoskins - Merged	
Last Trade: re-enabled	
Usage:	
0.0 of 5722.8 Hour Newton CPU (0.0 of 876.1 G.S.T), 0.0%	
0.0 of 10.0 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%	
0.0 of 27.0 GByteYear MP Disk SAN (0.0 of 64.3 G.S.T), 0.0%	
0.0 of 56.0 GByteYear HSM/Tape (0.0 of 35.3 G.S.T), 0.0%	
0.0 of 0.0 Hour Green CPU (0.0 of 0.0 G.S.T)	
Total usage for project csn056 0.0 of 976.2 Generic Service Tokens, 0.0%	
csn057 NER/T/S/2002/00442 Guilyardi - Merged	
Last Trade: re-enabled	
Usage:	
0.0 of 19123.2 Hour Newton CPU (0.0 of 2927.6 G.S.T), 0.0%	
0.0 of 10.0 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%	
0.0 of 14.0 GByte Year MP Disk SAN (0.0 of 33.3 G.S.T), 0.0%	
0.0 of 115.0 GByteYear HSM/Tape (0.0 of 72.6 G.S.T), 0.0%	
0.0 of 55000.0 Hour Green CPU (0.0 of 2873.9 G.S.T), 0.0%	
Total usage for project csn057 0.0 of 5907.9 Generic Service Tokens, 0.0%	
csn058 NER/T/S/2002/00443 Tudhope - Merged	
Last Trade: re-enabled	
Usage: 0.0 of 7338.0 Hour Newton CPU (0.0 of 1123.4 G.S.T), 0.0%	
0.0 of 9.3 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%	
0.0 of 6.0 GByteYear MP Disk SAN (0.0 of 14.3 G.S.T), 0.0%	
0.0 of 105.0 GByteYear HSM/Tape (0.0 of 66.2 G.S.T), 0.0%	
0.0 of 52500.0 Hour Green CPU (0.0 of 2743.2 G.S.T), 0.0%	
Total usage for project csn058 0.0 of 3947.6 Generic Service Tokens, 0.0%	
csn059 NER/T/S/2002/00446 Watson	
Last Trade: Mon Jan 12 16:41:49 2004	
Usage:	
0.0 of 9.5 Hour Wren CPU (0.0 of 0.5 G.S.T), 0.0%	
0.0 of 755.0 GByteYear MP Disk SAN (0.0 of 1797.6 G.S.T), 0.0%	
0.0 of 3775.0 GByte Year HSM/Tape (0.0 of 2381.7 G.S.T), 0.0%	

0.0 of 246288.7 Hour Green CPU (0.0 of 12869.1 G.S.T), 0.0% 0.0 of 45.0 PersonDay Support (0.0 of 1363.6 G.S.T), 0.0% 0.0 of 4.0 Day Training (0.0 of 43.5 G.S.T), 0.0%	
Total usage for project csn059 0.0 of 18456.0 Generic Service Tokens, 0.0%	
csnadm Last Trade: Mon Feb 23 14:12:27 2004	
Usage:	
0.0 of 961.1 Hour Wren CPU (0.0 of 47.6 G.S.T), 0.0%	
0.0 of 1.0 GByteYear MP Disk SAN (0.0 of 2.4 G.S.T), 0.0%	
Total usage for project csnadm 0.0 of 50.0 Generic Service Tokens, 0.0%	
csp007 PPA/G/O/2002/00004 Hibbert	
Last Trade: Thu Apr 22 14:12:25 2004	
Usage: 36870.0 of 36870.0 PEHour MPP PE CPU (891.5 of 891.5 G.S.T), 100.0%	
0.0 of 0.0 GByteYear HP Disk (0.0 of 0.0 G.S.T)	
22.1 of 600.0 Hour Wren CPU (1.1 of 29.7 G.S.T), 3.7%	
0.0 of 60.0 GByteYear HP Disk SAN - /d (0.0 of 221.4 G.S.T), 0.0% 0.0 of 17963.6 Hour SMP CPU (0.0 of 697.9 G.S.T), 0.0%	
0.0 of 50.0 GByteYear MP Disk (0.0 of 119.0 G.S.T), 0.0%	
Total usage for project csp007 892.6 of 1959.6 Generic Service Tokens, 45.5%	
HPCI Daresbury	
Last Trade: Mon Oct 7 10:07:27 2002	
Usage:	
34683.7 of 34482.9 PEHour MPP PE CPU (838.6 of 833.8 G.S.T), 100.6%	
5.1 of 3.8 GByteYear HP Disk (30.3 of 22.7 G.S.T), 133.4% 1.9 of 0.0 Hour Wren CPU (0.1 of 0.0 G.S.T), 486215.1%	
4062.9 of 4120.4 Hour SMP CPU (157.8 of 160.1 G.S.T), 98.6%	
2.8 of 1.7 GByteYear MP Disk (6.7 of 4.0 G.S.T), 166.5%	
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 (10.9 of 10.9 G.S.T), 99.7% Total usage for project hpcid 1609.7 of 1580.0 Generic Service Tokens, 101.9%	
HPCI Edinburgh	
Last Trade: Wed Jul 11 12:09:29 2001 Usage:	
1759.1 of 4070.6 PEHour MPP PE CPU (42.5 of 98.4 G.S.T), 43.2%	
5.1 of 4.7 GByte Year HP Disk (30.2 of 28.1 G.S.T), 107.4%	
698.4 of 770.8 Hour SMP CPU (27.1 of 29.9 G.S.T), 90.6%	
4.6 of 2.8 GByteYear MP Disk (11.0 of 6.7 G.S.T), 165.2% 1728.7 of 1739.8 Hour Green CPU (90.3 of 90.9 G.S.T), 99.4%	
Total usage for project hpcie 201.3 of 254.1 Generic Service Tokens, 79.2%	
HPCI Southampton Last Trade: re-enabled	
Usage:	
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 (188.9 of 188.2 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 (7.4 of 7.1 G.S.T), 104.6% Total usage for project hpcis 215.6 of 377.9 Generic Service Tokens, 57.1%	

CfS

Project	PI Name	Subject	Discipline/Department
	vane		DisciplinorDepartment
cse002	Wander, A (Dr)	Support for the UKCP	Physics
cse003	Dundas, D (Dr)	HPC Consortiums 98-2000	.
cse004	Sandham, N (Prof)	UK Turbulence	
cse006	Briddon, P (Dr)	Covalently Bonded Materials	
cse007	Foulkes, M (Dr)	Quantum Many Body Theory	
Cse008	Vincent, M (Dr)		
		Model Chemical Reactivity	Chamister
cse009	Slater, Ben	HPC Computing Applications in Materials Chemistry	Chemistry
cse010	William, J (Dr)	Free Surface Flows	
cse011	William, J (Dr)	Open Channel Flood Plains	
cse013	Leschziner, M (Prof)	Large Eddy Simulation for Aerospace & Turbomachinery Dynamics	Mechanical Engineering
cse014	De Oliverira, C (Dr)	Problems in Nuclear Safety	
cse016	Cant, S (Dr)	Turbulent Combustion	
cse017	Luo, K (Dr)	Large Eddy Simulation & Modelling of Buoyant Plumes & Smoke Spread in Enclosures	
cse018	Jaffri, K		
cse019	Lander, J (Dr)		
cse021	Staunton, J (Dr)		
cse022	Jones, WP (Prof)		
cse023	Allen, M (Prof)		
cse024	Allan, RJ (Dr)		
cse025	Walet, NR (Dr)		
cse026	Neal, M (Dr)		
cse020	Apsley, DD (Dr)		
cse029	Desplat, JC (Dr)	High Performance Computing for complex Fluids	Physics
		Inga retormance computing for complex rulus	1 Hysics
cse033	Breard, CC (Dr)	Ab Initia Simulations of Catalatic Decourses at Table 11 March 0.	Chamin
cse035	Jenkins, S (Dr)	Ab Initio Simulations of Catalytic Processes at Extended Metal Surfaces	Chemistry
cse036	Duff, I (Prof)	Research & Development of Algorithms & Software for Large-Scale Linear & Non-Linear Systems	Maths
cse040	Badcock, K (Dr)	Prediction of Non-Linear Flutter Characteristics by Numerical Path Following & Model Reduction	Aerospace Engineeering
cse041	Wu, X (Dr)	Flutter & Noise Generation Mechanisms - Turbomachinery Fan Assemblies	Mechanical Engineering
cse042	Leschziner, M (Prof)		
cse043	Williams, J (Dr)	Numerical Simulation of Flow over a Rough Bed	Engineering
cse050	Bradley, D (Prof)	Flame Instabilities: their influence on turbulent combustion & incorporation in mathematical models.	Mechanical Engineering
cse052	Di Mare, F (Miss)	Heat Transfer in Turbine Combustors	Mechanical Engineering
cse053	Leschziner, M (Prof)	Coupling RANS Near-Wall Turbulence Models with Large Eddy Simulation Strategies	Aerospace Engineering
cse055	Staunton, J (Dr)	Ab-initio theory of magnetic anisotropy in transition metal ferromagnets	Physics
cse056	Zheng, Y (Dr)	Aerothermalelasticity Modelling of Air Riding Seals for Large Gas Turbines	Mechanical Engineering
cse057	Evans, R (Dr)	Relativistic Particle Generation from Ultra-Intense Laser Plasma Interactions	Physics
cse059	Cross, (Prof)		

CfS

cse060	Robb, M (Prof)	CCP1 Renewal plus falgship project on Car-Parrinello in Chemistry	Chemistry
cse061	Imregun, M (Prof)	Casing treatment modelling for the investigation of stall, flutter and	Mechanical Engineering
		noise mechanisms in turbomachinery compressors.	
cse063	Sandham, N (Prof)	Computational Aerocaustics for Turbulent Plane Jets	Aerospace Engineering
cse064	Leschziner, M (Prof)	Improvement of predictive performance of anisotropy-resolving turbulence models in post-reattachment recovery region of separated flow using Large Eddy Simulation	Aerodynamics
cse065	Williams, J (Dr)		
cse066	Coveney, P V (Prof)	New clay-polymer nanocomposites using diversity-discovery methods: synthesis, processing and testing	IT
cse067	Williams, J (Dr)		
cse068	Bressloff		
cse069	Lou (Dr)		
cse071	Iacovides (Dr)	The Practical Computation of Three-Dimensional Time-Dependent Turbulent Flows in Rotating Cavities	Mechanical Engineering
cse072	Karlin, V (Dr)	Structure & Dynamics of Unstable Premixed Laminar Flames	Engineering
cse073	Alavi		
cse074	Luo (Dr)	Consortium on Computational Combustion for Engineering Applications	Engineering
cse075	Coveney, PV (Prof)	The Reality Grid - a tool for investigating condensed matter & materials	IT
cse076	Briddon, P (Dr)	HPC facilities for the first principles simulation of covalently bonded materials	IT
cse077	Kronenburg, A (Dr)	Combustion Model Development for Large-Eddy Simulation of Non- Premixed Reactive Flows.	Mechanical Engineering
cse078	Staunton		
cse080	Gao		
cse081	Hickey		
cse082	Barakos, G (Dr)	CFD Study of Three-dDimensional Dynamic Shelf	Aerospace Engineering
cse084	Needs, R (Dr)	The Consortium for Computational Quantum Many-Body Theory	Physics
cse085	Sandham, N (Prof)	UK Turbulence Consortium	Engineering
cse086	Taylor, K (Prof)	Multiphoton, Electron Collisions and BEC HPC Consortium 2002-2004	Physics
cse087	Williams, J (Dr)		
cse088	Coleman		
cse089	Wiercigroch, M (Dr)	Nonlinear Dynamics & Rock Contact Fracture Mechanics in Modelling of Vibration Enhanced Drilling	Engineering
cse090	Imregun, M (Prof)		
cse091	Avital		
cse092	Allen		
cse093	Williams, J (Dr)		
cse094	John		

cse095	Barford		
cse096	Lo		
Cse097	Hickey		
cse098	De Souza, M M (Dr)	Indium interaction in silicon for ULSI technologies	Physics
cse099	Williams, J (Prof)		
cse100	Gao, S (Dr)	Dev of Novel Aerodynamic Lenses for Focusing Nanoparticle Beams	Engineering
cse101	Jiang (Dr)	Direct Numerical Simulation of Fuel-Air Mixing with Passive Flow Control of Diesel Combustion.	Mechanical Engineering
cse102	Williams, J (Prof)	Numerical Modelling of Flow around Bridge Piers	Engineering
cse103	Neil, M P (Prof)	Simulation and Modelling of liquid crystalmesopases linked to the design of molecular and material properties.	Mathematics
cse104	Greaves, D M (Dr)	CFD Modelling of free surface waves driven by moving bodies using adaptively refined cut cell hierarchical grids	
cse105	Chemyshenko, S I (Prof)	Optimal database of the direct numerical simulation of turbulent channel flow	Aerodynamics & Flight Mechanics
cse106	Augarde (Dr)	Parametric Studies of multiple tunnels	Engineering
cse107	Hicks, MA (Dr)	Parallel Finite Elements for Stochastic Analysis	Engineering
cse108	Holden, AV (Prof)	Large-scale parallelisation of electro-physiological & mechanical cardiac virtual tissues.	Biomedical Sciences
cse109	Allen, M (Prof)	University of Warwick New HPC Project	Physics
cse110	Leach, SA (Dr)	Application of HE Computing to Develop Complex Stochastic Models to aid Public Health & National Operational Responses to Infectious Disease Threats.	
cse111	Avital, Eldad 9Dr)	A numerical study of three dimensional wakes generated by free surface piecing circular cylinders	Engineering
cse112	Chemyshenko, SI (Prof)	Master-mode analysis of the genesis of organized structures in turbulent flows.	Engineering - Aerodynamics
cse113	Wirth, T (Prof)	Stereoselective Halocyclisations	Chemistry
cse114	Jiang, X (Dr)	Direct numerical simulation of fuel injection & spray combustion	Engineering
cse115	De Leeuw, N (dr)	A computational study of bio-mineralisation: nucleation and growth of bone material on biological templates	
cse116	John, N (Dr)	An Advanced environment for enabling visual supercomputing	
cse117	Theodoropoulos, K (Dr)	Modelling of Microreactors: An integrated Multi-scale Approach	
cse118	Gavaghan, David (Dr)	EPSRC e-science pilot in Integrative Biology	
csn001	De Cuevas, B (Mrs)	OCCAM	Ocean/Earth Sciences
csn002	Vincent, Mark (Dr)		
csn003	Steenman-Clark, L (Dr)	UGAMP	Meteorology
csn005	Huw Davies, J (Prof)		
csn006	Brodholt, J (Dr)	HPC for Mineral Physics	Geological Sciences
csn009	Proctor, R (Dr)		
csn011	Gray, SL (Dr)		
csn012	Tennyson, J (Prof)	Calculated Absorption by water vapour at near infra-red & optical wavelengths	Physics & Astronomy
csn013	Voke, P (Prof)	Large Eddy Simulation Extended by Extreme Value Theory for the Prediction of Dispersion, Concentration Threshold Boundaries & Field Connectivity	Mechanical & Materials Engineering
csn014	Llewellyn Jones (Prof)	Data Assimilation scheme to optimize info on the surface-atmosphere interface from satellite observations of Top-of-the Atmosphere Brightness Temp.	Physics & Astronomy
csn015	Proctor, R (Dr)	A Testbed for Zooplankton Models of the Irish Sea	Coastal & Marine Sciences
csn017	Payne, A (Dr)	Stability of the Antarctic Ice Sheet	Geography
csn029	Allen, MR (Dr)		
csn030	New		
csn031	Richards		
csn032	Sutton		
csn033	Saunders		
csn033 csn035	Saunders Robinson		
		Assimilation of Altimeter, Radiometer & in situ data into the OCCAM model. Analysis of water properties & transports	Environmental Science
csn035	Robinson		Environmental Science
csn035 csn036	Robinson Liu, C (Dr)		Environmental Science
csn035 csn036 csn038	Robinson Liu, C (Dr) Oppenheimer		Environmental Science
csn035 csn036 csn038 csn039	Robinson Liu, C (Dr) Oppenheimer Beven		Environmental Science

csn044	Steenman-Clark, L (Dr)	Earth Observation Project	Meteorology
csn045	Slingo		meteorology
csn045	Aitken		
csn047	Gubbins		
csn048	Brodholt		
csn049	Srokosz	Climate impact changes in Atlantic Thermohaline.	
csn050	Challenor	The Probability of rapid climate change	
	Proctor	Ultr-fine scale modeling of the northern North Atlantic Thermohaline.	
csn051 csn052	Xie, Z (Dr0		Earth Sciences
		Quantifying the scaling of physical transport in structured heterogeneous porous media	
csn053	Das, S (Dr)	Rupture History of large earthquakes from analysis of broad band seismograms, and its physical interpretation.	Earth Sciences
csn054	Thuburn, J (Dr)	An Integrated Model of Atmospheric Convection	Meteorology
csn055	Vocadlo, L (Dr0	The structure and anisotropy of Earths inner core.	Earth Sciences
csn056	Hoskins B (Prof)	Atmospheric water vapour budget & it's relevance to the thermohaline circulation	Meteorology
csn057	Guilyardi, E (Dr)	Role of salinity in ocean circulation and climate response to greenhouse gas forcing.	Atmospheric Modelling
csn058	Tudhope, A (Dr)	Improving ability to predict rapid changes in the el nino southern oscillation climatic phenomenon	Atmospheric Modelling
csn059	Watson, AJ (Prof)	Circulation, overflow & deep connection in the Nordic seas.	Environmental Sciences
csb001	Houldershaw, D (Dr)	Use of Cray T3E for multiple long trajectories of protein unfolding	Crystallography
csb002	Mulholland, A (Dr)		
csb003	Carling, J (Dr)		
csb004	Greenall		
csb005	Haley	Genetic Analysis of Complex Traits	
csb006	Sansom, M (Prof)	DFT calculations for ion channels and transport proteins	Biochemistry
csp002	Chapman, S (Dr)		
csp003	Ord, SM (Mr)		
csp004	Bell, K L (Prof)	A Programme for Atomic Physics for Astrophysics at Queen's University Belfast (2001-2005)	Astronomy
csp005	Chapman	Cinversity Benast (2001-2003)	
csp005	Jain, R (Dr)	Numerical Simulation of forced magnetic reconnection in the solar	Physics
-		corona	
csp007	Scott, P (Dr)	A Programme for Atomic Physics for Astrophysics at Queens University Belfast (2001-2005)	Astronomy
css001	Boyle, P (dr)		
css002	Crouchley, R (Dr)		
HPCID	Allan, R (Dr)		
HPCIE	Henty, D (Dr)		
HPCIS	Nicole, D (Dr)		
UKHEC	Allan, R (Dr)	UK HEC Collaboration, Core Support for High-End Computing 1999-	
cs2009	Pennington, V (Dr)	2002	
cs2011	Mallinger, F (Dr)		
cs2012	Qin, N (Prof)		
cs2014	Karlin, V (Dr)		
cs2015	Tejera Cuesta, P (Mr)		
cs2016	Miles, JJ (Dr)		
	Miles, JJ (Dr) Eisenbach, M (Mr)		
cs2017			
cs2017 cs2028	Eisenbach, M (Mr)		
cs2017 cs2028 cs2030	Eisenbach, M (Mr) Annett (dr)		
cs2017 cs2028 cs2030 cs2031	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr)		
cs2017 cs2028 cs2030 cs2031 cs2032	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess	Image: Image of the second	Physics
cs2016 cs2017 cs2028 cs2030 cs2031 cs2032 cs2034 cs2035	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity	Physics Aerospace Engineering
cs2017 cs2028 cs2030 cs2031 cs2032 cs2034 cs2035	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr)		Aerospace Engineering Mechanical Aerospace & Manufacturin
cs2017 cs2028 cs2030 cs2031 cs2032 cs2034 cs2035	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows	Aerospace Engineering
cs2017 cs2028 cs2030 cs2031 cs2032 cs2034 cs2035 cs2036	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular	Aerospace Engineering Mechanical Aerospace & Manufacturin
cs2017 cs2028 cs2030 cs2031 cs2032 cs2033 cs2036 cs2037 cs2038	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr) Domene, Carmen (Dr) Excell, P (Prof)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular Processes for Mobile Phone Safety Research	Aerospace Engineering Mechanical Aerospace & Manufacturi Engineering Informatics
cs2017 cs2028 cs2030 cs2031 cs2032 cs2033 cs2035 cs2036 cs2038 cs2039	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr) Domene, Carmen (Dr) Excell, P (Prof) Carlborg (Dr)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular Processes for Mobile Phone Safety Research Genetic Analysis of Complex Traits	Aerospace Engineering Mechanical Aerospace & Manufacturi Engineering Informatics Genetics & Biometry
cs2017 cs2028 cs2030 cs2031 cs2032 cs2034 cs2035 cs2036 cs2037	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr) Domene, Carmen (Dr) Excell, P (Prof)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular Processes for Mobile Phone Safety Research	Aerospace Engineering Mechanical Aerospace & Manufacturi Engineering Informatics
cs2017 cs2028 cs2030 cs2031 cs2032 cs2033 cs2036 cs2037 cs2038	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr) Domene, Carmen (Dr) Excell, P (Prof) Carlborg (Dr)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular Processes for Mobile Phone Safety Research Genetic Analysis of Complex Traits Impulse radio propogation in a dense multipath & shadowed	Aerospace Engineering Mechanical Aerospace & Manufacturin Engineering Informatics Genetics & Biometry Computer Science
cs2017 cs2028 cs2030 cs2031 cs2032 cs2033 cs2035 cs2036 cs2037 cs2038 cs2039 cs2040	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr) Domene, Carmen (Dr) Excell, P (Prof) Carlborg (Dr) Costen, F (Mrs)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular Processes for Mobile Phone Safety Research Genetic Analysis of Complex Traits Impulse radio propogation in a dense multipath & shadowed environment for ultra-wideband communication systems	Aerospace Engineering Mechanical Aerospace & Manufacturin Engineering Informatics Genetics & Biometry Computer Science Mechanical Aerospace & Manufacturin
cs2017 cs2028 cs2030 cs2031 cs2032 cs2033 cs2034 cs2035 cs2037 cs2038 cs2039 cs2040	Eisenbach, M (Mr) Annett (dr) McKenna, K (Mr) Ess Jain, R (Dr) Chichkine, M (Mr) Barakos, G (Dr) Farid, Vakili-Tahami (Mr) Domene, Carmen (Dr) Excell, P (Prof) Carlborg (Dr) Costen, F (Mrs) Filippone, A (Dr)	Detached Eddy Simulation of Aerodynamics & Aerocautics of Cavity Flows MPI Evaluation Ab initio molecular dynamics of ion in membrane proteins Computational Bioelectromagnetic Modeling of Human Cellular Processes for Mobile Phone Safety Research Genetic Analysis of Complex Traits Impulse radio propogation in a dense multipath & shadowed environment for ultra-wideband communication systems Numerical Study of the 3D obstructed shear-driven cavity flow. A temporally continuous high-resolution record of global sea level	Aerospace Engineering Mechanical Aerospace & Manufacturin Engineering Informatics Genetics & Biometry Computer Science Mechanical Aerospace & Manufacturin Engineering

cs3003	Chambers, E (Dr)		
cs3004	Avis, N (Prof)		
cs3005	Zarei, B (Mr)		
cs3007	Finch, E		
cs3008	Alsberg, B (Dr)		
cs3009	Flower, D (Dr)		
cs3010	Kemsley, K (Dr)		
cs3012	Austin, J (Dr)		
cs3013	Raval, R (Prof)		
cs3014	MacLaren, J (Dr)		
cs3015	Hampshire, D (Dr)	High Performance Computational Solutions for the Ginzburg-Landau Equations that describe Flux Pinning in High-Field Superconductors	Physics
cs3016	Petchey, O (Dr)	Randomisation test for the significance of functional diversity for eco- system processes	Animal & Plant Sciences
cs3017	Gross, M (Mr)	Numerical Simulation of Laser Materials Processing	Engineering
cs3018	Durrant, M (Dr)	Functional modelling of oxalate-degrading enzymes & of lipoxygenase using quantum calculations.	Biology
cs3019	Bengough (Dr)	Lattice-Boltzmann simulation of water & solute transport in porous media.	Physics
Cs3020	Gajjar	Flow past a circular cylunder at large Reynoldss numbers	
cs4001	White P		
cs4002	Cooper A (Miss)		
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