ARCHER CSE Service Quarterly Report

Quarter 2 2017

1. Executive Summary

This report covers the period: 1 April 2017 to 30 June 2017 inclusive.

- Centralised CSE Team:
  - To help users choose the correct HPC resource for their work, we have run the ARCHER benchmarks on the EPSRC Tier-2 facility, Cirrus and published the results on the ARCHER website at: http://www.archer.ac.uk/community/benchmarks/archer/ We will extend this work across Tier-2 systems as they come online.
  - The *benchio* parallel I/O benchmark application has been extended to investigate read performance. This will allow us to provide additional advice to users on how to get the best performance out of the ARCHER file systems.
  - We have updated the Parallel I/O white paper with results from the DDN Lustre file systems on Cirrus and COSMA6. This white paper now provides a comprehensive overview of the parallel I/O performance across many different HPC systems providing an invaluable resource for users of such systems and for institutions procuring parallel file systems.
- Training:
  - We delivered 19 days (482 student-days) of face-to-face training in the quarter at 7 different locations, with an average feedback score better than "Very Good".
  - To inform ARCHER users of the potential benefits of new and emerging techniques in Data Science, we ran a new 2-day course "Data Analytics with HPC" using the ARCHER Data Analytics Cluster system as the main platform.
  - Videos of all the lectures from the recent "Scientific Computing" course, which was also webcast live, are available on the ARCHER web pages, providing a persistent training resource for all ARCHER users.
- ARCHER Outreach Project:
  - The Diversity in HPC website (www.hpc-diversity.ac.uk) continues to develop and grow, with 18 interviews and 18 historical biographies now available online. This is developing into a significant resource highlighting and celebrating diversity in HPC.
  - Annual Women in HPC event: Our third event took place on Wednesday 5th April at the University of Leeds. Attendees were introduced to topics including Unconscious / Implicit bias, stereotype threat and impostor syndrome as well as discussions on common misconceptions around diversity.
  - Wee Archie was part of the Future Emerging Art and Technology (FEAT) exhibition between April and June 2017 at the Dundee Life Sciences gallery. This was part of an art piece, and brought Wee Archie to a completely different audience with a different approach and style used by the visiting artists.
  - Instructions are now available online for Wee Archlet, a small build your own cluster. This has been developed to allow schools and programming clubs to develop their own cluster while developing knowledge and practical skills in programming and HPC.
- eCSE:
  - Of 78 projects from the first 10 eCSE calls, 76 have started and 57 have now completed. The remaining 2 projects are due to start within the next 3 months. Of those completed, 52 final reports have been received, 39 of which have been reviewed with the remainder under review.
  - The eCSE11 call opened on 28 March 2017 and closed on 9 May 2017 receiving 18 proposals. At the corresponding Panel meeting on 27 June 6 projects were selected for funding awarding a total of 49 person months. 2 Early Career Researcher Panel Observers attended the Panel meeting.
  - We originally committed to funding at least 840 person months. A total of 846 person months have now been awarded with an expectation of around another 40 person months extra being available for a final call.

2. Collaborations and Outputs Summary

- Presentations:
  - Andy Turner, Using Spack to manage software, HPC-SIG, 11 May 2017, University of Sussex, UK
  - Nick Brown, ARCHER and eCSE, British Geological Survey, 15 June 2017, Edinburgh, UK
  - Andy Turner, UK National HPC Facilities, Scottish Universities Meeting, 16 June 2017, Edinburgh, UK
- Meetings:
  - 3rd Annual Women in HPC Event, 5 April 2017, University of Leeds, UK
  - International Supercomputing Conference 2017, 18-22 June, Frankfurt, Germany
    - Range of diversity activities, including 6th International WHPC workshop
  - ARCHER Champions Meeting, 26-27 June 2017, Hartree Centre, UK
  - DiRAC Workshop, 29 June 2017, Imperial College, London, UK
- Papers:
  - Nick Brown, Porting the microphysics model CASIM to GPU and KNL Cray machines, Cray User Group 2017, 7-11 May 2017, Redmond, USA
  - Nick Brown, In-situ data analytics for highly scalable cloud modelling on Cray machines, Cray User Group 2017, 7-11 May 2017, Redmond, USA
  - Clair Barrass, David Henty, Novel approaches to HPC user engagement, Cray User Group 2017, 7-11 May 2017, Redmond, USA
  - Toni Collis, Improving diversity at HPC conferences and events, http://www.hpc-diversity.ac.uk/best-practice-guide/access-best-practice
  - Wee Archlet Raspberry Pi supercomputer build instructions: https://epcced.github.io/wee_archlet/

3. Forward Look

- Centralised CSE Team:
  - We will analyse the results from running the ARCHER benchmarks on ARCHER and Cirrus and produce a short report describing the differences in performance to help users choose appropriate facilities at the upcoming Open/RAP call.
  - We have started running the ARCHER benchmarks on the Thomas Tier-2 system at UCL and will incorporate results from this into our report comparing performance across systems. We will continue to run the benchmarks on other Tier-2 systems as they become available.
  - At the request of EPSRC, we will analyse the statistics on memory usage from the Cray RUR tool to provide information on current and potential future requirements for the national HPC service.
- Training:
  - To promote interaction with the new Tier-2 centres, we are planning to run a GPU course on JADE at Daresbury, and an Advanced MPI course in Cambridge.
  - We plan to record the lectures from the upcoming ARCHER Summer School to enhance our online training content.
  - We will promote the next run of our free five-week Supercomputing MOOC to ARCHER users to help raise awareness of the wide scale benefits of HPC.
- Outreach:
  - We have been working closely with a local primary school to develop resources for our teacher's pack. This pack contains resources to help teachers in delivering the curriculum. We plan to publish a first public draft based on feedback from teachers and pupils before term starts again in the autumn. This pack will provide
  - The last quarter has seen effort focused on developing material for the Ambassadors pack. The aim of this pack it to provide resources to ARCHER users to support their visits to local schools and science festivals. Future work will focus on releasing this before the schools return in the autumn.
- eCSE:
  - We are planning for there to be one more eCSE call (eCSE12) and are expecting to be able to provide at least an extra 40 person months in addition to the 846 person months already funded. These additional months are funded out of the savings across previous calls, due to the lower than expected increases in staffing costs (resulting from low UK inflation levels) and the funding of several technical staff whose costings do not attract the usual overheads expected for academic staff.

4. Contractual Performance Report

This is the contractual performance report for the ARCHER CSE Service for the Reporting Periods: April 2017, May 2017 and June 2017.

The metrics were specified by EPSRC in Schedule 2.2 of the CSE Service Contract.

CSE Query Metrics

- **QE1:** The percentage of all queries notified to the Contractor by the Help Desk in a Quarter that the Contractor responds to, and agrees a work plan with, the relevant End User within 3 working hours of receiving the notification from the Help Desk. *Service Threshold: 97%; Operating Service Level: 98%.*
- **QE2:** The percentage of all queries notified by the Help Desk to the Contractor that have been satisfactorily resolved or otherwise completed by the Contractor within a 4-month period from the date it was first notified to the Contractor. *Service Threshold: 80%; Operating Service Level: 90%.*
- **TA1:** The percentage of all technical assessments of software proposals provided to the Contractor by the Help Desk in any Service Period that are successfully completed by the Contractor within 10 days of the technical assessment being provided to the Contractor by the Help Desk. *Service Threshold: 85%; Operating Service Level: 90%.*
- **FB1:** The percentage of End User satisfaction surveys for CSE queries carried out in accordance with the Performance Monitoring System by the Contractor showing the level of End User satisfaction to be "satisfactory", "good" or "excellent". *Service Threshold: 30%; Operating Service Level: 50%.*

Period	Apr-17		May-17		Jun-17		Q2 2017	
Metric	**Perf.**	**SP**	**Perf.**	**SP**	**Perf.**	**SP**	**Perf.**	**Total**
QE1	100%	-2	100%	-2	100%	-2	100%	-6
QE2	100%	-2	100%	-2	100%	-2	100%	-6
TA1	100%	-1	100%	-1	100%	-1	100%	-3
FB1					0%	+2	0%	+2
Total		-5		-5		-3		-13

Pink – Below Service Threshold
Yellow – Below Operating Service Level
Green – At or above Operating Service Level

The FB1 metric is below service threshold as a single feedback rating of "Unsatisfactory" was recorded against one query and no other feedback ratings were received. The user left this rating as they felt that the query took too long to resolve. Although the query was difficult (as it involved remote visualisation of debugging results at the user's local site) the issue should have been resolved sooner. We have reviewed processes to try and ensure that queries are resolved as soon as possible and reminded staff of the need for expediency in resolving In Depth queries.

This failure to meet the service threshold was caused, in part, by the extreme sensitivity due to the lack of feedback responses received for all other In Depth queries resolved in the period. This is the first time we have received such a low number of responses and we plan to put in place two changes to try and address the issue:

1. Send an additional reminder to users about feedback 1 week after closing the query (if they have not already submitted feedback)
2. Let users know that we will donate £1 to charity for each feedback response received on In Depth queries

Training Metrics

- **FB2:** The percentage of all training satisfaction surveys carried out in accordance with the Performance Monitoring System by the Contractor) in each Quarter that are rated "good", "very good" or "excellent". *Service Threshold: 70%; Operating Service Level: 80%.*

Period	Apr-17		May-17		Jun-17		Q2 2017	
Metric	Perf.	SP	Perf.	SP	Perf.	SP	Perf.	Total
FB2	93.8%	-1	100%	-1	100%	-1	100%	-3
Total		-1		-1		-1		-3

Pink – Below Service Threshold
Yellow – Below Operating Service Level
Green – At or above Operating Service Level

Service Credits

Period	Apr-17	May-17	Jun-17
Total Service Points	-6	-6	-4

5. CSE Queries

Queries Resolved in Reporting Period

Metric Descriptions

In-Depth	All technical queries passed to ARCHER CSE team
Course Registration	Requests for registration on ARCHER training courses or enquiries about registration
Technical Assessment: <Category>	Request for Technical Assessments of applications for ARCHER time
eCSE Application	Queries relating to eCSE applications

A total of 485 queries were resolved by the CSE service in the reporting period.

Metric	Apr-17	May-17	Jun-17	Total	% Total
Course Registration	143	127	92	362	74.6%
Technical Assessment: RAP	1	33	3	37	7.6%
In-Depth	7	13	11	31	6.4%
Course Enquiry	8	11	4	23	3.8%
eCSE Application	0	13	3	16	3.3%
Technical Assessment: Grant	2	6	2	10	2.1%
Technical Assessment: Instant	4	2	0	6	1.2%

1 query feedback response of "Unsatisfactory" was received on In-Depth queries in the reporting period. This represents a 0% return rate for feedback forms. We discuss above the reason for this response and our plans to try and improve feedback rates.

Resolved In-Depth queries fell into the following categories:

Category	Number of Queries	% Queries
3rd party software	19	61.3%
User programs	6	19.4%
Compilers and system software	2	6.5%
Batch system and queues	1	3.2%
User behaviour	1	3.2%
Disks and resources	1	3.2%
Performance and scaling	1	3.2%

In-Depth Query Highlights

A small number of In-Depth queries have been selected to illustrate the work of the centralised CSE team over the reporting period.

Q856501: Issues with MITgcm

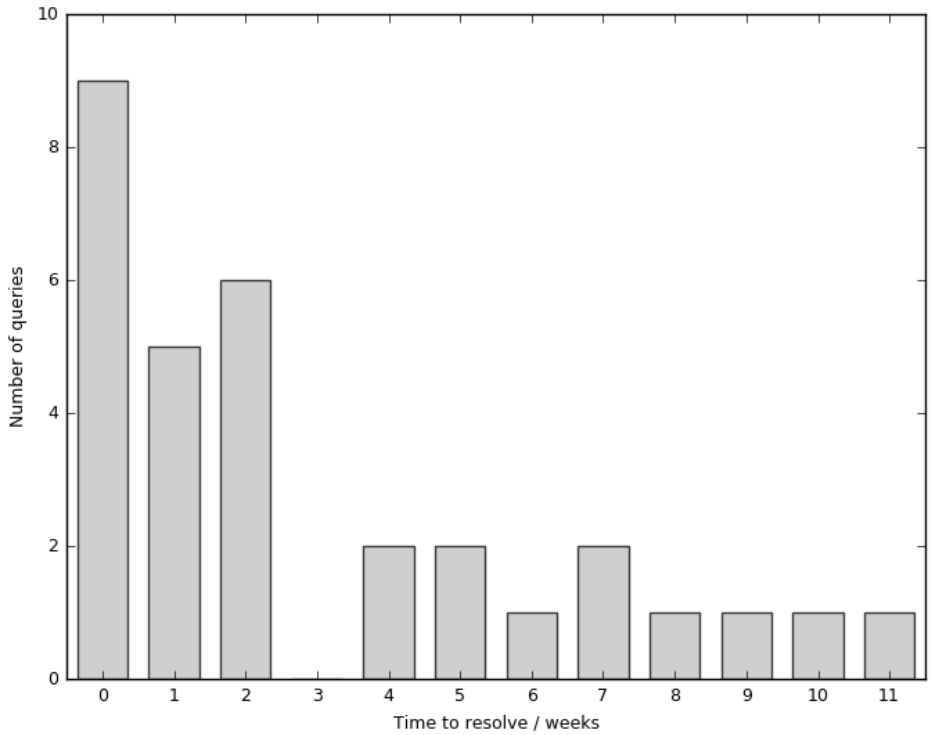
A user was trying to compile and run a custom version of the MITgcm ocean modelling code and ran into issues as they increased the number of cores used for the calculation. The CSE team investigated the issue and found a problem with the parallel decomposition on the higher numbers of cores that was causing the problem. The user was advised on the maximum numbers of cores that they could successfully use for their model. We also provided advice on how to produce a more optimised version of the application using the Cray compilers and helped them get past several errors in the compilation process that arose when switching compilers. The user now has a reliable, better performing version of MITgcm that allows them to make better use of their resources on ARCHER.

Q846061: OpenMP

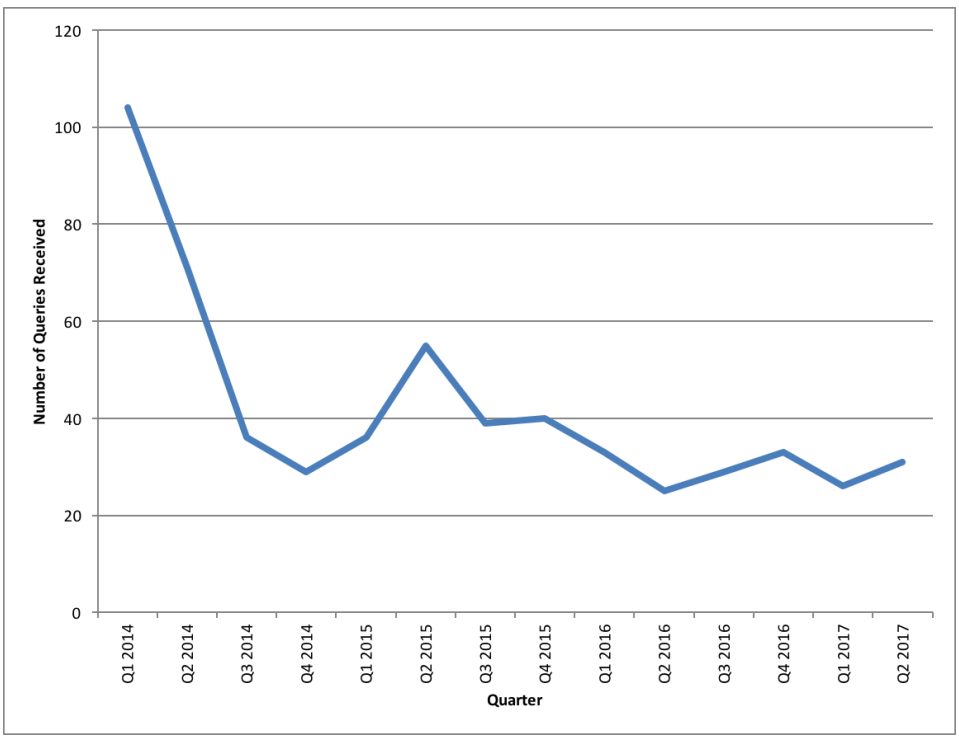
A user got in touch for advice on the OpenMP parallelisation in their MPI+OpenMP CFD application after attending an EPCC OpenMP course 15 years previously! In particular, they wanted advice on how the OpenMP parallelisation could be improved in the Y-code part of their application. The CSE team took the application, profiled it and examined the source code. We were then able to provide specific advice on the best strategy for developing the OpenMP parallelisation to improve the application performance. Advice was also provided on how the user may go about applying for eCSE funding to obtain staff effort to implement the advised changes.

In-Depth Query Analysis

The histogram below shows the time to resolution for In-Depth queries in the current reporting period. The median resolution time during this period is 2 weeks (median resolution time since 1 Jan 2014 is 2 weeks).

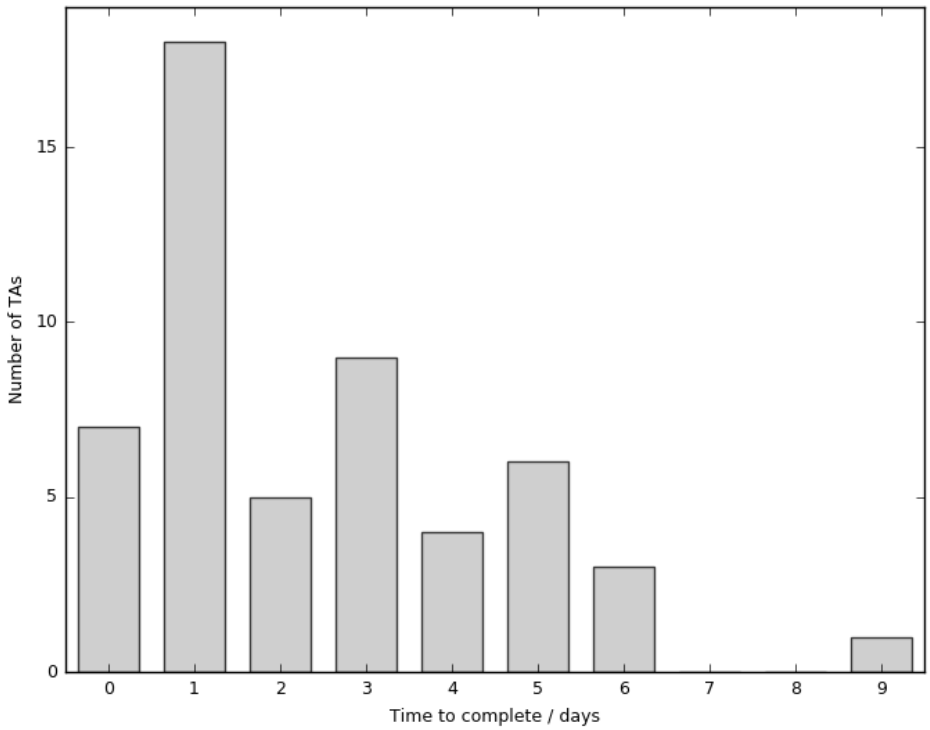


Plot of numbers of In Depth queries received per quarter:

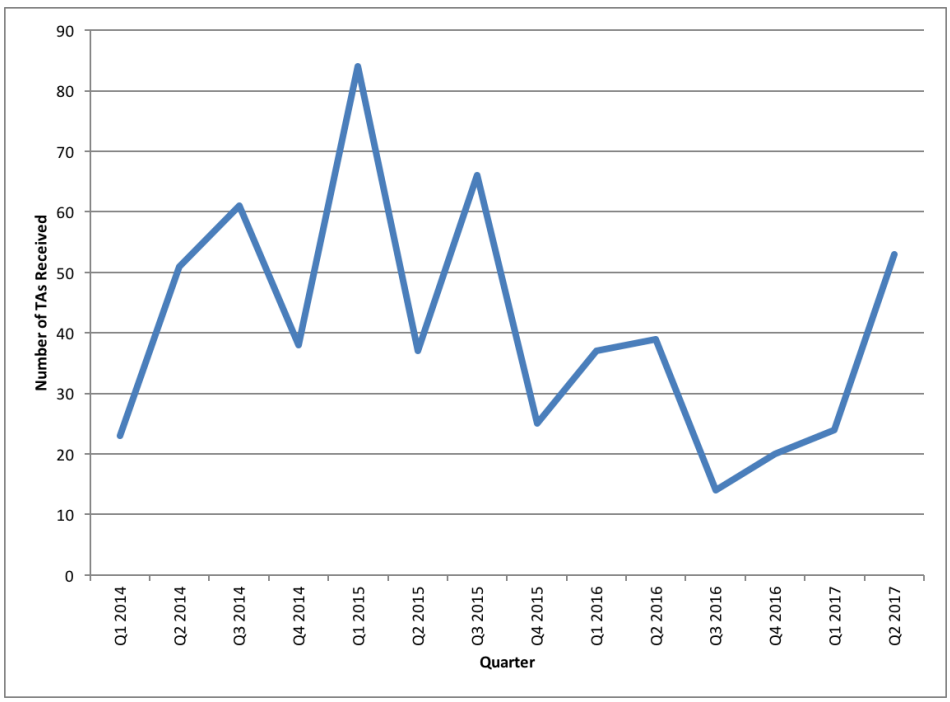


Technical Assessment Analysis

A histogram of the time to completion for Technical Assessments (see below) reveals that the median completion time for this quarter was 2 days (median completion time since 1 Jan 2014 is 3 days).



Plot of numbers of Technical Assessments received per quarter:



6. Centralised CSE Team: Strategic Priorities Progress

In collaboration with user groups and the other Service partners, the CSE service identified several priority areas to invest technical effort from the centralised CSE team. This section summarises progress in the reporting period in these areas.

Future Technologies

ARCHER Benchmarks

We have published results for all the ARCHER benchmarks running on Cirrus (one of the new EPSRC Tier-2 facilities). Cirrus is a HPE/SGI ICE XA system that has:

- Newer Xeon "Broadwell" processors (36 cores per node) compared to the Xeon "Ivy Bridge" processors (24 cores per node) on ARCHER
- Faster DDR4 memory compared to DDR3 on ARCHER
- Lower potential file system performance; max. of 10 GiB/s compared to 30 GiB/s on ARCHER
- Interconnect with similar latency and bandwidth arranged as a hypercube topology rather than a dragonfly topology as on ARCHER

Many of the benchmarks show similar performance on Cirrus to ARCHER – it seems the additional memory bandwidth is balanced by the additional cores per node leading to similar overall performance. Only the CASTEP benchmark shows a large performance difference, with the performance on Cirrus being around half as fast as ARCHER. We are currently investigating the source of this difference.

We also now have access to the Thomas Tier-2 system at UCL. This system has Xeon Broadwell processors with fewer cores per node than Cirrus (24 rather than 36) so we will be able to investigate if there is increased performance compare to ARCHER and Cirrus.

Parallel I/O Performance

We have continued to expand the amount of information available to users by adding information on write performance on a variety of systems. Both Cirrus (at EPCC) and COSMA6 (at University of Durham) are DDN Lustre systems and results for these systems have now been added to the Parallel I/O white paper on the ARCHER website:

http://www.archer.ac.uk/documentation/white-papers/parallelIO-benchmarking/ARCHER-Parallel-IO-1.3.pdf

Further work in this area will focus on two aspects of parallel I/O on ARCHER:

- Understanding the magnitude of variation in parallel I/O performance and the origins of such variation
- Benchmarking the read performance using the new functionality that has been added into the *benchio* application.

We have also collaborated closely with the Cray CoE around a serious performance issue seen when using the HDF5 library to write data in parallel. This has led to Cray discovering that the position of the call to flush data to disk from the HDF5 library is critical for performance. We will be adding information to the ARCHER Best Practice Guide on this issue and publicising to ARCHER users so that they can exploit the full performance of the file system.

7. Training

In the reporting period, the CSE Service has provided a total of 19 days (482 student-days) of face-to-face training across 7 different locations, 2 days of live-streamed training (Scientific Computing) and 2 days of interactive online tutorials (average attendance 12 per tutorial).

Month	Dates	Course	Location	Days	Attendees
Apr 2017	3-4	Programming the Manycore Knights Landing Processor	Leeds	2	10
	12	The Mysticism of Make	Online	0.5	
	19-21	Message-Passing Programming with MPI	Southampton	3	36
	24-25	Introduction to Scientific Programming with Python	Swansea	2	24
	26	Implementation of generic solving capabilities in ParaFEM	Online	0.5	
May 2017	9-10	Software Carpentry	Edinburgh	2	36
	10	Performance analysis on ARCHER using CrayPAT	Online	0.5	
	11-12	Data Carpentry	Edinburgh	2	23
	12-13	Shared-Memory Programming with OpenMP	London	2	15
	31 May – 21 Jun	Scientific Computing	Live stream & Edinburgh	2	
Jun 2016	1-2	Data Carpentry	Belfast	2	26
	19-20	Scientific Programming with Python	Edinburgh	2	17
	14 Jun	Approaches to tackling I/O issues at large scale	Online	0.5	
	29-30	Data Analytics with HPC	Portsmouth	2	36

On the feedback for face-to-face courses, attendees rate the course on a scale of 1-5 ("Very bad", "Bad", "Good", "Very good" and "Excellent"). The average feedback using this metric was 4.1, i.e. better than "Very Good". Users provided 109 feedback forms, a response rate of 46%.

Both of the "bad" responses were due to a mismatch between the experience of the attendee and the level of the course. In one instance (Python) we have since reclassified the course to make the prerequisite levels clearer; for the other (MPI) the course content description and classification are completely clear, so we can only assume the attendee had not fully read them.

19 days of face-to-face training are planned for the third quarter of 2017, plus 1.5 days online.

Month	Dates	Course	Location	Days
Jul 2017	10-11	Hands-on Introduction to HPC Message-Passing Programming with MPI	Edinburgh	2
	12-14		Edinburgh	3
	19	Version Control	Online	0.5
	TBC	Introduction to Modern Fortran	Cambridge	2
Aug 2017	1-2	Shared-Memory Programming with OpenMP	Oxford	2
	9	Interactive MPI Quiz	Online	0.5
	TBC	Data Carpentry	London	2
	31 Aug – 1 Sep	Message-Passing Programming with MPI	Exeter	2
	TBC			
Sep 2017	11-12	Advanced MPI	Cambridge	2
		Message-Passing Programming with MPI	York	2
	TBC			
	13	GPU Programming with CUDA	Daresbury	2
			Online	0.5
	TBC			

8. Outreach Project

Diversity

Diversity in HPC website (www.hpc-diversity.ac.uk): This continues to develop and grow, with 18 interviews and 18 historical biographies now available online. This is developing into a significant resource highlighting and celebrating diversity in HPC. A new best practice guide on 'Improving Diversity at Conferences' is now available for download as a PDF document and is provided in print at various events around the UK and internationally. By making this available, the aim is to encourage uptake of best practice developed through the ARCHER courses.

Annual Women in HPC event: Our third event took place on Wednesday 5th April at the University of Leeds. 28 attendees, primarily from the North of England, attended the event and were introduced to topics including Unconscious/Implicit bias, stereotype threat and impostor syndrome as well as discussions on common misconceptions around diversity.

ISC17: Women in HPC and the ARCHER team provided a range of activities at ISC on improving diversity including the sixth international WHPC workshop. The workshop contained two sessions targeting different audiences:

- Early career women in HPC: providing them with the skills to thrive in the community
- Managers and leaders from across the HPC spectrum: discussing how to address barriers to improving diversity in the workplace and providing working examples from organisations that have tackled the issue. These included tried and tested methods to improve diversity.

Other diversity-related activities at ISC included:

- Networking lunch bringing together early career women and those looking to actively encourage diversity in the workplace. The event provided an opportunity to discuss with the community how to improve the interest of women in HPC related jobs and job descriptions, gathering feedback from the attendees of both genders.
- Panel and Q&A sessions hosted at vendor booths discussing their strategies to improve diversity and encouraging an open discussion on the hurdles that are faced by all when trying to improve the under-representation of women and minorities. Vendors included Intel, Lenovo and DDN.
- Discussion of the 'gender dimension' in the Horizon 2020 program and how this can be addressed by the HPC community.
- Birds of a Feather: Practical steps to diversifying the HPC workforce. Attended by 25 people, this session provided an interactive introduction to stereotype threat, impostor syndrome, and unconscious bias.

Outreach

Following on from the success of the Big Bang Fair, Wee Archie and the Outreach team have been busy taking part in various events. Highlights include:

- British Computer Society Talk on the 7th June 2017. This talk was to adults and covered what is a supercomputer, what is ARCHER, Wee Archie and related topics.
- Future Emerging Art and Technology (FEAT) exhibition – April – June 2017. Videos of Wee Archie have been part of an art piece that was shown in the Dundee Life Sciences gallery between April and mid-June.
- Edinburgh International Science Festival (EISF): 11-15 April 2017. We exhibited Wee Archie with the wing demo, bean-bag sorting, towers of Hanoi and the card game. We had just over 2000 visitors over the 5 days.

Teachers Pack

We have been working closely with a local primary school to develop resources for the teachers' pack. Between October 2016 and June 2017 we have worked with St. Marys Primary School, Stirling, visiting the two P7 classes on a regular basis. We plan to publish a first public draft based on feedback from teachers and pupils before term starts again in the autumn.

The pack covers computing ideas, programming, applications through talk, discussion and practical (both computer and non-computer based) activities.

Wee Archlet
Wee Archlet is a small build-your-own cluster, aimed at schools and programming clubs. We published instructions to build this during this quarter: https://epcced.github.io/wee_archlet/

Ambassador Pack
The last quarter has seen effort focused on developing material for the Ambassadors pack. This is also due for release before the schools return in the autumn.

Impact

Case studies:

- We are currently working on a bbiomolecular simulation case study. In addition, we are in the process of carrying out a gap analysis of the case studies to ensure we have good coverage of scientific areas and to address any gaps.
- A set of case studies was distributed at ISC 2017 on the EPCC booth

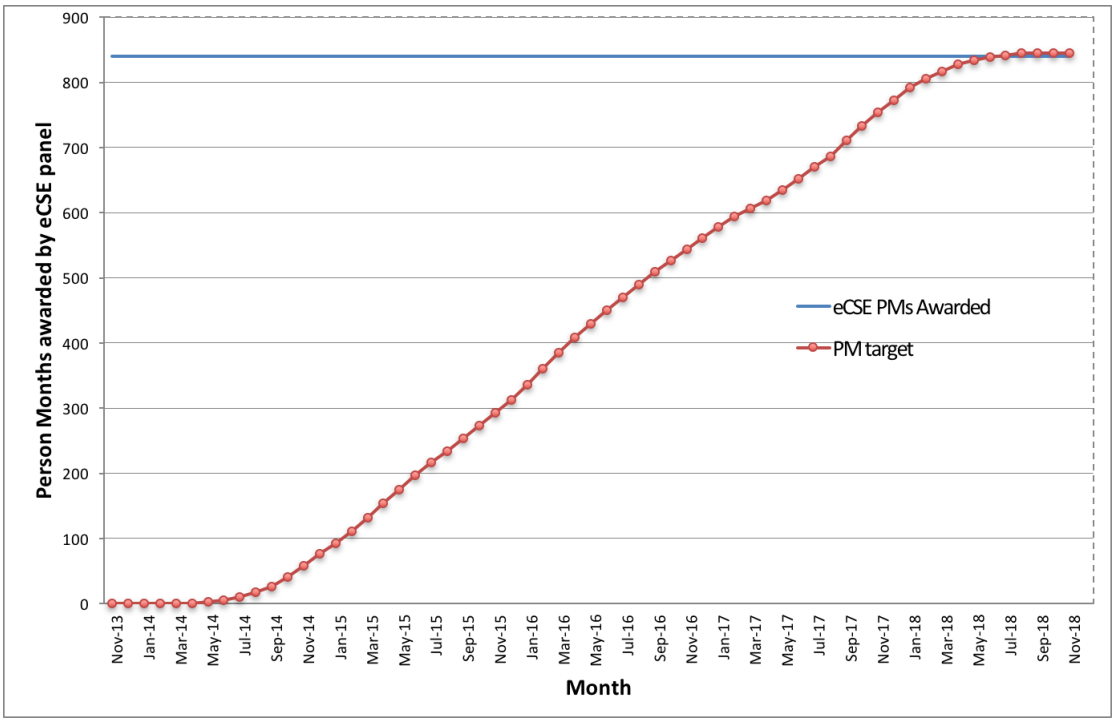
5 new reports from completed eCSE projects have been added to the website.

Engagement

The 4th ARCHER Champions workshop was held at the Hartree Centre on the 26/27 June 2017. This workshop focussed on improving coordination between Tier-1 and Tier-2 HPC provision in the UK. A summary of the workshop can be found in Appendix 1 at the end of this report.

9. Embedded CSE (eCSE)

Overview of eCSE Effort



- eCSE person months awarded up to and including the 11th eCSE call are shown in blue
- We committed to awarding at least 840 person months by the end of the project (14 FTEs for 5 years).
- 846 person months have been awarded so far over 84 awarded eCSE projects, with an expectation of around an extra 40 person months to be awarded at the final call. These additional months are funded out of the savings across previous calls, due to the lower than expected increases in staffing costs (resulting from low UK inflation levels) and the funding of several technical staff whose costings do not attract the usual overheads expected for academic staff.

eCSE Call 1 – Call 10

eCSE call	No. proposals	No. projects awarded	No. person months awarded	No. projects started	No. projects completed	No. final reports received	Notes
eCSE01	19	14	132	14	14	14	
eCSE02	17	9	82	9	9	9	
eCSE03	16	10	96	10	10	9	
eCSE04	16	8	82	8	8	7	1 late final report is being pursued.
eCSE05	14	8	94	8	8	7	1 late final report is being pursued.
eCSE06	9	5	47	5	4	4	
eCSE07	16	5	49	5	3	2	
eCSE08	21	8	88	8	1	0	
eCSE09	19	5	62	5	0	0	
eCSE10	13	6	65	4	0	0	
eCSE11	18	6	49	0	0	0	
Total	**178**	**84**	**846**	**76**	**57**	**52**	

- A risk analysis identified all projects as being of either low or very low risk apart from the following:
    - eCSE04-4 which was identified as being of medium risk as the person named to do the technical work was offered a position elsewhere
        - The member of staff originally named on the contract completed 1.5 of the 12 months of work before leaving to take up another post. With approval from the PI and eCSE Panel chair, we identified a new member of staff within the ARCHER CSE team who took on the work from 01/10/15. This project is now complete and the final report has been received and is under review.
    - eCSE04-10 which was identified as being of medium risk as the PI indicated that the person named to do the technical work may not be available
        - This project will go ahead with the original staffing. There was a short delay to the start of the project which started on 01/01/16. The project is now complete and we are awaiting the final report.
    - eCSE08-9 was identified as being of medium risk due to a change of staffing
        - the new staff member has been approved by the panel chair and the project is awaiting the signing of the contract (this has been signed by Lincoln, but awaiting signature by KCL). The project has started and we will continue to monitor this as the project progresses.
    - eCSE08-10 was identified as being of medium risk due to issues raised by Cambridge University involving the IP and the relationship with the CASTEP group
        - these issues appear to have been resolved and a contract has been signed but we will monitor this as the project progresses.
    - eCSE09-8 was identified as being of medium risk due to having been awarded 19 person months. This is a higher level of effort than awarded for other eCSE projects where 15 person months is the highest level of effort awarded so far
        - of the 19 months awarded for this project, 7 are for a member of the ARCHER CSE team and the work will be monitored through EPCC's standard project monitoring processes. The remaining 12 are for an external member of staff at the PI's institution and will be monitored via regular contact with the PI.
    - eCSE10-5 was identified as being of medium risk due to a change of staffing being required
        - we are awaiting further information from the PI but will monitor the situation via regular contact with the PI
- The following ARCHER webinars were given on completed eCSE projects:
    - 14 June 2017 – eCSE03-2 – "Improving COSA at scale: Parallel I/O and load balancing", *Adrian Jackson, EPCC*
    - 14 June 2017 – eCSE05-12 – "In-situ data analytics for atmospheric modelling", *Nick Brown, EPCC*
    - 26 Aril 2017 - eCSE06-04 – "Implementation of generic solving capabilities in ParaFEM", *Mark Filipiak, EPCC and Lee Margetts, Manchester*

Open and Future eCSE Calls

- eCSE calls are run to a regular schedule. The future call is:

eCSE12: opens 1 August, 2017 and closes at 4pm on Tuesday 12 September, 2017

Appendix 1: Summary Report for ARCHER Champions Workshop 4

Josephine Beech-Brandt, Clair Barrass June 2017

The fourth ARCHER Champions Workshop took place at the Hartree Centre (thanks to Hartree for hosting) in June and was two half-day meetings with an evening meal. It was a joint Tier1 / Tier2 meeting.

There were 23 attendees, 9 of which had attended a previous Champions workshop.
There was a focus of RSE support within the Tier 1 / Tier 2 centers and discussions took place as to how they would work best together. There were also discussions on ARCHER 2 and benchmarking.

Topics Covered:

- Benchmarking for KNL, ARCHER and I/O
- Novel User Engagement
- Update from EPSRC on their Software Strategy and ARCHER 2 plans
- Tier 2 update from each site focusing on their RSE support plans followed by brainstorming on how Tier1/Tier2 can work together
- Discussion session focusing on Benchmarking, Tier2 and ARCHER 2
- Lightning talks were given on the Ambassador Pack, Hartree Centre and ISO 9001

Outcomes:

- HPC-UK website www.hpc-uk.ac.uk to be updated with relevant links (hardware outline, access routes, open calls) for Tier2 facilities
- Benchmarking resources across Tier1/Tier2 to be developed and shared
- Webinar series from RSEs to share experiences proposed
- Mentoring for new RSEs proposed
- Evidence of impact to support business case for ARCHER2 important to share with EPSRC

All material covered has been added to the Champions website.