

eCSE Overview

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Overview

- The Embedded CSE (eCSE) programme provides funding for the ARCHER user community to develop software in a sustainable manner for ARCHER, including both the Cray XC30 and XC40 Xeon Phi systems
- Objectives
 - To sustain key codes for the UK computational science community
 - To facilitate efficient use of ARCHER resources through enhanced code performance/functionality
 - To offer a not-for-profit service that provides value for money to the HPC user community and beyond
- Also
 - Develop and sustain codes and communities from new areas
 - Support and encourage early career researchers



Scope - examples

- Implementation of algorithmic improvements within an existing code
- Improving the scalability of software on higher core counts
- Improvements to code which allows new science to be carried out
- Porting and optimising a code to run efficiently on ARCHER
 - For both XC30 and XC40 Xeon Phi systems
- Adding new functionality to existing codes
- Code development to take a code from a Tier-2 (Regional) to Tier-1 (National) level bringing new communities onto ARCHER

- XC40 Xeon Phi proposals can involvement development of a code to prepare for new Tier-2 systems
- Funding cannot be used for scientific research



New Communities

- Funding is available for
 - Established ARCHER communities - proposals from these communities are encouraged.
 - However, proposals from new scientific communities are also encouraged.
- New scientific communities
 - Communities from **scientific** areas not currently exploiting the ARCHER system.
 - Likely to have a scientific need for ARCHER and a need for greater computational power than available at a regional level.
- New codes to ARCHER are not necessarily new scientific communities
 - New codes / users from existing communities can apply as an established community
 - Encouraged to contact / join existing appropriate consortia
- Panel will assess whether a project is from a new community based on the information provided
 - If not a new community, this will automatically be considered as an existing community proposal

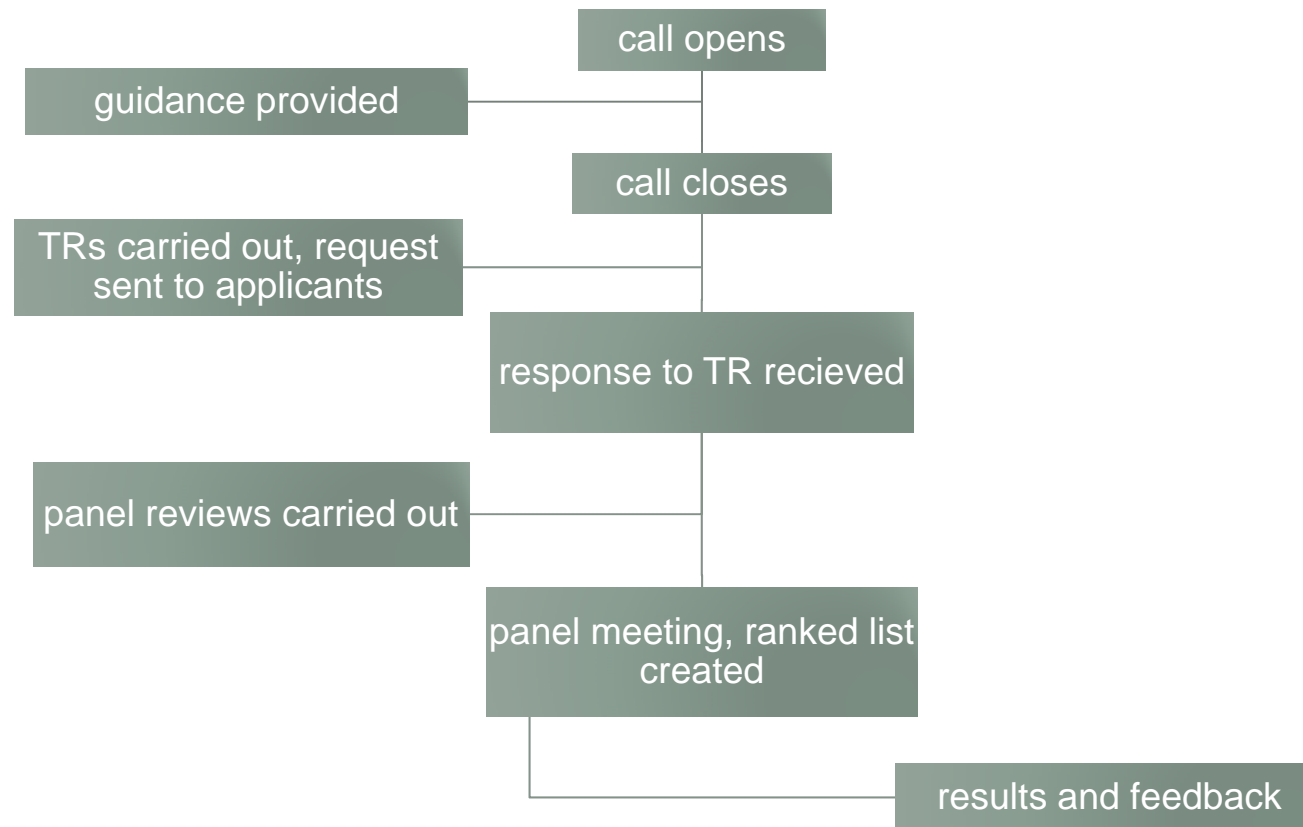


eCSE Calls

- 3 regular calls per year
 - Current (10th) call closes 4pm on 31st Jan 2017
 - Limit of 12 months of funded *effort*
 - Most projects' *duration* between 3 and 12 months, although can be slightly longer
- 2 further calls planned
 - **eCSE11**: opens Tuesday 28th March 2017 and closes at 4pm on Tuesday 9th May 2017
 - **eCSE12**: opens Tuesday 1st August 2017 and closes at 4pm on Tuesday 12th September 2017



eCSE process



eCSE Applications (1)

- After call opens, proposals should be submitted via SAFE using the *eCSE Funding Calls* pages:
 - <https://www.archer.ac.uk/safe/>
 - Please first register for a SAFE account if you are not already a registered SAFE user
- Information and guidelines for applying can be found at:
 - <https://www.archer.ac.uk/community/eCSE/>
- Applicants can request guidance from the centralised CSE team before submission:
 - Please contact the ARCHER Helpdesk: support@archer.ac.uk



eCSE Applications (2)

- Funding can be requested for
 - Staff located at the institution of the PI, third parties, staff from the centralised CSE support team, or a mixture of the above
- Early career researchers and support staff can be PIs
 - PI institution must be UK based, CO-Is may be elsewhere
- Ability of technical staff to complete the work is assessed
 - Considered together with PI/Co-I expertise and staff training plan
- Not-for-profit
 - Committed to average of 14 FTE (Full Time Equivalent) per year. Additional money will be put into further eCSE PMs. Costed at 80% FEC (Full Economic Costing)



eCSE Applications (3)

- Technical effort level
 - Effort should be specified in Person Months (PMs)
- Costs
 - 100% FEC should be provided for each proposed candidate
 - We pay 80% FEC for successful projects
 - No need to specify costs for ARCHER CSE team member (i.e. EPCC staff)
 - Details about any existing funding for the proposed technical candidates should be provided
- CPU time
 - Each project is provided with CPU hours: 50 kAUs/staff month
 - Exceptional requests for more time can be made, but only for time needed to complete the project objectives
 - Additional CPU time will not be provided for scientific studies
 - Other routes exist to request CPU time e.g. the RAP panel



eCSE Applications (4)

- Travel funding can be requested for the technical members of staff
 - Not available for PIs or Co-Is
 - Can fund travel within the UK to meet the objectives of the project – i.e. for meetings between partners or relevant training
 - Does not fund impact related activities such as workshops, conferences, etc.
 - Usually fund 1 trip every 3-4 months
 - Please provide a breakdown of the travel costs – by individual and by trip
- Previous project and proposals
 - Details of previous proposals, previous eCSE projects and related projects are requested



Reviewing eCSE Applications

- Two stage reviews for all eCSE applications
 - Technical Reviews (TRs)
 - Panel Reviews



Technical Review (TR)

- Administrative checks will be applied for all submissions before TRs
- Applications will be reviewed by technical advisors and the ARCHER centralised CSE team
 - Majority carried out by the centralised team
 - If conflicts of interest, proposal reviewed by external advisors
- Look for missing information or detail



TR request for further information

- Any requests for further information will be sent to applicants after the admin check and TRs
- Applicants will be given the opportunity to respond
 - Original proposal will not be updated, only additional response can be submitted via SAFE
 - All information supplied to the panel
 - Can also choose to withdraw and submit to a later panel



Panel Reviews & Panel Meetings

- Each application is independently reviewed by two panel members prior to the panel meeting
 - Based on the Assessment Criteria
- Panel Meeting takes place within around 8 weeks after the call closed
- For each application, Panel can decide to fund, not fund or, if needed, fund in part
- Panel can fund with requirements e.g. propose improvements
- Robust conflict of interest and confidentiality process in place
- A small number of early career researchers may be present as observers
 - Selected from a competitive selection process
 - 2nd call closed Tuesday 17th January 2017



Assessment Criteria

- Applicants
 - Track record of applicants, including all team members, demonstrate project can be completed
- New Communities Justification
 - Enough detail to justify application is from a New Community
- Technical context
 - Sufficient technical information provided
- Benefits
 - Why it is needed? What are the expected benefits?
 - Scientific, computational and to ARCHER community
- Pathway to impact
 - Impact activities to ensure potential benefits are achieved
- Work plan
 - Appropriate plan for management, technical work and resources
- Overall
 - Overall quality and objectives



Points to remember

- Specific Benefit to the ARCHER community
 - Availability of code on ARCHER after the work is complete
 - Who will utilise the improvements and for what activity? Be specific
 - License arrangements – should not create a significant barrier for ARCHER users
 - End result must be to use ARCHER
- Objectives are important
 - Where possible should be measurable and quantifiable
- New Communities
 - If a new code but in an existing area, investigate existing consortium



Points to remember (Cont.)

- Travel
 - Only fund travel for the technical staff members within the UK
 - Do not fund travel to conferences, workshops, etc.
- Technical staffing experience and profile considered by the panel
 - Experience of PIs/Co-Is relevant as is training plan and/or additional support
- Evidence
 - The panel looks for evidence that the work is achievable e.g. scaling evidence
 - Ask for help from the CSE team if you need – but not the day before the deadline!
- Existing funding
 - Looking to ensure the work is not supposed to be carried out under a different project



Final Decisions and Feedback

- Final decisions will be sent to applicants together with feedback from the panel
 - Within around 2 weeks after the panel meeting
- Unsuccessful applications
 - Will be provided with constructive feedback
 - If appropriate, will be encouraged to contact the CSE team for further advice and support in the preparation for resubmission to a future call
 - Any resubmission will be treated in the same way as a new submission



For funded projects

- What happens if your project is accepted?
 - Contracts are set up
 - ARCHER project is set up and CPU-hours awarded
 - Contact point is established
 - Engagement with ARCHER community expected
 - Reporting
 - Final report
 - <https://www.archer.ac.uk/community/eCSE/eCSE-reports.php>
 - ARCHER webinar presented
 - All projects are showcased on the ARCHER website
 - Subset of projects chosen for case studies



Guidelines for eCSE Applications to KNL (1)

- eCSE applicants can apply to develop on the KNL system
 - New for this current (9th) call
- Existing eCSE Applications Guidance applies
 - The ARCHER system includes the XC30 and XC40 KNL
- A few notes:
- Proposed technical staff
 - Panel will assess the technical expertise of applicants as usual
 - If the proposed technical staff have no/limited experience of KNL, the panel will consider the overall support available – such as the support and experience of the PI/Co-I and any proposed training courses
- Time on the KNL
 - As with all eCSE proposals, all successful projects will be awarded a small AU budget to complete the work
 - This will be commensurate with the level of AUs funded for projects on the ARCHER Cray XC30
 - Other mechanisms exist to gain large amount of AUs



Guidelines for eCSE Applications to KNL (2)

- Technical Information
 - The Panel will assess the technical Information in KNL proposals in exactly the same way as standard ARCHER applications.
 - However, the panel will have guidance to reflect the more speculative nature of the hardware
 - This will acknowledge that KNL applications may have less scaling evidence and/or previous results
 - However the panel will still be looking for evidence that the proposed work is suitable, achievable and likely to provide benefit
- Benefit for the ARCHER community
 - The KNL system is part of the ARCHER system, so availability of software, licensing are relevant
 - The existing ARCHER community may still benefit even if not directly on ARCHER
 - For KNL, the benefit may include benefit to future Tier-2 systems, particularly when it involves closer integration between Tier-1 and Tier-2. community



Guidelines for eCSE Applications to KNL (3)

- Further info:
 - Additional instructions for eCSE applications to KNL have been enclosed in the eCSE Applications Guidance document which should be used together with the main eCSE Application Guidelines
 - https://www.archer.ac.uk/community/eCSE/eCSE_ApplicationGuidance.pdf



eCSE “drop-in” session

- Questions...?
 - Feel free to ask via audio or type into chat...

