ARCHER2 OVERVIEW: A SERVICE FOR USERS
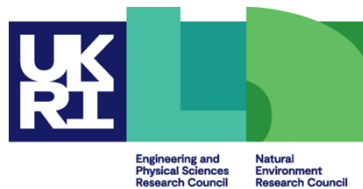## 15 APRIL 2020

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ARCHER2 CSE Deputy Director and

ARCHER2 Service Director

Overview

- This talk provides an overview of the ARCHER 2 user service
  - More detailed webinars will follow
- Service partners
- ARCHER2 hardware
- Service provision
  - User support
  - Systems support
  - Quality management and feedback
  - Engaging with users and web site
- CSE support
  - CSE, eCSE and the spectrum of support
  - Training
  - Outreach
  - Diversity, inclusion and accessibility

ARCHER2 Partners

- The ARCHER2 Service is provided by a set of partners
  - UKRI – funder and managing agent
  - EPCC, The University of Edinburgh – accommodation & management
  - Cray, a Hewlett Packard Enterprise company – hardware
  - EPCC, The University of Edinburgh – service support (SP)
  - EPCC, The University of Edinburgh – computational science and engineering (CSE)
  - UoE HPC(X) Ltd – wholly owned subsidiary of the University of Edinburgh, subcontracts the work to EPCC

ARCHER2 Hardware

- 23 liquid-cooled HPE/Cray Shasta Mountain cabinets
- 5860 nodes (5556 standard nodes and 292 large memory nodes)
- Standard node has 2x AMD Rome 7742
- Roughly 10x applications performance of ARCHER
- Webinar on the 22nd April covering hardware

User Support – Service Desk

- A single Service Desk supporting all aspects of the service
  - All user queries accepted and handled through this
- Staffed between 8am and 6pm, Monday to Friday
- Queries can be submitted via email, telephone, web forms, etc
- Queries will be classified as Level 1, 2 and 3 with appropriate escalation routes
- Users will be invited to provide feedback on the assistance they have received
- User feedback, satisfaction and trends will trigger improvement projects to enhance the service

User Support – Service Desk

ARCHER2 Shared Service Desk Interface

Users

ARCHER2 SP

Service Desk Operator

Cirrus

ARCHER2 CSE

Cirrus CSE

Uadmin   SysAdm   CSE Service Desk On-duty

CSE In-Depth

Queries
SP responses
CSE responses
Cirrus responses   CSE Escalation
Service Desk
Communications

User Support – Managing Resources

- SAFE
  - A bespoke web application developed at EPCC to support large-scale HPC services
  - Set of tools to resolve user queries and to measure and improve the service delivered to the user community
- Provide self-service forms to allow users to create accounts and manage their projects directly
  - e.g. moving time between budgets, resetting passwords
  - Quicker and more precise than a Service Desk query
- SAFE manages and holds data on all aspects of the Service
- Users are able to view the status and history of their queries

User Support - SAFE

Systems Support

- Deploy, configure, maintain and upgrade the system software and users environments
- Provide a flexible queuing system to support the user community
- Ensure the security and integrity of the system for users
- Back-up data and provide a disaster recovery service
- Minimise maintenance sessions

Quality Management

- EPCC is dedicated to providing quality services that meet or exceed customer expectations
- Created and maintains an ISO 9001:2015 certified Quality Management System (QMS)
  - Used to embed process-based best practice in the delivery of services
  - Framework to measure the impact of continual improvement
  - ITIL service management methodology utilised, reflecting industry best practice
- Also created and maintains an ISO 27001:2013 certified Information Security Management System (ISMS)
  - Framework to deliver best practice in information security and high quality data handling

Feedback

- Feedback and improvement is at the core of the new ARCHER2 service
  - Ensures improvements benefit users
  - Continual Service Improvement (CSI) approach
- Multiple routes to provide feedback
  - Service Desk queries
  - User satisfaction surveys
  - Website feedback form
  - Via UKRI
  - Via meetings such as SAC and SMB
  - Virtual User Group
  - Community events, such as HPC Champions
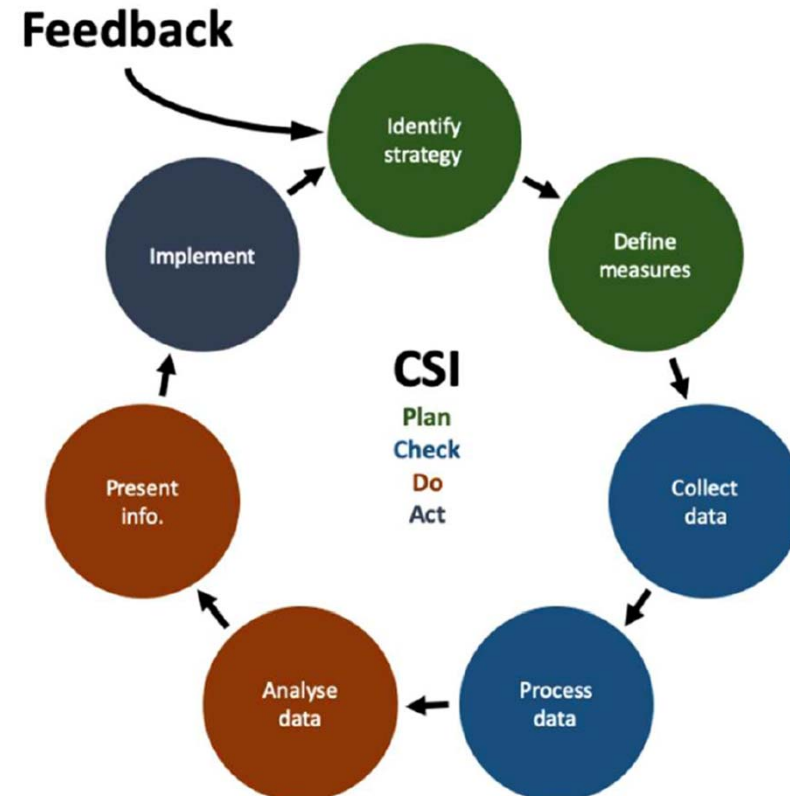
Engaging with Users

- Service Desk and service emails
- Electronic newsletter
- Social media e.g. Twitter, blogs, YouTube
- Annual user survey
- Formal complaints procedure
- ARCHER2 CSE steering group
- Consortium Contacts
- UK HPC Champions
- Technical mini projects
- Collaborative training

Engaging with Users

- Virtual tutorials and webinars
  - Already planned weekly until the beginning of the summer
- Expert callback service
  - Users can book a phone/Skype/online chat callback with a technical expert
- Virtual ARCHER2 User Group meetings
  - Understanding user requirements and receiving user feedback
  - Opportunity for users to learn more about the service
  - Increase knowledge and share best practice
- Annual UK Leadership Computing Symposium
  - National research computing forum
  - Flagship promotion of HPC in the UK

Web Site

- The web site provides users with a portal showing current information such as

  - System and Hardware Status
  - Planned and unplanned outages
  - Upcoming training courses and material
  - eCSE calls, guidance and outcomes
  - User documentation
  - Outreach and impact material
  - Service policies
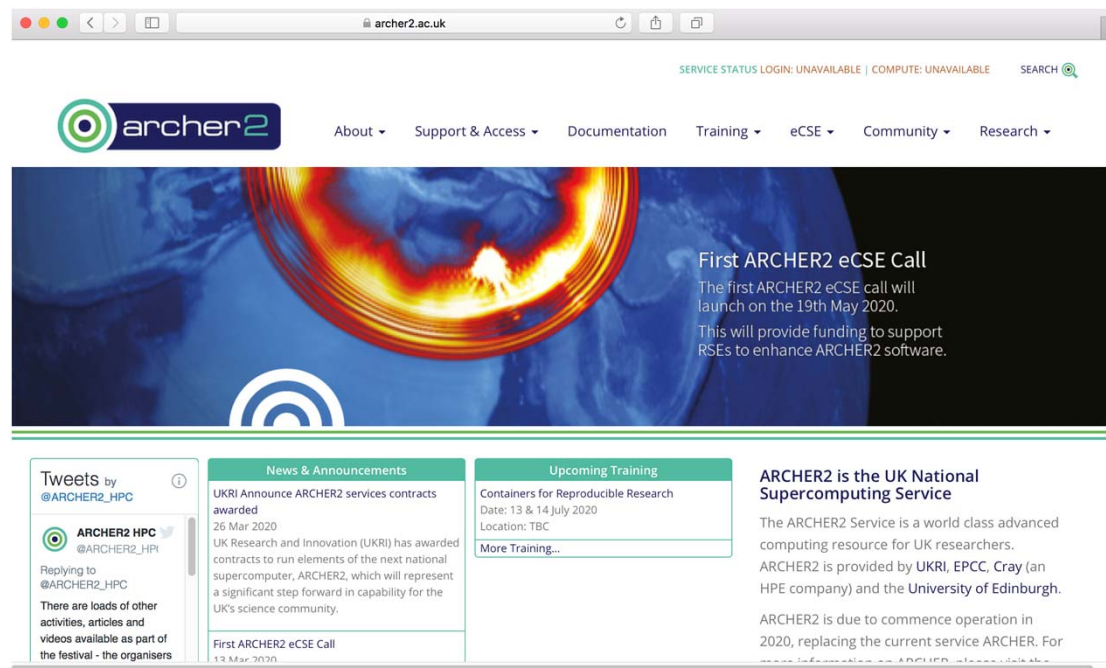
www.archer2.ac.uk

CSE Support

- CSE support provides a user-driven service that includes:
    - User support through the Service Desk, technical operations and in-depth support
    - Open and transparent eCSE funding programme for RSEs
    - High quality and innovative training programme
    - Outreach programme for the wider community
    - Ensure the ARCHER2 Service demonstrates benefits and impact
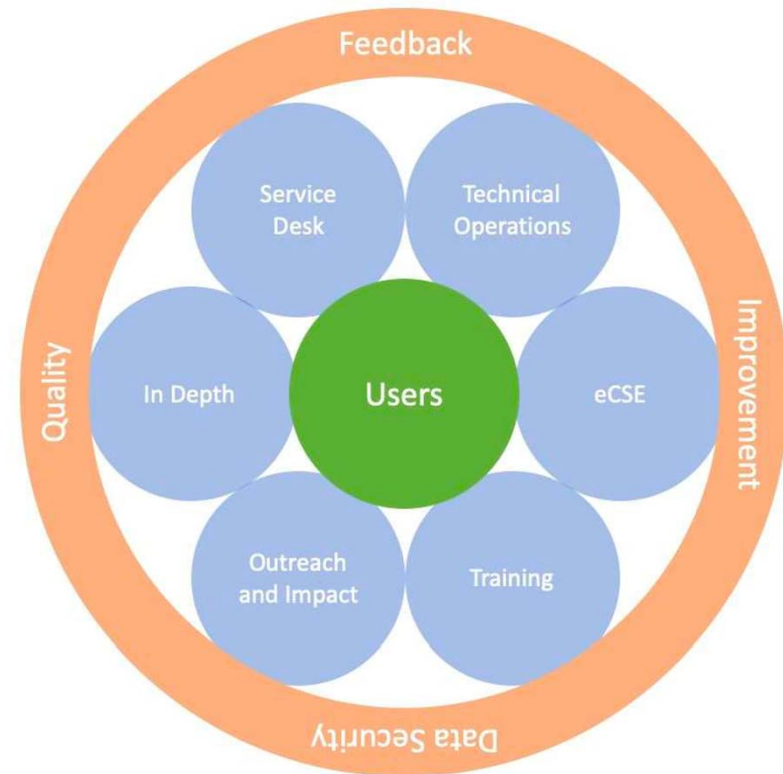
CSE

- ## Core Values
  - Quality; available and timely; coherent; approachable, accessible and inclusive; flexible and adaptable; open and responsive
- ## CSE Service Desk
  - Fully integrated with the SP Service Desk
    - Users will see a coherent and integrated Service Desk
  - Will handle queries, technical assessments and daily liaison
- ## Technical operations
  - Ensures users have access to a rich programming environment
  - Porting and optimising applications, tools and libraries
  - Developing and maintaining appropriate supporting documentation e.g. User Guides, FAQs, etc.

CSE – In-depth Support

- Suite of activities giving users direct access to CSE team expertise
- Technical mini-projects
  - Users will be able to apply for technical effort from the CSE team to enable short technical projects to support their use of ARCHER2
- Technical webinars
  - A series of free webinars covering topics of interest and relevance to the user community
- Consortium contacts
  - Members of the CSE team who engage directly with UKRI consortia (both EPSRC and NERC), representing the consortium's interests
- Application performance health-check
  - ARCHER2 staff will investigate the performance of an application for users and feedback on possible improvements
- Virtual consultancy sessions
  - Users can speak directly to a core CSE technical staff member, with appropriate technical expertise, about their support requirements

eCSE

- Funding dedicated RSE staff embedded within their research communities to develop the UK's software base and thus enhance the benefit of ARCHER2 to UK science
- Core values: openness, independence, transparency, not-for-profit
- Funding will be allocated using an open, fair and peer reviewed funding programme
- There will be a regular series of calls for proposals, with three calls per year
- eCSE FTEs funded using EPSRC's standard 80% FEC rate or equivalent

eCSE

- Funding
  - EPCC guarantees that an average of 12 FTEs per annum of eCSE support will be provided, based on the 80% FEC costing model

- Not-for-Profit
  - Any residual funding will be used to provide additional eCSE staff months of effort

- First Call
  - Will open on 19 May 2020
  - Technical Evaluations due by 16 June 2020
 - Call closes on the 7 July 2020

eCSE - Lifecycle Support

- We will provide a strong support system, active throughout the lifecycle of an eCSE
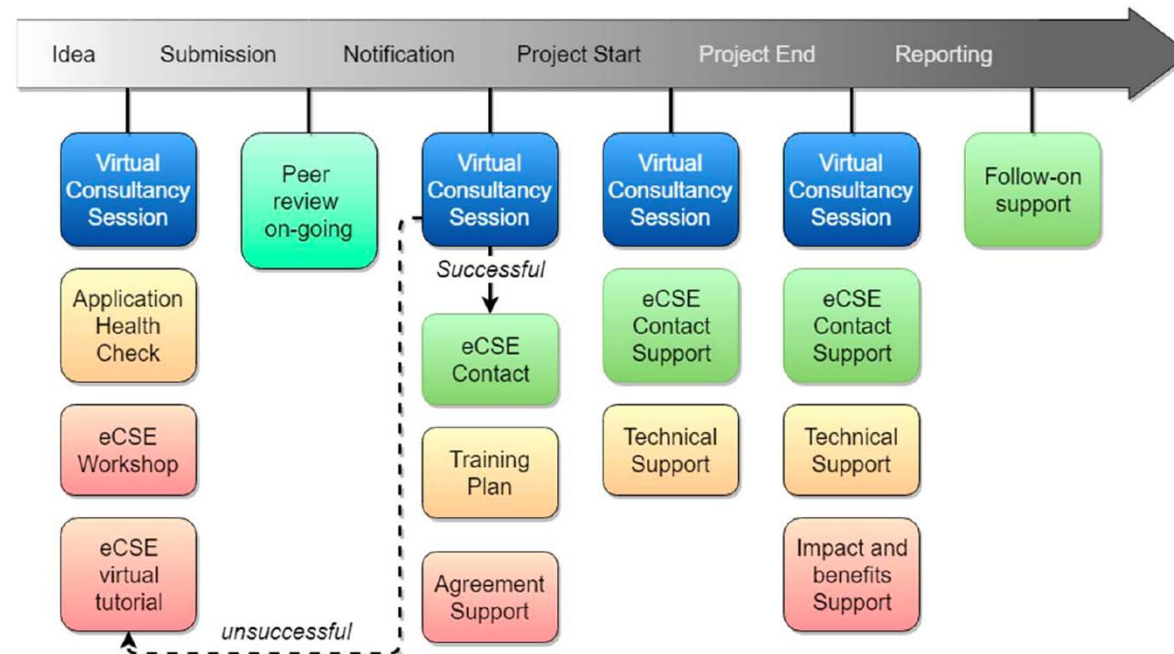
Spectrum of Support

- Spectrum of different CSE support mechanisms spanning the Core and Embedded functions
  - Ensures the CSE Service is responsive to user requirements
  - Provides more routes for new research communities to begin to exploit ARCHER2
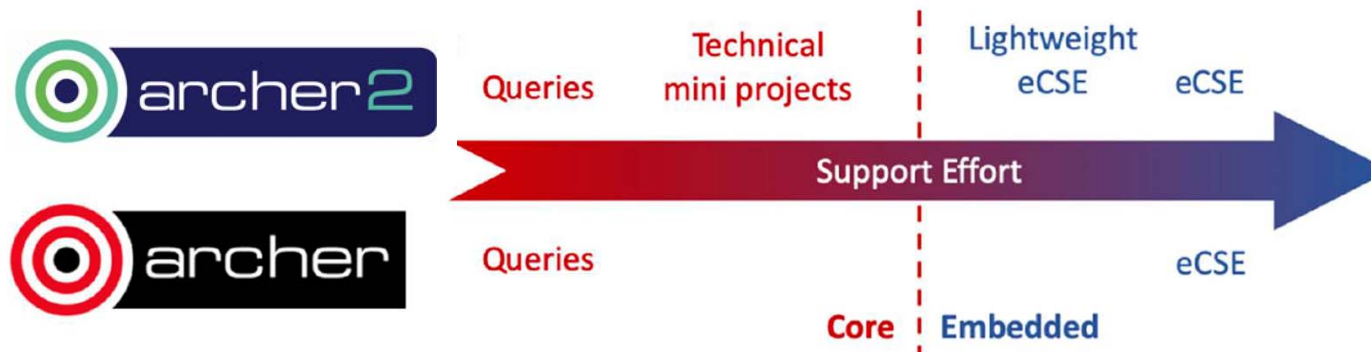
Training

- ARCHER2 will provide a rich, diverse programme of training that is responsive to users' evolving needs
- Key points include
  - **Training tracks** aimed at **researchers** and at **RSEs/developers**
  - Improved **accessibility** and **inclusivity** of HPC training
  - A training programme that is **flexible** and **responsive** to users' needs
    - User Training Forum and Training Panel
  - **Collaboration** with the community
  - Providing **internationally recognised leadership** in the HPC and data science training community
  - An approach to training that offers **diversity** in **subject areas, pedagogical approaches** and **delivery mechanisms**
  - A training programme that is **open to all** UK researchers

Courses for Different Types of Users
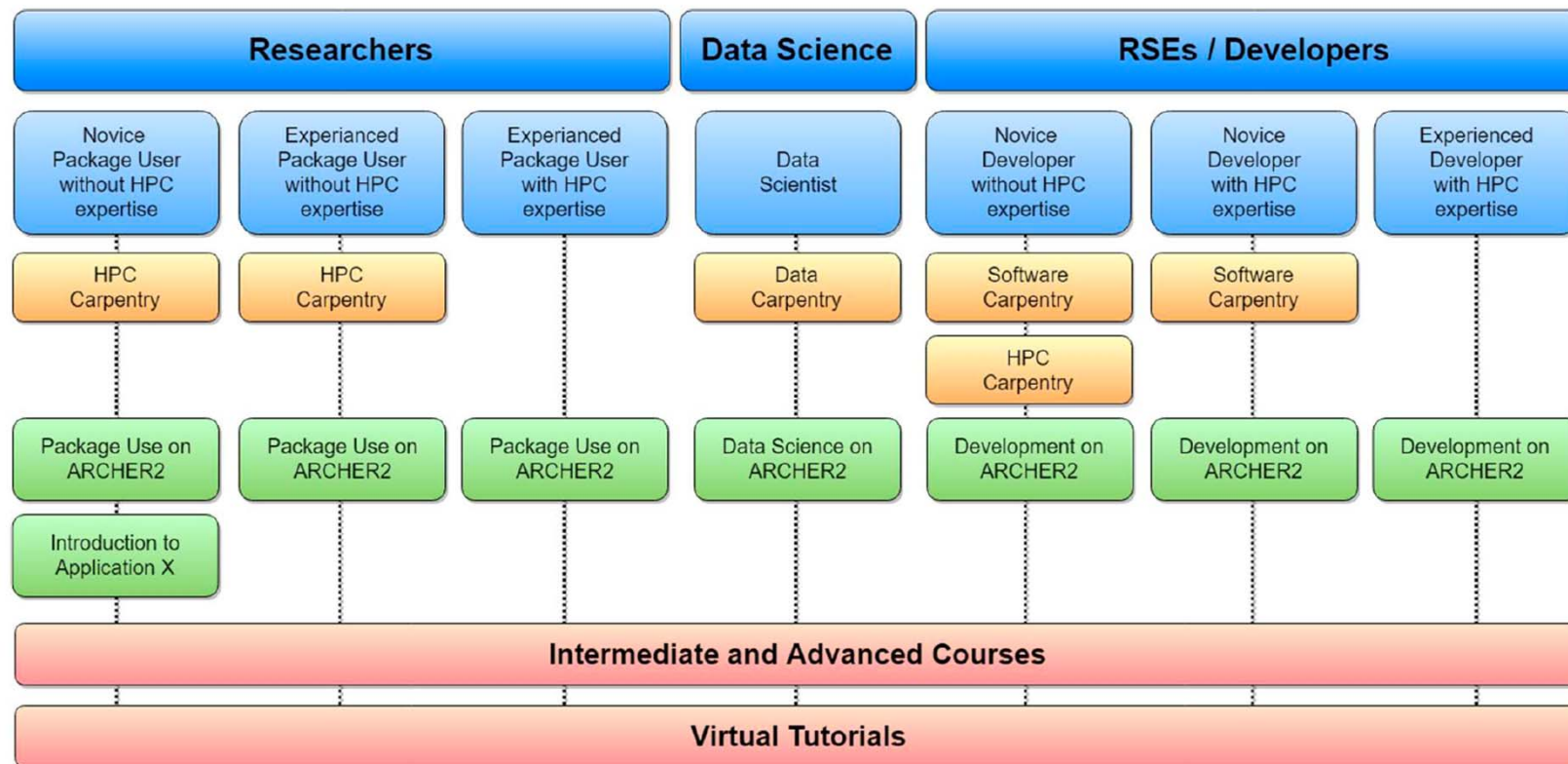
Outreach

- Aim is to provide an engaging, innovative and diverse programme of activities focused on
  - Outreach activities to young people
  - Adult engagement and lifelong learning
- Key activities include
  - A UK-wide programme of outreach events at schools and science festivals
  - A Supercomputing on-line award scheme for children
  - A competition for early career researchers to develop their own outreach materials
  - An on-line course aimed at lifelong learners
  - Enhanced resources such as a Lego Mindstorms parallel computing activity

Diversity, Inclusion and Accessibility

- Diversity and inclusion in ARCHER2
  - Diversity and inclusion policy is central to the ARCHER2 service
    - https://www.archer2.ac.uk/about/policies/diversity-inclusion.html
  - Diversity and Inclusion group whose role will be to review, reflect and identify barriers to inclusion and diversity
  - Yearly "Diversity Roundtable" event coupled with User Group meeting
  - Equality Impact Assessments
- Celebrating Diversity
  - A programme of activities designed to celebrate diversity
- Accessibility
  - All material including training material, documentation and the web site will be developed with accessibility in mind
  - Regularly reviewed to meet accessibility needs

Summary

- EPCC feel honoured and excited to have been selected to continue to support HPC users across the UK

- Activities are designed to ensure the user support service is flexible and responsive to user requirements

- Feedback is important, as is continual service improvement from this feedback

- ARCHER2 will continue to deliver world-class computational science from UK researchers

Any Questions?

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