RSEs and Resources at EPCC

CERSE 31/05/23

A bit of history

- **Established in 1990**
  - Department of Physics at UoE used parallel computers for a number of research projects
    - QCD, Solid State Physics, …
  - EPCC was established as an independent institute to:
    - Promote the use of parallel computers in academia and industry
    - To be self funded
    - Edinburgh Parallel Computing Centre – now just EPCC

- **Originally based in the JCMB at the Kings Buildings**
  - Moved to the Bayes Centre when the building first opened in 2018
  - Occupy most of the second floor at the Bayes

- **For a long time EPCC was composed of around 40-50 individuals**
  - Now have around 130 individuals
  - Have almost run out of space on the second floor

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A good place to work …

- A bright multi disciplinary (mostly) young set of people to work with
  - Aka a bunch of high powered geeks…

- A half-way house between industry and academia and industry
  - A little more regimented than an academic post but not as draconian as industry

- Some novel and big kit to play with (more on this later)

- Run MSc/PhDs
  - MSc in High Performance Computing (HPC) and HPC with Data Science
  - Always looking for interesting MSc projects

- Mostly project based work
  - Challenge and extend your skill set

- Software Sustainability Institute (SSI) based at EPCC (more on this later)
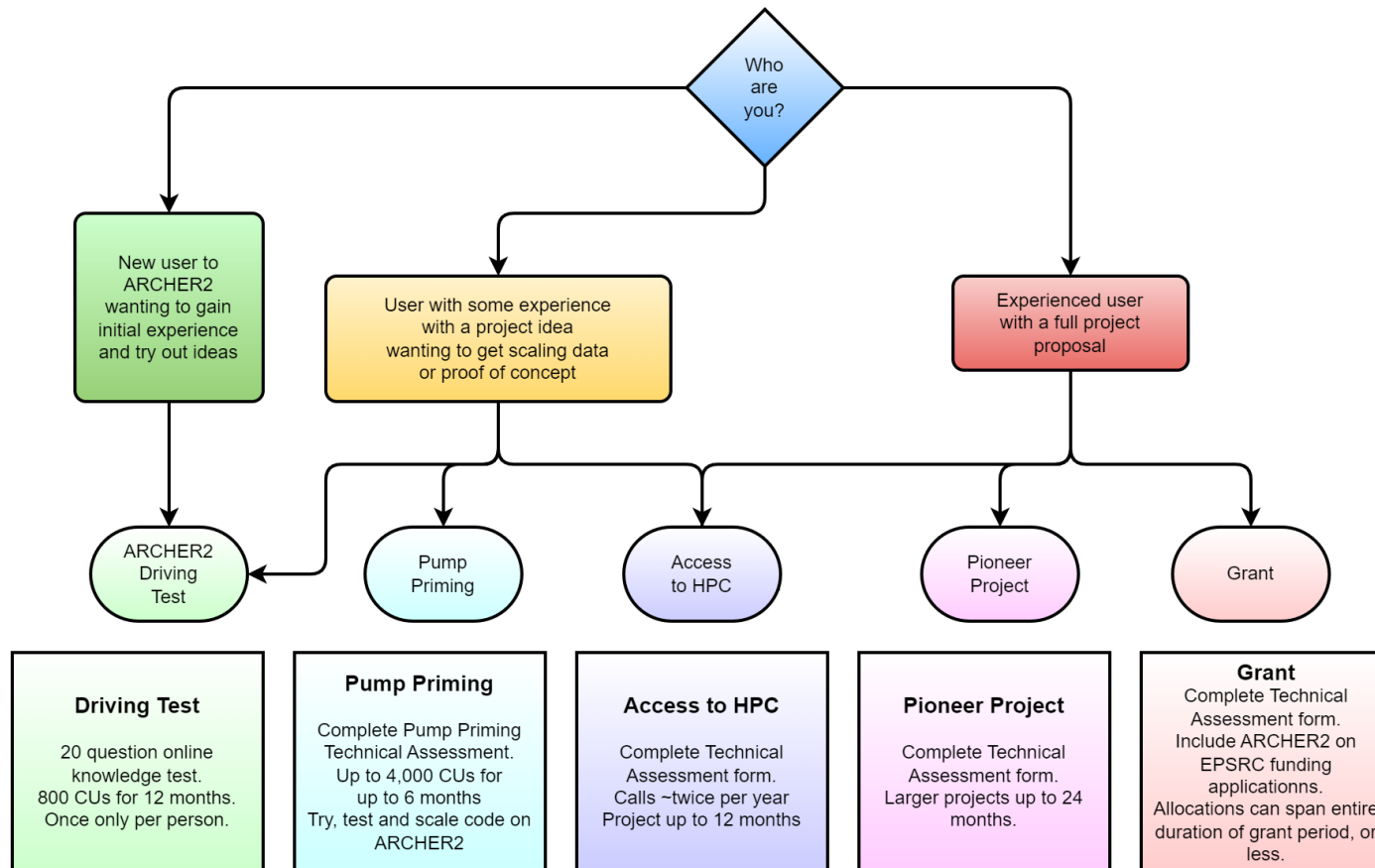
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Big kit

- ## ARCHER2 – UK's National Supercomputing Service (Tier-1 system)
  - 5,860 nodes: 5,276 standard memory (256GiB), 584 high memory (512GiB)
    - Node: 2× AMD EPYCTM 7742, 2.25 GHz, 64-core
  - More info: https://www.archer2.ac.uk/

- ## Cirrus – EPSRC Tier-2 National HPC Facility
  - 280 compute nodes (2.1 GHz, 18-core Intel Xeon E5-2695 (Broadwell) with 256GiB mem)
  - 2 compute nodes (384GiB mem) each with 4 GPUs
  - 36 compute nodes each with 4 GPUs (NVIDIA v100 GPUs 16GiB)
  - More info: https://www.cirrus.ac.uk/

- ## EIDF (Edinburgh International Data Facility)
  - Data Science Cloud
  - More info: https://www.ed.ac.uk/edinburgh-international-data-facility

Access to ARCHER2

Getting access to ARCHER2

Thanks to Clair Barrass

Access to Cirrus

- On the Cirrus web: Access > Scottish Academic Access

- Possibly most pertinent - Scottish Academic Scheme
  - Trial access
    - Max ~15k CPU-h 600 GPU-h
  - Production access
    - Max 1M CPU-h 40k GPU-h
  - Have to fill in an application:
    - Only one Scottish Access application will be funded per researcher

- There are other methods of access …

Software Sustainability Institute (SSI)

- Virtual Organisation consisting of
  - Edinburgh, Manchester, Southampton and Oxford

- Started in 2010

- Director, Prof Neil Chue Hong, based at EPCC

- Generally advocates: better software, better research

- Large number of activities
  - Started the RSE movement – now has a life of its own
  - Encouraged the adoption of the Carpentries in the UK
    - Edinburgh Carpentries (EdCarp) sister effort to CERSE
  - Runs a Fellowship Programme
  - …

- More info: http://www.software.ac.uk/

Conclusions

- EPCC a great place to work for/with

- Can use it as a resource:
  - Hardware/Storage that is available
  - The people involved

- Engage with the SSI

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ScotRSE

Network

Proposal: Run monthly virtual meetings that "tour" around Institutions in Scotland that have RSEs. Feel free to volunteer to host an event. Aim to run one in-person event a year.

Join the mailing list:

https://jiscmail.ac.uk/cgi-bin/wa-jisc.exe?SUBED1=SCOTRSE&A=1

Launch event :

Wednesday 14th June 10-11 am

Intro meeting will be an informal chat to focus on community building and get to know each other.

Come along to the launch event:

https://www.eventbrite.co.uk/e/scotrse-launch-event-tickets-645289758037

Any questions? Please get in touch: k.pringle@epcc.ed.ac.uk

Or through the Scotland channel on UKRSE Slack