



**Computational Resource Allocation Group (CRAG)
Monthly Meeting**

Tuesday 13th January 2015 at 13.00

Room 103, Podium Building, 1 Eversholt Street, London NW1 2DN

Chair:

Nik Kaltsoyannis (NK)

Present:

Dario Alfe (DA); Owain Kenway (OK); Andrew Martin (AM); Sergey Yurchenko (SY)

Apologies:

Nicholas Achilleos (NA); Clare Gryce (CG); Javier Herrero (JH); Thomas Jones (TJ); Michail Stamatakis (MS)

In attendance:

Tom Couch (TC); Corrinne Frazzoni (CF); William Hay (WH)

MINUTES

1. Approval of Minutes of last meeting held on 9th December 2014 [NK]

The Group approved the Minutes of the last meeting.
There were no matters arising.

Vincent Plagnol had stepped down from the CRAG and had been replaced by Javier Herrero, UCL Cancer Institute.

2. Update on status of current Actions [NK]

The list of current Actions (see table at end) was updated.

3. Review of any requests for additional resources on local HPC facilities [OK]

There were no new requests for additional resources.

Action: OK to check expiration dates on list of currently approved requests

4. Review of Legion usage statistics [OK]

<http://gouf.rcdev.ucl.ac.uk:8888/>

The group reviewed the Legion usage statistics for December 2014.

5. Review of IRIDIS and EMERALD usage statistics [OK]

IRIDIS and EMERALD usage statistics for December 2014 were reviewed.

Agreed: Item 159 of the action list, regarding Emerald usage statistics, to be closed due to difficulty in obtaining information under current circumstances.

6. Roadmap for IRIDIS and EMERALD services update [CG]

The following update was provided via email in the absence of CG:

Background

The Cfl was established in 2012 following a £3.6m award from EPSRC for 'Regional' HPC Centres. The Cfl was the largest of five such Centres to be funded, and the resulting Iridis and Emerald services have been in operation since late Spring that year.

The Cfl includes UCL, Oxford, Southampton, Bristol and STFC, but is part of the wider Science and Engineering South (SES)[1] Consortium that includes: UCL, Oxford, Cambridge, Imperial and Southampton.

Since their launch, UCL researchers have made excellent and increasing use of both Iridis and Emerald, with access policies being managed via the CRAG. At start of service, UCL's share of both services was 23%. UCL's share of Iridis has been increased incrementally to 62%, with a focus on the support of parallel workloads (> 36 cores). Each participating institution pays annual operating costs proportional to their usage. UCL's operating costs are met through a £200,000 recurrent budget line established in 2013.

Current Service Status

No further capital funding has been made available for the regional centres since their launch. Interest in continued investment in both Iridis (general purpose HPC) and Emerald (GPU) from most Cfl partners has waned.

The Iridis service, hosted by the University of Southampton, is due to terminate at the end of July 2015. This date is fixed and final, being driven primarily by the demolition of the datacentre in which the facility is housed. There are no Cfl/SES plans to replace the service.

The Emerald service is reaching end of life in technology terms, though the service is still fully operational, with no fixed plans for its termination. At the present time, only UCL has committed funding to the end of July this year, though Oxford and Southampton remain interested further possible investment beyond the current funding period which ends in April. Bristol have effectively withdrawn. STFC are keen to continue to provide a large scale 'regional' GPU service and discussions are underway regarding: (a) a costed short term extension of the current Emerald service (b) transition to a new successor service using newer GPU technology and built on a flexible Cloud model into which institutions, industrial partners, and individual PIs could buy.

Proposal

As per recent CRAG meetings, it is proposed that the new HPC Project provide a replacement capability for Iridis.

It is proposed that discussions continue with STFC regarding the continuation of the Emerald service, with the intention being to fund the existing service until such time as the new Cloud service becomes available, onto which UCL researchers would migrate and which would continue to be funded from the same recurrent budget.

OK has led discussions with UCL's current Emerald users and findings suggest that future demand exists for GPU (CUDA) service capacity equivalent to UCL's current Emerald share. As Emerald remains a specialist service with a smaller number of users, in circumstances where PIs require additional service capacity, they could be required to purchase this under the proposed Cloud model.

7. Paid allocation reporting proposals discussion [All]

7.1. Include paid nodes in normal reports

- Pros
 - Complete reporting of all utilisation
- Cons
 - No measuring of the effectiveness of paying for nodes
 - Under-utilisation of paid nodes may in some cases (e.g. Farr) drastically affect usage stats.

7.2. Separate reporting for paid nodes/free nodes

- Pros
 - We can see how much paid nodes are used
 - Usage state for "free legion" are kept "clean"
- Cons
 - Backfill on paid nodes is not taken into account in general usage.

7.3. Keep current report and add extra reporting for paid usage

- Pros
 - Complete reporting of utilisation
 - Can see the effectiveness of paid for nodes
 - Also the degree of backfill
- Cons09
 - Will need some "intelligent" interpretation, i.e. seeing that a drop in overall utilisation is caused by the drop in utilisation of the paid nodes

Agreed: Option 3 - Keep current report and add extra reporting for paid usage plus time used

Action: OK to produce report

8. Amended backfill policy for Farr nodes [WH]

Agreed:

- 8.1. Non-paying users will be able to use the nodes for up to 12 hours (previously 2).
- 8.2. Non paying users will not be able to use a paid node if the owner has used it within the last 48 hours.
- 8.3. If a paying user has jobs queued then the number of paid nodes required will be calculated and an appropriate number of their paid nodes will have access by non-paying users disabled.

9. Legion 4K presentation [OK]

A project to deliver a service integrated into Legion where users can submit a subclass of jobs that fit a particular profile that will run on either spare capacity on Legion or on spare capacity on Desktop@UCL, depending on what is available at that moment in time. There already exists software to do this, and this project entails final integration with Desktop@UCL and Legion and final rollout.

Issues:

Desktop team are very under-resourced. NK to raise with RCGG.

10. AOB

It was agreed to reschedule future CRAG meetings to the third Friday in the month.

11. Next meeting date and agenda

Friday 20th January 2015 from 13.00-15.00

Venue: Room 104, 1st floor, Podium Building, 1 Eversholt Street, London, NW1 2DN.

Agenda (Items) for the next meeting:

Standing items:

1. Approval of Minutes of last meeting
2. Update on status of current Actions
3. Review of any requests for additional resources on local HPC facilities
4. Review of Legion usage statistics
5. Review of IRIDIS and Emerald usage statistics

LIST OF CURRENTLY APPROVED EXCEPTIONAL REQUESTS

Requesting user	CRAG approval date	details of exception	start date agreed	end date agreed	date removed	Implementation Notes
Jenner	13/05/2014	Scratch quota extended for the requested period	13/05/2014	01/05/2015		
Piasini	10/06/2014	Scratch quota extended for the requested period	10/06/2014	31/12/2014	?	OK to check
Wright	10/06/2014	Extension of maximum wall clock time to 10 days on Legion	10/06/2014	31/10/2014	?	OK to check
Tian	08/07/2014	360 hours wall time requested to December 2014	08/07/2014	31/12/2014	?	OK to check
Meng	09/09/14	Scratch quota increased to 3TB and extended	09/09/2014	30/09/2015		User to discuss suitability of platform with RC
Herrero	09/09/14	Scratch quota increased to 6TB and extended	09/09/2014	30/09/2015		
Ferreira	07/10/14	Scratch quota increased to 2TB and extended	07/10/2014	31/10/2015		OK to discuss suitability of platform with user

