INFORMATION SERVICES DIVISION

Research Computing Governance Group
Tuesday 4th February 2014 at 12.00pm
Room 103, Podium Building, 1 Eversholt Street, London NW1 2DN

Chair:
1. John Brodholt [JBr] – Dept. of Earth Sciences

Present:
2. Nick Achilleos [NA] – Dept. of Physics & Astronomy
3. Richard Catlow [RC] – Dept. of Chemistry and Dean of MAPS
4. Clare Gryce [CG] – Head of Research Computing and Facilitating Services, ISD
5. David Jones [DJ] – Bloomsbury Centre for Bioinformatics (BCB)
6. Nik Kaltsoyannis [NK] – Chair of Computational Resource Allocation Group (CRAG)
7. Christine Orengo [CO] – Institute of Structural and Molecular Biology
8. Jacky Pallas [JP] – Research Platforms, OVPR
9. Alberto Roldan Martinez – Dept. of Chemistry
10. Bruno Silva [BS] - Computational Resource Allocation Group (CRAG)

Apologies:
11. Peter Coveney [PC] – Computational Life and Medical Sciences (CLMS)
12. Nora H De Leeuw [NDL] – Thomas Young Centre (TYC)
13. Mat Disney [MD] – Dept. of Geography
14. Angelos Michaelides [AM] – Thomas Young Centre (TYC)

In attendance:
15. Craig Dunant [CD] – Project Manager, Project Delivery Services, ISD
16. Corrinne Frazzoni [CF] – Administrative Services, ISD (Minutes)

Minutes

1.   Welcome and introduction [Chair]

The Chair welcomed the group to the meeting. CG introduced Craig Dunant and Corrinne Frazzoni to the group.

2.   Approval of Minutes of previous meeting and matters arising [Chair]

The minutes of the previous meeting held on 21st November 2013 were approved. There were no matters arising.

3.   Update on current Action Items [Chair]

The list of current actions from the previous meeting was reviewed and updated (see attached table).

3.1. **Action 35**: CG has emailed EPCC re. obtaining utilisation data; response awaited.
3.2. **Action 36**: BS to prepare report on Research Computing Resources access policy for next meeting.
3.3. **Action 42**: Some doubt was expressed by the group as to the extent of the actual need for a dedicated on-site datacentre. However, there was a definite requirement for some form of scalable on-site capacity to ensure resilience of research computing at UCL. Any new datacentre should also be rated for HPC. It was agreed all options should remain open, pending answers to the questions of cost, capacity, scalability and co-location. CG to liaise with the working groups and report back.

4. **2013/14 Projects and Budget [BS]**

1. Legion IV Stage 3 – 2013/14 budget update

- £207k allocation from central funds (via RIISG)
- £293k contribution from MRC Chapter / Farr research grant
- £129.5k of compute procured from additional research grants (3 PIs)
- Implementation by end Feb
- New release of additional £143k (via RIISG)
    - Currently uncommitted for 2013/14
    - Spend by end July 2014

Procurement confirmed on track with chosen supplier (Dell).

2. Legion IV Stage 4 (new 143k funding) - proposal for spend

The group discussed options for the best use of the 143k unspent balance.

Options:
- Procure further 36 Type U nodes with associated IB and networking equipment (143k)
    - A low risk option; quick procurement possible via existing agreement with Dell; compute capacity increased while reducing physical footprint.
    - However, DC space limitations would require installation in WFH and retirement of 16 existing nodes.
- Procure further 5 Type T (Large Memory) nodes with networking equipment (143k)
    - Quick procurement possible via existing agreement with Dell.
    - However, DC space limitations would require installation in WFH and retirement of 16 existing nodes.
    - No identified need for Type T nodes beyond those in already in place or ordered; risk of additional nodes not being fully utilised by Legion users;
- Buy Oxford's 2014/15 share of the Iridis cluster at the Centre for Innovation (115k)
    - Would increase UCL share of Iridis to over 70%.
    - Cluster and access mechanisms already in place.
    - Not reliant on UCL's limited DC space.
    - However, would only buy 1 year of additional access, not available until 1/8/2014.
    - Risk of Legion's large quantity of aging compute nodes leading to future need of major financial investment in order to remain viable.
    - Risk of UCL becoming increasingly reliant on 3rd party-managed cluster, affecting HPC capability.
    - Risk of future funding bids not succeeding and UCL experiencing real term decrease in compute capacity

    Issues raised:

    - **Best value.**
    - **Cost of electricity.**
    - **Whether it would be better to procure new equipment that would add to UCL assets and might last several years or to buy a year's share of the Iridis HPC facility at the Centre for Innovation**
    - **What would happen to Oxford's share after 2014/15.**

It had been a difficult year due to the drip nature of funding and it was suggested that it might be better to consider undertaking more major projects less often. The RIISG was currently looking at how best funding might be spread.

To assist the decision of how best to use the underspend, the Chair requested a report on the current Legion estate for consideration by the group.

Action: BS to prepare a report on the current Legion estate for the next meeting.

5. **Developing a Strategy for Research Computing [CG]**

A proposal was presented for the development of a research computing strategy that would encompass both the Research Computing Platforms and Research Software Development service and activity areas in order to enable synergies between these two aspects of research computing to be fully explored.

Possible themes:

- Diversification of UCL's research computing user community
- Increased governmental and funding council emphasis on collaborative facilities, as well as the drive to develop industry 'on-ramps'
- Alternative funding models for UCL's HPC facilities (central and departmental)
- The advent of 'Big Data' and relationship between compute and data 'facilities'

Scope to be determined but would cover research computing, research software development and training. It was essential to explore the user community, both centrally and departmentally, to consider what was right for UCL and what it needed from the services provided.

It was suggested that any such strategy should also include Research Data.

Action: CG to poll members to set a date for an awayday to discuss further development of the strategy.
Action: CG to draft short 2-page strategy proposal and circulate to members.

6. **14/15 Capital Budget and Bid Proposals [CG]**

A proposed three year investment plan for the Research IT domain was presented to the RIISG meeting on 20th January 2014. UCL Finance had agreed to a three year investment plan to fund a programme of activity in the Research IT domain for the period 2014/15 – 2016/17. This was part of an overall annual allocation of £11m across the four domains of spend: research, learning and teaching, infrastructure and administrative.

The investment plan represented a first draft and high-level allocation of funding between each of the sub-domains within the scope of the RIISG:

1. Research Computing Platforms
2. Research Software Development
3. Research Data
4. Research IT Applications

Although the overall investment associated with the three year plan could be considered as a firm commitment, the RIISG could vary the allocation between these sub-domains. Accordingly, bids for funding for proposed capital projects still needed to be prepared by each of the sub-domain groups.

The timeline for bids for 14/15 set down by Finance was as follows:

1. End Feb: draft bids prepared
2. April: draft bid reviews by sub-domain groups (next Research Computing Platforms Governance Group meeting scheduled for 8th April)
3. First week May: final bids prepared

The group were asked to consider the following proposed activity profiles and recommend any modifications:

1. **Data Centre availability**: UCL existing on-site data centres now near capacity with little room for new HPC kit. RC Group has space reserved in new Torrington Place 2 datacentre, including high-density racks; expected availability from July 2014.

Recommendation: some of this space to be reserved to host new departmental contributions to Legion infrastructure. Plans for UCL's strategic offsite datacentre facility well progressed: this facility was expected to be available from September 2014, although the tender had still to be issued However, timescales for availability of higher rated racks suitable for HPC less certain and there was a risk that this might fall into 2015.

- **No guarantee this would meet the timeframe.**

2. **eMedlab**: Partnering with the Crick, EBI, Sanger and QMUL, UCL won £6.8 capital to establish a shared Medical Bioinformatics facility. Details to be confirmed and negotiated, but expected to be a need for considerable involvement of ISD Research Computing staff in the design, development and implementation of new facility, particularly during 2014/15. NB UCL will have a 1/3 share of this new HPC facility.

- **Driven by user requirements.**
- **Data heavy.**

3. **Service development**: Due to the way 2013/14 funding was released, the Research Computing Platforms team undertook three capital projects in the last 12 months, which had considerable impact on the delivery of other service development works planned or in progress.

- **Concern regarding staff capacity.**
- **It was felt there was a need for improved communication, greater agility and more flexibility.**
- **There was a perception of ISD as being process-heavy and slow to respond to service user requests.**
- **Service users needed to feel that direct contact would offer a fast response.**

4. **Technology-driven refresh:** Owing to the unpredictability of the capital investment received over the last two years, and the requirement by UCL Finance to spend 'in year', refresh of UCL's central HPC facility (Legion) has been driven by financial and datacentre considerations rather than technology cycles.

5. **CfI:** UCL has an opportunity to purchase an additional share - equivalent to 2000 additional cores - of the CfI Iridis facility in 14/15 for £114k.

- **Possibility to be considered of optioning the funds for Iridis and then spending on Legion later.**
- **Consideration of recurrent costs**

Action: CG to draft proposal for Finance.

NB Due to the meeting overrunning, the following items were not discussed and it was proposed to consider them via email:

New Bids for 2014/15 – proposals

1. **iPython Notebook**

   To provide a UCL-hosted iPython notebook service to researchers, offering a centrally supported user-friendly environment for software development and explorative data analysis. Future plans include using it to provide access to high performance and high throughput resources at UCL without researchers having to learn the intricacies of a UNIX environment. This service will also be used to support the Software Carpentry courses provided by RSD.

   In addition, the group will work with ISD eLearning Environments (ELE) will create a service which can be used for teaching in the Physics department (initially).

Bid estimate: £25k plus match funding from ELE (TBC)

2. UCL Research/Linux Desktop

Exploratory and investigative work to consider the need - and depending on findings develop a business case for – a standardised Linux based 'desktop' environment at UCL, supporting common research applications and with integrated functionality to support a diverse range of computational tasks, including assembly and launch of jobs to Legion and other HPC environments.

Bid estimate: £50k

7.   AOB [CHAIR]

8.   Next meeting [Chair]

List of Current Actions

Shaded actions will be deleted after next meeting. New actions in bold type.

No	Date	Minute	Owner	Action	Status and Notes
18	27/04/12	6.3	CG/JP	Consult Research Services to confirm what costs can actually be put on grants, also with regard to need to align allocation periods and processes with the research services costing. **To establish what was included in the fixed estates costs for Research Computing.**	27/4 – Action opened 21/11/13 – CG working with JP to plan workshop. Ongoing **04/02/14 – Combine with Action 37. Ongoing**
33	3/10/13		JB/JP/RC	RC - ToRs: report back on strategies relevant to research computing at faculty level & produce statement of current role and future strategy.	03/10/13 – Action opened **04/02/14 - Ongoing**
35	21/11/13	2.1	CG	CG to look into obtaining quarterly HECToR utilisation report from EPCC.	21/11/13 – Action opened **04/02/14 – CG awaiting response from EPCC - Ongoing**
36	21/11/13	2.2	BS/NK/CRAG	NK/CRAG to report back on new unified Research Computing Resources Access Policy. **BS to prepare document for next meeting.**	21/11/13 – Action opened **04/02/14 – Ongoing**
37	21/11/13	3	JP	To find out what went into the fixed estates costs for Research Computing	21/11/13 – Action opened **04/02/14 – Action closed - to be rolled into Action No. 18**
38	21/11/13	3	CG	To create a first draft of a new Research Computing strategy document based on meeting outcomes, and noting that £2M in 15/16 is an inadequate level of investment, for review and further work by the group.	21/11/13 – Action opened **04/02/14 – Ongoing – see previously attached Paper (Item 5)**
39	21/11/13	3.7	CG	To collate information on annual capital investment in Research Computing each year since the first SRIF investment.	21/11/13 – Action opened **04/02/14 – Ongoing**

40	21/11/13	5	CG	To obtain top-line data from Research Services on income	21/11/13 – Action opened **04/02/14 – Ongoing**
41	21/11/13	5	CG	To produce a cost profile before the next RIISG	21/11/13 – Action opened **04/02/14 – Action closed**
42	21/11/13	5	CG	To ask that the business case for an onsite Datacentre to be distributed to the working group	21/11/13 – Action opened **04/02/14 – Ongoing**
43	**04/02/14**	**4**	**BS**	**To prepare a report on the current Legion estate for the next meeting**	**04/02/14 – Action opened**
44	**04/02/14**	**5**	**CG**	**To poll members for 'Awayday' to discuss further development of the Strategy.**	**04/02/14 – Action opened**
45	**04/02/14**	**5**	**CG**	**To draft short 2-page strategy proposal and circulate to members.**	**04/02/14 – Action opened**
46	**04/02/14**	**6**	**CG**	**To draft the proposal for Finance dept**	**04/02/14 – Action opened**