

Research IT Club

October 2018

Research Infrastructure Update

Research IT

Research Lifecycle Programme

<http://staffnet.manchester.ac.uk/research-lifecycle-programme/>

Five-year programme of investments to support the University in meeting its goal of being one of the top 25 research universities in the world, through a series of strategic investments in IT and associated change.

- Three streams
 - S1: e-Research Infrastructure (includes HPC, HTC and HPDA)
 - S2: Research Data Lifecycle
 - S3: Processes and systems that support the administration of research
- Business case was a great success! Outcomes:
 - Funding committed over 5 years
 - Budget allocated for e-Research Infra options

RLP - Stream 1 Investment

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- Phase 1 - Local HPC
 - Significant investment in to local compute resource to address *true* HPC needs
 - Investment in existing *Computational Shared Facility* (CSF)
 - Recap: £90k seed fund (2010), £150k f@pou (2017)
~£4m researcher investment, ~11,000 cores
 - Enable jobs of 256 cores and up
 - Current job profile dominated by HTC or small multi-core
- Motivation: *Reallocation* of RLP funds for new N8-HPC platform
 - Was to be hosted at Durham
 - More later...

RLP - Stream 1 Investment

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- Subsequent phases
 - Initial procurement for CSF in new year (2019) and further funds in RLP years 2, 3 and 4
- **Your input needed**
 - More GPUs?
 - Very high memory nodes (3TB compute node anyone?)
 - Hadoop?
 - ...?
- Two workshops in October:
 - Wed 17th Oct – Rm 2.03, Mansfield Cooper 15:00-16:30
 - Tues 23rd Oct – Rm 5.206, University Place 10:00-11:30

Please register

<https://researchitnews.org/2018/10/02/future-of-research-it-infra/>

N8 Computationally Intensive Research

Polaris HPC platform reach EOL July 2018

- **Not funded:** Proposed new HPC platform was to be hosted at Durham
 - UoM RLP funds reallocated to Phase 1 local infra investment (see above)
 - CSF to satisfy job profiles of Manchester N8-HPC users

N8-CIR

- **Funded:** Centre of Excellence (6/8 signed up so far...)
 - Five academic research themes
 - Research Infrastructure Engineering theme
 - Research Software Engineering theme

N8-CIR Cloud Exploration

- **Funded:** Joint cloud exploration project (started)
 - Leeds funding annually for three years
 - Manchester funding annually for three years
 - Lancaster (TBD)
- Platforms
 - AWS, Azure, GCP
- Use cases - **your input needed**
 - Bursting condor
 - HPC scaling
 - RDS mirroring

Computational Shared Facility Update

- CSF3 = DPSF + CSF2
 - Hardware and users being moved in phases to minimise disruption
 - Summer round of research group funded hardware installed in CSF3

- Phase 1: Currently available to DSPF users for testing
 - CSF3 = virtual login node + DPSF scratch + 50% DPSF compute nodes + DPSF s/w
 + 19 x Intel Broadwell 28-core compute nodes (researcher funded)
 + 31 x Intel Skylake 32-core compute nodes (researcher funded)
 + 16 x Nvidia Volta GPUs added to CSF3 (12 research funded GPUs, 4 f@pou)

- Phase 2 (end Oct):
 - Remaining DPSF compute nodes moved to CSF3. DPSF login node withdrawn.

- Phases 3+ (Nov / Dec):
 - CSF2 compute and users moved in batches

Any questions?

