STFC Computing Capital Enabling e-Infrastructure 2017
£1.5M STFC Capital Call

Andrew Sansum

14/3/18

Proposals Should

- Contain a primary purpose statement on overcoming key challenges in the lead up to the implementation of a NeI;
- Demonstrate the development of the UK computing infrastructure across STFC without an emphasis on any particular science programme;
- Include meaningful collaborations between research communities across RCUK where it is possible and appropriate;
- Show embed industrial involvement in project activities, spread over industrial collaborators, users and vendors;
- Express project outcomes in terms of enabling the movement towards the NeI as well as jointly aiding the current STFC science programme.

Timeline

Call Issued: 29th June

Activity	Timing
JeS Submission Deadline	22 August 2017
Proposals out for review	29 August 2017
PI response issued	29 September 2017
PPRP Meeting Date	19-20 October 2017
Grant Start Date	1 December 2017
Grant Completion Date[1]	31 March 2018

After submission, timeline accelerated when it became clear to STFC that collaboration could not complete procurements in 4 months. Proposal successful and UKT0 received informal advice we could proceed in early October.

Challenges for Collaboration

- To address primary purpose statement on *overcoming key challenges in the lead up to the implementation of a NeI*
- Aiding the current STFC science programme
  - Address resource needs of STFC science program
  - Broad scope across science program
- Capital only– to be spent between December 2017 and March 2018
- Very challenging procurement schedule – one procurement still to complete.

A Common Cloud Platform for STFC Science"

This project will therefore procure hardware and contract development effort from industry to extend the capacity / capability of existing cloud services at four STFC site already actively innovating in the field of cloud computing and storage: RAL, Manchester, Edinburgh and Cambridge Universities. It will be based on OpenStack, and by exploiting standard APIs, projects will be able to integrate workflows between STFC's existing private cloud and the public cloud to provide a hybrid cloud for research.

Proposed Architecture
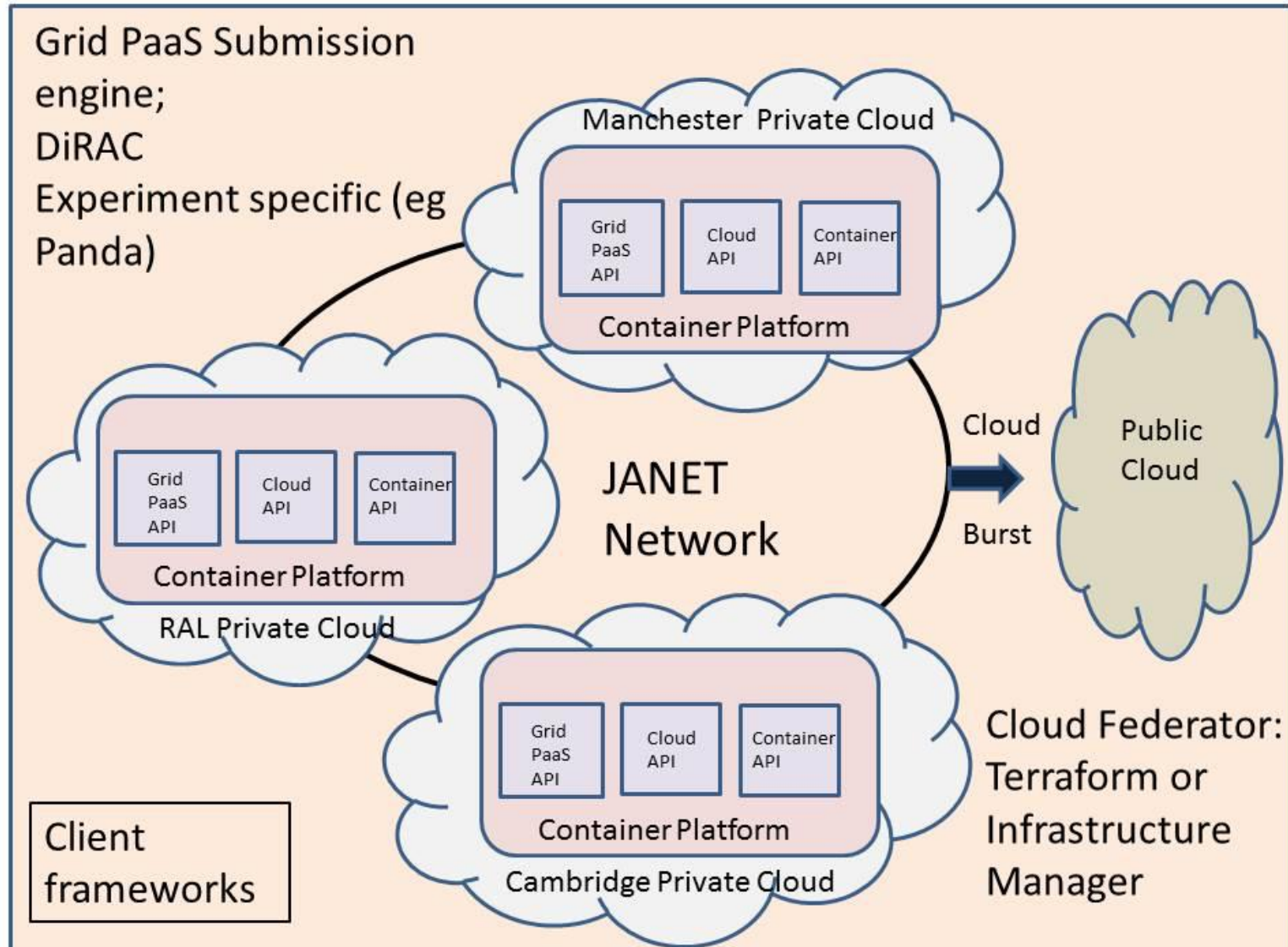
Key Project Deliverables

- Hardware: £1.2M (compute and storage) total at Edinburgh, Manchester and RAL
  - Deliverables: Hardware receipted (boxes on floor!)
- Software development (£200K) for the STFC facilities (Virtual Machine Manager + File mover services)
- Through Cambridge (£100K): working with industry (StackHPC) to support development of a federated OpenStack infrastructure

Exploitation

- Not a deliverable of the capital grant
- Must deliver tangible benefit to STFC science program
- Can only be achieved through close working/integration with existing infrastructure provision by GridPP/SCD/DiRAC….
- Develop the federated private cloud infrastructure but fallback plan to backfill through existing HTC infrastructure such as GridPP