

Briefing Paper: Cloud Infrastructure Service Provision

Provisioning and maintenance of research computing facilities is a core part of the IT strategies of High Education Institutions (HEIs). Existing research computing facilities may include HPC clusters, campus grid infrastructure, and virtualised computational resources, which have been widely employed to support research activities across different disciplines. Additionally, investment is increasingly required for hardware procurement and system maintenance.

Recent success in the use of cloud in business has introduced a new model of provision that can potentially be employed by HEIs to provide cost-effective research computing. Cloud computing, due to its commercial nature, is still new to research communities, and a number of questions arise about its applicability to the HEI sector. Would cloud computing be appropriate if adopted for research? What are the differences between a research cloud and a commercial cloud? How could HEIs adopt cloud computing for research?

The TeciRes “Guidance notes to cloud infrastructure service providers” provide information and rules of thumb to HEIs on how to build private and hybrid cloud facilities for research, given existing open-source Cloudware. The guidance note also provides information on how to construct a hybrid cloud environment by integrating local private cloud capabilities with those offered by public cloud service providers (CSPs).

There are different considerations in choosing public CSPs and open Cloudware depending on the HEI-specific cloud strategy. Building a small-scale private cloud infrastructure within a HEI is a very attractive option to achieve a highly flexible and scalable research computing environment. The adoption of cloud computing in HEIs will also contribute to the evolution and development of cloud computing technologies.

The guidance notes can be found at <http://tecires.ecs.soton.ac.uk/document.php>.

