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Paper Title:

Developing infrastructure for eScience and opportunities for innovation in eSocial Science: converging interests and requirements?

Abstract

In the last decade of networking computers in ways that are recognisable as Grids today, the interoperation of heterogeneous systems over any distance has been a significant challenge. Grids are now entering their third generation. This era of standardisation is predicted to make interoperation so easy that the Global Grid will become more like a market in which there is real competition between solution providers, and hence more innovation possible at the application level.

For users of this third generation infrastructure, the focus of innovation moves from enhancements in technical capability associated with globally distributed computing to their relationship with 'innovation capacity' - i.e. the ability to expand potential for innovation and extend an innovator's reach

New forms of collaborating and regional engagement are implicit in the above statement. However, forming new research communities and networks within a sparse, globally distributed, Social Science community is at odds with recorded histories of innovation capacity development at an industry or national level. If forced, this might even increase the volume of communications to the detriment of improved diffusion of ideas.

Just as the third generation of Grids requires common interfaces to enable interoperation across functional, institutional and national boundaries, so too does the OECD's third generation of National Innovation Policies. Here such interfaces enable the coordination and integration that will "release the potential for innovation that is embedded in other sectors".

This convergence in thinking appears encouraging as it offers a broader base on which to value investments in Grid infrastructure, and hence a more coherent way of coupling the needs of science, enterprise and society. However, questions remain about whether this convergence will deliver the infrastructure required by Social Scientists to benefit from the tools of eScience, i.e.:

Is Utility Computing (4thGen Grid?) going to provide eSocial Scientists tomorrow, with the benefits eScientists enjoy today?

The presentation explores this question drawing on the experiences of having established a 'grid collaboratory' for eSocial Science between Curtin Business

School and Edinburgh Parallel Computing Centre, Scotland in 2003. This was extended to include the Computer Network and Information Center of the Chinese Academy of Sciences in 2005, and continues to develop in the light of opportunities offered by infrastructures such as TEIN2.