

## **DART: Building the new collaborative e-research infrastructure**

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### **Abstract:**

In early 2005, the Australian Government called for proposals for collaborative projects that brought together consortia to improve accessibility to Australian research. The call for proposals identified four areas of interest:

- maximising access to digital resources in Australian universities, especially regional universities;
- creating new types of digital libraries to manage extremely large data sets;
- adopting a national approach to improving open access to the results of publicly funded research;
- providing effective linkages between sets of research information to enable seamless access by researchers.

The call for proposals also identified a number of key trends that are changing the way in which research is conducted and its outputs consumed. These included new technologies, such as computer simulations, synchrotrons and sensor networks, the expanding size of the datasets on which research is based, increasing volumes of information generated through research, greater complexity, and the recognition of the need to work across traditional disciplinary, institutional and national borders. To this one might add a growth in research practices that are producing a paradigm change in the types of research that this new large-scale computing/data management environment can support. These emerging research practices are intensely collaborative (often involving trans-national teams), require high-quality network access, and are data and simulation-intensive.

The Dataset Acquisition, Accessibility, and Annotation e-Research Technologies (DART - <http://dart.edu.au/>) Project is a Commonwealth Department of Education, Science and Training (DEST) funded project that is responding to these trends and changes by developing and assessing new e-research collaboration tools and infrastructure (the project will be nearing completion by the time of the conference). This paper will begin by describing the context in which the DART bid was submitted, both environmental (described above) and theoretical. The paper will then go on to describe the overall architecture for DART and its various work packages. Each group of work packages will be placed in the context of the domain requirements and the theoretical model. Finally, the paper will conclude by examining progress to date on the project, and well as describing links to related activity.