

Technology Scan – Australia June 2004



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Grid Fabric

- APAC (Australian Partnership for Advanced Computing)
 - Largest Australian Computational Resource
 - ANU APAC Facility – Compaq SC server with 508 nodes (> 1 Teraflop), 692GB memory, secondary storage > 10 TB
 - VPAC (Victoria Partnership for Advanced Computing)
 - 200 nodes Linux cluster

- ANP (Advanced Networks Programme)
 - GrangeNet (Grid & Next Generation Network)
 - Next generation AARNET (Australian Academic Research Network) consisting of 10Gb/sec backbone linking Sydney, Canberra, Melbourne & Brisbane

(Main) Grid Projects

- Programming Paradigms & Schedulers
 - GriddLes (Grid Enabling Legacy Software, Monash)
 - Nimrod (RMIT/Melbourne)
 - declarative parametric language to model parametric experiments
 - scheduler for scheduling the experiments
 - G2 (Queensland Univ of Technology)
 - Grid middleware written in Microsoft .NET

- Management Tools
 - TRASC – Globus application launcher written in Java
 - DISCWorld (Adelaide) – management of data grid; provide simple access to data grids over WWW
 - GridBus (Melbourne) – service-oriented grid with economic model

Summary

- No national initiative of the scale of UK e-Science (to the best of our knowledge)
- Issues include
 - “a lack of coordination between federal & state bodies who control high performance computing resources”
 - “project allocation models at organisations such as APAC”

References

1. The Final Report of the National Research Infrastructure Taskforce, Department of Education, Science and Training, Australian Government, March 2004.
2. The State of Cluster and Grid Computing Research in Australian University, D.F. Saffioti, 2003.
3. Australia Grid Forum (www.ozgrid.org.au), Grangenet (www.grangenet.net), Australian National Super Computer Facility (www.anusf.anu.edu.au), www.vicpac.org