

## **Nimrod Tutorial**

**26 September 2005** – 12.30pm to 5.00pm, includes lunch

### **Presenters:**

David Abramson, Colin Enticott and Slavisa Garic.

### **Background:**

This tutorial demonstrates how to enable e-Science applications with the Nimrod family of tools. Grids couple geographically distributed resources such as high-performance computers, workstations, clusters of computers, data repositories and scientific instruments. They have begun to provide the infrastructure to support global collaboration in ways that were not previously possible by facilitating the construction of virtual organizations.

Monash University, and the Distributed Systems Technology Research Centre, are Australia's most significant research groups in grid computing, and have developed a number of innovative software tools aimed at grid enabling legacy applications. One of these, Nimrod/G, allows users to explore robust design options by supporting parametric execution on the grid. Nimrod/G operates both as a user level tool, complete with a web based portal, and also as a middleware layer that can be targeted by application programs. It supports the design and execution of very large computational experiments in which a given application is run on a diverse range of distributed resources. Nimrod/G utilizes the Globus toolkit as well as stand alone schedulers such as PBS.

This hands-on tutorial will provide an introduction to robust design principles and parametric computing. Attendees will learn how to perform parametric search on Clusters with a tool called EnFuzion, as well as how to use Nimrod/G on the grid. Attendees should bring a wireless enabled laptop to maximise their involvement.

This tutorial is designed for computer scientists with an interest in using wide area distributed computing to solve practical problems, and researchers who wish to contribute to grid computing. The tutorial will also be of practical significance for scientists and engineers who can utilize high performance distributed computers in their daily work.