



THE WHITE ROSE GRID

e-Science Centre

About the White Rose Grid

Introduction

The White Rose Grid (WRG) is a successful and long-standing partnership between the three Yorkshire Universities of Leeds, Sheffield and York research communities as well as service providers (ISS at Leeds and CICS at Sheffield) engaged in innovative computational projects and related activities.

range of opportunities and initiatives. These include collaborative research, exploiting commercial and business opportunities, industrial partnerships and joint postgraduate scholarships.

The White Rose Grid e-Science Centre

The WRG e-Science Centre (refer to Figure 1) is one of four such UK Centres (along with the Belfast e-Science Centre based at Queen's University Belfast, National e-Science Centre based at the universities of Edinburgh and Glasgow, and the South East Regional e-Research Consortium based at Oxford, Reading and Southampton universities) to receive further funds from EPSRC in March/April 2008 to continue its wide portfolio of e-Research activities.

The Centre aims to be a focus for regional e-Research; and is involved in a broad range of collaborative activities. Briefly, these may be divided into four groups:

- **scientific research**, including a large variety of e-Research carried out with our partners (e.g. MoSeS, AssessGrid) as well as a broad spectrum of projects utilising high performance computing (HPC) facilities
- **production grids**: the White Rose Grid, the National Grid Service core node as well as close collaboration

It focuses on building, expanding and exploiting the emerging IT infrastructure, i.e. the grid, which employs many components, creating a collaborative environment for e-Research.

The project operates under the auspices of the White Rose University Consortium (White Rose), which is a long-term strategic collaboration of the three major research Universities in Yorkshire – Leeds, Sheffield and York - and has a large critical mass of research, teaching, and enterprise facilities. By combining strengths, particularly in science and technology, White Rose [2] aims to ensure that its partner institutions and the Yorkshire region can prosper through unity and benefit from a



Figure1: The UK e-Science Centres





Figure2: The White Rose Grid workshop

with the Tier-2 node of GridPP in Sheffield

- **education, training and user support** in HPC and grid technologies delivered across the White Rose and our region
- **collaboration and outreach** regionally, nationally and internationally (e.g. with the Chinese grid community, including CNGrid and ChinaGrid, and to support the Worldwide Universities Network).

WRG Facilities and Users

The WRG has been established and enhanced with over £8.1m of investment. Its facilities include a large collection of Intel/Linux and Sun/AMD Opteron/Linux systems delivering integrated computational and data storage resources.

There are four WRG nodes; each named after a white rose. They deliver a stable HPC service for local users as well as the grid infrastructure for e-Science projects.

WRG resources are available to a wide range of researchers, for example in the following areas: mathematical sciences; bio-informatics & bio-medical sciences, earth & environmental sciences, engineering and computer science & informatics.

Partners

Our IT partners are Esteem Systems, Sun Microsystems, and Streamline Computing. The WRG is working with prestigious companies and organisations (e.g. Rolls-Royce) who wish to use the grid in collaborative R&D projects to assess the impact of this new technology. It enables them to evaluate to what extent the grid provides a more productive operating environment as well as to gain an advantage over their market competitors

with cutting-edge technology.

Dissemination

Our workshops and conferences [3, 4, 5, 6, 7] provide open forums (refer to Figure 2) for discussions on all aspects of grid computing and its exploitation in both industry and commerce.

Further Information

Contacts:

University of Leeds:
Dr Joanna Schmidt,
WRG e-Science Co-ordinator
j.g.schmidt@leeds.ac.uk

University of Sheffield:
Dr M K Griffiths, Grid and High Performance Computing Specialist,
m.griffiths@sheffield.ac.uk

University of York:
Mr Aaron Turner, Advanced Computer Architectures Group,
aaron@cs.york.ac.uk

The relevant web pages are at:

- [1] <http://www.wrgrid.org.uk>
- [2] <http://www.whiterose.ac.uk>
- [3] http://wrgrid.org.uk/conference2004_slides.html
- [4] http://www.wrgrid.org.uk/workshop2005_slides.html
- [5] http://www.wrgrid.org.uk/workshop2006_slides.html
- [6] <http://www.leeds.ac.uk/iss/wrgrid/OpenEvent2007.html>
- [7] http://www.wrgrid.org.uk/workshop2008_slides.html