



THE WHITE ROSE GRID e-Science Centre

About the White Rose Grid

Introduction

The White Rose Grid (WRG) is an initiative that brings together those researchers from the Yorkshire region who are engaged in e-Science activities and, as a consequence through these, in the development of grid technologies and grid-enabled applications.

industrial partnerships and joint postgraduate scholarships.

The WRG e-Science Centre (refer to Figure 1) is one of seven such UK Centres (along with Belfast, Lancaster, Manchester, Newcastle, Oxford and the National e-Science Centre in Edinburgh and Glasgow) to receive recently further funds from EPSRC to continue its wide portfolio of e-Research 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. Broaden, MoSeS, AssessGrid, Integrative Biology) 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 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)

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 range of opportunities and initiatives. These include collaborative research, exploiting commercial and business opportunities,



Figure 1: The UK e-Science Centres



and ChinaGrid, and to support the Worldwide Universities Network).

The WRG facilities have been established and enhanced with over £5m of investment, mainly from HEFCE SRIF allocations. These include a large collection of Sun/UltraSPARC/Solaris, Intel/Linux and Sun/AMD Opteron/Linux systems delivering integrated computational and data storage resources (see Figure 2).

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.

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

Further Information

Contact: Dr Joanna Schmidt, WRG e-Science Co-ordinator
(email: whiterosegrid@leeds.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>

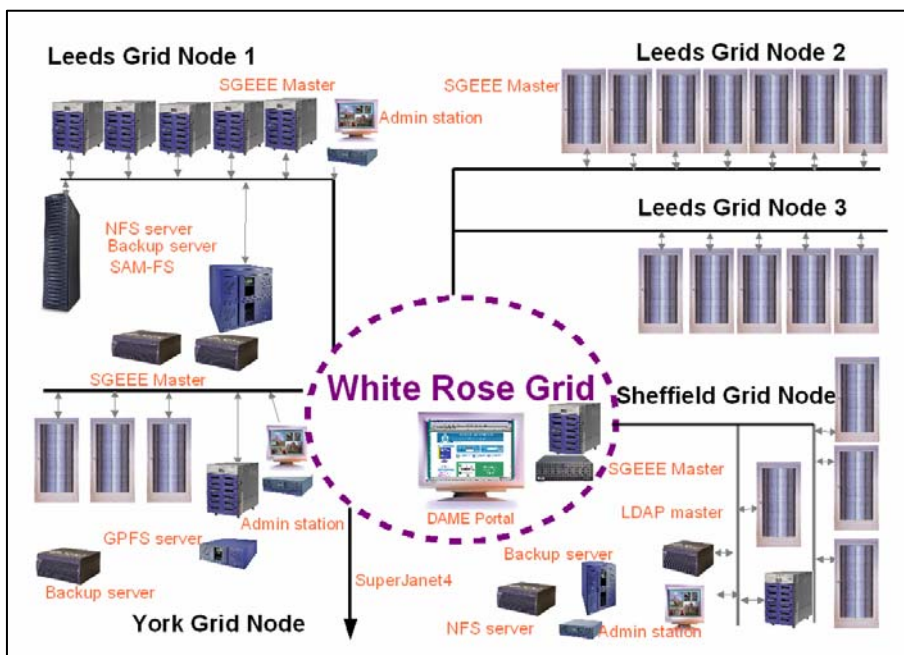


Figure 2: The White Rose Grid Architecture

There are five 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, and computer science & informatics.

Our IT partners are Esteem Systems, Sun Microsystems, and Streamline Computing.