The NW-GRID Computer Systems

Daresbury
- 96 node Streamline/ Sun cluster with 2.4GHz twin dual-core Opterons
- IBM BlueGene/P with 4096 processors
- 32 node Streamline cluster with twin quad-core Harpertown, Nehalem and nVidia GPU
- IBM Power7, 4x 32-way nodes

Manchester
- 44 node IBM cluster with dual twin core Opterons
- 25 node Streamline/ Sun cluster with 2.4GHz twin dual-core Opterons SGI Prism visualisation engine with 8x Itaniums and 4x ATIFireGL X3 graphics pipes

Lancaster
- 48 node Streamline/ Sun cluster with 2.6GHz twin dual-core Opterons
- 124 node Streamline/ Sun cluster with 2.6GHz twin dual-core Opterons (local HPCF)
- 67 node Streamline/ Sun cluster with 2.3GHz twin quad-core Opterons
- 12TB Streamline/ Sun data Grid

Liverpool
- 104 node Streamline/ Sun cluster with 2.2GHz twin dual-core and 2.3GHz twin quad-core Opterons
- 96 node POL IBM cluster with twin Xeons
- 960 node Dell cluster with Pentium IV (local Physics)
- 108 node Streamline/ Sun cluster with 2.4GHz twin dual-core and 2.3GHz twin quad-core Opterons and InfiniPath

Commercial Access

For further information about NW-GRID Services contact Michael Gleaves on 01925 603710 or visit the DaComS Web site: http://www.dacoms.dl.ac.uk

Academic Access

For access and further information, please visit the NW-GRID Web site. http://www.nw-grid.ac.uk

NW-GRID is also available via the National Grid Service.

What are NW-GRID Services?

NW-GRID Sun cluster – one of the resources available at Daresbury.

North West Grid Services provide access to unrivalled expertise and resources to support your projects and research. With a network of high performance computers and a group of experts in computational science, modelling, systems and customer support, NW-GRID is capable of working with a wide variety of simulation, modelling and data analysis applications to provide solutions to support your work and to help you achieve results.

About the NW-GRID

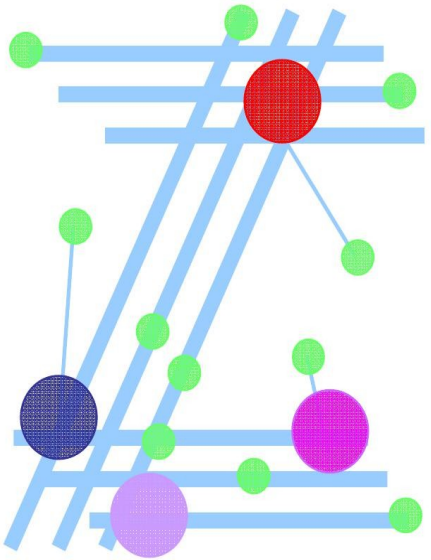
The NW-GRID is a collaboration between Daresbury Laboratory and the Universities of Lancaster, Liverpool and Manchester. With the support of the NWDA, a computational grid was established linking resources at the four sites from 2006.

The NW-GRID aims to strengthen the position of the North West of England as a cornerstone of research, development, implementation and use of computational science technologies.

World Class Services

The NW-GRID partners offer world class services founded in the deployment and exploitation of grid middleware technologies, thereby fully enabling the capabilities of the grid to be realised in leading edge research applications, primarily in computational science and engineering. Over the past few years, services were offered to high profile research projects in the region and have resulted in publications in leading journals such as Nature. With the confidence gained from these successes, NW-GRID Services are now available to academic and non-academic users and consortia.

Connectivity throughout the North West



NW-GRID is an important infrastructure for North West England's science strategy and its capabilities resonate with the key elements of the NWDA's regional agenda. In particular, through working with targeted emerging sectors in the environment, bio-technology, pharmaceuticals, energy and complex materials areas, the NW-GRID strengthens the North West as a global player in the development and use of grid technologies and research thereby embedding competencies across the region's business, academic and industrial base.

Grid Computing

The compute clusters at the partner sites are coupled by a high speed private network. By using systems at all sites, the NW-GRID can offer high performance compute resources on demand. In the surprisingly competitive world of science and research, this novel approach has been very successful; it enabled scientists to move their research forward at great pace when required.

Our network and systems can be enhanced and configured to meet your requirements for secure and encrypted access and data transfer. Of course our systems are supported by managed disk storage and data backup.

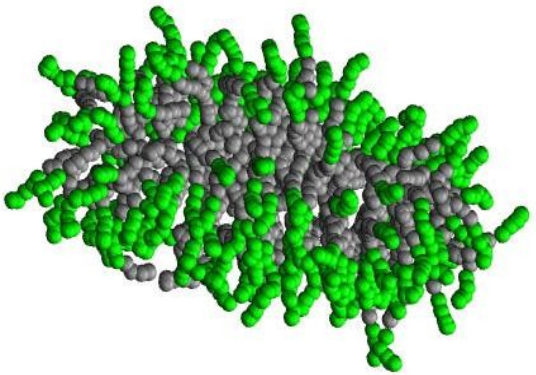
Not just Hardware

The NW-GRID is an initiative involving leading computer experts and research specialists at Daresbury Laboratory and top Universities in the North West of England. Therefore the computational grid is underpinned by a collaborating network of scientists, computer experts, software developers and administrators. The existence of this “people grid” is an important outcome of the NW-GRID initiative. It has enabled staff at our institutions to work together as a large pool of experts benefitting the region and beyond. Working in concert has helped us to find focussed, innovative solutions to research challenges in less time than otherwise possible.

What can NW-GRID Services offer?

Example

The aggregation of surfactant molecules into micelles in an important factor in product formulation for companies like Unilever. Such processes are being studied by the Knowledge Centre for Materials Chemistry with a team from Port Sunlight, Daresbury Laboratory and Universities of Bolton, Liverpool and Manchester.



Computational power in itself is of no immediate benefit. Where NW-GRID creates real value for your projects is the combined access to hardware, open source and commercial application codes, together with our expert knowledge and experience.

NW-GRID is able to offer services from a basic pay-as-you-go access to a computational platform for complete projects where application experts and scientists can use our systems and collaborate with you to effectively identify solutions and opportunities.

This is the way we are able to meet your growing demands competitively through a number of flexible offerings.

Application Areas for NW-GRID Services:

- Mechanical Engineering;
- Chemistry (atomistic, quantum and meso-scale);
- Physics;
- Bio-chemistry and Bio-informatics;
- Medical and Pharmaceutical;
- Social Science (statistical analysis and modelling);
- Data and Text Mining;
- Economics and Financial;
- Geo-spatial and Geological;
- Nano-technology;
- Fluid Dynamics and Capillary Flow;
- Materials Science;
- Anatomy and Movement;
- Aerodynamics and Aircraft Engineering;
- Weather and Climate Modelling and Prediction;
- Energy and Environment.

Separate case studies of applications in the above areas are available.