

JSCNews

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Large-Scale Projects at GCS

The first call for large-scale projects by the Gauss Centre for Supercomputing (GCS) in April attracted ten project submissions for JUGENE. Projects are classified as "large-scale" if they require more than 5 % of the available CPU cycles. In the case of JUGENE, this is at least 20 rack months. Two projects were awarded the status of large-scale project: one from the field of fluid dynamics, "Geometrical Properties of Small-Scale Turbulence", by Norbert Peters (RWTH Aachen University) with 24 rack months, and one from elementary particle physics, "QCD Simulations with Light, Strange and Charm Dynamical Quarks", by Karl Jansen (DESY Zeuthen) with 20 rack months.

The large number of project proposals, including those from NIC projects, show that JUGENE has turned out to be a very popular supercomputer. In total, there were 75 project proposals for JUGENE requesting more than four times the available computing time.

A new call for large-scale projects will be issued in August, see also

<http://www.gauss-centre.eu/gauss-projects>.
(Contact: Dr. Walter Nadler, ext. 2324)

New NIC Excellence Projects

At its meeting in June, the NIC Peer Review Board decided to recognise two outstanding projects by designating them NIC Excellence Projects 2009/2010. The projects receiving this distinction are from the field of elementary particle physics, "Lattice QCD

with 2 plus 1 flavours at the physical mass point", submitted by Zoltan Fodor (University of Wuppertal), and from astrophysics, "The small-scale structure of the universe", submitted by Stefan Gottlöber (Astrophysical Institute Potsdam).

(Contact: Dr. Walter Nadler, ext. 2324)

User Checkpointing of Supercomputer Jobs

The enhanced complexity of the new-generation supercomputers JUGENE, JURIPA and HPC-FF at JSC increases the probability that a job might be affected by a failure. Therefore, we strongly encourage all users of these systems to write regular checkpoints from their applications to avoid losses of CPU time when a job is aborted. There will be no refund of CPU time in the case of a failed job!

Tip: Besides checkpointing, jobs with a time limit of less than the maximum of 24 hours might have a better turnaround time because they can be used to optimally fill the machine while it is being prepared for regular maintenance slots or full machine runs.

(Contact: SC support, ext. 2828)

Successful DEISA reviews

On 16 July 2009, the first review of the EU-funded DEISA2 project (Distributed European Infrastructure for Supercomputing Applications 2) took place in Brussels. All the activities and their achievements during the first year were explained to the reviewers and the European Commission.

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In particular, the continuing success of the DEISA Extreme Computing Initiative (DECI), the support for virtual communities, and the collaboration with other major European and international initiatives, such as PRACE, were presented. Details of operational structures and processes as well as promising technologies for enhancing the DEISA infrastructure were demonstrated. JSC gave a demonstration of Shibboleth-enabled UNICORE 6 in the DEISA infrastructure. Finally, the successful applications enabling and scaling activities of DEISA2 were presented. Initial feedback from the reviewers was very positive and encourages the project to continue along its path.

The final review of the EU-funded eDEISA project was made the following day. Its activities enhanced the work done in DEISA and DEISA2 and laid the foundation for the successful uptake of various technologies. For example, JSC coordinated the deployment of the 10 Gb/s dedicated network in eDEISA, which is now operated as the core service in the DEISA2 project. JSC demonstrated an X.509 enabled SSH access integrated in UNICORE 6. Initial feedback from the reviewers was also very positive and they were pleased with the achievements in the third year and the positive impact on the DEISA infrastructure. More information: <http://www.deisa.eu>

(Contact: Dr. Achim Streit, ext. 6576)

SLA4D-Grid Started

The BMBF-funded SLA4D-Grid project will develop a Service Level Agreement (SLA) layer for D-Grid. This layer is placed between the D-Grid middleware (gLite, Globus, UNICORE) and the D-Grid user layer and will be integrated into the existing infrastructure. Communities will use the SLA services through corresponding clients or an application programming interface. JSC connects enterprises and D-Grid communities to the project making sure that the SLA layer meets their requirements, and ensures a smooth integration of the SLA layer into the D-Grid infrastructure. The project duration is June 2009 to May 2012. More information: <http://www.sla4d-grid.de/>

(Contact: Daniel Mallmann, ext. 2433)

New Project WisNetGrid

The WisNetGrid project aims to create a common "knowledge space" within the D-Grid infrastructure by developing a service layer for content. The project will allow the D-Grid communities to couple community-specific data sources, to process these with generic or application-specific services and to use higher-level processes and workflows for knowledge creation. JSC is involved in designing and implementing the data integration system, Grid-enabled knowledge extraction services and the workflow tools. The project duration is July 2009 to June 2012. More information:

<http://www.d-grid-ggmbh.de/index.php?id=92>

(Contact: Dr. Bernd Schuller, ext. 8736)

JSC at ISC'09

ISC'09, Europe's premier HPC event, took place in Hamburg from 23 to 26 June 2009, again attracting record numbers of attendees (1670) and exhibitors (119).

The new TOP500 list was issued during ISC'09 and ranked Jülich's new petascale supercomputer JUGENE first in Europe and third worldwide. In addition, Jülich's second supercomputer, the general purpose system JUROPA, was ranked second in Europe and tenth worldwide. This is the first time in the history of the global ranking that one single European institution has had two computers among the first ten.

JSC presented its wide-ranging supercomputing activities in close collaboration with its partners in the Gauss Centre for Supercomputing and the Gauss Alliance. In addition, JSC staff played a prominent part in the BOF ("birds of a feather") sessions on "The Jülich Research on Petaflops Architectures" and "Software License Issues in Grids, Clouds & SOA". JSC director Thomas Lippert was an invited speaker in the session "HPC & Cloud Computing – Synergy or Competition?" and on the panel of "Hype & Reality: Experiences with leading systems from the TOP500 List". Finally, a special session was held concerning the supercomputer JUROPA and the collaboration between JSC and the participating industry partners.

For impressions from Jülich's booth and the TOP500 award presentation see: <http://www.fz-juelich.de/jsc/news/isc09>

(Contact: Dr. Walter Nadler, ext. 2324)

Open Day on 6 September 2009

Forschungszentrum Jülich cordially invites the public to an Open Day on Sunday, 6 September 2009. JSC will be open from 10:00 to 17:00 for all those interested with the following presentations:

- Opportunity to view the supercomputers
- 3D visualisation of scientific simulations
- SuperResi – how to simulate the workflow of a super-computer
- For kids: mathematical puzzles

Furthermore, JSC will contribute one question to the popular "research rally" for children.

Our education team will inform you about training as a mathematical technical software developer (MATSE), bachelor's courses in "Scientific Programming" and master's courses in "Technomathematics". The education booth can be found in the foyer of the Central Library.

We are looking forward to your visit!

(Contact: Dr. Sabine Höfler-Thierfeldt, ext. 6765)

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