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Blue Gene Extreme Scaling Workshop 2011

From 14 to 16 February 2011, JSC organized its 2011 Blue Gene Extreme Scaling Workshop. Similar to the previous workshops in 2009 and 2010, the main focus was on application codes that could be scaled up during the workshop to the full Blue Gene/P system JUGENE, which consists of 72 racks with a total of 294,912 cores – the highest number of cores available worldwide in a single system since 2009.

Interested application teams had to submit short proposals, which were evaluated. Selection criteria were the required extreme scaling, the application-related constraints which had to be fulfilled by the JUGENE software infrastructure, and the scientific impact that the codes could produce. The process was very competitive: 8 out of the submitted 15 high-quality proposals were selected. Participating teams came from the Princeton Plasma Physics Laboratory in the US, the Royal Institute of Technology (KTH) in Sweden, the King Abdullah University of Science and Technology (KAUST) in Saudi Arabia, the Mickiewicz University in Poland, University College London in the UK, Euskal Herriko Unibertsitatea in Spain, RZG MPI and the University of Heidelberg.

During the workshop, the teams were supported by JSC parallel application experts, the JUGENE system administrators and two IBM MPI and compiler experts. In addition, the participants shared their expertise and knowledge. The workshop was extremely successful: each of the 8 teams succeeded in submitting one or more successful full 72-rack jobs for 11(!) different applications during the course of the workshop as some teams experimented with more than one code.

All experience gathered during the workshop will be summarized in a technical report. For more information on the workshop and the reports of the previous workshops see *http://www2.fz-juelich.de/jsc/bg-ws11* (Contact: Dr. Bernd Mohr, ext. 3218)

Visitors from Cyprus at Forschungszentrum Jülich

On 25 February 2011 the Minister of the Interior of the Republic of Cyprus, Neoklis Sylikiotis, visited Forschungszentrum Jülich. The minister was accompanied by Prof. Costas N. Papanicolas, President of the Cyprus Institute (CyI), and Prof. Constantia Alexandrou from the institute's Computation-based Science and Technology Research Center (CaSToRC). Intensifying the cooperation between Jülich and CyI in the area of supercomputing was just one of the priorities during the visit, as JSC and CaSToRC are working closely together in the EU-funded projects LinkSCEEM-2, PRACE and HiPOP as well as in common research fields. An official cooperation agreement between FZJ and CyI has existed since April 2009 concentrating on supercomputing-related topics like GPU accelerators, installation of a common simulation laboratory in particle physics and on education and training of

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potential HPC users in the Eastern Mediterranean. JSC is assisting CaSToRC in becoming a recognized regional tier-1 HPC centre. The Minister was deeply impressed by this successful collaboration, which he would like to extend to other research fields such as climate studies or solar cell technology. Links to the corresponding institutes of IEK-8 (Prof. Wahner), IBG-2 (Prof. Schurr), IBG-3 (Prof. Vereecken) and IEK-5 (Prof. Carius) were established during short visits in the afternoon.

Guest Student Programme 2011 – Call for Application

During summer 2011, JSC will once again be offering a guest student programme. It will be supported by the Centre Européen de Calcul Atomique et Moléculaire (CECAM) and the German Research School for Simulation Sciences (GRS). Within this programme, students with a major in natural sciences, engineering, computer science or mathematics will have the opportunity to familiarize themselves with different aspects of scientific computing. Together with local scientists, the participants will work on different current topics in research and development. Depending on previous knowledge and on the participant's interest, the assignments can be taken out of different areas. These fields include mathematics, physics, chemistry, software development tools, visualization, grid computing, operating systems and communication. Special emphasis is placed on the use of supercomputers.

The students should have already completed their first degree but have not yet finished their master's course. Additionally a letter of recommendation from a university lecturer or professor is required for application.

The programme will last ten weeks and will take place from 1 August to 7 October 2011. Students are encouraged to apply for the programme in written form (English or German). The closing date is 30 April 2011. Further information can be found on the web at http://www.fz-juelich.de/jsc/gsp/.
(Contact: Mathias Winkel, ext. 2509)

HPC and Data Concept of the HGF to be Developed

Representatives from 16 of 18 Helmholtz centres met on 7 February 2011 at JSC and discussed basic ideas for a future HPC and data concept. The concept must take into account the broad spectrum of applications within HGF, the leadership role of computational scientists from HGF, and the promotion of community-oriented support. It was common understanding that the development of a sustainable data concept is particularly important. JSC presented a proposal to establish HGF simulation and data laboratories as local competence centres at HGF institutions, using and expanding the existing structure of the John von Neumann Institute for Computing.

A task force led by JSC was established and commissioned to prepare a draft concept which should address the above mentioned topics. In addition, a census will be conducted of existing HPC and data resources and demands at the different HGF centres, active pilot projects will be summarized and a cost projection will be made. The task force will present a draft version of the concept by the end of June 2011.
(Contact: Dr. Norbert Attig, ext. 4416)

eHumanities Apply JSC Service Developments

Scientists in the arts and humanities are using e-infrastructures to store and analyse digitalized objects, e.g. of inscriptions or paintings, and to access and share their information and knowledge. The Digital Research Infrastructure for the Arts and Humanities (DARIAH, *http://www.dariah.eu*) builds up this e-infrastructure for Europe and is part of the ESFRI roadmap (European Strategy Forum on Research Infrastructures). The BMBF-funded project DARIAH-DE coordinates the German contributions to the construction phase of the European e-infrastructure. JSC is providing its broad experience in distributed system design to develop a service framework for the arts and humanities that allows for the registration, analysis, monitoring, and sharing of digital objects.
(Contact: Daniel Mallmann, ext. 2433)

Events

GPU Programming
Instructors: Dr. Jan Meinke, Jochen Kreutz, Dominic Eschweiler, Willi Homberg, JSC; Dr. Daniel Becker, GRS
Date: 21 - 23 March 2011, 9:00 - 16:30
Venue: JSC, Ausbildungsraum 1 (building 16.3, room 021)
Registration: *w.homberg@fz-juelich.de*, ext. 2424

Parallel I/O and Portable Data Formats
Instructors: Wolfgang Frings, Dr. Michael Stephan, Dr. Florian Janetzko, JSC
Date: 28 - 30 March 2011, 9:00 - 16:30
Venue: JSC, Ausbildungsraum 1 (building 16.3, room 021)
Registration: *w.frings@fz-juelich.de*, ext. 2435

Introduction to the PGAS languages UPC and CAF
Instructor: Dr. Reinhold Bader, LRZ Garching
Date: 12 April 2011, 9:00 - 18:00
Venue: JSC, Ausbildungsraum 1 (building 16.3, room 021)
Registration: *f.janetzko@fz-juelich.de*, ext. 1446

If you would like to receive regular information on our events, please send an e-mail to *jsc-events-join@fz-juelich.de*.

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