Haswell Test System Available in November

In December 2013, JSC, T-Platforms, and ParTec started a cooperation to develop and assess technologies for the next generation of JSC's general-purpose supercomputer. In the final stage of this JuRoPA (Jülich Research On Petaflops Architectures) cooperation, a test system named JUROPATEST was installed in September 2014. It is composed of 70 compute nodes, each powered by two Haswell CPUs, the latest generation of Intel Xeon processors. With its 1,960 cores, a total main memory of 9 TB, and a Mellanox InfiniBand interconnect, the system offers a peak performance of 72 Tflop/s and is the first of its kind in Europe. The system was successfully installed within only a few weeks and is currently being used to port and assess the developments of the JuRoPA collaboration on the new Intel processor platform.

By the beginning of November, JUROPA-TEST will be stable enough to open it up to users of JSC's current general-purpose supercomputer JUROPA to port and optimize their applications for the Haswell CPU. This is particularly important since the system that will succeed JUROPA will also be Haswell-based, and in many cases, substantial effort will be needed to leverage the new architectural features of this CPU. Details on the configuration and access to JUROPATEST can be found at *http://www.fz-juelich.de/ias/jsc/juropatest*.

The procurement of the JUROPA successor is ongoing, and details on the new system will be provided in one of the next issues of JSC news.
(Contact: Dr. Thomas Eickermann, *th.eickermann@fz-juelich.de*)

Human Brain Project: Pre-Commercial Procurement under Way

A pre-commercial procurement (PCP) of research and development services on "interactive supercomputers" for the Human Brain Project (HBP) has started. PCP, a relatively new model of public procurement promoted by the European Commission, is organized as a competitive process in several phases. In the first phase, contracts were awarded to three consortia comprising leading providers of HPC solutions, namely CRAY, Dell with EXTOLL and ParTec, as well as IBM with NVIDIA.

Interactivity will be a key feature of a future high-performance computing infrastructure for brain research which will be built within the HBP's HPC Platform Subproject. This infrastructure will enable large-scale simulations of cellular brain models approaching the size of a full human brain.

The goal of the HBP PCP is to procure R&D of HPC system components that will allow the interactive visualization and steering of large-scale brain simulations on a HPC architecture capable of providing a peak performance up to 50 Pflop/s with a memory capability of up to 20 PB. Suppliers will be required to deliver pilot systems, demonstrating the readiness of the developed

technologies and their integration into a scalable HPC architecture for a representative set of HBP use cases. The pilot systems will be deployed and operated as "pre-production" test systems at JSC.
(Contact: Prof. Dirk Pleiter, *d.pleiter@fz-juelich.de*)

PRACE "Summer of HPC" Students at JSC

This year, for the first time, JSC participated in the PRACE "Summer of HPC". The programme offers summer placements for undergraduate and postgraduate students at European HPC centres. Ten top applicants from all across Europe were to be selected to participate in the ongoing research at five different HPC centres. The programme ran from 1 July to 31 August 2014. Flights, accommodation and a stipend were provided by PRACE to all successful applicants.

Not only did the students have to apply for the programme, the interested HPC centres also had to compete and undergo a subsequent selection process. JSC was successful and invited two students from the large pool of well-suited applicants. David Hermosa (Spain) and Marco Borelli (Italy) joined JSC for the summer to gain first-hand experience in the day-to-day research at a large HPC centre. David worked in the field of lattice quantum chromodynamics (LQCD) and ported the most critical parts of an LQCD simulation suite to the Intel Xeon Phi architecture. Marco, working in the field of molecular dynamics, successfully ported the most time-consuming parts of the fast multipole method (FMM) to GPUs.
(Contact: Dr. Ivo Kabadshow, *i.kabadshow@fz-juelich.de*)

New NIC Web Pages

The John von Neumann Institute for Computing (NIC) has launched its new web domain: *http://www.john-von-neumann-institut.de*. Visit it for news on NIC's activities, research groups, courses and workshops, and for the latest calls for computing time.
(Contact: Dr. Walter Nadler, *w.nadler@fz-juelich.de*)

MATSE Exams Passed

At the end of August 2014, all 29 MATSE trainees (mathematical-technical software developers) supervised by the JSC education team passed their final examinations. These students came from as far away as Wilhelmshaven in the north, Rosenheim in the south, and Magdeburg in the east of Germany. During a ceremony on 29 August 2014, they were warmly congratulated by Heinz Gehlen, managing director of the Aachen Chamber of Commerce (IHK), and Prof. Andreas Terstegge, Aachen University of Applied Sciences (FH Aachen). The best result was achieved by Joschka Nithammer (employee of FH Aachen-Jülich). He achieved 88 percent, which was the fifth highest mark of all 115 examinees in the district of Aachen. Since 1964, more than 1,024 trainees have successfully completed this apprenticeship at JSC. Christoph Barsch from IEK-4 was the thousandth alumnus.
(Contact: Prof. Paul Jansen, *p.jansen@fz-juelich.de*)

MATSE: New Course Started

On 1 September 2014, 38 new students started the bachelor's course in Scientific Programming at Aachen University of Applied Sciences in combination with a training course as a MATSE at Forschungszentrum Jülich. This is the highest number of trainees within the past 50 years. Of these students, 27 will receive their practical training in various institutes at Forschungszentrum Jülich, while 11 students are with external partners (eight industrial companies). Both the vocational training and academic studies are designed to take three years. The curriculum and further information can be found at *http://www.fz-juelich.de/matse*. The application procedure for 2015 has already started.
(Contact: Prof. Paul Jansen, *p.jansen@fz-juelich.de*)

Events

Workshop on Collecting and Analysing Experimental Data of Pedestrian Dynamics
Date: 27 October 2014
Venue: Jülich Supercomputing Centre, Rotunda
Info: *http://www.fz-juelich.de/ias/jsc/events/ws-ped-exp*

Workshop Force Fields 2014
Date: 3-5 November 2014
Venue: Jülich Supercomputing Centre, Rotunda
Info: *http://www.fz-juelich.de/ias/jsc/ForceFields2014*

Data analysis and data mining with Python
Instructors: Dr. Jan Meinke, Dr. Olav Zimmermann, JSC
Date: 17-19 November 2014, 09:00-16:30
Venue: Jülich Supercomputing Centre, Ausbildungsraum 1
Registration: *j.meinke@fz-juelich.de*

Introduction to the programming and usage of the supercomputing resources at Jülich
Instructors: Representatives of IBM, Intel and ParTec, JSC staff members
Date: 27-28 November 2014, starting at 13:00 on 27 Nov.
Venue: Jülich Supercomputing Centre, Hörsaal
Registration: *jsc-conferences@fz-juelich.de*

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

Further events, talks, and training courses:
http://www.fz-juelich.de/ias/jsc/events

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