

JSCNews

Jülich
Supercomputing
Centre

No. 236 • Dec. 2015

DEEP Project Unveils Next-Generation HPC Platform

At the final review, the 16 partners involved in the EU-funded project DEEP presented their innovative HPC platform: a prototype system with 500 TFlop/s peak performance. It implements the Cluster-Booster concept which has a lot in common with a turbocharged engine and operates with a full system software stack and programming environment engineered for performance and ease of use.

The DEEP system achieves the highest density and energy efficiency due to Eurotech's Aurora technology, while it showcases the EXTOLL HPC interconnect, and leverages Intel multi- and many-core processors. Porting and optimization of applications is facilitated by keeping strictly to standards (MPI and OpenMP), and by extending the task-based OmpSs model developed by Barcelona Supercomputing Center. ParaStation MPI, provided as part of ParTec's ParaStation ClusterSuite, has been turned into a Global MPI, the key system software component linking Cluster and Booster.

The DEEP prototype system is located at Jülich Supercomputing Centre (JSC) and is fully integrated with the hardware and software infrastructure on site. Initial application results clearly show the performance and efficiency potential of the system, and JSC plans to operate the machine for several years to come and make it available to external users. More information on the system can be found at <http://www.fz->

juelich.de/ias/jsc/deep.

(Contact: Dr. Estela Suarez, e.suarez@fz-juelich.de)

NIC Symposium 2016

The 8th NIC Symposium will be held at Forschungszentrum Jülich from 11 to 12 February 2016. The talks will inform a broad audience of scientists and interested members of the public about the activities and results obtained in the last two years by research projects supported through the John von Neumann Institute for Computing (NIC) on the JUROPA, JURECA and JUQUEEN supercomputers at Jülich. This symposium is dedicated to the memory of Dr. Walter Nadler, who passed away on 9 June 2015, in recognition of his competent and enthusiastic service to the John von Neumann Institute for Computing as head of the NIC office.

Invited talks and a poster session will cover topics in the fields of astrophysics, biophysics, chemistry, elementary particle physics, condensed matter, materials science, soft matter science, earth and environmental research, fluid mechanics, plasma physics, and computer science. For the first time, the poster session will also cover activities from successful 'Scientific Big Data Analytics Expression of Interest' projects. These projects deal with very big, often heterogeneous or distributed data sets from experiments, observations and simulations.

To accompany the conference, a comprehensive proceedings volume will also be

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published. It will cover an even wider range of projects than represented by the talks. The detailed programme and the registration form are available at <http://www.john-von-neumann-institut.de/nic/nic-symposium>.

(Contact: Dr. Alexander Schnurpfeil, nic@fz-juelich.de)

JUQUEEN Extreme Scaling Workshop 2016

The next JUQUEEN Extreme Scaling Workshop will take place from 1 to 3 February 2016 at JSC. These workshops provide selected application teams with an opportunity to scale their codes up to 1.8 million hardware threads via exclusive access to the entire Blue Gene/Q at JSC, with expert hardware, software and support personnel available to assist with running codes at this extreme scale. Participation will be limited to a small number of application teams with codes that demonstrate good scaling potential, and where at least one team member will be physically present on-site for the workshop.

While JSC is particularly keen to support new application teams and codes, teams from previous extreme scaling workshops and High-Q Club members with application codes which have already demonstrated excellent scalability will not be excluded if they wish to investigate algorithmic or other changes or if their focus is on improved file I/O, etc. Participation is by invitation only, so please contact the organizer, Brian Wylie (b.wylie@fz-juelich.de), with details of your code, its current scalability on Blue Gene/Q, and expected benefits from this opportunity to demonstrate extreme scalability.

(Contact: Dr. Brian Wylie, b.wylie@fz-juelich.de)

The New UNICORE Web Portal

The UNICORE portal provides a comfortable way of submitting and monitoring jobs, creating basic workflows, as well as file transfer and data management within local and remote storages. The status and other details of jobs and workflows are displayed in separate tables, where each row offers actions for browsing deeper into the working directory, visualization and download of output results. The portal is available at <https://unicore-portal.fz-juelich.de:8443/portal>. In contrast to other UNICORE clients, the portal offers certificate-less access to JUQUEEN and JURECA: Users with e-mail address @fz-juelich.de can authenticate themselves using their e-mail credentials. Users, who already possess a certificate to access supercomputers through one of the UNICORE clients, can also use it for authentication in the portal. A short introduction is available at <http://www.fz-juelich.de/ias/jsc/unicore-portal>.

(Contact: Daniel Mallmann, unicore-info@fz-juelich.de)

PRACEdays16 – Call for Contributions

From 10 to 12 May 2016, PRACE will organize the third of its Scientific and Industrial Conferences – PRACEdays16 – under the motto 'HPC for Innovation: When Science Meets Industry' in Prague, Czech Republic. PRACE is calling for contributions in the form of presentations of excellent scientific merit from scientists and researchers in academia and industry worldwide. Past and present users of PRACE resources are highly encouraged to send in a contribution based on their PRACE-supported projects, but the call is not restricted to them. Deadline for submission is 13 December 2015. More details can be found at http://www.prace-ri.eu/pracedays_16.

Awards for Bachelor's and Master's Students

On 6 November 2015, three students from Forschungszentrum Jülich received an award – the Ehrenplakette – from Aachen University of Applied Sciences (FH Aachen). In a ceremony at Aachen's historical town hall, Prof. Baumann, rector of FH Aachen, honoured Andreas Müller (JSC) as the best graduate of the bachelor's course Scientific Programming, and Marcel Huyssegoms (INM-1) and Ingo Heimbach (PGL/JCNS-TA) as the best graduates of the master's course Technomathematics.

(Contact: Prof. Johannes Grotendorst, j.grotendorst@fz-juelich.de)

End of Year Colloquium 2015

Date: Thursday, 17 December 2015, 09:30-16:00

Venue: Jülich Supercomputing Centre, Hörsaal

Talks will be given in German.

Info: <http://www.fz-juelich.de/ias/jsc/events/eoy-2015>

- 09:30 Thomas Lippert: Welcome
- 09:45 Dorian Krause: JURECA – Die ersten Monate des neuen Allrounders
Olaf Mextorf: Ein Netzwerk, sie alle zu einen – Terabit-Netzwerkdesign für JURECAs Datenzugriff
- 11:00 Jochen Kreutz: DEEP – mit Booster Richtung Exa-scale
- 11:30 Markus Götz: Von parallelem Clustering und besoffenen Fliegen
- 12:00 Wolfgang Frings: Task-Local I/O – oder: Wenn alle was vom Filesystem wollen!
- 14:00 Benedikt Steinbusch: PEPC macht Spagat
- 14:30 Oliver Bucker: Von der Kachel zum Volumen – (Nerven-)Fasern auf der Spur
- 15:00 Catrin Meyer: Mit HOPE und ICON in die Grauzone der Wolkenforschung
- 15:30 Thomas Lippert: Modular Supercomputing

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