Status of JUGENE, JUROPA and HPC-FF

A few weeks after the official inauguration of the three supercomputers JUGENE, JUROPA and HPC-FF, the systems became available for general use.

Just in time for the new granting period starting 1 July 2009, the upgraded 1-petaflop system IBM Blue Gene/P JUGENE processed the first jobs from peer-reviewed and carefully selected projects. The system was filled up with applications surprisingly fast, each using up to 131,072 cores – nearly half of the available resources. JSC is looking forward to seeing ground-breaking scientific highlights which will become accessible through this system. Details on JUGENE can be found at *http://www.fz-juelich.de/jsc/jugene.*

The general-purpose supercomputer JUROPA – the successor of JUMP – and the twin system HPC-FF, dedicated to the European fusion community, entered production mode on 6 August 2009 after an extended implementation, configuration and testing phase.

The performance of JUROPA is about 25 times higher than the performance of JUMP, and therefore provides researchers from various disciplines with new insights. JUROPA and HPC-FF are tightly coupled to each other through a common high-bandwidth/low-latency network. Both systems can be operated as one big 300-teraflop system built from innovative components combined into a "best-of-breed" HPC cluster. The cluster nodes are based on Intel Nehalem processors. Two processors together build one node, providing 8 CPU cores and an attached main memory of 24 GB per node. For further system characteristics see: *http://www.fz-juelich.de/jsc/juropa/configuration*

The nodes are connected via Infiniband/QDR with fat-tree topology. JUROPA and HPC-FF share a Lustre storage pool providing a total of 850 TB disk space. Access to data created by JUGENE or JUMP, residing on Jülich's storage cluster JUST running GPFS is realised through GPFS gateway nodes. Users should take into account the different binary data formats – big endian encoding on JUGENE/JUMP and little endian encoding on JUROPA/HPC-FF. More information at *http://www.fz-juelich.de/jsc/juropa*

With the full availability of JUGENE, JUROPA and HPC-FF, JSC has completed the upgrade of Jülich's supercomputer infrastructure which began in January 2009.
(Contact: Klaus Wolkersdorfer, ext. 6579)

Extension of JUMP Operation

To assist the user transition phase from JUMP to the successor machine JUROPA, the operation of JUMP will be extended until 31 December 2009. This will give users with existing JUMP access more time for porting, application migration and data transfer and conversion. After this date, JUMP access will be strictly limited to applications which cannot be ported to JUROPA.
(Contact: SC Support, ext. 2828)

Blue Gene/P Scaling Workshop 2009

JSC and IBM have announced the third joint "Blue Gene/P Extreme Scaling Workshop" which will take place at JSC from 26 to 28 October 2009. The purpose of the workshop is to give application teams an opportunity to scale their code across the full Blue Gene/P system JUGENE, which consists of 72 racks with a total of 294,912 cores – the highest number of cores world-wide. Appropriate hardware, software and support personnel will be provided to help to accomplish this task.

Workshop participants will be selected on the basis of written proposals which must be submitted before 30 September 2009. Participation is limited to eight application teams. Selection criteria are: a high level of confidence that the code will scale across 294,912 cores (or at least a large portion of it); the JUGENE infrastructure (OS, compilers, libraries) supports the user requirements; and the scientific impact that the code could produce.

To apply for the workshop, send a short proposal (about two pages including scaling plot/table) by email to *sc@fz-juelich.de*. Details can be found at:
http://www.fz-juelich.de/jsc/bg-ws09
(Contact: SC support, ext. 2828)

New MATSE and Bachelor Course Started

On 1 September 2009, 32 students started the bachelor course in Scientific Programming at Aachen University of Applied Sciences (FH Aachen) in combination with an apprenticeship as a mathematical technical software developer (MATSE) at Forschungszentrum Jülich. About half of the time involved in the MATSE qualification is devoted to practical training. 21 of the 32 students will receive practical training in various institutes at Forschungszentrum Jülich; eleven students are with external partners (six industrial companies, the Max Planck Institute of Iron Research and FH Aachen). 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/jsc/matse
(Contact: Prof. Paul Jansen, ext. 6430)

MATSE Education - Ten Years of Cooperation with FH Aachen

On the occasion of the tenth anniversary of the trilateral cooperation on the vocational MATSE programme and the Scientific Programming bachelor course, Prof. Sander from FH Aachen, Prof. Jansen from Forschungszentrum Jülich and Benedikt Magrean from RWTH Aachen University invited those involved to a ceremony on 28 August 2009. Leading representatives from the cooperating partners reviewed this successful education programme from different points of view.

In the second part of the event, 100 young people were awarded with their certificate of apprenticeship and many of them also received their bachelor's degree. Of the 27 students from Forschungszentrum Jülich, all finished their apprenticeship in the middle of August. All but three graduated with a bachelor's degree in Scientific Programming within the scheduled period of six semesters. During their apprenticeship, students received training at an institute in Jülich or in an external partner company. Over the three years, they acquired skills in mathematics and computer science and concluded their studies with a bachelor dissertation.
(Contact: Prof. Paul Jansen, ext. 6430)

UNICORE Summit 2009 in Retrospect

The 5th UNICORE Summit took place on 25 August 2009 as a workshop at the Euro-Par conference in Delft, The Netherlands. As an invited speaker, Morris Riedel, co-chair of the OGF GIN (Open Grid Forum - Grid Interoperation Now) and PGI (Production Grid Infrastructure) groups, talked about "Interoperability of Production e-Science Infrastructures - Taking Lessons Learned into Standardization". The scientific part of the workshop contained six presentations of research papers in the area of functional extensions, data management and deployment. As was the case in previous years, accepted papers will be published in the series "Lecture Notes of Computer Science" by Springer. The detailed programme and PDF files of all presentations can be found at: *http://www.unicore.eu/summit/2009/*
(Contact: Dr. Achim Streit, ext. 6576)

Regional DOAG Meeting at JSC

On 26 August 2009, the Regional DOAG Meeting was held for the first time at JSC. DOAG, the German Oracle Users Group, meets every two months to discuss topics related to Oracle database systems. More than 60 participants accepted the invitation to come to JSC. Presentations were given by the companies Oracle and Opitz Consulting and participants took the opportunity to debate a number of issues. (Contact: Meike Wegmann, ext. 1463)

Events

Parallel I/O and Portable Data Formats
Speakers: M.-A. Hermanns, Dr. M. Stephan, JSC
Date: 5 - 7 October 2009, 9:00 - 16:30
Venue: Ausbildungsraum 1, Jülich Supercomputing Centre
Registration: *M.A.Hermanns@fz-juelich.de*, ext. 2054
UNICORE 6 – Uniform access to the supercomputers
Speaker: Michael Rambadt, JSC
Date: Tuesday, 13 October 2009, 9:00 - 12:00
Venue: Ausbildungsraum 2, Jülich Supercomputing Centre
Registration: *M.Rambadt@fz-juelich.de*, ext. 4340

Editor: Dr. Sabine Höfler-Thierfeldt, ext. 6765