

Press Release

## HPI's Research Lab Opens Its Doors to Scientists from All Over the World

August 21, 2013

Potsdam. Hasso Plattner Institute (HPI) invites scientists from all over the world to apply for use of its state-of-the-art research lab "Future SOC Lab". Researchers are invited to submit project proposals based on access to the high performance hard and software provided by HPI. Project selection is carried out by a steering committee led by HPI Director, Prof. Dr. Christoph Meinel and made up of representatives from the industry partners EMC, Fujitsu, Hewlett Packard and SAP, as well as other HPI scientists. The results of the project selection will be announced at the "Future SOC Lab Day" on September 24th. Details for proposal submission at: [www.hpi.uni-potsdam.de/futuresoclabday](http://www.hpi.uni-potsdam.de/futuresoclabday).

Founded in June 2010, the HPI Future SOC Lab provides together with its international industry partners a high performance infrastructure for academic research, something usually only found at large enterprises. "At HPI we have access to an experimental base that can rarely be financed in the university environment. This makes research possible that focuses on innovative concepts for IT systems of the future outside of the otherwise closed industrial laboratories," said Prof. Andreas Polze, head of the HPI research group Operating Systems and Middleware. Scientists from universities as well as non-academic research institutes are invited to analyze highly complex IT systems and develop new ideas, data structures and algorithms in the HPI Future SOC Lab. The research may be followed up through the practical testing phase, according to Polze, who is also spokesman for the HPI Research School.

HPI's modern high-performance systems have a 1000 core cluster, an immense memory capacity in the terabyte range and large SSD-based storage systems. HPI's state-of-the-art research lab provides, for example, the most current servers from Fujitsu and Hewlett-Packard, with four and eight Intel 64 bit CPUs and up to 128 arithmetic logic units, as well as one to two terabytes of main memory. Moreover, high-performance storage systems from EMC, smaller systems and a GPU computing system with NVIDIA Tesla and K20 units support a large variety of research interests. A unique opportunity on the academic landscape is provided with access to SAP's new In-Memory appliance "HANA," which is available for use in applications. SAP also offers the software-as-a-service enterprise solution "Business ByDesign"

with the development environment. Thanks to the latest Hewlett Packard solution "HP Converged Cloud," HPI scientists have the possibility to establish rules concerning the allocation of computing resources for users of their top-level research lab and to automate operational processes.

Since the opening of the lab, over 100 researchers have successfully completed more than 30 projects. The first research projects at the HPI state-of-the-art lab have, for example, already led to significant advances in the acceleration of enterprise data analysis (In-Memory Data Management). Special procedures for service-oriented computing and reliable cloud computing are studied and developed in collaboration with industry partners for use in future systems.

Researchers at the Max Planck Institute for Molecular Plant Physiology in Potsdam are exploring together with HPI how metabolic networks of organisms can be examined faster through parallel simulation. With a powerful system based on graphic cards, HPI researchers investigate how 3-D scenes can be calculated in videos in real-time, in order to be dynamically adjusted to contents. Other projects deal with the management of virtual machines based on cloud computing to operate especially energy-efficient systems by switching off unused parts.

### **Profile of Hasso Plattner Institute**

The Hasso Plattner Institute for Software Systems Engineering GmbH (HPI) in Potsdam is Germany's university excellence center for IT Systems Engineering. It is the only university institution in Germany to offer a bachelor and master program in "IT Systems Engineering" – a practical and engineering-oriented course of studies in computer science, in which 450 students are currently enrolled. The HPI School of Design Thinking is Europe's first innovation school and is based on the Stanford model of the d.school. It offers 120 places for a supplementary study. There are a total of ten HPI professors and a further 50 guest professors, lecturers and contract teachers at the Institute. HPI carries out research noted for its standard of excellence in its nine topic areas, as well as at the HPI Research School for PhD candidates, with its research branches in Cape Town, Haifa and Nanjing. HPI teaching and research focus on the foundation and application of large-scale, highly complex and interconnected IT systems. The development and exploration of user-driven innovations for all areas of life is an additional area of importance. HPI always earns the highest positions in the CHE university ranking. Since September 2012, HPI has provided an interactive Internet learning platform - [openhpi.de](http://openhpi.de). Its free, open online courses are available to everyone.

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