



SIMOPEK in a Nutshell

SIMOPEK (www.SIMOPEK.de) is a project funded by the German Ministry of Education and Research (BMBF) working on improving the energy efficiency of modern data centers. It uses a wholistic approach based on the “4 Pillar Framework for energy efficient HPC data centers”. The main idea is to develop methods and software components for modeling, simulating, and optimizing the cooling infrastructure of a data center. In this way, a virtual reconfiguration of the cooling circuits can be performed and studied prior to physically rebuilding the system with the goal to efficiently use and re-use energy.

The models take into account the highly dynamic load behavior of the HPC system as well as new technological components (high-temperature liquid cooling), and concepts for recycling the generated waste heat (adsorption cooling by SorTech AG).

This last project workshop will present the developed software stack, a practical usage example (CoolMUC model and related infrastructure cooling circuit (KLT72) model, and simulation results), lessons learned, and future research questions.

Agenda, Tuesday, April 19th, 2016

14:00 – 14:15	Welcome, Introduction (Torsten, LRZ)
14:15 – 14:45	Data Collection - PowerDAM (Hayk, LRZ)
14:45 – 15:15	Model Creation and Simulation (Tanja, Fraunhofer SCAI)
15:15 – 15:30	Advanced Adsorption Chiller Materials (SorTech AG)
15:30 – 15:45	Break
15:45 – 16:30	Demo Session
15:45	PowerDAM Demo (Hayk, Torsten)
16:00	CoolMUC + KLT72 (Nils, Fraunhofer SCAI)
16:30 – 17:00	Discussion