

DEISA - Cooperative Extreme Computing Across Europe

Ralph Niederberger, Research Center Jülich, Germany

r.niederberger@fz-juelich.de

The European DEISA project, Distributed European Infrastructure for Supercomputing Applications, <http://www.deisa.org>, is an infrastructure of infrastructures - eleven of the leading European High Performance Computing (HPC) centres in Europe interconnected by a 10 Gb/s high speed network - that devised an innovative strategy to enable the cooperative operation of existing national supercomputing infrastructures. This initiative led to the deployment and operation of a world class, persistent, production quality, distributed tera-scale supercomputing environment with continental scope enabling scientific discovery across a broad spectrum of science and technology.

The paper will describe in detail the DEISA infrastructure and high speed network interconnect, its operation and management, as well as user support procedures. The second part will explain the used Grid middleware and Grid security models as well as its integration into the local security policies. A third part of the paper will give a comprehensive overview about lessons learned.

The paper will close with a summary and a vision on future DEISA project extension plans.