Details

Supercomputer of the North German Supercomputing Alliance (HLRN-III-Hannover)

The seven federal states Berlin, Brandenburg, Bremen, Hamburg, Mecklenburg-Vorpommern, Niedersachsen, and Schleswig-Holstein established in 2001 (Brandenburg joined in 2012) the North German Supercomputing Alliance (HLRN). The HLRN alliance jointly operates a distributed supercomputer system hosted at Konrad-Zuse-Zentrum für Informationstechnik Berlin (ZIB) and at Leibniz Universität Hannover IT Services (LUIS). By agreement the HLRN supercomputer is regularly adapted to the state of the art. For 2013 the HLRN states have again pooled their resources, along with funds from the federal government, to procure the HLRN-III system. HLRN is used mainly by scientists from north german universities and other scientific institutions of the participating states. The HLRN-III system consists of two mostly identical complexes based on Cray XC30 supercomputers with Aries interconnect at the sites Berlin (ZIB) and Hannover (LUIS). Both sites are closely integrated and are interconnected via a 10 GE fibre optic link. They can be operated and used as one unified system. With the final expansion (end of 2014) the system contains about 85000 cores and delivers a peak performance of 2.6 PFLOP/s.

Address: Schloßwender Straße 5
30159 Hannover
Niedersachsen
Deutschland
To website

Host Institution
Norddeutscher Verbund für Hoch- und Höchstleistungsrechnen (HLRN)
http://www.hlrn.de

Scientific Domain
Primary Subjects:
- Medicine
- Chemistry
- Physics
- Mathematics
- Geosciences (including Geography)
- Mechanical and Industrial Engineering
- Thermal Engineering/Process Engineering
- Materials Science and Engineering
- Computer Science, Electrical and System Engineering
- Construction Engineering and Architecture

Secondary Subjects:

Category
High Performance Computing, Computer Centres

Scientific Services
HLRN operates its supercomputer as a service to science and research in North Germany. Admission of projects is granted solely based on their scientific quality by the Scientific Board (admission commission) at HLRN. HLRN maintains a transregional competence network which advises and supports users and projects during their work with HLRN, e.g. in porting and optimization of codes, as well as in utilizing the system. The network comprises consultants in the areas of geo sciences, chemistry, material sciences, engineering sciences, climate and ocean modelling, mathematics, physics, and informatics. For the development of algorithms and software codes projects can draw on the method competence in the alliance. HLRN provides installations of widely used application software for various scientific areas. For the visualization of numerical data HLRN makes available specialized compute nodes and equipment (Power Wall, Workbench), together with appropriate software. With the periodically renewed installation HLRN accounts for the steadily increasing demand for computing resources in the different scientific areas. This allows for successfully tackling current issues in the above areas as well as in environmental research, aerodynamics and ship building, and the life sciences.
Scientific Equipment

- Supercomputer
- High-performance computer
- Data archive storage
- Visualization server

Keywords

- High-performance computing
- Supercomputer
- Competence center
- Competence network
- Scientific Computing
- Computational Science & Engineering

Networks

Gauß-Alliance
http://www.gauss-allianz.de

Users per annum

- Internal Users: 782
- External Users in total: 30
- External Users: 15
- External Users in the EU: 13
- External Users outside of EU: 2

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