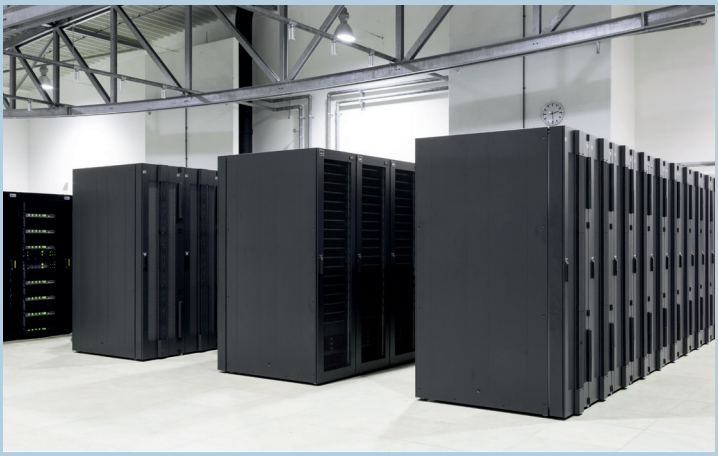
JURECA: Booster Module

Highly-Scalable Supercomputer in Cluster-Booster System



Jülich Research on Exascale Cluster Architectures

- Many-core processor based architecture targeting capability workloads
- Augments JURECA Cluster module
- Usable by applications as stand-alone system or in combination with the Cluster module
- Research vehicle for next-generation cluster architectures
- Project partners: Intel, Dell, ParTec

System architecture

- 5 Petaflop/s peak performance
  - 111,520 Intel Xeon Phi Knights Landing cores
  - Integrated on-chip fabric interface
- 154 TiB main memory
- Based on Dell C6320P server
- 100 Gb/s Intel Omni-Path interconnect with non-blocking full fat tree topology
- 200 GiB+/s storage connection to central IBM Spectrum Scale-based JUST storage cluster
- 20 Tb/s cross-module communication bandwidth to Cluster module

Software

- Software infrastructure and core services provided by Cluster module
- CentOS 7 Enterprise-Linux distribution
- ParaStation Cluster Management
- Slurm batch system with ParaStation resource management

View of a Dell C6320P server as used in the JURECA Booster (Copyright: Dell).

View of the Dell R630 server providing cross-module connectivity.

Contact: p.thoernig@fz-juelich.de, d.krause@fz-juelich.de | **Website:** www.fz-juelich.de/ias/jsc/jureca