

JURECA: DC MODULE

DATA CENTRIC MODULE IN MODULAR SYSTEM

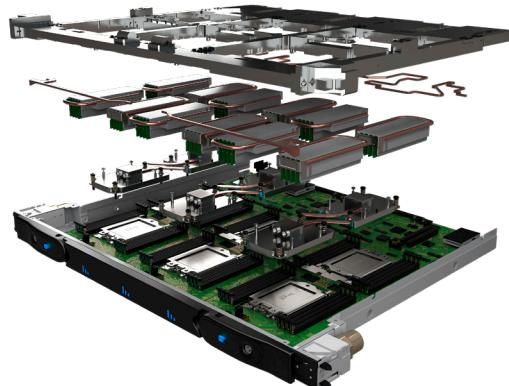


Jülich Research on Exascale Cluster Architectures

- Successor of the JURECA-Cluster Module
- Cluster architecture targeting capability and capacity workloads
- Suitable for compute- and data-intense research
- Low entrance barrier for new users
- Innovative support for data-intensive applications
- Project partners: Atos, ParTec

System architecture

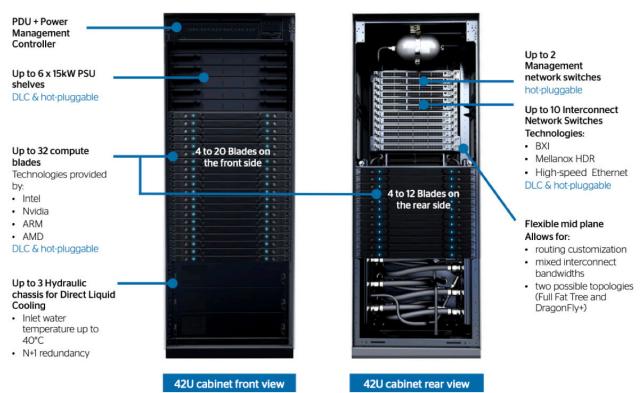
- 18.52 Petaflop/s peak performance
 - 98,304 AMD EPYC Rome cores
 - 768 NVIDIA A100 GPUs
- 442 TiB main memory
- Based on Atos scalable BullSequana XH2000 architecture
- 100 Gb/s Mellanox HDR interconnect with adaptively routed Dragonfly+ network
- 350 GiB/s storage connection to central IBM Spectrum Scale-based JUST storage cluster



View of an Atos Sequana X2410 Node as used in JURECA-DC Module.
(Copyright: Atos)

Software

- Unified software stack leveraging EasyBuild
- Rocky Linux distribution
- Slurm batch system
- ParaStation Modulo resource management
- ParaStation MPI / Open MPI



View of the Atos BullSequana XH2000 (Copyright: Atos). Each Rack can host 32 X2410 or, alternatively, 24 GPU-equipped X2415 blades.