JUWELS
JÜLICH WIZARD FOR EUROPEAN LEADERSHIP SCIENCE

JUWELS

- Combining versatile multi-core Cluster with highly-scalable Booster (in 2020)

- Implements architecture devised in DEEP and DEEP-ER projects in production system

- Applications can be mapped to individual modules or distributed across both

- Research vehicle for next-generation cluster architectures

- Project partners: Atos, ParTec

System architecture

- Multi-core processor based Cluster module: 12 Petaflop/s peak performance in 10 Bull sequana X1000 cells

    - 121,648 Intel Skylake cores, 269 TiB main memory

    - 100 Gb/s Mellanox EDR interconnect with fat-tree network with 2:1 pruning at leaf level

    - 224 Nvidia V100 GPUs

JUWELS Compute Blade (Copyright: Atos)

Software

- Unified software stack
- CentOS 7 Enterprise-Linux distribution
- Slurm batch system with ParaStation resource management
- ParaStation MPI / Intel MPI / OpenMPI
- Intel Professional Fortran, C/C++ Compiler
- Intel Math Kernel Library

Bull sequana X1000 (Copyright: Atos)

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