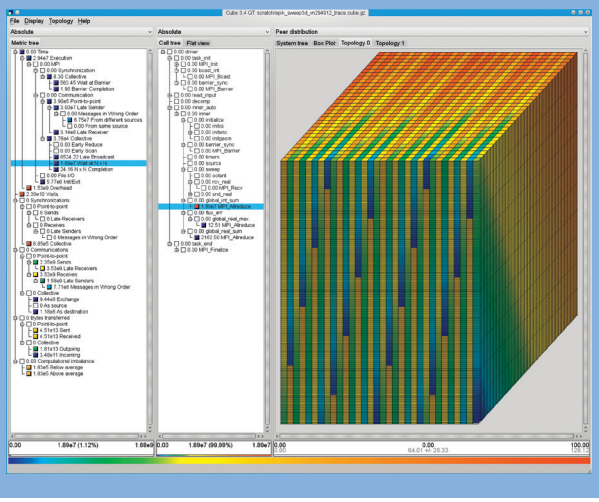
JÜLICH Forschungszentrum | JÜLICH SUPERCOMPUTING CENTRE

CROSS-SECTIONAL TEAM PARALLEL PERFORMANCE



Make the optimization of parallel codes both more effective and more efficient

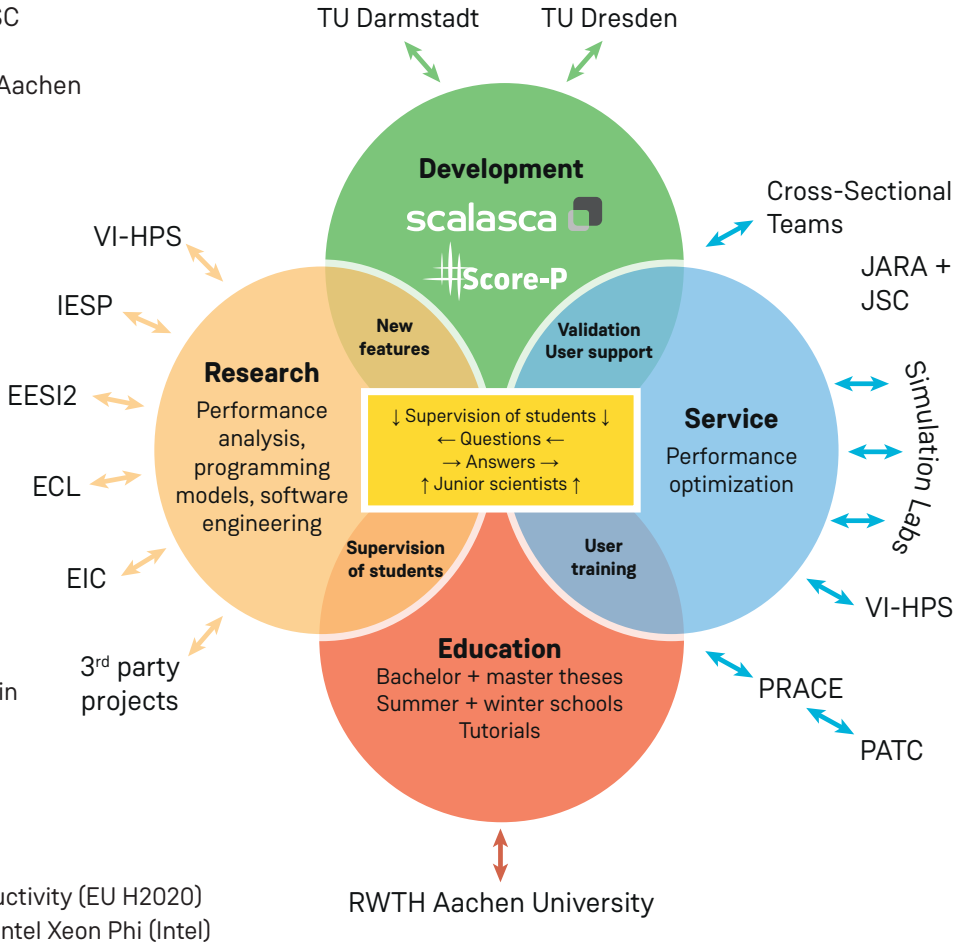
- Product: performance-analysis tool Scalasca
- Cooperation with TU Darmstadt
- Quick performance overview on call-path level
- Wait-state, root-cause, and critical-path analysis via event tracing
- Scaling tested up to 1 million threads

JARA-HPC cooperation between

- HPC SW Analysis and Tools Team, JSC
  B. Mohr
- RWTH Aachen University, IT Center, Aachen
  M. Müller

Successful 3rd-party projects

- eeClust: Energy-efficient cluster computing (BMBF)
- PRIMA: TAU integration (US DOE)
- H4H: Hybrid programming for heterogeneous architectures (EU ITEA2)
- HOPSA: Integration of system and application monitoring (EU RU FP7)
- LMAC: Performance dynamics of massively parallel codes (BMBF)
- RAPID: Performance analysis of industrial applications (Siemens)
- Catwalk: Quick HPC performance models (DFG SPPEXA)
- Score-E: Analysis of energy consumption in HPC (BMBF)



Current projects

- VI-HPS: Virtual Institute – High Productivity Supercomputing
- POP: Performance Optimization and Productivity (EU H2020)
- SCIPHI: Score-P and Cube extensions for Intel Xeon Phi (Intel)

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