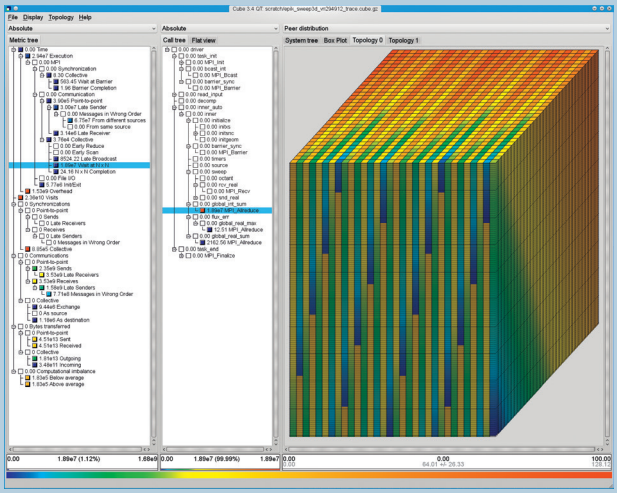
JÜLICH
FORSCHUNGSZENTRUM

Cross-Sectional Team Parallel Performance



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

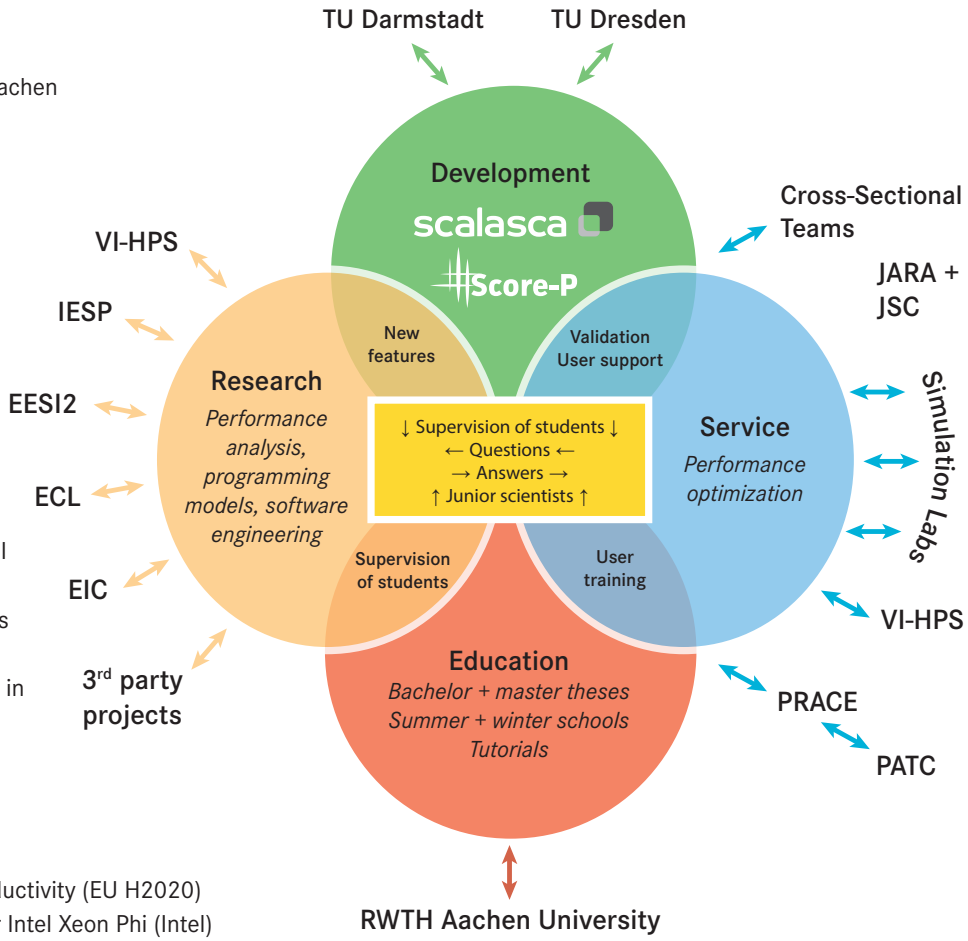
- Product: performance-analysis tool Scalasca
- Cooperation with TU Darmstadt
- Quick performance overview on call-path level
- Wait-state, root-cause, and critical-path analysis via event tracing
- Scaling tested up to 1 million threads

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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