

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

TU Dresden

Scaling tested up to 1 million threads

TU Darmstadt

RWTH Aachen University, IT Center, Aachen M. Müller **Development Cross-Sectional** scalasca eeClust: Energy-efficient cluster Teams **VI-HPS** computing (BMBF) JARA + Score-P PRIMA: TAU integration (US DOE) JSC **IESP** H4H: Hybrid programming for New Validation heterogeneous architectures features User support Simulation Research (EU ITEA2) EESI2 Performance HOPSA: Integration of system and ↓ Supervision of students ↓ Service analysis, ← Questions ← application monitoring (EU RU FP7) Performance \rightarrow Answers \rightarrow programming LMAC: Performance dynamics of ECL ↑ Junior scientists ↑ optimization models, software massively parallel codes (BMBF) engineering Supervision User RAPID: Performance analysis of industrial training of students EIC applications (Siemens) VI-HPS Catwalk: Quick HPC performance models Education (DFG SPPEXA) 3rd party Bachelor + master theses PRACE Score-E: Analysis of energy consumption in projects Summer + winter schools HPC (BMBF) Tutorials PATC VI-HPS: Virtual Institute - High Productivity Supercomputing POP: Performance Optimization and Productivity (EU H2020) **RWTH Aachen University** SCIPHI: Score-P and Cube extensions for Intel Xeon Phi (Intel)

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Mitglied der Helmholtz-Gemeinschaft

JARA-HPC cooperation between

HPC SW Analysis and Tools Team, JSC B. Mohr

Successful 3rd-party projects

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Current projects