POMPA Kickoff Workshop

May 3/4, 2011

Goal

The goal of the kickoff workshop is to bring all project participants together, get to know each other, exchange on work already done as well as plan and coordinate future activities of the POMPA project.

Location

Swiss National Supercomputing Centre (CSCS)
Galleria 2, Via Cantonale, 6928 Manno
Map: http://map.search.ch/d/dzkzwy2mz?edit=d819c880350ec650
Instructions of how to reach CSCS: http://www.cscs.ch/33.0.html

Program

Tuesday May 3, 2011

14:00 – 14:20   Oliver Fuhrer

Welcome, Introduction, Goals

14:20 – 14:40   Jean-Guillaume Piccinali, Anne Roches

Performance profiling of COSMO on three generations of Cray supercomputers

14:40 – 15:00   Davide Cesari

COSMO performance on linux clusters, an OpenMP/MPI hybrid approach for the fast wave solver, and ideas for POMPA Task 2 and 3

15:00 – 15:20   Ulrich Schättler

The COSMO-Model: Current situation and perspectives

15:20 – 15:40   Stefano Zampini

Early experiences on COSMO hybrid parallelization at CASPUR/USAM

15:40 – 15:50   Cheloni Alessandro

Short overview of HPC activities with COSMO at USAM

15:50 – 16:10   Matthew Cordery

Loop level hybrid parallelization of COSMO – first results

16:10 – 16:30   Neil Stringfellow

Parellel I/O strategies for COSMO: First results and perspectives

Coffee break

| 16:50 – 17:10 | Oliver Fuhrer |
| | **The HP2C COSMO project – overview, status and plans** |

| 17:10 – 17:30 | Tobias Gysi |
| | **COSMO dynamical core redesign: Motivation, approach, design and expectations** |

| 17:30 – 17:50 | Xavier Lapillone |
| | **Porting the physical parameterizations to GPUs using compiler directives** |

| 17:50 – 18:10 | Will Sawyer |
| | **PGAS languages and performing quick halo updates** |

| 18:10 – 18:30 | Piero Lanucara |
| | **Plans for porting COSMO to GPUs at CASPUR** |

| 18:30 – 18:50 | Andrew Ferrone, Hartwig Anzt |
| | **Accelerating COSMO-ART: CPU and GPU opportunities** |

| 18:50 – 19:10 | Daniel Ruprecht |
| | **Parallel-in-Time Integration – a possible way to increase parallelism in the COSMO model?** |

Joint dinner (after a walk of ~20 minutes to restaurant)

Wednesday May 4, 2011

9:00 – 10:30   **Parallel Workshops**
- – Task 1: Performance analysis and documentation
- – Task 3: Improve current parallelization
- – Task 6: Explore GPU acceleration

Presentation of results
Discussion

Coffee break

10:45 – 12:15   **Parallel Workshops**
- – Task 2: Redesign memory layout and data structures
- – Task 4: Massively parallel I/O
- – Task 5: Redesign implementation of dynamical core
- – Task 7: Implementation documentation

Presentation of results
Discussion

12:15 – 12:45   **Wrap-up, Discussion**

End of workshop

Participants

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