26th VI-HPS Tuning Workshop

Lab. ECR, Campus Ter@tec, France

16-20 October 2017

http://www.**vi-hps.org/training/tws/tw26.html**

26th VI-HPS Tuning Workshop (Lab. ECR)

- **VI-HPS tools instructors**
  - **Judit Giménez & German Llort (Barcelona Supercomputing Center)**
  - **Daniel Lorenz (Technische Universität Darmstadt)**
  - **Michael Knobloch (Jülich Supercomputing Centre)**
  - **Robert Mijakovic (Technische Universität München)**
  - **Emmanuel Oseret (Université de Versailles Saint-Quentin)**
  - **Joachim Protze (RWTH Aachen University)**
  - **Sameer Shende (University of Oregon)**
  - **Johannes Ziegenbalg (Technische Universität Dresden)**
- **Local organisation**
  - **CEA, UVSQ, etc.**
- **Sponsor: Intel**

Outline

Monday 16 October

- 09:00 Welcome [William Jalby, UVSQ]
  - **Introduction to VI-HPS and overview of tools** [Andres Charif-Rubial, PeXL]
  - **Introduction to parallel performance engineering** [Michael Knobloch, JSC]
  - ***INTI* computer system and software environment** [Emmanuel Oseret, UVSQ]
  - **Building & running NPB-MZ-MPI/BT-MZ on *INTI*** [Michael Knobloch, JSC]
- 10:30 *(break)*
- 11:00
  - **MAQAO performance analysis tools** [Emmanuel Oseret, UVSQ & Andres Charif-Rubial, PeXL]
  - **MAQAO hands-on exercises**
- 12:30 *(lunch)*
- 14:00 Hands-on coaching to apply tools to your own code(s)
- 17:30 Review of day and schedule for remainder of workshop
- 18:00 *(adjourn)*

- Hands-on exercises part of each presentation to familiarise with tools every morning session
- Hands-on coaching to apply tools to analyse and tune your own codes each afternoon

Outline of rest of week

Tuesday 17 October
- 09:00-10:30 **Score-P instrumentation & measurement** [Micha Knobloch & Johannes Ziegenbalg]
  CUBE analysis report explorer [Michael Knobloch, JSC]
- 11:00-12:30 **Scalasca automated trace analysis** [Michael Knobloch, JSC]
  Vampir interactive trace analysis [Johannes Ziegenbalg, TUDresden]

Wednesday 18 October
- 09:00-10:30 **Intel performance tools** [Intel]
- 11:00-12:30 **Extra-P automated performance modelling** [Daniel Lorenz, TUDarmstadt]
  PTF autotuning [Robert Mijakovic, TUM]

Thursday 19 October
- 09:00-10:30 **Paraver tracing tools suite** [Judit Giménez & German Llort, BSC]
  11:00-12:30 **TAU performance system** [Sameer Shende, U. Oregon]

Friday 20 October
- 09:00-10:30 **MUST/ARCHER runtime error detection** [Joachim Protze, RWTH]
  11:00-12:15 **MALP on-line profiling** [Paratools]
- 12:15-12:30 Conclusion & Review

Prepare to analyse your own application code(s)

- Ensure that your application code(s) build and run correctly to completion with appropriate datasets
  - initial configuration should ideally run in less than 15 minutes with 1-4 compute nodes
    - to facilitate rapid turnaround and quick experimentation
  - larger/longer scalability configurations are also interesting
    - turnaround may be limited due to busyness of batch queues, but perhaps overnight

- Compare your application performance on other computer systems
  - VI-HPS tools are already installed on many HPC systems
    - if not, ask your system administrator to install them (or install a personal copy yourself)

Evaluation / Feedback

- Please also complete and return the VI-HPS workshop paper form, which provides valuable feedback
  - to tools developers for improving their tools and training material
  - to improve future workshops and training events
- can be anonymous if desired

- Tools support queries and bug reports are also welcome
  - should be submitted to respective support mailing lists