ChEESE
1st F2F inter-WP meeting
HLRS, 25-26 February 2019

Meeting objectives

- High-level F2F technical meeting involving workpackage leaders (WPLs), task leaders (TLs) and flagship code lead developers (LDs) to coordinate the different tasks in WP2, WP3 and WP4.
- Explain the first code audit round strategy (T2.1).
- Specify the flagship code requirements for T2.2 (single-node optimization), T2.3 (multi-node optimization) and T2.4 (I/O bottlenecks), and identify who and how will perform each optimization task.
- Specify the requirements of flagship codes and Pilot Demonstrators for T3.4 (workflow manager). This includes the ChEESE definition of workflow(s) and the identification of generic workflow components shared by different pilots and future services (e.g. data acquisition and pre-process, interaction between multiple binaries within a job, task/job dependencies, scheduling and allocation of computational resources, fault tolerance(?), code restarting, post-processing, etc.)

Agenda

Monday 25 February		
13:00-13:10	Welcome	J. Gracia
13:10-13:30	Overview and status of WP2	P. Lanucara (WPL)
13:30-14:00	T2.1. Code audit metrics and strategy. Next steps. **Survey on 10 flagship codes: presentation of results and list of code requirements to WP2**	M. Hanzich (TL)
14:00-14:10	ExaHyPE	M. Bader (LD)
14:10-14:20	Seissol	M. Bader (LD)
14:20-14:30	Salvus	A. Fichner (LD)
14:30-14:40	SPECFEM3D	To be decided
14:40-14:50	PARODY_PDAF	A. Fournier (LD)
14:50-15:00	XSHELLS	N. Schaeffer (LD)
15:00-15:30	Coffee break	
15:30-15:40	ASHEE	M. Cerminara (LD)
15:40-15:50	FALL3D	A.Folch (LD)
15:50-16:00	T-HySEA	M.de la Asunción
16:00-16:10	L-HySEA	J. Macias (LD)
16:10-16:30	Discussion	P. Lanucara
16:30-16:45	T2.2. Single-node optimization. Next steps.	V. Ruggiero (TL)
16:45-17:00	T2.3. Multi-node optimization. Next steps.	G. Amati (TL)
17:00-17:15	T2.4. I/O bottlenecks. Next steps.	J. Gracia (TL)
17:15-17:30	T2.5. Exascale architecture co-design	S. Laforet (TL)

evening	Social dinner	

Tuesday 26 February		
9:00-10:00	***Survey on 12 Pilot Demonstrators: presentation of workflows and list of requirements to WP3*** T4.2. Single-scenario simulations. **Workflows** for: PD1 (Urgent seismic simulations) PD2 (Faster than real-time tsunami simulations) PD3 (High-resolution volcanic plume simulation) PD4 (Physics-based tsunami-earthquake interaction).	J. de la Puente (WPL) (moderator) A.Fichtner, J. Macías, M.Cerminara, M.Bader,
10:00-11:00	T4.3. Hazard assessment. **Workflows** for: PD5 (Probabilistic seismic hazard assessment - PSHA) PD6 (Probabilistic volcanic hazard assessment - PVHA) PD7 (Probabilistic tsunami hazard assessment -PTHA) PD8 (Probabilistic Tsunami Forecast - PTF)	A.Gabriel J. Selva, F.Lovholt, S.Lorito
11:00-11:30	Coffee break	
11:30-11:45	T4.4. Data analytics and inversion. **Workflows** for: PD9 (Seismic tomography) PD10 (Array-based statistical source detection and restoration and Machine learning from earthquake/volcano slow-earthquakes monitoring).	E. Casarotti, J.P.Vilotte
11:45-12:00	T4.5. Uncertainty, sensitivity and ensemble solutions. **Workflows** for: PD11 (Geomagnetic forecasts) PD12 (High-resolution volcanic ash dispersal forecast).	A. Folch, J.P.Vilotte
12:00-12:30	Discussion	J. de la Puente (moderator)
12:30-13:30	Lunch	
13:30-13:45	A workflow manager for Molecular Dynamics	Ch. Niethammer (HLRS)
13:45-14:45	T3.4. Workflow manager ***Open discussion and identification of generic workflow components shared by different pilots and future services***	J. Gracia (WPL) moderator and different speakers
14:45-15:15	Coffee break	
15:15-15:30	T3.1 Data management and EUDAT engagement T3.2 Mesh partitioning and load balance	N.Tonello (BSC) A.Folch (BSC)
15:30-16:30	Status of the project and general info	Coordinator

16:30-16:45	Wrap-up. What's next?	Coordinator
16:45-17:00	AoB and Conclusions	Coordinator

Previous homework

1. Code survey template
2. PD work flow template/slides

Venue and logistics

- The meeting will take place at HLRS in Stuttgart, Germany, on the "Vaihingen Campus" of the University of Stuttgart. The address is:

  Höchstleistungsrechenzentrum Stuttgart (HLRS)
  Nobelstraße 19
  70565 Stuttgart

- All sessions will take place at the lecture theater "Rühle Saal" right off the entrance/foyer. Those of you that have been to HLRS before, please note that the entrance has been relocated roughly two years ago. Now, it is on the opposite side of the building.
- HLRS is easily reached:
  - 1. From the Airport via local commuter train (S-Bahn). All lines from the Airport in direction city center will stop "Universität Stuttgart". Travel time is 16 minutes on the S-Bahn and another 10-12 minutes walking to HLRS.
  - 2. From the city center, take the S-Bahn towards the Airport ("Flughafen/Messe") and get off at the stop "Universität Stuttgart" as above.
- Accommodation. We have reserved some rooms at University's hotel "Campus.guest", which is right next to the S-Bahn stop and within walking distance to HLRS. Please complete your reservations at: https://www.campus-guest.de/en/ mentioning **the reference "ChEESE" before end of January**.