

Executive Summary

This deliverable summarizes the most relevant information about the EXDCI-2-WP3-organized “1st European Communities Workshop on Exascale Computing” focusing this year on “High Performance Data Analytics” (HPDA) held on 16 May 2019 during the EuroHPC Summit Week 2019.

The workshop was organized in two sessions, one dedicated to the Centres of Excellence for Computing Applications (CoEs) and another one to the FETHPC projects. In both sessions, the representatives of the different projects reported about the major challenges and issues faced with respect to the HPDA topic, the outcomes achieved so far as well as plans for the next years.

The CoE session was chaired by Guy Lonsdale (head of the FocusCoE project) whereas the FETHPC one was led by Giovanni Aloisio (EXDCI-2 [1] – Task 3.2 leader). Mathis Bode (EXDCI-2 [1] – WP3 leader) chaired the workshop in total.

Of the ten existing CoEs, representatives of six CoEs and FocusCoE were attending the meeting: ESiWACE2, EXCELLERAT, HiDALGO, MaX, CompBioMed, BioExcel, and FocusCoE. The FETHPC projects were represented by MAESTRO, ASPIDE, VESTEC, ExaNeSt, and Sage2, for a total of eleven presentations. The presentation covered various aspects of HPDA from big data processing and parallel data analysis, heterogeneous infrastructure to deal with different aspects of HPDA, to provenance and reproducibility of simulation results.

A wrap-up discussion was also held at the end of the workshop to better clarify some aspects not addressed in the previous question time and to summarize some conclusions. In this respect, the discussions and questions showed that many European communities are facing similar challenges and would be thankful for more joint efforts and combined solutions as well as networking activities like this workshop to ease experiences, results, solutions, and best practices sharing. For WP3, it was important to get this feedback, which helps to produce a more relevant High Performance Computing (HPC) roadmap.

Overall the workshop was successful, with about 50 people attending the two sessions. It is planned to organize a “2nd European Communities Workshop on Exascale Computing” during the next EuroHPC Summit Week in 2020, with a different focus, most likely (based on preliminary thoughts) on Artificial Intelligence (AI) and Machine Learning (ML) topics.

As next actions, the collaboration with the BDEC (Big Data and Extreme-scale Computing) Application Group will be intensified to see the needs with respect to HPDA in more applications. Furthermore, this will also allow to find more already existing solutions, which can be shared with the workshop participants as well as the European community.