SGR2021_MPiEDist: Models de Programacio i Sistemes d'Emmagatzematge Distribuit

Description

The research group aims at performing research on hierarchical task-based parallel programming models to better exploit the current heterogeneous structure of High Performance Computing (HPC) systems and of large distributed computing systems. The approach considers an integrative approach of the programming model with a unified storage platform that will aggregate the capacity of the whole system. The approach will be powered by a runtime execution environment with an efficient (in performance and energy) and resource-flexible dynamic task management to leverage future computing infrastructures. The research strategy includes programming interfaces that make it easier the development and deployment of parallel applications and integration with memory and storage systems, including aspects of parallel machine learning. The performed research will be transferred to the community through different software environments (PyCOMPSs/COMPSs, Hecuba, dataClay, GekkoFS and dislib).

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