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Dynamic resource management in HPC

Dynamic resource allocation and scheduling is key for an optimal resource utilization. In this research line we target system software for a smart allocation taking into consideration application characteristics for MPI+OpenMP applications.

Summary

Dynamic resource allocation and scheduling is key for an optimal resource utilization. In this research line we target system software for a smart allocation taking into consideration application characteristics for MPI+OpenMP applications. Our research uses SLURM as DRM as a proff of concept of our proposals in real systems and the BSC SLURM simulator as the platform for large scale experiments.

Objectives

- Dynamic resource allocation in HPC
  - Coodination between applications and scheduler
  - Holistic job scheduling for efficient allocations
  - Job scheduling for energy efficient systems

Barcelona Supercomputing Center - Centro Nacional de Supercomputación