Job Reference

176_CS_WADC_RE1RE2

Position

Junior developer for DEEP-EST EU project (RE1/RE2)

Data de tancament

Dimecres, 28 Febrer, 2018

About BSC

The Barcelona Supercomputing Center - Centro Nacional de Supercomputación (BSC-CNS) is the leading supercomputing center in Spain. It houses MareNostrum, one of the most powerful supercomputers in Europe, and is a hosting member of the PRACE European distributed supercomputing infrastructure. The mission of BSC is to research, develop and manage information technologies in order to facilitate scientific progress. BSC combines HPC service provision and R&D into both computer and computational science (life, earth and engineering sciences) under one roof, and currently has over 500 staff from 44 countries.

Look at the BSC experience:

BSC-CNS YouTube Channel

BSC-CNS Corporate Video

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Context and Mission

The DEEP-EST European project investigates and provides solutions for Modular Supercomputing Architectures (MSA) in the exascale era. The DEEP-EST Modular Supercomputing Architectures (MSA) will incorporate different interconnected modules that will offer services such as efficient HPC computation and Data Analytics in a single system with the novelty that from the point of view of application developers and users a single system view is exposed with advanced features, making easy the system exploitation. DEEP-EST project will focus in key aspects such as energy efficiency and scheduling (among others).
BSC is the responsible of Job Scheduling for MSA. The candidate will work with the most used scheduler in HPC centers (SLURM) and will extend it to offer an efficient scheduler for modular architectures and specific scheduling policies that will take into account application requirements in this new context.

**Key Duties**

- Understand the scheduler internals (SLURM internals) to be able to extend it to a new modular architecture
- Development of new scheduling policies integrated in SLURM scheduler to support an efficient Modular-Aware scheduler with Energy requirements
- Participate in the internal project meetings
- Participate in publications resulting of the project and attendance to project meetings or demonstrations if required

**Requirements**

- **Education**
  - BS, MS or PhD in Computer Science (or related discipline)

- **Knowledge and Professional Experience**
  - Software computing skills. Experience on programming languages (specially C/C++), and development tools such as Makefiles or autotools.
  - Experience dealing with big software (SLURM is a software with multiples files and with thousands of lines of code)
  - Experience in software development in UNIX/LINUX environments is required
  - Experience with SLURM or any other Job scheduler will be highly considered

- **Competences**
  - Candidates must be proactive, self-motivated individuals who can understand technical concepts
  - Excellent written and verbal communication skills in English
  - Ability to take initiatives, prioritize the tasks and work under set deadlines
  - Capacity to interact and build strong relations with a diverse members/stakeholder/staff base
  - Ability to work both independently and within a team

**Conditions**

- The position will be located at BSC within the Computer Sciences Department
- We offer a full-time contract, a good working environment, a highly stimulating environment with state-of-the-art infrastructure, flexible hours, extensive training plan, tickets restaurant, private health insurance, fully support to the relocation procedures
- Salary: we offer a competitive salary commensurate with the qualifications and experience of the candidate and according to the cost of living in Barcelona
- Starting date: asap
Applications Procedure

All applications must include:

- A motivation letter with a statement of interest, including two contacts for further references
- A full CV including contact details

Deadline

The vacancy will remain open until suitable candidate has been hired. Applications will be regularly reviewed and potential candidates will be contacted.

Diversity and Equal Opportunity Employment

BSC-CNS is an equal opportunity employer committed to diversity and inclusion. We are pleased to consider all qualified applicants for employment without regard to race, color, religion, sex, sexual orientation, gender identity, national origin, age, disability or any other basis protected by applicable state or local law.