ICEI: Interactive Computing E-Infrastructure for the Human Brain Project

Description

Five leading European supercomputing centres are committed to developing a set of services, within their respective national programs and service portfolios, that will be federated across a consortium. The work will be undertaken by the following supercomputing centres that form the High Performance Analytics and Computing (HPAC) Platform of the Human BrainProject (HBP):

- Barcelona Supercomputing Centre (BSC) in Spain,
- The Italian supercomputing centre CINECA,
- The Swiss National Supercomputing Centre CSCS,
- The Jülich Supercomputing Centre in Germany, and
- Commissariat à l'énergie atomique et aux énergies alternatives (CEA), France (joining in April 2018).

The new consortium will be called Fenix and it aims to provide scalable compute and data services in a federated manner. The neuroscience community is of particular interest in this context and the HBP represents a prioritised driver for the Fenixinfrastructure design and implementation. The Interactive Computing E-Infrastructure for the HBP (ICEI) project will realise key elements of this Fenix infrastructure that are targeted to meet the needs of the neuroscience community. The participating sites plan for cloud-like services that are compatible with the work cultures of scientific computing and datascience. Specifically, these services entail developing interactive supercomputing capabilities on the available extreme computing and data systems. Key features of the ICEI infrastructure include:

- Scalable compute resources;
- A federated data infrastructure; and
- Interactive Compute Services providing access to the federated data infrastructure as well as elastic access to the scalablecompute resources.

The ICEI e-infrastructure will be carried out through a coordinated procurement of equipment and R&D services. Furthermore, significant additional parts of the infrastructure and R&D services will be provided from within the ICEI project through in-kind contributions from the participating supercomputing centres.

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