

Integrating Fenix into EBRAINS –What can we do to simplify the usage of large-scale systems for the users?

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Digital brain research requires access to computational resources, such as cloud, HPC, neuromorphic and smaller systems. Fenix offers access to federated HPC and Cloud resources and provides services to interact with these resources. However, many users are not proficient in using these systems efficiently and are typically more interested in working on their scientific problems than finding the best computing configuration for their specific problem and adapting it to different computing architectures. HPC plays a special role here as every system requires its own optimizations and often a user first must learn how to use such a system. A future digital brain research infrastructure should therefore support users in these issues while allowing transparent use of the system and leaving many optimizations to the runtime system. In this talk, different aspects of such a runtime and support system will be discussed. While performance was often one of the main criteria for choosing and optimization of a system, in the future another aspect, for example, energy consumption or idle time will be more important. Here, a federated infrastructure can help to optimize scientific workflows across different sites.

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