

## On usability of HPC systems

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Recent multi- and many-core HPC processors are powerful processing units able to deliver computing performances in the order of one Teraflop. However, programming them efficiently to exploit a large fraction of available peak performance is not an easy task. This because application codes should be able to exploit several level of parallelism, and appropriate data-layouts should be used to store application data-domains. In this presentation I will discuss about data-layouts to enable efficient vectorizations of codes, taking into account as use case a fluid-dynamics application based on Lattice Boltzmann methods.

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