

The new Generations of CPU-GPU Clusters for e-Science

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The third paradigm of research known today as e-Science requires that the computational sciences community rely heavily on HPC clusters to run their simulations. At the core of each cluster lie commodity devices with increasingly parallel capabilities. The two most successful processing devices today complement each other: the multicore CPUs and the manycore GPUs as accelerator vector devices. The main focus of this communication will be on an overview of some of the most promising approaches in this new breed of processing devices (and on the CUDA environment) to build the new generations of HPC clusters and how the scientific community has reacted to this challenge.

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