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High-Performance and Grid Computing at INCDTIM, Cluj-Napoca, Romania

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The rapid pace of the worldwide advances in computing and communication technologies has entailed, during the last years, dramatic changes of the nature of the scientific research itself. While the high performance parallel computing of the past asked for expensive and sophisticated computing architectures, the rapidly increasing availability, during the last decade, of many-core CPU and GPU architectures and of cloud services have strongly pushed the development of the parallelism as an essential way of making effective the available hardware.

The National Institute for Research and Development of Isotopic and Molecular Technologies (INCDTIM) is making steady efforts to become a visible player in this process. For the time being, it hosts a TIER2 grid site (RO-14-ITIM) supporting the WLCG ATLAS VO, as well as a 7 TFlop parallel cluster serving to the study of different topics of interest in physics, chemistry and biology.

The present report is devoted to the description of the hardware implementations and performance and to the discussion of a few selected significant scientific achievements.

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