PRACE: Results of the third Regular Call

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The Partnership for Advanced Computing in Europe (PRACE) is offering supercomputing resources on the highest level (Tier-0) to European researchers. The Gauss Centre for Supercomputing (GCS) is currently dedicating shares of its IBM Blue Gene/P system JUGENE in Jülich and its Cray XE6 System HERMIT in Stuttgart.

The 3rd call for proposals, this time for computing time on JUGENE in Jülich, HERMIT in Stuttgart, and CURIE in Bruyères-Le-Châtel, France, closed on June 22, 2011. Ten research projects have been awarded about 360 Million compute core hours on JUGENE, and four have been awarded about 194 Million compute core hours on HERMIT. Three of those research projects are from Italy, two are from Germany and the UK, each, while one each are from Belgium, Cyprus, France, the Netherlands, Norway, and Spain. The research projects awarded computing time cover all scientific areas, from Astrophysics to Medicine and Life Sciences.

More details, also on the projects granted access to Curie, can be found via the PRACE web pages www.prace-ri.eu/PRACE-3rd-Regular-Call.

Evaluation for the 4th call for proposals that closed January 10, 2012 is still under way, as of this writing. Details on the calls, also on the forthcoming fifth call, can be found on www.prace-ri.eu/Calls-for-Proposals.

PRACE – One, Two, Three

To support the accelerated implementation of the Research Infrastructure established by the Partnership for Advanced Computing in Europe (PRACE) the European Commission decided to issue three individual calls in 2009, 2010 and 2011, resulting in three distinct projects.

The First Implementation Phase project (PRACE-1IP) will be completed in June 2012. It focused on the deployment and operation of the European Tier-0 infrastructure, the related enabling and petascaling of applications, establishing relations with academic and industrial users, advanced training for HPC users, technology watch and prototyping of promising architectures, components and software for future multi-Petaflop/s systems – to name a few.

The following Results exemplify the Achievements of the Project:

Three Tier-0 systems, JUGENE at GCS Partner Jülich, CURIE at GENCI, and HERMIT at GCS partner HLRS were deployed. Three new systems, SuperMUC at GCS partner LRZ, Fermi at CINECA, and a yet unannounced system at BSC will follow shortly. More important than the aggregated Petaflop/s number is the diversity of architectures that enables scientists to execute a wide range of challenging applications on the best suited platform. The consistent services that were defined and implemented present the different PRACE systems as a single entity towards the user.

The single European peer review process that was defined by PRACE allows users to submit applications for resource grants on any system with minimal administrative effort. In addition, an independent User Forum was initiated as the voice of the users. PRACE invited industrial users to a series of specific seminars to capture the unique requirements of industry, foster further collaboration, and prepare the creation of an Industrial Advisory Committee for PRACE.

To help the users exploiting the unprecedented capabilities for the new machines, a wide range of applications selected through previous surveys were evaluated, ported, and brought into the petascale regime. This unique service of computer experts and application specialists working together helps the researches to focus on their science. This is an ongoing process that will include new architectures and new programming paradigms. All the results will be made available on the PRACE-RI web site. The first 23 white papers on data handling for petascale systems are already published.

PRACE established an education programme consisting of seasonal schools, specialized seminars and workshops to educate users in novel programming techniques, optimisation strategies, and new languages especially for massively parallel architectures. The training material, presentations and videos, is available via the PRACE web site [2].

Annual workshops with data centre specialists and also vendors are an important element in the technology watch necessary to make informed decisions. This will be continued throughout the projects.