

Press release
For release: 02/05/2011

PRACE Research Infrastructure calls for One Year Project Grants on three Tier-0 Computers and pilots a synchronized Pilot Call for Tier-1 Grants

PRACE, the Partnership for Advanced Computing in Europe, is a Research Infrastructure that enables researchers from across Europe to apply for time on the PRACE resources via a peer review process. This call marks the third regular call for the PRACE resources with the standard allocation time of one year, and includes a synchronized pilot call for the utilization of European Tier-1 resources. As the third Tier-0 system, the new supercomputer "HERMIT" is available for European researchers in this call for the first time.

PRACE is a Research Infrastructure that allows researchers from across Europe to apply for time on high-performance computers from a series of hosting nations via a central peer review process. This call is the third PRACE RI Regular call for Project access, inviting applications for high-end (Tier-0) computing resources to carry out projects which have high scientific quality and impact. Allocation will be for one year starting from 1st November 2011.

The call includes a Pilot Call for project access to Tier-1 resources, via DECI, the Distributed European Computing Initiative, providing single project cross-national access to national (Tier-1) HPC-resources. The DECI pilot call is synchronized in preparation for future integrated calls for Tier-0 and Tier-1 resources.

A short description of the available Tier-0 systems is:

- o IBM Blue Gene/P – JUGENE – hosted by GCS in Jülich, Germany. Details and terms of usage can be found at <http://www2.fz-juelich.de/jsc/jugene>

JUGENE has a peak performance of 1 Petaflop. It is composed of 294,912 processing cores with 4 cores forming a node with 2 GB of memory for a total of 147 TB.

The total available capacity for JUGENE in this call is 360 million compute core hours. The allocation period for JUGENE ends on August 31st, 2012.

- o Bull Bullx cluster – CURIE – funded by GENCI and installed at CEA, Bruyères-Le-Châtel, France. Details and terms of usage can be found at <http://www-hpc.cea.fr/en/complexe/tgcc-curie.htm>.

CURIE is composed by 2 different partitions:

- A fat node partition open to PRACE calls since January 2011 and composed by 360 nodes with 32 cores per nodes, for a peak performance of 105 TFlops
- A thin node partition, open to PRACE calls in Q1 2012 and composed by 5040 blades with 16 cores per node, for a peak performance of up to 1.5 PFlops

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The total available capacity in this call for CURIE is:

- On the thin nodes partition: 125 million compute core hours, with an 8 months allocation starting from March, 1st of 2012.
- On the fat nodes partition: 31 million compute core hours, with a one year allocation starting from November, 1st of 2011.

- o Cray XE6 – HERMIT – hosted by GCS in HLRS, Stuttgart, Germany. Details and terms of usage can be found at <http://www.hlrs.de/systems/platforms/cray-xe6-hermit/>.

HERMIT has a peak performance of 1 Petaflop and is designed for sustained application performance and highly scalable applications. It is composed of 3552 dual socket nodes equipped with AMD Interlagos Processors leading to overall 113664 processing cores. Nodes are equipped with 32GB or 64GB main memory.

The total available capacity in this call for HERMIT is 160 million compute core hours.

The deadline for submission of proposals is June 22nd, 2011 at 16.00 CEST. All proposals must be submitted via the PRACE website at:
<http://www.prace-ri.eu/hpc-access>

The third PRACE Regular call is intended for large-scale projects of high scientific quality and for which a significant impact at European and international level is anticipated. High scalability of the code (at least 8000 compute cores for JUGENE; for CURIE above 2048/1024 cores or above 512 cores with 64 GB of memory used per node or 256 cores with 16 threads allocated per task and 2048 cores for HERMIT) must be demonstrated. Proposals for project access must be ready to run. The projects must demonstrate scientific excellence and should cover topics of major relevance for European research. They should also include elements of novelty, transformative aspects, have a recognised scientific impact and include a dissemination plan. Possible practical and timely applications resulting from the project are also desirable. The projects should also demonstrate the possibility of achieving results which will be publishable in journals of recognised scientific impact.

All proposals will undergo PRACE technical and scientific assessment. The assessment procedure will adhere to the PRACE principles of peer review. For this call only proposals from academia are eligible and the project leader must be homed in a European Union country or a PRACE RI country. Both systems also have further restrictions due to export and vendors rules. All applicants should expect to be notified of the outcome by the end of October 2011.

DECI provides single project cross-national access to European Tier-1 resources, provided up to now by DEISA project. Access will be awarded for a period of 12 months, beginning 1 November 2011.

Tier-1 resources are available on the following architectures:

Cray (XT and XE), IBM Blue Gene/P, IBM Power 6, Intel and PowerPC Clusters (various processor and memory configurations) and hybrid systems (clusters with GPGPU accelerators).

Four classes have been defined below.

- o Cray XT4/5/6 and Cray XE6 – three large Cray XE and XT systems are available at EPCC (UK), KTH (Sweden) and CSC (Finland). The largest of these machines has a peak performance of 360 T/flops and a total of 44,544 cores.
- o IBM Blue Gene/P – three BG/P systems are available at IDRIS (France), RZG (Germany) and NCSA (Bulgaria). The largest of these machines has a peak performance of 139 T/flops and a total of 40,960 cores.
- o IBM Power 6 – three IBM Power 6 systems are available at RZG (Germany), SARA (The Netherlands) and CINECA (Italy). The largest of these machines has a peak performance of 98 T/flops.
- o Clusters – PRACE offers access to eight clusters at FZJ (Germany, Bull Nehalem cluster), LRZ (Germany, Xeon cluster), HLRS (Germany, NEC Nehalem cluster plus GP/GPU cluster), CINES (France, SGI EX820), BSC (Spain, IBM PowerPC), CINECA (Italy, Westmere plus GP/GPU cluster), PSNC (Poland, Bullx plus GP/GPU cluster and HP cluster) and ICHEC (Ireland, SGI EX820). The largest cluster has a peak performance of 183 T/flops and a total of 17,664 cores.

In total the number hours on the Tier-1 resources is more than 54 million core hours.

DECI enables European researchers to obtain access to the most powerful national (Tier-1) computing resources in Europe, regardless of their country of origin or work and to enhance the impact of European science and technology at the highest level.

Proposals must deal with complex, demanding, innovative simulations that would not be possible without Tier-1 access.

A continuous call for applications for PRACE preparatory access is now open.

More information and application form: <http://www.prace-ri.eu/hpc-access>, see also related documents at http://www.prace-ri.eu/IMG/pdf/PRACE_third_regular_call.pdf and <http://www.prace-ri.eu/IMG/doc/PRACE-DECI7-ACRONYM.doc>

More information: peer-review@prace-ri.eu

About PRACE: The Partnership for Advanced Computing in Europe (PRACE) is an international non-profit association with its seat in Brussels. The PRACE Research Infrastructure (RI) provides a persistent world-class High Performance Computing (HPC) service for scientists and researchers from academia and industry. The PRACE leadership systems form the apex of the performance pyramid and are well integrated into the European HPC ecosystem. The preparation and implementation of the PRACE RI receive EC funding under grants RI-211528 and FP7-261557.



More information about JUGENE, CURIE and HERMIT:

<http://www2.fz-juelich.de/jsc/jugene>

<http://www-hpc.cea.fr/en/complexes/tgcc-curie.htm>

<http://www.hlrs.de/systems/platforms/cray-xe6-hermit/>

