
Project Proposal



TECHNISCHE
UNIVERSITÄT
DARMSTADT

Computing time on the Lichtenberg Hochleistungsrechner

Project ID: 310

Project class: SMALL

Generated: 2016-08-15 16:25:55

Contact person: The Great Admin alias BOFH (Thomas.Opfer@hrz.tu-darmstadt.de)

1 Administrative Details

(Please give the professional e-mail addresses. E-mail addresses such as Gmail and Hotmail are not accepted.)

Project Title: Testing the Project Proposal Form

Project ID of previous project:

University/Institution: Test University

Department/Institute: Test Institute

Federal State of the proposing Institution: Hessen

1.1 Director of the Institute

Title: Prof.

First name: Dals

Last name: Nippa

Street: Geiranger 1

Postal code: 12345

City: Test City

Phone: 06151 / 16-01

Email: Dals.Nippa@tu-darmstadt.de

1.2 Principal Investigator (If it is not the Director)

Principal investigator is the director of the institution.

1.3 Project Manager/Main Researcher

The Project manager is responsible for the administrative tasks of the project, e.g. distribution and supervision of the granted login's and resources. In case of a SMALL project, this may be a student.

Title: Dipl.-Ing.

First name: Fritz

Last name: Filter

Street: Karolinenplatz 5

Postal code: 64289

City: Darmstadt
Phone: 06151 / 16-01
Email: Fritz.Filter@tu-darmstadt.de
TU-ID: No

1.4 Researchers

No additional researchers.

If the fields above are not sufficient, please send an email to hhlr@hrz.tu-darmstadt.de.

1.5 Project Partners

If project partners from outside the proposing institute are involved, please list them here. Project partners will not be granted access to the Lichtenberg Computer unless you specify them as “Researchers” (in section 1.4), too.

No project partners.

If the fields above are not sufficient, please send an email to hhlr@hrz.tu-darmstadt.de.

2 Project Details

Research area: other

If not in the list, please specify: Architecture

Estimated end date of the entire project: March 2019

Number of months (max. 12 months per proposal period): 12

This project is funded by: other

2.1 Abstract

The abstract of the project should be written in English, since this text will be published to demonstrate ongoing work on Lichtenberg computer. It should consist 800 to 2500 characters. Typically, this abstract will be published by HRZ on the project web pages (see also 4).

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3 Technical Description

Please have a look at the hardware overview of the HRZ first, and verify that you really need a machine of this size for your project. The CPU time requirement for MIDDLE and LARGE project class must be justified in a detailed project description.

In the following, always count the number of individual processors (cores) that your program will need.

3.1 Project class

CPU time (without accelerators): 178000 core-hours

(This is the total compute time for your project, e.g.: wall clock time for parallel application*number of cores*number of runs + testing + etc.)

Accelerator Type:

The following accelerator card hours are additional compute hours. For the compute hours we need to account 8 cores per card in average. In case you only want to use accelerator cards (and corresponding host CPUs), please let the above field empty (zero).

NVIDIA: 2000 card-hours

Xeon-PHI: 1250 card-hours

Total CPU time: 204000 core-hours

Project class: SMALL

3.2 Detailed resource requirements of the project

Base architecture of the estimated core hours above: AVX 2

Required CPU architecture for your job: AVX

(Total for home directories. Change this default value only if it is really necessary! This is an expensive resource. Files are backed up regularly.)

Home: 10 GB

Independently from the proposal each user has access to the /work/scratch area (with a default quota of 100 TB). In case your project needs more, please contact us independently via email request.

3.3 Resource requirements of a typical single batch run

For a typical single run (as well as for a typical interactive run), fill in the expected average values in the production phase of your project (in contrast to developing and debugging phases). Of course, the numbers can only be estimated. Use section 3.6 (Special Requirements) for extraordinary maximum resource requirements.

Number of cores: 128 cores

Main memory per core: 2 GB

If you need more than 5 GB main memory per core, you have to provide a special statement (concerning e.g. limited scalability of the code or model with respect to memory, communication, or algorithm bottlenecks; number of available software licences; benchmarking):

Run time (wall-clock time): 24 hours

If you really need more than 24 hours, provide the reason and give a statement about checkpointing and restart capabilities of your application:

Disk space: 10 GB

3.4 Software

Scientific main application of your cluster computations: Polymake

Please check which programming languages, programming models, tools, and libraries you intend to use (multiple checks are possible). You may list other software packages as well. The HRZ will then check if the software is available or can be ported with reasonable effort.

Programming Languages

The selected language(s) are: C, C++, Perl

Programming models for parallelization

The selected programming models are: MPI, OpenMP

Tools

The selected tools are: Vampir, Intel Tracing Tools, TotalView

Libraries

The selected libraries are: MKL Intel Math Kernel Library

3.5 Small Projects

The steering committee grants SMALL project accounts with restricted resources before MIDDLE and LARGE projects are finally reviewed. Those test accounts are granted for any project proposal that comes with a sufficiently explanatory abstract and/or detailed description.

However, the risk of useless work in case the project is rejected remains with the project proposer.

The duration of a test project is at most one year.

3.6 Special Requirements

In case you have special requirements for your project (time-critical execution of the project, software, licenses etc.), you may list them here:

(None.)

4 Submission

Please check the following conditions affirming that any person entered in 1.1, 1.2, 1.3 and 1.4 or being added later to the project

-
- will report on the progress of the project and publish the results in adequate form,
 - confirms that, publications arising from this project, the computing time grant from Lichtenberg cluster will be acknowledged and that references to these publications will be sent to HRZ, and for Tubiblio publications, the category “Hochleistungsrechner”; within the list “Divisions” as a sub-category of “Hochschulrechenzentrum” will be added.
 - I have verified that the results which will be achieved by the project are not liable to any EC Dual Use Regulation.
-

Please note:

Applicants for MIDDLE and LARGE projects are also expected to act as reviewers of other proposals.

Project ID:

310

2016-08-15 16:25:55

Date

Signature Professor¹ (Director of the Institute or Principal Investigator)

Date

Signature Main Researcher

¹ For SMALL and MIDDLE projects, the signature of a postdoc is sufficient if the project manager is a PhD student.