ACCESS PROTOCOL TO THE EQUIPMENT OF THE BARCELONA SUPERCOMPUTING CENTER AND THE SPANISH SUPERCOMPUTING NETWORK (RES)

This document details the Access Protocol to the supercomputers of the Spanish Supercomputing Network (RES - Red Española de Supercomputación), including the MareNostrum installed in the BSC-CNS.

The guidelines are based on criteria of efficacy, efficiency and transparency.

In line with similar national plans and other public calls a double filter system has been set up:

1. Initial peer review evaluation by the National Agency for the Evaluation and Forecast (ANEP- Agencia Nacional de Evaluación y Prospectiva) of the general research programme, where the specific areas of the activity involving the use of MareNostrum are defined.

    The ANEP will not have to give its opinion in case of that the general research programme has already been positively evaluated in a public call by one of the evaluation agencies approved by the BSC-CNS.

2. Subsequent evaluation by the Access Committee, advised by a Technical Experts Panel and a Scientific Experts Panel, of the activity, which must provide detailed objectives and an approximate time line for completion.

    In the activities were access is granted, RES will provide CPU hours in the supercomputers (hardware and basic system software) and know-how of the Operations team (Systems and User Support team) to ensure the correct performance of the user applications.

BSC-CNS collects all activities applications from its website (http://ww.bsc.es/res or http://www.res.es) and forwards them electronically, including any additional documentation, to the Access Committee, the Expert Panels, and to the ANEP, if required.

Activity call is continuously open and the evaluation is every four months. Those activities, whose computing needs require access to resources during more than a period, can request access for up to two periods, reporting to the Access Committee the intermediate results obtained and then, so the Committee could confirm the access the second period.

The request for access to the RES resources must be in English, and should include the following information:

*   A description of the global scientific project which frames the activity proposal (maximum 1 page) including the reference number of the overall scientific project if financed by a public call.
*   A description and justification of the concrete activity that requires access to the RES resources (maximum 2 pages).
*   A short CV of the PI (Principal Investigator) of the applicant group that must necessarily include reference to the most relevant publications (maximum of 5 references) of the last 5 years.

- Technical description of the software to use and the resources requested in the supercomputing equipment offered by the RES.

An established procedure for immediate acknowledgment for all submitted applications has been established and the response time to the request meets quarterly assessment.

The basic criteria for the award of projects using the RES resources are:

1. The relevance of the global scientific project that includes the activity proposal (20%).
2. The justification for the proposed activity and the calculations to be developed in the RES to complete the global scientific project (30 %).
3. The scientific credentials of the applicant research group (10%).
4. Experience and training in high performance computing (10%).
5. The real need for a supercomputer to perform the computation (20%).
6. The technical appropriateness of the project to the RES resources architecture (10%).

After receiving the initial evaluation of the ANEP, the Access Committee proceeds to evaluate all activities and prioritize them.

The Access Committee is composed of 4 members, appointed for a period of 4 years with a 25% annual renewal. This appointment may be revoked by the Executive Committee when there are reasons which justify it. Its composition is:
- a BSC-CNS external manager with wide experience in Innovation Management,
- an ANEP representative,
- a supercomputing expert, external to BSC-CNS, but part of the RES, and
- a supercomputing expert, member of BSC-CNS.

The Access Committee receives advice from two Experts Panels: a Scientific Expert Panel composed of renowned scientists, external to BSC-CNS, of Spanish or other nationalities, and a Technical Expert Panel, composed of one representative of each of the institutions associated with the RES. These Experts Panels are appointed for a period of 3 years with partial annual renewals of 1/3 of its members. The appointment of experts may be revoked by the Executive Committee when there are reasons that justify.

The components of the Technical Experts Panel are nominated by the centres affiliated to the RES, and are responsible for conducting the evaluation from the technical point of view. Their assessment will be used by the Expert Scientific Panel.
Scientific Expert Panel is divided into 4 groups according to the classification established by the Spanish Foundation for Science and Technology (FECYT Fundación Española de Ciencia y Tecnología)

- Astronomy, Space and Earth Sciences
- Life and Health Sciences
- Mathematics, Physics and Engineering
- Chemistry and Materials Science and Technology

The Scientific Experts Panel is composed by scientists of outstanding career and experience in the management of research projects, mainly managers of National Programs or of the ANEP.

Each of the above areas represented by the Scientific Experts Panel is chaired by a group leader, who acts as a coordinator, an assistant, and between 4 and 8 experts with specific knowledge in the area, as appropriate.

The components of the Access Committee and the Scientific Experts Panel are nominated by representatives of MICINN in the Access Committee.

The Scientific Experts Panel can request the remote peer review mechanism of the ANEP.

The Scientific Experts Panel prioritises the activities of its respective areas and sends its recommendations to the Access Committee who publishes the final report.

The report prioritizes the allocation of resources to activities. A consequence of this prioritization and limited resources available, can be left out high-quality activities. The Access Committee can allocate resources for the next period for these activities as it deems appropriate, so as to ensure access in the next period without having to reapply for access. The Access Committee will try to allocate maximum resources to the best activities assessed to ensure that they benefit from supercomputing capabilities of RES in a short period of time.

Furthermore, this report justifies the reasons for gaining or refusing access to the RES for each submitted activity.

The accepted activities are published and a private explanation is given to the not accepted ones with a relevant explanation, and giving the possibility of re-submit the sane activity to be re-evaluated in a future announcement.

It is possible that some of the accepted activities might lead to a scientific collaboration between the external research group and BSC-CNS or either of the institutions belonging to the RES, especially in the area of optimization or development of parallel applications.

The use of the RES resources is given according to the criteria of excellence. Universities (public or private) do not need to pay for the use of RES resources. Any industrial activities are subject to similar quality standards as the public projects. Those who access to the RES resources must pay to the institution that manages the resources allocated a financial contribution that is calculated in

each case and depends on the resources needed (human and technical) and the scientific and/or economic interest of the project.

For mixed University-Company activities, the fee for each institution depends on the amount established in the memorandum of agreement.

Spin-offs of public centres are treated as public research centres for the first three years to encourage their development.

- To send RES an electronic copy of any scientific publications in which the use of the resources of RES has proved decisive.
- To explicitly quote in the scientific publications the support RES provided to their project.
- To follow the RES usage rules and security and confidentiality policies determined by the RES.
- To guarantee not to use the obtained results using BSC-CNS resources, for any profit purposes but only under the terms of "Public Research"
- To provide information and documents annually, including videos, presentations, and any other material to be used as dissemination material for the RES.