SEVENTH FRAMEWORK PROGRAMME
Research Infrastructures

INFRA-2010-2.3.1 – First Implementation Phase of the European High Performance Computing (HPC) service PRACE

PRACE-1IP

PRACE First Implementation Project

Grant Agreement Number: RI-261557

D4.1
PRACE User Forum

Final Version

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References and Applicable Documents

[1]   Deliverable D2.2.2, First draft of governance structure, PRACE-PP project.
[2]   Deliverable 2.2.2, Procedures for additional PRACE committees, PRACE-1IP project.
[3]   http://www.deisa.eu/
[4]   Deliverable D4.3.1, Cross National Programme for Access to Tier-1 Resources, PRACE-1IP.

List of Acronyms and Abbreviations

AC	Access Committee
BoD	Board of Directors
BSC	Barcelona Supercomputing Center (Spain)
CINECA	Consorzio Interuniversitario, the largest Italian computing centre (Italy)
CINES	Centre Informatique National de l'Enseignement Supérieur (represented in PRACE by GENCI, France)
CSC	Finnish IT Centre for Science (Finland)
DEISA	Distributed European Infrastructure for Supercomputing Applications. EU project by leading national HPC centres.
EPCC	Edinburgh Parallel Computing Centre
FZJ	Forschungszentrum Jülich (Germany)
GENCI	Grand Equipement National de Calcul Intensif (France)
HLRS	High Performance Computing Center Stuttgart
HPC	High Performance Computing; Computing at a high performance level at any given time; often used synonym with Supercomputing
NCF	National Computing Facilities (Netherlands)
NCSA -BG	National Centre for Supercomputing Applications (Bulgaria)
NSF	National Science Foundation (USA)
PRACE	Partnership for Advanced Computing in Europe; Project Acronym
PRACE-1IP	PRACE1st Implementation Phase project
PRACE-2IP	PRACE 2nd Implementation Phase project
PRACE AISBL	PRACE Association Internationale Sans But Lucrative
RI	Research Infrastructure
SSC	Scientific Steering Committee
Tier-0	Denotes the apex of a conceptual pyramid of HPC systems. In this context the Supercomputing Research Infrastructure would host the Tier-0 systems; national or topical HPC centres would constitute Tier-1
UC-LCA	Universidade Coimbra-Laboratório Computação Avançada (Portugal)
WP	Work package

<h1 align="center">Executive Summary</h1>

This deliverable describes the creation of the PRACE User Forum, as a sustainable committee dedicated to HPC users from academia and industry that depend on PRACE AISBL HPC resources for the progress of their research work. The meetings of the User Forum are organised by the Program Committee, which is also responsible for steering the discussion and analysis of present and future scientific and technical challenges regarding usage of HPC resources and their associated components (software stacks, data storage, post-processing, etc.). The Program Committee is also responsible for distilling recommendations from the discussions during the meetings and for communicating them to the Board of Directors of PRACE AISBL. The User Forum is the main communication channel between users and PRACE AISBL.

The terms of reference of the User Forum, i.e. the scope, audience, organisation and inter-relations with other bodies of PRACE AISBL are described in this document. The role and responsibilities of the Program Committee are also presented.

The 1st User Forum, held on the 13th and 14th April 2011 in Helsinki, Finland, is described in detail from the point of view of its organisation, programme and attendance. The synopsis of the meeting especially regarding the participation of the audience in the open discussion is reported.

The procedure for the creation of a sustainable User Forum with the Program Committee in charge of the coordination and organisation of future meetings is also presented.

1   Introduction

The User Forum is one of the bodies foreseen by the PRACE AISBL [1, 2] where researchers from scientific and industrial communities that depend on HPC resources for the development of their research work can gather together to discuss their needs and expectations regarding the HPC resources made available by PRACE AISBL. The User Forum is a voluntary and independent organization that interacts with PRACE AISBL and its committees. In the User Forum meetings users can discuss their vision and expectations that will be distilled by the Program Committee in the form of recommendations to be communicated to the management of PRACE AISBL, mainly through the Board of Directors (BoD). The User Forum provides an indispensible perspective to PRACE ASIBL for the planning, execution and evaluation of its activities. The activities of the User Forum are coordinated by its Program Committee which shall plan and organise the User Forum meetings and will be the official communication channel between HPC users and PRACE AISBL

The creation of a persistent User Forum involves a number of challenges. One of these challenges results from the role of PRACE AISBL to provide services to European users from a broad range of scientific communities with different needs regarding HPC resources (e.g. computer architectures, data storage, software stacks, etc.). Another challenge comes from the fact that HPC users often take the availability of HPC resources for granted, are not completely aware of the costs involved in the acquisition, maintenance and operation of HPC systems and the efforts necessary to obtain funding for these costly installations. Due to these challenges it is not easy to get a representative number of PRACE users together in an organised and sustainable framework for discussing common and/or diversified issues regarding usage of the HPC resources made available by PRACE AISBL and for reaching consensus on recommendations to be issued to PRACE AISBL. For overcoming these

difficulties it was decided that PRACE should take the first steps in the direction of the creation of the User Forum. This goal was assigned to Task 4.1 of the 1st Implementation phase of the PRACE project (PRACE-1IP).

This document presents the terms of reference of a permanent and sustainable User Forum in section 2. Section 3 describes the activities for the organisation of the 1st User Forum, i.e. scope, organisation, objectives and discussions, which provided initial feedback from PRACE AISBL users.

In section 4, the next steps necessary for achieving sustainability of the User Forum and its future meetings are discussed.

2 Terms of reference of the PRACE User Forum

In this section the terms of reference of the PRACE User Forum are discussed in detail and the general organisation of the User Forum is presented. The terms of reference include the scope, organisation and inter-relations of the User Forum with other bodies of PRACE AISBL.

2.1 Scope

The PRACE User Forum as defined in Deliverable D2.2.2 "Procedures for additional PRACE committees" of the PRACE-1IP project [2] is an advisory body to the Board of Directors (BoD) of PRACE AISBL. The User Forum's main goal is to provide an organized framework for discussion of the needs and expectations of the user communities regarding HPC, and a direct link between the users and the management of PRACE AISBL. Furthermore, the User Forum is as a permanent and sustainable forum open to all user communities from academia and industry that are dependent on HPC resources for pursuing their research work.

The User Forum shall also play an important role for fostering collaboration between different user communities to stimulate synergies for increasing the scientific and economic impact of the PRACE Research Infrastructure (RI). The User Forum will give the opportunity to users from different scientific fields to get together and openly discuss and analyse the HPC research infrastructure made available to them by PRACE AISBL as well as to reflect on its usage. Moreover the User Forum is a preferential communication channel between PRACE HPC users and the PRACE AISBL through the PRACE AISBL BoD regarding matters of usage of PRACE AISBL resources, such as choice of architectures for future investments, software development and licensing, types of resource allocation, peer review process, etc.

The User Forum can also interact with the Scientific Steering Committee (SSC), Access Committee (AC) and any other PRACE AISBL committees in matters of usage of PRACE AISBL resources and their allocation.

The scope and characteristics of the User Forum are:

- Open to all scientific and industrial user communities;
- Main communication channel between HPC users and PRACE AISBL;
- Interaction with members of the PRACE AISBL BoD, SSC and AC and if applicable with other PRACE committees;

- Gathering the scientific and technical needs of the user communities and communicating them to PRACE AISBL for driving the choices of architectures for future procurements, software development and licensing, types of HPC allocations and the PRACE AISBL peer review process;
- Raising awareness about HPC trends, perspectives and significant challenges that can emerge in the near future;
- Creating awareness of the costs and sustainability challenges of the resources and services made available by PRACE AISBL;
- Promoting HPC usage and disseminating its economic and social impact;
- Fostering collaborations between user communities.

In conclusion, the PRACE User Forum, as a channel of communication between the users and the management of PRACE AISBL, is an important body for users to voice their interests and vision, and as such have a preponderant role on the development of PRACE AISBL.

2.2   Organisation

The User Forum shall be supported by the PRACE AISBL BoD and can be either organised on its own or in collaboration with major PRACE events that attract a larger number of HPC users from scientific and industrial communities.

In this section, the Program Committee of the PRACE AISBL User Forum as well as the expected attendance, format and periodicity of meetings, are discussed.

2.2.1 *Program Committee*

The Program Committee is responsible for the organisation of the User Forum meetings and for collecting recommendations resulting from the discussions during the User Forum meetings and forwarding them to PRACE AISBL through the BoD. The Program Committee can also interact with the SSC and AC committees or any other committees. The Program Committee will steer the discussions during the meetings in order to reach consensus on proposals and recommendations for PRACE AISBL and any of its committees. This consensus should be reached by open voting during the meetings or by other means of consultation, e.g. e-mail consultation of a large number of users.

The Program Committee should be constituted by representatives of the scientific communities, including researchers who are either using or have used HPC resources, and one or two representatives from industrial user communities. All members of the Program Committee should have proven HPC experience.

The number of members of the Program Committee should not exceed 15.

The members of the Program Committee are chosen by the attendees of a User Forum General Meeting either on a per member proposal or on per list proposal. It is recommended that members of the Program Committee will be HPC users who represent a scientific area or a group of industries, i.e. the members of the Program Committee should have a prominent position either in scientific communities or in industrial groups and together represent as many scientific areas as possible. The appointment of the members of the Program Committee shall be approved by the Council of PRACE AISBL for recognising the Program Committee as the official communication channel between the HPC users and the PRACE AISBL.

The mandate of the members of the Program Committee shall be 2 years with the possibility of renewal for 1 year. Exception will be made for the first mandate in that at the end of the first year half of the members will be replaced to avoid simultaneous replacement of all

members. The members of the Program Committee elect the Chair of the Program Committee.

The Program Committee is responsible for:

- Organising and deciding on the scope of the PRACE AISBL User Forum General Meetings.
- Approving all satellite meetings and workshops of the User Forum and collaborating with user organisations for deciding on the program. Of
- Steering the General Meetings of the User Forum in order to create a consensus for proposals and recommendations to be forwarded to the PRACE AISBL BoD and other PRACE AISBL committees.
- Document the outcomes of the User Forum meetings.
- Giving feedback from the PRACE AISBL BoD, the SSC and AC, and any other PRACE AISBL committees to user communities as a specific dissemination channel for interaction between PRACE AISBL and the user communities.
- Acting as the official communication channel between HPC users and the PRACE AISBL.

In general, the Program Committee will be the official communication channel between the users and the PRACE AISBL BoD and other PRACE committees. The Program Committee shall also elaborate the planning of the annual General Meeting and satellite meetings for approval during the General Meeting of the previous year. This planning should include, as much as possible, the number of satellite meetings and their scope and location. The Program Committee is also responsible for documenting the outcomes of the User Forum General Meetings and the satellite meetings. This will be important to track the evolution of the activities between meetings. The Program Forum shall also send an annual report to the BoD of PRACE AISBL describing the outcomes of all meetings (General, satellite and workshops) held of the User Forum.

2.2.2 *Attendance at the meetings*

The meetings of the User Forum are open to all potential users of PRACE services. Attendance is not limited to users of the top of the HPC research infrastructure, i.e. Tier-0 users, but it is also open to users of Tier-1 and to users of Tier-2 resources. Attendance of users from Tier-1 resources is, particularly, important due to the planned integration of the Tier-1 resources of the DEISA project [3] into the PRACE AISBL during the PRACE second implementation project (PRACE-2IP) [4].

Members of the PRACE AISBL BoD, SSC and AC may also attend the User Forum meetings. Members of the technical staff of the computer centres of countries hosting PRACE AISBL HPC resources, as well as members of the PRACE AISBL peer review team and members of the PRACE projects may also attend the User Forum meetings.

The Program Committee may also decide to invite users of scientific communities, industry or members of organisations related to HPC, e.g. members of the EC, members of European (and eventually non-European) governmental organisations, Program Officers of NSF, INCITE, etc.

The general goal is to open the PRACE User Forum to all HPC users even if they are not directly using PRACE resources in order to foster the usage of the PRACE HPC Research Infrastructure (RI) and also to entities (legal or governmental) that participate in defining HPC policies.

2.2.3 *Format of the meetings*

Two types of meetings are foreseen for the User Forum:

- General meeting;

- Satellite meetings and workshops.

The General Meeting will be organised in the form of short presentations aiming at introducing the discussion of issues of interest to HPC users identified by the Program Committee. The General Meeting of the User Forum can be associated to another major PRACE event dedicated to HPC users in order to maximise the attendance of HPC users. In that case, the General Meeting of the User Forum should be a free of charge event for all HPC users affiliated to PRACE member countries.

The General Meeting of the User Forum can be preceded by satellite meetings and workshops organised either during main conferences dedicated to specific scientific fields or around a thematic issue of interest for a group of users heavily dependent on the HPC resources made available by PRACE AISBL or even during national meetings dedicated to HPC users. These satellite meetings are important for identifying and discussing potential issues of interest to a specific user community or a national user community and engage HPC users into preliminary discussions that can result in structured proposals for discussion during the General Meeting of the PRACE User Forum.

The main goal of the General Meeting will then be to discuss the recommendations of the various scientific and/or industrial communities with the full user community and, eventually, with members of PRACE AISBL (BoD, SSC and AC) for allowing the Program Committee to distill structured recommendations to be presented to the PRACE AISBL BoD. Finally it will be the role of the BoD of either to implement these recommendations or, if necessary, propose them to the Council of PRACE AISBL for approval.

The satellite meetings can prove to be essential for improving the effectiveness and impact of the General Meeting and as such should be supported and promoted by the Program Committee of the PRACE User Forum. It is useful that members of the Program Committee attend the satellite meetings in order to create awareness for the role and importance of the PRACE User Forum and to direct the conclusions of the satellite meetings to the General Meeting.
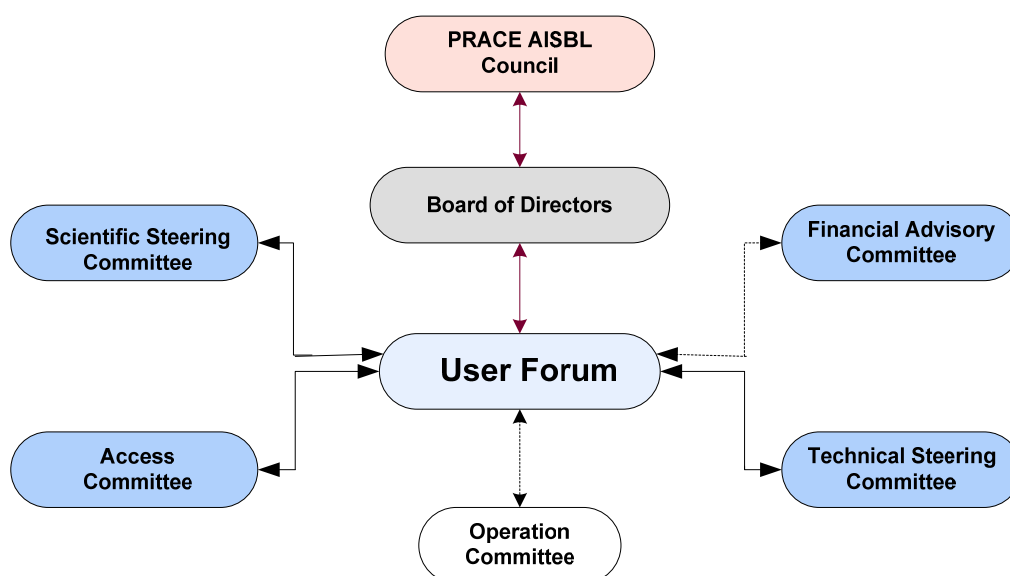
2.2.4 *Periodicity of the meetings*

The General Meetings of the PRACE User Forum shall be held at least once a year. General Meetings are planned in advance by the Program Committee. Extra General Meetings can be called by the Program Committee in the case of a relevant development or any other matter deemed to be of major importance for HPC users.

The satellite meetings shall be, as much as possible, planned well in advance. The Program Committee shall select the scientific conferences where satellite meetings will be organised. This will, of course, involve collaboration between the User Forum Program Committee and the conference organisers. It is also possible that European organisations representing a specific scientific field will contact the PRACE User Forum Program Committee to propose the organisation of a satellite meeting or workshop during one of their meetings for discussing issues related with that user community prior to the User Forum General Meeting.

2.3   Inter-relations with other bodies of PRACE AISBL

The main role of the User Forum is to issue proposals and recommendations to the BoD and the SSC on matters regarding usage of the PRACE AISBL resources and services. The User Forum needs to have a coordinating function to clearly give direct advice to PRACE AISBL regarding the needs and expectations of users of all scientific and industrial communities. On the other hand the User Forum will also monitor the vision of the users regarding the performance, usage and support of the services made available by PRACE AISBL.

The main inter-relation channels between the User Forum and the Committees of PRACE AISBL are depicted in Fig. 1 and can be summarised as follows:

Figure 1: Inter-relations with other bodies of the PRACE AISBL.

- **Inter-relation with the BoD** – the Program Committee shall organise and steer the General Meetings for reaching consensus on a set of recommendations to PRACE AISBL. These recommendations shall be sent to the BoD. The role of the BoD is then to analyse these recommendations and if deemed appropriate prepare proposals for approval by the PRACE AISBL Council. This interaction should receive high priority and special attention, because it is the main communication channel which HPC users have for influencing decisions of PRACE AISBL regarding usage of its resources and their allocation.

- **Inter-relation with the SSC** – this interaction will mainly concern recommendations regarding decisions under the responsibility of the SSC, e.g. the peer review process for allocation of PRACE AISBL resources. The User Forum shall also gather the scientific and technical needs of user communities regarding procurement for acquisition of new PRACE systems, including the associated hardware and software and will transmit them to the SSC. In general the User Forum may interact with the SSC regarding most proposals the SSC will present to the Council of PRACE AISBL. This will need an effective collaboration and the creation of good channels of communication between the SSC through the SSC Chair and the Program Committee of the User Forum.

- **Inter-relation with the AC** – this interaction will mainly concern the activities of the AC, i.e. prioritisation of proposals for access to the PRACE AISBL resources and allocation recommendations to the BoD. It is very important that the Program

Committee of the User Forum will establish an open and effective collaboration with the AC and in particular with the Chair of the AC.

- **Inter-relation with other PRACE AISBL committees** – one possible interaction will be with the Technical Committee by gathering and transmitting the technical needs of the user communities regarding e.g., procurement and acquisition of new systems and their architectures, software developments, acquisition of support hardware (for e.g. data storage, visualisation, post-processing, etc.) to the PRACE AISBL. In this case, the User Forum can trigger discussion by bringing the opinion of wider scientific community groups as well as initiating dedicated public awareness campaigns on identified key topics that can have strong impact on future HPC development.

The Program Committee shall be responsible for engaging and pursuing collaborations with the PRACE AISBL Committees that issue recommendations either to other committees and/or the PRACE AISBL BoD. The Program Committee shall also seek collaborations with European organisations that represent groups of researchers in scientific fields that depend on HPC for the progress of their research activities as well as with representatives of industrial users.

3   The 1st User Forum

The 1st User Forum marked the official start-up of the activities aiming at creating a framework for a sustainable User Forum. The 1st User Forum was organised by the staff of WP4 (HPC Ecosystem Relations) (Task 4.1) of the PRACE-1IP project in collaboration with the PRACE AISBL BoD. The WP4 team was in charge of the planning and organisation of the 1st User Forum and presented the scope and format of the 1st User Forum for discussion and approval by the PRACE AISBL BoD.

3.1   Scope

The 1st User Forum focused mainly on getting HPC users together to discuss the directions to be followed for a permanent and sustainable PRACE User Forum. This is by no means an easy task because most HPC users take for granted the availability of state-of-the-art HPC resources for the progress of their scientific work without having a clear idea of the costs involved and the efforts for obtaining the necessary funding. In order to engage users to participate in the User Forum it is necessary to create awareness of their role for giving feedback and influencing the decisions of PRACE AISBL regarding usage and allocation of resources. This was one of the main goals of the 1st User Forum. Another important goal was to start up the discussion between HPC users on how they envisage their role within the User Forum and involve them in the creation of the Program Committee for the User Forum. The creation of the Program Committee is essential for the sustainability of the User Forum and for deciding on the directions to be followed for the organisation of the meetings.

The scope of the 1st User Forum was discussed between members of task 4.1 and the BoD and it was agreed that the 1st User Forum should focus on creating awareness between HPC users and starting up the activities for the creation of a permanent Program Committee.

3.2   Location

The decision on the location of the 1st User Forum was mainly reached taking into account that PRACE has two main annual events (PRACE Industry Seminar and DEISA-PRACE

Symposium) and it seemed difficult to have a large attendance of HPC users for a third event, especially for a starting one. As at present the majority of the PRACE AISBL users are from academia it seemed natural to organise the 1st User Forum as a session of the DEISA-PRACE Symposium.

Organising the 1st User Forum as a session of the well-established DEISA-PRACE Symposium had the advantage of having the attendance of a large number of HPC users (from Tier-1 and Tier-0). The presence of users from Tier-1 was considered to be an advantage because PRACE wants to promote the usage of Tier-0 and Tier-1 users are considered to be potential future users of Tier-0 resources. It is also desirable that Tier-1 users take part in the User Forum for discussing their expectations from the PRACE AISBL RI. The final decision was to organise the 1st User Forum has a session of the DEISA-PRACE Symposium to be held in Helsinki, Finland, on April 13-14, 2011.

3.3   Organisation

The 1st User Forum was organised by Task 4.1 of the 1st PRACE implementation project (PRACE-1IP) in collaboration with WP3 (Dissemination and Training). WP3 has organised the previous two DEISA-PRACE symposia in collaboration with DEISA and has a lot of experience in the organisation of all dissemination activities both in the previous PRACE-PP project and currently the PRACE-1IP project.

It was decided to use the PRACE website to disseminate the PRACE User Forum. In the announcement of the DEISA-PRACE Symposium there was the following specific reference to the 1st User Forum:

"*The 1st PRACE User Forum is included in the programme of the DEISA PRACE Symposium. The 1st PRACE User Forum will mark the start-up of a forum where the PRACE users can discuss their experiences and expectations from the PRACE HPC services and resources. More information about the User Forum in a flyer (pdf).*"

The User Forum was included in the programme of the DEISA-PRACE Symposium as a separate session (see Fig. 2). It was also decided not to open a specific registration for the User Forum, i.e. all persons registered to the DEISA-PRACE Symposium were automatically invited to attend the User Forum.

DEISA PRACE SYMPOSIUM 2011

April 13–14, 2011

National Museum of Finland

Helsinki, Finland

PROGRAMME

TUESDAY, APRIL 12

20:00 Dinner for Speakers at Restaurant Töölönranta

WEDNESDAY, APRIL 13

8:00 Registration opens

9:00 Start of the Symposium

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17:00 – 18:50 PRACE User Forum

Chair: **Ana Bela Dias**

20:00 Conference Dinner at Restaurant Sipuli

Figure 2: User Forum in the programme of the DEISA-PRACE Symposium.

Task 4.1 was responsible for creating a mailing list of persons to be invited to attend the 1st User Forum, sending out the invitations and designing a flyer for the User Forum. The flyer was also made available in the PRACE website. Attendance of the User Forum, similarly to the DEISA-PRACE Symposium, was free of charge.

Task 4.1 was also responsible for organising the User Forum session, including contacting and inviting the speakers for the session.

The representatives of WP3 in Finland checked the installations of the venue in Helsinki and made sure that the necessary audio-visual facilities were available.

The format chosen for the 1st User Forum was a panel session, with short presentations of the panel members followed by a general discussion with participation of the audience. The presentations focused on the services of PRACE AISBL available to the users, the computer systems currently available and a general presentation of the terms of reference foreseen for the User Forum (see section 2). A detailed description of the presentations can be found in sections 3.6 and 3.7 below.

3.4   Target audience

The target audience for the 1st User Forum was the same as for General Meetings of the User Forum, i.e. HPC users from academia and industry.

Users from Tier-1 resources were mainly targeted by the organising committee of the DEISA-PRACE Symposium, through the mailing lists of the DEISA project with all principal investigators and the collaborators of the projects that applied to DEISA Extreme Computing Initiative (DECI) calls. The DEISA-PRACE committee has also invited the participants of the previous DEISA and DEISA-PRACE symposia – those cover Tier-1 and Tier-0 users.

All principal investigators (PIs) and collaborators who applied to a PRACE AISBL Tier-0 calls for project or preparatory access were also invited to attend the first User Forum. In total more than 900 researchers who applied to Tier-0 resources were invited. Between them there were a number of researchers from industry.

The invitation letter sent to all members of this mailing list can be found in Annex 1. This invitation letter was prepared by Task 4.1 and approved by the PRACE AISBL BoD. As the User Forum is a body of PRACE AISBL the invitation letter was jointly signed by the Chair of the PRACE AISBL BoD and the coordinator of the PRACE-1IP project.

3.5   Announcement

A flyer announcing the User Forum (see Annex 2) was sent together with the invitation letter.

The flyer was also available on the PRACE website.

3.6   Programme

The programme of the 1st User Forum was decided in collaboration with the PRACE AISBL BoD. The programme consisted of a set of short presentations (between 5 and 10 minutes) from the members of the panel on the services available through PRACE AISBL and the Tier-0 HPC systems available through PRACE AISBL. The last presentation focused on the role of the User Forum and its organisation. This presentation aimed at starting up an open discussion with participation of the audience on the role of the User Forum and the creation of the Program Committee.

The list of invitees for the panel and the focus of their presentation are as follows:

- Chair of the PRACE AISBL BoD – overview of the PRACE AISBL calls;
- Representatives of the technical team of the Tier 0 systems (JUGENE, CURIE and HERMIT) – main characteristics of the computer systems and minimum requirements;
- Member of WP7 (Enabling Petascale Applications) of PRACE-1IP and task leader of the team giving support to enabling the codes for the Preparatory Access call C – support for code enabling;
- Chair of the Scientific Steering Committee (SSC) – role of SSC, mainly regarding the PRACE AISBL peer review process;
- Chair of the Access Committee (AC) – role of the AC, mainly regarding the PRACE AISBL calls;
- Member of the WP4 team – role of the User Forum and description of its terms of reference.

As the Chair of the AC could not attend the meeting, the Chair of the SSC included reference to the role of the AC in his presentation. The final programme of the User Forum was as follows:

Welcome and introduction of the members of the panel
Ana Bela Dias, Session Chair and NCF, The Netherlands

Overview PRACE AISBL calls for access to resources
Sergi Girona, Chair PRACE AISBL BoD and BSC, Spain

JUGENE – Overview and project requirements profile
Florian Janetzko, FZJ, Germany

CURIE: France Tier-0 PRACE system
Jean-Philippe Nominé, CEA, France

HERMIT: HLRS Cray XE
Thomas Bönisch, HLRS, Germany

Application enabling support
Jussi Enkovaara, CSC, Finland

Scientific Steering Committee
Richard Kenway, Chair SSC and University of Edinburgh, UK

First PRACE User Forum
Giovanni Erbacci, WP4 coordinator and CINECA, Italy

Open Discussion
Interaction between the audience and the Panel Members focusing on the scope and organisation of the User Forum

Wrap up
Ana Bela Dias, Session Chair and NCF, The Netherlands

All presentations at the User Forum can be found on the PRACE website at http://www.prace-ri.eu/presentations

3.7   Attendance

The User Forum was attended by more than 100 participants and the open discussion had a very strong participation from the audience and the panel members. Between the participants were also some members of European industrial communities.

3.8   Discussion

Though it was made clear that the discussion should focus on the organisation of the User Forum, the participants focused their interventions on timely and important user concerns such as:

- Sustainability of HPC resources;

- Amount of HPC resources made available to users by PRACE AISBL;
- Duration of allocation of PRACE AISBL resources;
- Future of virtual communities;
- Integration of Tier-1 resources in PRACE AISBL;
- Storage needs;
- Post-processing.

These concerns were addressed by the members of the panel, especially by the Chair of the BoD and the chair of the SSC. The need of discussing the matters referred above with representatives of the BoD and the SSC committee of PRACE AISBL proves the importance of the User Forum for a coordinated interaction between users and PRACE AISBL. This interaction needs to be coordinated by the Program Committee to be more effective.

During the wrap-up of the User Forum the session Chair called the attention of the participants to the importance of creating a permanent Committee Program for the User Forum and asked for potential participants from the audience. Six participants, mainly those who had actively participated in the discussion, put their names forward as potential members of the Program Committee. These potential members for the Program Committee represent the following scientific fields: particle physics, astrophysics, life sciences, computer science, chemistry and computational fluid dynamics. One of them is a member of industry. They also cover a range of European countries: France, Switzerland, UK, Belgium, Cyprus and The Netherlands. The Program Committee needs to include members from other scientific fields and other countries and an initial meeting with all members for deciding on how to further tackle the organisation of the User Forum is necessary. Section 4 describes the next steps for achieving sustainability of the User Forum and its future meetings.

3.9   Synthesis

The discussions during the 1st User forum and the interaction between HPC users and the panel demonstrated the need of a forum for users to voice their opinions regarding the allocation policy of PRACE AISBL and other issues of concern, such as the future of the calls for Tier-1 resources, data storage, post-processing, etc.

During the 1st User Forum it became clear that users are very eager to use the PRACE AISBL computer resources but to a certain level have the tendency to see the allocation procedure mainly from their own perspective, especially if not all of their projects have been supported by PRACE AISBL. The User Forum can allow users, during discussions with other peers from the same and other scientific fields, to reach common goals and to create awareness not only on the resources made available by PRACE AISBL but also on the efforts for creating a sustainable infrastructure with services for a wide range of user communities.

During the 1st User Forum there was a very important interaction between members of the audience and the chair of the BoD and the SSC who explained their points of view regarding users' concerns about the amount of resources available through PRACE AISBL. These resources are at present not yet sufficient to support all projects above the quality threshold defined by the AC. This challenge shall improve for future calls with new computer systems contributing cycles to the PRACE AISBL resources.

The sustainability of the Tier-0 resources available through the PRACE AISBL and also of the Tier-1 resources available through the DEISA project was also one of the issues discussed. Sustainability of Tier-0 resources is continuously addressed by PRACE AISBL and possibilities for new funding models are being addressed. The approaching end of the DEISA project is an important concern for most user communities highly dependent on the resources

made available during the DECI calls. This concern was addressed by the BoD and the SSC chairs by explaining that the Tier-1 resources of the DEISA project will be integrated in the PRACE AISBL during the PRACE-2IP project and as such there will be no disruption of availability of Tier-1 resources to the HPC users.

Data storage and post-processing were also issues of concern for which solutions need to be found in a near future. One of the possibilities can be to use Tier-1 resources for post-processing. This involves a good coordination between Tier-0 and Tier-1 resources and the calls for these resources. Some work on this direction is scheduled for the PRACE-2IP project due to start in September 2011. Storage needs have also been recognised as an important issue and several possible solutions are being addressed by various working groups funded by the EC. PRACE AISBL is surveying the outcome of these projects.

4   Next steps

The organisation of future meetings is very much dependent on the commitment of the members of the Program Committee, which are responsible for the organisation of the User Forum

Task 4.1 will support the sustainability of the User Forum in the following way:

- Organising a meeting with all potential members of the Program Committee for final approval of the terms of reference and the organisation of future User Forum meetings. This meeting will be held in September 2011 and its goal will be to have a proposal for the constitution of the Program Committee and appointment of its Chair. Financial support from PRACE AISBL will be necessary for covering travelling expenses of the meeting attendees.

- Support the Program Committee. This support includes participation in the organisation of the 2nd User Forum and other satellite meetings organised by the Program Committee and all other activities promoted by the Program Committee, such as facilitating the interaction of the Program Committee with the BoD and other Committees of PRACE AISBL.

This implies not only the commitment of the members of Task 4.1 but also from PRACE AISBL for contributing funding to cover the expenses of the members of the Program Committee for organising and attending the initial meeting for creating a sustainable Program Committee representing a wide range of user communities. The procedure presented above is similar to the one used for the creation of the SSC and the AC. Collaboration of these committees, mainly through their Chairs, is also important for supporting the initial activities of the Program Committee of the User Forum.

5   Conclusions

The interaction between users from scientific and industrial communities and PRACE AISBL during the 1st User Forum proved the importance of the User Forum to give feedback to PRACE AISBL regarding its services and the perception of users regarding future developments of PRACE.
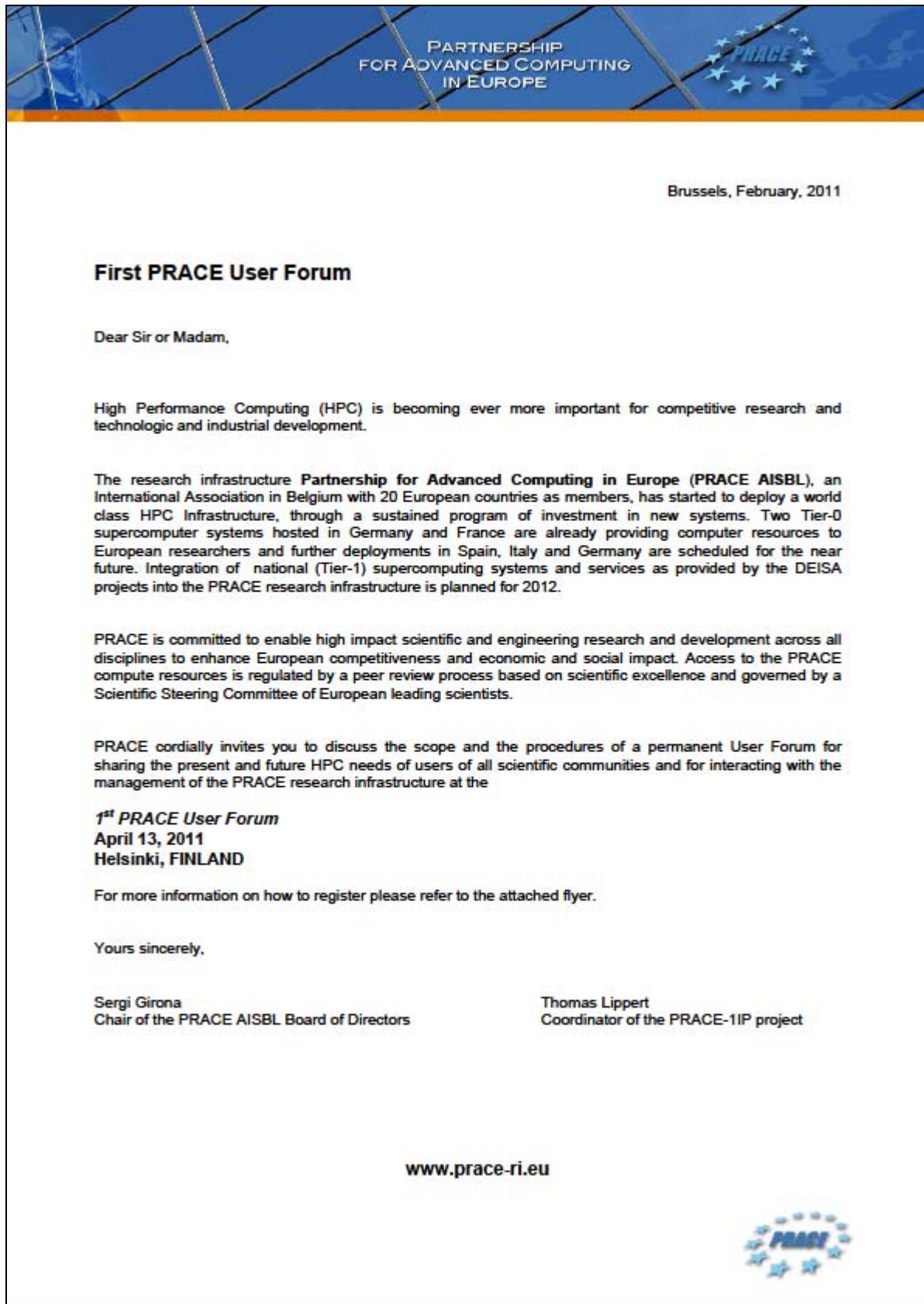
Another conclusion is that it is not easy to get users together for discussing and interacting with PRACE AISBL and support from PRACE AISBL is necessary. In spite of these difficulties it is clear that when users engage with PRACE AISBL, they can issue recommendations important for future developments of the PRACE RI.

The 1st User Forum was a major step in the direction of the creation of a channel of communication between HPC users and PRACE AISBL and further support from WP4 for creating a sustainable User Forum is needed.

6 Annex

The annex includes the invitation letter and the flyer sent to all HPC users invited to the 1st PRACE User Forum.

6.1   Invitation Letter for the 1st User Forum

Brussels, February, 2011

First PRACE User Forum

Dear Sir or Madam,

High Performance Computing (HPC) is becoming ever more important for competitive research and technologic and industrial development.

The research infrastructure **Partnership for Advanced Computing in Europe (PRACE AISBL)**, an International Association in Belgium with 20 European countries as members, has started to deploy a world class HPC Infrastructure, through a sustained program of investment in new systems. Two Tier-0 supercomputer systems hosted in Germany and France are already providing computer resources to European researchers and further deployments in Spain, Italy and Germany are scheduled for the near future. Integration of national (Tier-1) supercomputing systems and services as provided by the DEISA projects into the PRACE research infrastructure is planned for 2012.

PRACE is committed to enable high impact scientific and engineering research and development across all disciplines to enhance European competitiveness and economic and social impact. Access to the PRACE compute resources is regulated by a peer review process based on scientific excellence and governed by a Scientific Steering Committee of European leading scientists.

PRACE cordially invites you to discuss the scope and the procedures of a permanent User Forum for sharing the present and future HPC needs of users of all scientific communities and for interacting with the management of the PRACE research infrastructure at the

1st PRACE User Forum
April 13, 2011
Helsinki, FINLAND

For more information on how to register please refer to the attached flyer.

Yours sincerely,

Sergi Girona   Thomas Lippert
Chair of the PRACE AISBL Board of Directors   Coordinator of the PRACE-1IP project

www.prace-ri.eu

6.2   Flyer for the 1st User Forum

About PRACE

PRACE (Partnership for Advanced Computing in Europe) Research Infrastructure (PRACE-RI) is an international non-profit association with the mission of enabling high impact European scientific discovery and engineering research and development across all disciplines to enhance European competitiveness and economic and social impact for the benefit of European societies and citizens. The PRACE RI seeks to realize this mission by providing world class computing and data management resources and services to European researchers and their collaborators through a peer review process, based on scientific excellence and governed by a Scientific Steering Committee of European leading scientists. PRACE has an extensive education and training effort for effective use of the RI with seasonal schools, workshops and scientific and industrial seminars throughout Europe. PRACE partners operate the PRACE-RI distributed computer resources by using their considerable expertise in user support, applications, and supercomputer systems and software gained during their experience managing national high-performance computing centres. PRACE deploys, operates and maintains a small number of leadership high-performance computer systems that form the apex (Tier-0) of resources for large-scale computing and data management in Europe. PRACE is an early adopter of cutting edge hardware and software technology. Energy efficiency and environmental impact of computing systems are at the forefront in systems procurement, installation and operation. PRACE-RI is funded by European government organisations responsible for High Performance Computing resources and services for public research. PRACE-RI is governed by a council of representatives of the member governments with seat in Brussels, Belgium. PRACE current members are Austria, Bulgaria, Cyprus, Czech Republic, Finland, France, Germany, Greece, Ireland, Italy, The Netherlands, Norway, Poland, Portugal, Serbia, Spain, Sweden, Switzerland, Turkey and the UK. PRACE also receives funding from the European Community Seventh Framework Programme (FP7/2007-2013) under grant agreement n° RI-261557.

PRACE User Forum

The PRACE User Forum is intended to provide an organized framework for discussion of present and future needs of users of all scientific communities that may benefit from HPC resources including services. It is the ideal opportunity for users to interact with the PRACE management regarding allocation of computing resources through the peer review process, learn about computing resources to be made available to users in the near future and share the users' perception of the services provided by the PRACE-RI. The User Forum is dedicated to users of all communities and is designed to be the users' communication platform towards the PRACE-RI. In the User Forum users can also share their experiences with other peers and strengthen and foster existing and/or new entities representing European user communities. The 1st User Forum will be held on April 13, 2011 in Helsinki, Finland as a session of the DEISA-PRACE Symposium. The 1st User Forum will be coordinated by a panel of members of the PRACE Scientific Steering Committee, Access Committee, PRACE-RI Board of Directors, representatives of the computing centres (CURIE and JUGENE) of members of PRACE-RI and software experts giving support to users for code development.
The 1st PRACE User Forum will present opportunities for users to discuss the scope and the procedures of a permanent User Forum.
Attendance of the 1st PRACE User Forum includes also attendance of the DEISA-PRACE Symposium. Registration is free of charge and can be done at http://www.prace-project.eu/events/deisa-prace-symposium-2011. Registration will close on Friday, 25th March. However, it might close earlier if the event is full. Seats are limited, please register well in advance to ensure your place in the event.

PRACE-RI services

The actual PRACE production systems made available by PRACE-RI to users are:
JUGENE, IBM BlueGene/P, Gauss Center for Supercomputing hosted at Forschungzentrum Jülich (FZJ), Jülich, Germany is the first PRACE system and has been available since July 1, 2010 for successful PRACE resource applications. JUGENE has a peak performance of 1 Petaflop, 294 912 processing cores assembled in nodes of 4 cores, 2 GB of memory per node and a total memory of 147 TB.
CURIE, the second PRACE system, funded by GENCI and hosted at CEA, Bruyères-Le-Châtel, France, is designed and built by BULL. CURIE is based on x86 architecture CPUs with a mix of thin and fat nodes interconnected through a QDR Infiniband interconnect. The full system will have a total of 92160 processing cores with 4 GB memory per core and a total memory of 360 TB. The peak performance of the fat nodes partition, available now, is 105 Teraflop and the total peak performance (thin nodes and fat nodes) will be 1.6 Petaflop.
PRACE services to users will be extended in 2012 by integration of two more Petascale systems from the Gauss Center for Supercomputing and integration of national supercomputers (Tier-1) into the PRACE-RI, leveraging the successful DEISA projects.
PRACE encourages researchers from across Europe to apply for access to its world class resources for research with potential high European and international impact. PRACE resources are available at present through two forms of access: Project Access and Preparatory Access. Project Access is intended for individual researchers and research groups including multi-national collaborations. Calls for Proposals for Project Access are issued twice per year and allocation duration is one year. Preparatory Access is intended for testing and code development for preparation of proposals for Project Access. The call for Preparatory Access proposals is open all year round.
Full information on all PRACE-RI services can be found at http://www.prace-ri.eu/hpc-access