



High Performance Computing Service Center

Deliverable D3.2

Midterm report on event's organization and participation

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“D3.2) Midterm report on events' organization and participation: The report will reveal the procedures followed in the first period of the project for the events' organisation, as well as its results in terms of audience, coverage of the proposed topics, feedback. The report will include also agenda, conclusions and list of participants. In what concerns the event participations, the midterm report will reveal for each event the selection procedure, the contribution preparation, the event agenda, the list of participants and the presentation; added value of in the events abroad will be highlighted. [month 18]”

Abstract

This document reports on the HOST dissemination activities which were conducted during the first 18 months, focusing on the organization of national and international workshops and on the actions aiming to promote the HOST activities. For each workshop the preparation procedures, the agenda and the lists of participants are presented. A particular emphasis is put on the training activities organized by the HOSTing team and on their impact on increasing the awareness on the HPC Service center and on attracting new users of the HPC infrastructure. The deliverable also presents the dissemination actions which have been taken in order to promote the project: HOST presentation slides, posters, flyers, press releases etc. In each case lists of venues where these dissemination materials have been distributed and information about the targeted audience are provided. A summary of the usage of various communication channels, as established in the Dissemination Plan, and identification of actions aiming to improve the project visibility is also presented.

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1 Introduction

The main objectives of the workpackage devoted to dissemination (WP3), as specified in the HOST workplan, are:

- O1. Disseminate the achievements of the HOSTing team and facilitate this dissemination by organizing international and national events.
- O2. Raise the skills level in the fields of HPC and Cloud by assimilating the knowledge presented at the scientific events.
- O3. Raise awareness about the HOST aims and opportunities through the web site, publicity materials or participation in informal meetings.

In order to attain these objectives the following specific activities are conducted by the HOSTing team:

- Organization in each year of the project a national and an international workshop related to various aspects of HPC.
- HOSTing team mobilities, in order to attend high level scientific events in HPC and software services. Two participations are planned for each year of the project.
- Attendance to specialized training events in HPC and software services. Two participations were planned per year.
- Specific dissemination activities, including the HOST open house, establishing and maintaining the project web site, writing articles in popular magazines and newspapers, designing and distributing project flyers and dissemination materials.

This deliverable reports on the current status in attaining the above mentioned objectives and on the activities conducted during the first eighteen months of the project. The main achievements in relation with the announced objectives can be summarized as it follows:

- A first international workshop (Workshop on HPC Services) has been organized in the first year of the project and a second one (Workshop on HPC for Scientific Problems) is currently under preparation (to be held in September 2013). Organizing these workshops in the framework of a larger conference, which attracts many researchers in HPC and related fields, proved to be effective in reaching a high level of dissemination of the HOST results across groups of specialists from various domains (HPC, distributed computing, artificial intelligence and numerics) related to the main HOST research directions.
- Two national workshops (one on clouds, cluster and HPC infrastructures and another one on e-infrastructures for the public sector) have been organized in April 2012 and March 2013, respectively. They attracted specialists working in research institutes, universities, IT companies and public institutions interested in using HPC infrastructure.
- The HOSTing team members presented results of their scientific activity conducted on the main HOST research directions at more than 10 scientific events in HPC, Cloud and software services.
- Two of the HOST team members participated in 2012 to a specialized training event. The acquired expertise has been further transferred, as they were the main trainers in the trainings organized by the HOSTing team.
- The HPC center and the HOST project have been continuously promoted at the level of university (through newsletters), at a regional and national level (through press releases, interviews for newspapers and TV channels, distribution of promotional materials at scientific events) and at an international level (through presentation slides, posters and flyers delivered/posted/distributed at conferences, international project meetings or visits at universities).

Details on all these activities, on the achievement level of objectives and on further actions aiming to improve the dissemination activities are provided in the following sections.

2 International workshops on HPC services

The HOST workplan specifies the organization of an international workshop on HPC and related topics in each year of the project.

In the first year of the project, one international workshop has been organized (WoHS, September 2012) and this year a second workshop (HPCSP) is under preparation (to be held in September 2013). For both workshops the same procedure is followed:

- Appointment, by invitation, of co-chairs from the HOST partners and other institutions with which the HOSTing team collaborates. In 2012 one of the co-chairs was from a HOST partner (PSNC).
- Selection of topics in accordance with the focus of each workshop, with the most recent progresses in the field and in correlation with the current interests of the HOSTing team and its collaborators.
- Invitation of the Programme Committees members. Researchers with highly recognized expertise in the field have been invited and all of them accepted the invitation. The program committee contains representatives from the HOST partners.
- Preparation of the call for papers and its dissemination using mailing lists, HOST and SYNASC sites, HOST flyers etc.
- Paper collection, evaluation and decision (using the submission and reviewing system of the main conference).
- Supervising the post-event publications of accepted and presented papers (some of the papers are published in the IEEE edited post-proceedings of the SYNASC conference (<http://ieeexplore.ieee.org/xpl/mostRecentIssue.jsp?punumber=6480928>) while some extended versions of the presented papers are published in the SCPE journal (Scalable Computing: Practice&Experience, <http://www.scpe.org/>).

As it has been already established in the working plan, all international workshops are organized in the framework of the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing – SYNASC (<http://www.synasc.ro/>). The main benefits, identified during the first workshop, of such an approach are:

- The participants at the HOST workshops can enter in contact with specialists in HPC related fields, as symbolic&numeric computation, distributed computing, artificial intelligence, logic& programming. At each SYNASC edition there are invited highly recognized experts from academia, R&D institutes and IT companies to give invited talks.
- The existence of several tracks and workshops allows for a cross-fertilization of idea and offers opportunities for new collaborations.
- From the HOST perspective, a larger audience allows for an extensive dissemination of the project and of the HPC center.

A particular aspect of these workshops is the fact that they schedule, besides regular presentation sessions also trainings and tutorials on using the HPC infrastructure and efficient parallel programming.

Details on the first two workshops are presented in the following subsections and in the corresponding annexes.

2.1 Workshop on HPC Services - WoHS

<http://host.hpc.uvt.ro/events/wohs>

Workshop preparation:

In the first months of 2012 the general chairs (Dana Petcu – UVT and Krzysztof Kurowski – PSNC) together with the chairing group members (Emil Slusanschi – University “Politehnica” of Bucharest, Romania; Ralf-Peter Mundani – Technische Universität München, Germany; Ioan Lucian Muntean – Technical University of Cluj-Napoca, Romania) invited members for the programme committee and decided on the workshop topics:

- Multicore/manycore architectures in scientific applications
- GPU support for applications
- Cluster, Grid and Cloud Computing in scientific applications
- Parallelization of compute- or data-intensive tasks in scientific applications
- Data handling, integration and visualization in scientific applications
- Distributed infrastructures for scientific applications
- Programming paradigms for high-performance computing in scientific applications
- Tools and programming environments supporting high-performance computing in scientific applications
- Scheduling in high-performance computing for scientific applications
- Workflow management and remote collaboration in scientific applications
- System level support for high-performance computing in scientific applications
- Fault-tolerance of distributed scientific applications
- Scalability of infrastructures and applications in scientific application

The call for papers was disseminated starting with March and the submissions were collected until the end of July. The authors were notified about the paper status by the middle of August.

Out of 7 submissions for the main track of the workshop with special focus on HPC, 3 were accepted for presentation and publication in the SYNASC conference proceedings and 3 were accepted only for presentation. An extended version of one of the presented papers was later accepted for publication in a special issue on migrating HPC to the clouds of SCPE journal (<https://www.scpe.org>).

At the Distributed and Parallel Computing Track of the main conference (chairs: Dana Petcu and Karoly Bosa), 3 submissions were also related the WoHS topics, 1 being finally accepted for publication and presentation.

Other submissions are related to several specialized workshops under the same conference with topics overlapping with the HOST topics and having HOST team membership in the PC (MICAS, Cloud related, chaired by Dana Petcu – WP4 leader; NCA, natural computing, chaired by Daniela Zaharie – WP3 leader, ACSYS, agents, chaired by Viorel Negru – WP1 leader).

Workshop organization:

WoHS was held between 27 and 29 September 2012 in conjunction with the International Symposium on Symbolic and Numeric Algorithms for Scientific Computing (<http://synasc12.info.uvt.ro>) and benefited from the presence of researchers in fields related to HOST activities (numerical computing, distributed computing, artificial intelligence).

WoHS was part of an extended HOST related event which included several components:

- *Regular workshop sessions* including presentations focusing on applications needing high-performance computing. These sessions included 2 invited talks given by participants from HOST partners and 7 regular presentations (the detailed program is included in Annex 1).

- Several related *trainings and tutorials*: HPC training – MPI programming, a tutorial on Cloud Technologies and a Globus Toolkit tutorial (details on these trainings and tutorials are presented in Section 4).
- *Related workshops*. Several workshops organized conjointly with SYNASC focused on topics related to HOST activities:
 - *Cloud computing*: MICAS 2012 – Workshop on Management of Resources and Services in Cloud and Sky Computing.
 - *Artificial intelligence*: ACSys 2012 – Workshop on Agents for Complex Systems and NCA 2012 – Natural Computing and Applications.
 - *Numerics*: IAFP 2012 – Workshop on Iterative Approximation of Fixed Points.

Attendance:

At the WoHS workshop participated 5 researchers from the HOST partners (CINECA, PSNC and UEX) and 16 participants (authors of papers, HOST team members and local PhD students).

The related workshops scheduled 52 presentations (MICAS - 15 papers, IAFP – 19 papers, ACSys – 4 papers, NCA – 4 papers), some of them being of significant interest for the HOST team.

The list of participants at various sessions and trainings/tutorials is included in ***Annex I***.

The workshop participants had also the opportunity to attend presentations of keynote speakers, recognized researchers in the field of symbolic computing, logic&programming and distributed systems.

Invited speakers:

1. Sumit Gulwani, Microsoft Research, Redmond, USA, presented "Synthesis from Examples"
2. Tetsuo Ida, Department of Computer Science, University of Tsukuba, Japan, presented, "Interactive vs. automated proofs in computational origami"
3. Michael Kohlhase, Jacobs University Bremen, Germany, presented "The Flexiformalist Program"
4. Sascha Ossowski, Rey Juan Carlos University Madrid, Spain, presented " Agreement Technologies -- Enabling distributed intelligent systems in open environments"
5. Stephen Watt, University of Western Ontario, Canada, presented "What is an Equation?"
6. James Davenport, University of Bath, UK, Training on HPC at WoHS

Impact and added value:

The HOSTing team benefited, during this event, of the presence of several experienced researchers in HPC and related fields participating to a fruitful knowledge transfer. Moreover, WoHS provided an opportunity for face-to-face meetings with representatives of some of the HOST partners (CINECA, PSNC and UEX). Participants at different workshops related to HPC, cloud computing, numerics, multi-agent systems and natural computing had the opportunity to exchange ideas and initiate collaborations.

Workshop results dissemination:

The workshop results have been presented in the West University Newsletter

<http://www.dci.uvt.ro/wp-content/uploads/2012/06/NEWSLETTER-SEPTEMBRIE-2012.pdf> (at page 9)

2.2 Workshop on HPC for Scientific Problems - HPCSP

<http://host.hpc.uvt.ro/events/hpcsp/>

Workshop preparation:

The HPCSP workshop chairs (Ralf-Peter Mundani – Technical University of Munich, Germany and Dana Petcu – UVT) invited programme committee members and established the workshop aim and topics in the first months of 2013. After preliminary discussions with the co-chairs and in order to attract a larger audience, it has been decided to enlarge a little bit the focus of the workshop: from HPC for environmental problems to the more general area of scientific problems.

Aim and topics:

The purpose of this workshop is to present and discuss the state-of-the-art in high-performance scientific computing with applications and various fields, like environment, chemistry, physics etc. Thus, the presentations will focus on applications needing high-performance computing, physical modeling of large-scale problems, and the development of scalable algorithms for solving large scale problems on modern parallel and distributed high-performance computing platforms, including multicore architectures, GPGPUs/GPUs, and clusters. Furthermore, during the workshop the participants will have the opportunity to discuss and share the latest research in parallel and distributed high performance computing systems applied to scientific problems. The emphasis of this workshop will be on running complex realistic applications at sustained performance in production-grade HPC environments. Scalability studies of complex computing codes on HPC platforms and the tools and development environments facilitating improved scalability are among the expected contributions.

Specific topics for HPCSP workshop include:

- Interactive HPC applications
- Multi-Scale / Multi- Physics HPC applications
- Exploration of large data sets on HPC systems
- Multicore/manycore architectures in scientific applications
- GPU support for applications
- Cluster, Grid and Cloud Computing in scientific applications
- Parallelization of compute or data-intensive tasks in scientific applications
- Data handling, integration and visualization in scientific applications
- Distributed infrastructures for scientific applications
- Programming paradigms for high performance computing in scientific applications
- Tools and programming environments supporting high performance computing in scientific applications
- Scheduling in high performance computing for scientific applications
- Workflow management and remote collaboration in scientific applications
- System level support for high performance computing in scientific applications
- Fault tolerance of distributed scientific applications
- Scalability of infrastructures and applications in scientific applications

Programme Committee:

- Adrian Jackson, EPCC, UK
- Alexey Lastovetsky, University College Dublin, Ireland
- Andrea Clematis, Institute for Applied Mathematics and Information Technologies, CNR, Italy
- Emil Slusanschi, University Politehnica of Bucharest, Romania

- Elda Rossi, CINECA, Italy
- Florin Isaila, University Carlos III de Madrid, Spain
- Gabriel Mateescu, Virginia Bioinformatics Institute, USA
- Helen Karatza, Aristotle University of Thessaloniki, Greece
- Ioan Lucian Muntean, Technical University of Cluj-Napoca, Romania
- Jesus Carretero, University Carlos III de Madrid, Spain
- Jorge Sevilla Cedillo, University of Extremadura, Spain
- Julius Žilinskas, Vilnius University, Lithuania
- Karoly Skala, Rudjer Boskovic Institute, Croatia
- Pierre Manneback, University of Mons, Belgium
- Ranieri Baraglia, Information Science and Technologies Institute, CNR, Italy
- Roman Wyrzykowski, Czestochowa University of Technology, Poland
- Suleyman Tosun, University of Ankara, Turkey
- Svetozar Margenov, Bulgarian Academy of Sciences, Bulgaria
- Thomas Rauber, University Bayreuth, Germany

Current status:

The call for papers was distributed during April and May using e-mail lists corresponding to groups related to HPC. The submissions will be collected by 15 July and the decisions on paper acceptance/ rejection will be provided by the middle of August. Three weeks before the deadline were submitted 3 papers.

The workshop will also schedule a HPC training: expected trainer from EPCC.

Expected invited speakers:

1. Ivona Brandic, Vienna University of Technology, Austria
2. Leonardo de Moura, Microsoft Research, USA
3. Grigore Rosu, University of Illinois at Urbana-Champaign, USA
4. Dan Simovici, University of Massachusetts Boston, USA

Publication opportunities:

The authors of the accepted papers will have the opportunity to publish the presented papers in the SYNASC 2013 post-proceedings and an extended version in a special issue of the SCPE journal.

2.3 Summary of international workshops

Table 1 presents a summary of the planned/realized indicators concerning the international workshops. The workshops are organized in the framework of a four days event, thus even if the regular sessions scheduled for the HOST workshops covered only two days, the participants had the opportunity to participate to a four days event scheduling invited scientific talks, regular sessions on symbolic & numeric computation, distributed computing, artificial intelligence, logic&programming as well as workshops on cloud computing and solving complex problems. The participants at WoHS had also the opportunity to attend, besides the training on MPI programming, trainings and tutorials on Cloud platforms and Globus toolkit.

Table 1. Summary of the international workshops planned to be organized in the first two years

Workshop name	Date	Days		Number of participants		Participants from HOST partners		Invited Speakers	
		Plan	Realized	Plan	Realized	Plan	Realized	Plan	Realized
HPC services	26-29 Sept 2012	4	2	40	64	10	5	6	6
HPC for scientific problems	23-26 Sept 2013	4	2	40	N/A	10	N/A	6	N/A

The larger than expected number of participants at all components related to WoHS (workshops and trainings) created the possibility to promote HOST to a larger audience than in the case of a single event organization. The attendance at the workshop to be held in September 2013 is estimated to be at least at the planned level.

The smaller number of participants from the HOST partners has several causes. Firstly, scheduling an event such that representatives from *all* partners are available is challenging, taking into account the current density of conferences. Secondly, the contact with the partners has been permanently kept, thus they were informed about HOST progresses (through visits of HOST team members, meetings at other events, intermediate reports etc.) even without participating to common events. However, in the future we have to find new solutions in order to keep a constant contact with all HOST partners.

3 National workshops of Romanian e-Infrastructure community

The HOST workplan specifies the organization of 4 workshops in themes relevant to national e-Infrastructure. From the perspective of the HOST team organizing these workshops will allow the team to:

- take a leadership role in what concerns the Romanian e-Infrastructure;
- continue a previous initiative of the team for a national projection of e-IRG;
- find users for the HPC infrastructure and to capitalize the R&D knowledge at national level (both in academia and industry),
- review the latest developments in the field of interest inside and outside Romania.

In the first 18 months of the project two such workshops have been organized (WPCI in March 2012 and WeIPS in April 2013). In both cases similar preparation procedures have been followed:

- identification of main topics on which the workshop should focus and of the types of activities to be organized (presentation sessions, trainings, round tables);
- identification of the period when the workshop should be organized in order to benefit of a large audience; joining with other events proved to be beneficial from the dissemination point of view;
- invitation of relevant representatives of national funding agencies in charge with e-Infrastructures projects, of national e-Infrastructure providers, IT companies and e-Infrastructure users;
- preparing the announcement and distributing it toward interested groups (academia, R&D institutes, IT companies, regional and national agencies and authorities).

Details on each of the two national workshops which have been already held are given in the following subsections.

3.1. Workshop of Clouds, Cluster and High Performance Computing infrastructures - WPCI

<http://host.hpc.uvt.ro/events/wpci/>

The workshop was held between 26 and 27 April 2012 at the West University of Timisoara, aiming to:

- ensure a better knowledge of the status of the e-Infrastructures usage in Romania
- the identification of the national competences, interests and activities in HPC, Grid and Cloud.
- facilitate the contact and communication between national e-Infrastructure providers and users.
- ensure a transfer of knowledge and good practices in e-Infrastructure management between the HOST strategic partners and the Romanian providers and users.

To address these aims the workshop program included:

- talks given by three of the *HOST strategic partners* (EPCC, CINECA and PSNC) on their HPC activities and projects;
- presentations of HPC and e-infrastructure related projects by *Romanian teams* from academia (UPB-University Politehnica Bucharest, UTCN-Technical University from Cluj Napoca, UVT-West University of Timisoara) and research institutes (IFIN-National Institute of Nuclear Physics, Romanian Academy, INCDTM-National Institute for Research and Development of Isotopic and Molecular Technologies)

- presentations by *representatives of the National Authority for Scientific Research (ANCS)* of research programs in support of e-infrastructures;
- scientific presentations illustrating applications which use the computational *facilities of the HPC Center* from the West University of Timisoara;
- a *training*, including an hands-on session, on using the facilities of the HPC Center;
- a *round table* on “User requirements vs. e-Infrastructure facilities”.

All presentations and training videos are available at <http://host.hpc.uvt.ro/events/wpci/>.

The workshop attracted 44 participants, out of which 19 were speakers. At the training and the round table participated researchers, PhD and master students from several faculties of UVT (Faculty of Physics, Faculty of Chemistry, Biology and Geography) and other universities (e.g. Politehnica University of Timisoara, University of Agricultural Studies and Veterinary Medicine). Representatives of several IT companies from the region have been also present.

The agenda of the workshop and the list of participants are presented in *Annex 2*.

The participants had the opportunity to get information about e-infrastructures available at three of the HOST partners (EPCC, CINECA and PSNC). The presentations of the representatives of the partners were highly appreciated and, as they are available on the HOST site, frequently downloaded during the following months. The workshop allowed the HOST team and other participants to get informed about e-infrastructure and HPC projects which are ongoing at different institutions from Romania, about the national policy in what concerns the research and about requirements versus e-infrastructures facilities. The training, containing a detailed presentation of the infrastructure accessible at the HPC center and hands-on exercises, was highly appreciated by the participants. Some of participants participating at the training became users of the HPC center (e.g. master and PhD students from the Faculty of Physics).

Workshop results dissemination:

The workshop was presented in the West University Newsletter <http://www.dci.uvt.ro/wp-content/uploads/2012/07/NEWSLETTER-APRILIE-2012-BEST.pdf> (at page 6)

3.2. Workshop of e-Infrastructure for Public Sector - WelPS

<http://host.hpc.uvt.ro/events/workshop-of-e-infrastructure-for-public-sector/>

The workshop was held between 21 and 23 March 2013 at the West University of Timisoara, aiming to:

- ensure a better knowledge of the status of the e-Infrastructures usage in Romania as well as the identification of the national competences, interests and activities in HPC;
- facilitate the contact and communication between national e-Infrastructure providers and the users from the public sector;
- ensure a transfer of knowledge and good practices in e-Infrastructure management between the HOST strategic partners and the Romanian providers and users.

To address these aims the workshop program included:

- talks given by representatives of national organizations/entities involved in *e-infrastructures policies* on the role of advanced computing infrastructures in supporting research;
- presentations on *e-infrastructure requirements for public services*: services for citizens (Municipality of Timisoara), support for a regional cluster in ITC research (Agency for Regional Development), national ticketing systems (the national railway company);

- scientific presentations by HOST team members on the most recent results using the computational facilities of the HPC Center from the West University of Timisoara;
- a second *training* on using the facilities of the HPC Center with an emphasis on the infrastructure and software environments updates (with respect to the first training on using the HPC facilities) ;
- a *round table* on “Romanian e-infrastructure”.

The presentations are available at <http://host.hpc.uvt.ro/events/workshop-of-e-infrastructure-for-public-sector/>

The workshop attracted 29 participants (not including the HOST team members): representatives from public institutions and national authorities, specialists from IT companies, senior researchers from academia and research institutes, PhD and master students interested in HPC infrastructures.

The workshop Agenda and the list of participants are included in *Annex 3*.

One of the main results of this workshop consisted in facilitating the contact between several players: users from the public sector, providers of HPC infrastructures, researchers in HPC. The round table moderated by a representative of a national authority allowed the participants to find updated information on the current status of Romanian e-infrastructure, on the user requirements and on the development policies. The training provided information on the hardware and software updates at the HPC center (more details in Section 4). The organization of WeIPS was scheduled in a period very close to that of the IBM Academic Days for Universities (held also at the West University of Timisoara in 20-21 March 2013), in order to attract its participants too.

Workshop results dissemination:

The workshop was presented in the West University Newsletter <http://www.dci.uvt.ro/wp-content/uploads/2013/04/NewsletterMartie.09041303.pdf> (at page 9)

3.3. Summary of national workshops

These national workshops attracted a larger number of participants than expected (see Table 2), most of them being from Romanian research institutes and universities. This can be explained by the increasing interest of researchers in using HPC in solving their problems, which, in most fields, require more and more computing resources. An important point of attraction was the inclusion in the agenda of several training modules containing also hands-on exercises. These training modules were considered to be very useful for the most of participants. A direct consequence was the increase in the number of users of the HPC centers.

Table 2. Summary of indicators on national workshops

Workshop name	Date	Days		Number of participants		Participants from HOST partners	
		Planned	Realized	Planned	Realized	Planned	Realized
Clouds, Cluster and High Performance Computing infrastructures	26-27 April 2012	3	2	25	44	3	3
e-Infrastructures for public sector	21-23 March 2013	3	2	25	41	3	0

The round tables organized in both workshops allowed the transfer of knowledge between participants belonging to different institutions and domains contributing to the current efforts conducted at the national level to attain a critical mass of e-infrastructure users/providers in order to include Romania in the European partnership for advanced computing.

As the second workshop mainly targeted representatives of the public sector it was expected that organizing presentations in English could be difficult. Therefore special presentations from the HOST partners were not arranged.

4 Training events organized by the HOSTing team

In order to address the objectives concerning the raise of skills level in the fields of HPC, several trainings were organized or at least hosted by the HOST team. The training activities targeted HOST team member (to ensure an homogeneous level of knowledge among all members), current users of the HPC center, potential users and all those interested in learning how to use a HPC architecture and to implement efficient parallel applications.

Most of the trainings were organized in the framework of the HOST workshops, but trainings required by specific groups of users (e.g. researchers from another faculty or university) were also organized. The selection of the provided knowledge and of the level of presentation (beginners or advanced users) was made according to the particularities of the targeted groups. The trainers were given either by members of the HOST team or by invited experts (e.g. prof. James Davenport who gave the training on MPI Programming at WoHS).

Details on the main training activities organized by the HOST team at which team members were involved as trainers are presented in the following subsections.

4.1 First training on using the facilities of the HPC center

Aim: The main aim of this training was to provide information on the architecture of infrastructure available at the HPC center, on accessing the resources, submitting jobs and developing applications. It was mainly intended to attract new users of the HPC infrastructure (in particular from the universities and research institutes in Romania).

When: 27 April 2012

Where: The training was organized in the framework of the Workshop of Clouds, Cluster and High Performance Computing Infrastructures held at the West University of Timisoara in 26-27 April 2012.

Content: The training covered normal operation details (accessing the infrastructures, using the scheduling system, submitting application for execution) and tutorials on development like architecture details (CPU and memory restrictions), network topologies, compiling environment, compiling optimization/tuning, architecture specific libraries, parallel programming introduction (OpenMP and MPI), debugging tools. It was a training session aimed for the users that already ported their application, on one of the two infrastructures (InfraGrid or BG/P), but wanted to optimize the application so that it can obtain the best results and also for the newcomers who evaluated the potential of the presented HPC infrastructure and its' suitability for their application to be ported on a HPC infrastructure. The training agenda contained:

- Architecture and technical details of InfraGrid and BG/P;
- How to use BG/P in the open access programme (front-end node access/ CLI access/ web interface; available compilers; job submission);
- Programming issues: compiler optimization;
- MPI and Open MP usage examples;
- Hands-on exercises.

Trainers: Marian Neagul, Silviu Panica (HOST team)

Trainees: The training attracted 23 participants including members of the HOST team, master/PhD students and researchers from the West University of Timisoara, Politehnica University of Timisoara, University of Agricultural Studies and Veterinary Medicine, Romanian Academy.

Impact and added value: The feedback from the participants from the Faculty of Physics and Faculty of Chemistry, Biology and Geography from the West University of Timisoara was very positive and as a consequence at least 4 PhD students (one from Physics), master students (one from Physics and one from Geography) and young researchers (one from Chemistry) started to use the infrastructure.

4.2 HPC Training: BlueGene/P and InfraGRID cluster usage

Aim: This training was organized, at the initiative of IBM-STG following a request of two universities from Tirgu-Mures (Romania) where a new HPC center will be opened. The training focused on the usage of the BlueGene/P supercomputer and the InfraGRID cluster and it aimed to prepare HPC specialists.

When: 10-11 July, 2012.

Where: West University of Timisoara

Content: The covered topics related to infrastructure usage were:

- resources description and access;
- infrastructure usage for normal operation, development and debugging;
- advanced programming tutorials on parallel computing (OpenMP and MPI) with hands-on examples on the two infrastructures.

Agenda at: <http://host.hpc.uvt.ro/wp-content/uploads/2012/01/programTimisoaraHPCtraining10-11June2012.txt>

Trainers: Dana Petcu, Marian Neagul, Silviu Panica (HOST team)

Trainees: The audience mainly consisted of researchers from Tirgu-Mures interested in using HPC resources in their research; local users of the HPC infrastructure also participated.

Impact and added value: Knowledge transfer to an external team.

4.3 HPC training – MPI programming

Aim: Full day training aiming to offer knowledge and to acquire practical skills for HPC.

When: 27 September 2012

Where: The training was organized at the West University of Timisoara in the framework of SYNASC 2012 and in conjunction with the *Workshop on HPC services* (<http://host.hpc.uvt.ro/events/wohs/>)

Content:

- Introduction to parallel processing and parallel processors: where does MPI fit into the landscape? Concepts of batch running and scheduling: PBS/Torque scheduler. Practical work (C or Fortran): simple MPI programs.
- Point-Point Communication (blocking). Timing programs (and its pitfalls). Practical work (C or Fortran): point-point communication.
- Blocking versus non-blocking Point-Point. Collective Communication & Reductions. Practical work (C or Fortran): collective communication. Various parallel libraries.
- Cartesian Topologies. Practical work (C or Fortran): topologies. User-defined MPI types and operators. Practical work on these.

Trainer: James Davenport, University of Bath, UK

Trainees: HOST team members, PhD students from the West University of Timisoara, researchers at research institutes from Timisoara (IeAT, Romanian Academy – Timisoara), other participants at SYNASC 2012 (see Table A1.2).

Impact and added value: The training provided in-depth knowledge on using MPI library and on efficiently exploiting the particularities of the architecture.

4.4 Tutorial on Cloud Computing Technologies

Aim: Providing information on the usage of cloud platforms with examples for Eucalyptus, running as basic virtual machine manager at the HPC center.

When: 27 September 2012 (10:10-12:10)

Where: The tutorial was presented in the framework of the MICAS workshop (<http://amicas.hpc.uvt.ro/first-workshop-in-september-2012/>).

Content: We presented a step-by-step usage of a popular private cloud platform (IaaS) called Eucalyptus (www.eucalyptus.com). The tutorial covered the basic operations available within the cloud platform (virtual machines management; storage usage; security concerns) and a use case using a mOSAIC OpenSource Platform as a Service to deploy and run a custom web application.

Trainers: Dana Petcu, Silviu Panica (HOST team)

Trainees: The audience consisted mainly on researchers on cloud technologies participating at the MICAS workshop.

Impact and added value: Knowledge transfer to the event participants.

4.5 Tutorial on Grid Computing – Globus Toolkit

Aim: The aim of this half-day tutorial was to provide first-hand practical information about Globus Toolkit v.5, valuable to resource providers, computing site administrators and end-users of the grid.

When: 29 September, 2012

Where: The tutorial was presented in the framework of HOST workshop on HPC services (WoHS)

Content: The tutorial targeted both grid administrators and users of GT, offering/providing first-hand information and experience sharing from European Globus specialists. The focus of the tutorial was on the latest version 5 of the toolkit: Authentication and Authorization, GridFTP, GRAM5, MyProxy etc. Globus services included in the Unified Middleware Distribution of EGI have been presented as well. Also the novel GlobusOnline cloud service for reliable file transfer has been demonstrated. Virtual machines for the tutorial participants and remote resources for the training has been provided by the IGE project as part of the IGE Testbed (the IGE project is a consortium of Globus experts that coordinates Globus activities and developments in Europe).

Trainers: Ioan Lucian Muntean and Marius Joldos, Technical University of Cluj-Napoca, Romania

Trainees: PhD students from the West University of Timisoara and from the Politehnica University of Timisoara, participants at the Distributed Computing track of SYNASC 2013 and HOST team members.

4.6 Second training on using the facilities of the HPC center

Aim: The main aim of this second training was to provide updated information on infrastructure available at the HPC center, on accessing the resources, submitting jobs and developing applications. It was mainly intended to help the current users of HPC center to use in an efficient way the infrastructure and to attract new users.

When: 22 March 2013

Where: The training was organized in the framework of the Workshop on e-Infrastructures for Public Sector held at the West University of Timisoara in 21-23 March 2013 (<http://host.hpc.uvt.ro/events/workshop-of-e-infrastructure-for-public-sector/>).

Content: The training focused on presenting the updates of the HPC center infrastructure (e.g. new GPU nodes), the updates of software tools and programming environments, new ways of gaining access to InfraGRID cluster, on how to prepare accounts for MPI, on using environment modules and on job submission.

Trainers: Marian Neagul, Silviu Panica (HOST team)

Trainees: The training attracted most of the participants from the workshop.

Impact and added value: Knowledge transfer towards external teams.

4.7 Other training activities involving the HPC center infrastructure and/or the HOST team

4.7.1 Lectures in Parallel Computing for master students

Starting with 2013 the course on Parallel Computing for the master students in Artificial Intelligence and Distributed Computing (in English; Department of Computer Science, West University of Timisoara) has been given by dr. Alexander Agathos (HOST researcher) and included also topics on GPU programming using the GPU cluster acquired during the HOST project.

The similar lecture in Romanian offered to the Software Engineering, Applied Informatics in Science, Technology and Economy master students, hold by Prof. Dana Petcu (<http://web.info.uvt.ro/~petcu/CALCUL.htm>) was improved in terms of content and examples from HOST project, and the semester projects of the master students were aligned with the HOST topics of research.

Besides introducing new topics in the Parallel Computing course, the HOST project offered the opportunity to attract master students toward HPC (4 master students started to prepare their MSc theses on topics related to efficient CPU/GPU implementations of algorithms from image processing, computer vision and bioinformatics).

4.7.2 Multicore Summer School in Rome

One of the HOST team members (dr. Alexander Agathos) will give tutorials on *Parallel Programming with MPI* and on engineering applications (Parallel Image Processing, Nanoscale Optics and Crystal Growth) at the *Multicore Summer School* to be held in Rome, 24 June-5 July 2013 and aiming to provide a study program that will look at multiple aspects of designing an HPC application for engineering (<http://multicoresummerschool.uniroma2.it/>). HOST research results will be disseminated in his presentations.

Five students working with Dr. Agathos and Prof. Petcu in HPC topics will attend the school.

Prof. Petcu has been involved in the organization and management of the international event.

4.7.3 Trainings on FP7 project proposals and execution

Aim: Transfer the knowledge of HOSTing team in preparing proposals and executing the project to external teams (from the region and inside the university)

Events and type of participation

- Training for research programmes in the frame of RO-PNII and EC-FP7, organized by West University of Timisoara, 17 December 2012

Agenda (in Romanian) available at: <http://www.cercetare.uvt.ro/wp-content/uploads/2012/12/ProgramSeminarPNIIFP7-1.pdf>

Presentation: D. Petcu – Training in writing FP7 projects

- Training for EC-FP7& EC-SF POSDRU & RO-PNII, organized by West University of Timisoara, 26 April 2013

Agenda (in Romanian) available at: <http://www.cercetare.uvt.ro/wp-content/uploads/2013/04/Program-Seminar-FP7PNIIPOSDRU.pdf>

Presentation: D. Petcu - Proposal preparation for FP7/H2020

Feedback: To both events a feedback form was submitted marking the two presentations as very useful.

4.8 Summary of training activities

A summary of all training and tutorial activities organized by the HOST team is presented in Table 3.

Table 3. Summary of training/tutorial activities organized/offered by the HOST team

Event	When	What	Who	
			Trainers/ Lecturers	Trainees
First training on using the facilities of the HPC center	27 April 2012	How to access InfraGrid and BG/P and develop efficient applications.	Marian Neagul, Silviu Panica (HOST team)	23 (except for HOST team) – see last column in Table A2.2 (Annex 2)
HPC Training: BlueGene/P and InfraGRID cluster usage	10-11 July 2012	How to develop and debug applications on InfraGrid and BG/P	Dana Petcu, Marian Neagul, Silviu Panica (HOST team)	6 – see Table A4.2 (Annex 4)
HPC training – MPI Programming	27 September 2012	How to develop efficient MPI programs	James Davenport, University of Bath, UK	13 – see last column in Table A1.2 (Annex 1)
Tutorial on Cloud Computing Technologies	26 September 2012	How to use a popular private cloud platform (IaaS) (i.e. Eucalyptus)	Dana Petcu, Silviu Panica (HOST team) Ciprian Craciun (IeAT)	21 – see last column in Table A1.2 (Annex 1)
Tutorial on Grid Computing – Globus Toolkit	29 September 2012	How to use Globus Toolkit v.5	Ioan L. Muntean, Marius Joldos, Technical University of Cluj-Napoca, Romania	12 – see last column in Table A1.2 (Annex 1)
Training for research programmes in the frame of RO-PNII and EC-FP7	17 December 2012	How to write FP7 project proposals	Dana Petcu (HOST team)	40
Second training on using the facilities of the HPC center	22 March 2013	How to access InfraGrid, BG/P and the GPU cluster and develop efficient applications	Marian Neagul, Silviu Panica (HOST team)	18 (except for HOST team) – last column in Table A3.2 (Annex 3)
Training on FP7 PN II & POSDRU projects, Timisoara	26 April 2013	How to prepare a ICT FP7 proposal	Viorel Negru, Dana Petcu (HOST team) and other WUT researchers	30
Multicore Summer School, Rome	24 June-5 July 2013	How to write efficient MPI programs for engineering applications	Alexander Agathos	N/A

5 HOSTing team mobilities

Mobilities of the HOSTing team members to high level scientific events in the fields of HPC and software services is another way of increasing the level of knowledge the HOST team members as well as their visibility. Such mobilities could also increase the visibility of the HPC center and its perception as an excellence research center.

In order to increase the awareness of HPC community on the expertise existing in the HOST group, several activities have been planned:

- search for appropriate scientific events
- follow up the procedures for a participation at an adequate level: preparing and presenting research results at high quality conferences and in internationally recognized journals;
- seek the proper audience for enlarge the awareness about R&D activities of the team.

5.1 Attendance to specialized training events by team members of the HOSTing team

Between 6-9 of June 2012, Marian Neagul and Silviu Panica participated to a GPU training session held in frame of NCIT Summer School at Politehnica University of Bucharest. This training was a preparation for the support team for the newly GPU cluster that was intended to be brought in the frame of HOST Project (at that time). At the training the support team learned about the GPU environment (compiling, execution and profiling) and the most advanced programming toolkit used for the NVidia GPUs: the NVidia CUDA. The lecturer was professor Dan Negrut from the University of Madison Wisconsin, USA.

5.2 Attendance to internationally recognized high level research conferences/workshops

The main criteria in selecting the targeted conferences are:

- matching with the research topics of HOST;
- scientific level of the conference, as it is perceived by the HPC community;
- potential in finding an audience interested in establishing new collaborations with the HOST team or who is interested in using the infrastructure of the HPC center.

The team members participated to several events related to HOST in order to disseminate the HOST results. Some of these mobilities have been funded by HOST (see Tables 4-7).

During the participation at such conferences the team members not only acknowledged to contribution of the HOST project but also presented the HOST infrastructure and details about its benefits when employed for solving complex problems. The team members used also the opportunity to distribute dissemination materials and to establish contacts in order to initiate new collaborations.

Table 4. Papers presented by the HOST team members at conferences with support from HOST funds

No.	Conference	Date	Topic/ Title of the paper	Participant
1	Metamaterials 2012, St. Petersburg, Russia http://congress2012.metamorphose-vi.org/	17-22 September 2012	Enhanced second harmonic generation in doubly resonant photonic crystal cavities made of silicon	Claudiu Biris
2	Algoritmy 2012, Czech Republic http://www.math.sk/alg2012/	9-14 September 2012	OPTIMET and MSM – an ab-initio grid-less non-linear scattering solver	Claudiu Biris
3	CSMR 2013, Genova, Italy http://csmr2013.disi.unige.it	5-8 March 2013	Quality assessment in the cloud: is it worthwhile?	Cristina Marinescu
4	EuroGraphics 2013, Girona, Spain http://eg2013.udg.edu/	6-10 May 2013	Geosemantic Snapping for Sketch-Based Modeling	Alexander Agathos

Table 5. Presentations by the HOST team members at conferences/workshops/trainings with support from HOST funds

No.	Conference	Date	Topic/ Title of the paper	Participant
1	ACA 2012, Sofia, Bulgaria http://www.math.bas.bg/ACA2012/	25-28 June 2012	Benefits and Barriers of Symbolic Computations on Clouds and Grids (invited talk)	Dana Petcu
2	HPC 2012, Centrarò, Italy http://www.hpcc.unical.it/hpc2012/	25-29 June 2012	Open-source platform-as-a-service: requirements and implementation challenges (keynote)	Dana Petcu
3	A Research Potential capitalization exercise: Thematic workshop on capacity building – Stairway to excellence, Brussels, Belgium	24-26 June 2013	HOST & ICAM projects: Case study of synergies between FP7-RegPOT and Structural Funds	Dana Petcu
4	Multicore Summer School, Rome, Italy, http://multicoresummerschool.uniroma2.it/	22 June-6 July 2013	Parallel Programming with MPI; Engineering applications: Parallel Image Processing, Nanoscale Optics, Crystal Growth	Alexander Agathos

Table 6. Posters presented by HOST team members at conferences with support from HOST funds

No.	Conference	Date	Topic/ Title	Participant
1	ICRI 2012, Copenhagen, Denmark http://www.ereg.me/ehome/31679/50320/	21-23 March 2012	HPC as a Service – Reaching High Scalability and Elasticity	Dana Petcu
2	ISC 2012, Hamburg, Germania http://www.isc-events.com/isc12/	17-21 June 2012	European Cloud Research (shared booth between CON-TRAIL, mOSAIC and HOST)	Dana Petcu
3	ISC 2013, Leipzig, Germany http://www.isc-events.com/isc13/	16-20 June 2013	European Cloud Research (shared booth between CON-TRAIL, MODAClouds, HOST)	Silviu Panica

Table 7. Other HOST related presentations with financial support from other projects or initiatives

No.	Conference	Date	Topic/ Title	Participant
1	3 rd workshop of COST Action 0805, Genova, Italy http://complexhpc.org/wiki/doku.php#rd_workshop_of_cost_0805	17-18 April 2012	Presentation: Towards Automated Management in Sky Computing Environments	Dana Petcu
2	IoS 2012, Brussels, Belgium http://ec.europa.eu/digital-agenda/events/cf/ios12/home.cfm	16-17 Oct 2012	Poster exposing the research activities of the center, including HOST ones	Dana Petcu
3	e-FISCAL workshop http://www.efiscal.eu/2nd-workshop	3-4 July 2012	Presentation: Building European consensus on sustainability	Dana Petcu
4	CloudScape V, Brussels, Belgium http://www.cloudscapeseries.eu/Pages/Home.aspx	27-28 February 2013	Poster exposing the research activities of the center, including HOST ones	Dana Petcu
5	InnoMatch, Arad, Romania http://innoboost.tehimpuls.ro/site/files/index.php?page=InnoMatch%202013	3-4 April 2013	Poster exposing the research activities of the center, including HOST ones	Daniel Pop
6	National Conference of Research and Innovation – CNCS , Bucharest	7-9 November 2012	Poster exposing the research activities of the center, including HOST ones	Daniel Pop

6 Project dissemination

The main activities planned to ensure the project dissemination are:

- Conducting open house: inform the public-at-large, during open-doors events, about the project activities and to increase the science awareness of the national level for science and technology, to encourage industry to invest in scientists and science based products.
- Establishing and maintaining a web site on the activities of the project.
- Writing articles in popular magazines and newspapers.
- Design project flyers and dissemination materials targeting specific communities (scientific, administration, industry and so on).

6.1 Open house

The HPC center has been presented both to participants to the HOST events and to participants to other events organized at the West University of Timisoara (including open-doors days, visits of groups of researchers etc.).

Guided visits in the rooms hosting the HOST equipment (with explanation of the usage of the equipments in the frame of the project) were organized with the occasions of

- Each workshop organized by the Research Center (including the HOST ones; more than 5 in the last year)
- Decision makers visits from other Romanian or foreign academic or research institution (at least 10 visits in the last year)
- Researcher visiting the Department of Computer Science (at least 10 visits in the last year)
- High school groups visiting the Faculty
- Press and TV reporters visits

Potential users of the HPC center facilities were invited to participate to various HPC trainings.

During the “*Open Doors Days at West University of Timisoara*” organized in 3-5 April 2013 by the West University of Timisoara, for all of its departments, the visitors were able to make a tour of the HPC Center. The main activities (short lectures) of the Computer Science Department with this occasion took place in 045C, at 50 m from the HPC Center. In front of 045C it was organized a display of posters related to the HOSTing team research activities, including a HOST poster (most closed to 045C, to ensure its visibility for potential users of its knowledge or infrastructure).

6.2 Web site

The HOST web site (<http://host.hpc.uvt.ro>) was setup on January 2012. The sitemap contains:

- Call for researchers (open research positions)
- Contacts
- Events
 - WPCI – Workshop on Clouds, Cluster and HPC Infrastructures,
 - WoHS – Workshop on HPC Services,
 - WeIPS – Workshop of e-Infrastructures for Public Sector,
 - WHPCSP – Workshop on High Performance Computing for Scientific Problems
- Links
- News
- Open access
- Partners
- Project details

The Internal mailing list is host@lists.info.uvt.ro and includes the project members.

An analysis of the access statistics for <http://host.hpc.uvt.ro> revealed that the HOST site attained peaks of visits during workshops and after some announcements have been delivered (e.g. announcements on open research positions). Other frequently visited pages are those related to open access and project details. Quantitative information concerning the most visited pages since the site has been launched are presented in Table 8. As the materials presented at workshops are available online, there are around 100 downloads per months. The most downloaded files are those containing the description of the infrastructure and the training support materials.

Table 8. Top three most visited web pages (statistics for <http://host.hpc.uvt.ro>)

Month	Web page on ... (hits) (most accessed)	Web page on ... (hits) (second most accessed)	Web page on ... (hits) (third most accessed)
January 2012	HOST partners (91)	Research positions (89)	Project details (85)
February 2012	Research positions (743)	Open access (306)	Partners (116)
March 2012	Research positions (178)	Open access (83)	Project details (65)
April 2012	WPCI workshop (677)	Research positions (140)	WoHS workshop (123)
May 2012	WoHS workshop (114)	WPCI workshop (111)	Research positions (57)
June 2012	Research positions (279)	WoHS workshop (123)	Open access (113)
July 2012	WoHS workshop (315)	Research positions (134)	Project details (61)
August 2012	WoHS workshop (136)	Research positions (43)	Open access (27)
September 2012	WoHS workshop (188)	Research positions (59)	Project details (53)
October 2012	Research positions (44)	WPCI workshop (32)	WoHS workshop (28)
November 2012	Research positions (46)	Project details (45)	WoHS workshop (36)
December 2012	WoHS workshop (47)	Project details (33)	WPCI workshop (28)
January 2013	WoHS workshop (56)	Research positions (53)	WPCI workshop (50)
February 2013	WoHS workshop (43)	HOST partners (34)	Project details (34)
March 2013	WeIPS workshop (424)	WPCI workshop (91)	Project details (71)
April 2013	WeIPS workshop (52)	Research positions (50)	Project details (42)
May 2013	HPCSP workshop (173)	Research positions (28)	WoHS workshop (25)
June 2013	HPCSP workshop (252)	WoHS workshop (48)	Open access (48)

An important record of the activities for dissemination is maintained through the news page (Figure 1).

host.hpc.uvt.ro/news/

High Performance Computing Service

Contacts Events Links **News** Open access Partners Project details Research position

News

June 2013

25 June 2013:
HOST at REGPOT workshop from Brussels, "A Research Potential capitalization exercise: Thematic workshop on capacity building – Stairway to excellence"

18-20 June 2013:
HOST at the European Cloud Research booth at [ISC 2013](#)

11 June 2013:
HOST presented in the frame of the report of the research activities of the HOSTing team at [WoCA workshop](#)

May 2013

20 May 2013:
Announce of the HOST workshop [HPCSP](#) from September 2013

April 2013

26 April 2013:
Training on [FP7 project proposals](#)

3-4 April 2013:
HOST poster and flyers displayed at [InnoMatch 2013](#)

March 2013

25 March 2013:
[TV documentary](#) about the university research activities, including the activities of HOST researchers

22-23 March 2013:
HOST workshop: [Workshop of e-Infrastructure for Public Sector](#)

21 March 2013:
HOST presented at [IBM Academic Days for Universities in Romania](#), Timisoara and [TV forecast](#) about the center and the event

February 2013

28 February 2013:
HOST presented in a poster at [CloudScape V, Brussels](#)

January 2013

31 January 2013:
Submission of one [deliverable](#)

18 January 2013:
HOST presented in a [press article](#)

December 2012

17 December 2012:
Training on FP7 projects

October 2012

15 October 2012:
HOST's [GPU cluster](#) is ready to be used

1 October 2012:
HOST registered as [XIP](#) infrastructure

September 2012

10-11 July 2012:

HOST event: [HPC training](#)

3-5 July 2012:

HOST presence at [e-Fiscal workshop](#)

1 July 2012:

Review of the [research position applications](#)

June 2012

30 June 2012:
Submission of the first two [deliverables](#)

27-30 June 2012:
HOST presence at [HPC 2012](#)

18-21 June 2012:
HOST at [ISC 2012](#)

May 2012

29 May 2012:
Second announce of the research positions

14 May 2012:
Announcing the second HOST event: [Workshop on HPC Services](#)

April 2012

26-27 April 2012:
HOST event: [Workshop of Clouds, Cluster and High Performance Computing Infrastructures](#)

17 April 2012:
HOST presentation at [3rd Workshop of COST Action Complex HPC](#), Genoa, Italy

9 April 2012:
Proposal for HOST participation to a BoF at ISC 2012

2 April 2012:
Support for the Fifth International Conference "RO-LCG 2012" – "Grid, Cloud & High Performance Computing in Science" will take place in 25-26 October at Cluj-Napoca, Romania

March 2012

22 March 2012:
HOST poster at [ICRI 2012](#)

15 March 2012:
The HOSTing team Journal [SCPE](#) is indexed by [DBLP](#)

1 March 2012:
Review of the [research position applications](#)

February 2012

24 February 2012:
First workshop announce [Workshop of Clouds, Cluster and High Performance Computing Infrastructures](#)

1 February 2012:
Support for the [SCoDIS-LaSCoG 2012 3rd Workshop on Scalable Computing in Distributed Systems \(SCoDIS'2012\)](#) and [8th Workshop on Large Scale Computations on Grids \(LaSCoG'2012\)](#) Wroclaw, Poland, September 9-12, 2012

January 2012

25 January 2012:
HOSTing the workshop of COST action IC 806 -Open Network for High-Performance Computing on Complex Environments

Figure 1. News section of the web page

6.3 HOST in media

In order to increase the awareness of the potential users on the facilities offered by the HPC center, several communication channels have been used, targeting either specific groups (university newsletters) or a larger audience (local/regional/national newspapers and TV channels). Press releases (at least in the university newsletters) have been prepared after each HOST event, the HOST team members participated to press conferences organized in the framework of related events (e.g. IBM Academic Days for Universities) or gave interviews to newspapers and TV channels. A summary of these actions is presented in Table 9.

Table 9. HOST and HPC Center presented in media (newsletters, regional journals, national TV channels)

Where	When	What	Link
Newsletter of the West University	April 2012	Description of the Workshop on Clouds, Cluster and HPC infrastructures	http://www.dci.uvt.ro/wp-content/uploads/2012/07/NEWSLETTER-APRILIE-2012-BEST.pdf (at page 6)
Regional journal „Economical-financial offensive” (in Romanian, Ofensiva economico-financiara) no. 1/ June 2012	June 2012	Presentation of the HPC Center	
Newsletter of the West University	September 2012	Description of the Workshop on HPC Services	http://www.dci.uvt.ro/wp-content/uploads/2012/06/NEWSLETTER-SEPTEMBRIE-2012.pdf (at page 9)
Opinia Timisoarei (local newspaper)	18 January 2013	Presentation of HOST and of the HPC center infrastructure	http://www.opiniatimisoarei.ro/supercomputerul-de-la-uvt-a-pus-timisoara-pe-harta-europei-in-cercetare-veniturile-generate-de-clusterele-cu-care-se-lucreaza-la-uvt-depasesc-5-milioane-de-euro/18/01/2013
IBM Academic Days for Universities in Romania, Transilvania University, Brasov, Romania	15-16 March 2012	Press conference	
IBM Academic Days for Universities in Romania, Transilvania University, Brasov, Romania	21-22 March 2013	Press conference	http://www.tion.ro/universitatea-de-vest-timisoara-se-poate-lauda-cu-supercomputerul-blue-gene-p/1265358
Digi 24 (TV channel)	26 March 2013	Presentation of the HPC Center and of the activity of Claudiu Biris (HOST team member)	http://www.digi24.ro/stire/RAPORT-DE-TARA-Timisoara-are-cel-mai-performant-supercomputer-din-sud-estul-Europei_90624
Newsletter of the West University	March 2013	Presentation of the Workshop of e-Infrastructures for public sector	http://www.dci.uvt.ro/wp-content/uploads/2013/04/NewsletterMartie.09041303.pdf (at page 9)

6.4 Dissemination materials

The HOST dissemination kit consists of

- Overall presentation slides
- Posters
- Flyers

which were delivered/posted/distributed by the HOST team at national and international workshops/ conferences and other scientific events.

HOST presentation slides:

Two general presentations (slides) are available on-line and used to different scientific events:

1. General description: <http://host.hpc.uvt.ro/wp-content/uploads/2012/02/Welcome-HOST.pdf>
2. Concept: <http://prezi.com/ytlkkrb08otp/hostisc-2012/>

Besides the events mentioned at 5.2 (Attendance at recognized high level international conferences/events) the HPC center and the HOST project has been presented at various related events (see Table 10).

Table 10 . Presentation of the HPC center and HOST at related events

Where	When	What	Link
COST Action 0805: Complex HPC meeting in Timisoara	January 2012	Presentation of the HPC center and HOST objectives (official opening in international context of HOST dissemination and collaboration activities)	http://complexhpc.org/wiki/doku.php#nd_workshop_of_cost_0805
IBM Academic Days for Universities in Romania, Transilvania University, Brasov, Romania	15-16 March 2012	Presentation of the HPC Center and of HOST project	http://www-01.ibm.com/software/ro/events/ad2012/
IBM Academic Days for Universities in Romania, Transilvania University, Brasov, Romania	21-22 March 2013	Description of the Workshop on HPC Services	https://www.ibm.com/developerworks/mymcommunityview?communityUuid=0ba4190f-8dd5-48c6-9ae5-6c362910e31b#fullpageWidgetId=Wf7d8ce38af0d_4b0f_aff8_a564d803d791&page=2&sort=communityShared&pivot=all&section=files

Posters:

Several posters presenting information on the HOST project, on the infrastructure at the HPC center and on current results were prepared and posted at different national and international events (Table 11). Examples of such posters are illustrated in Figure 2.

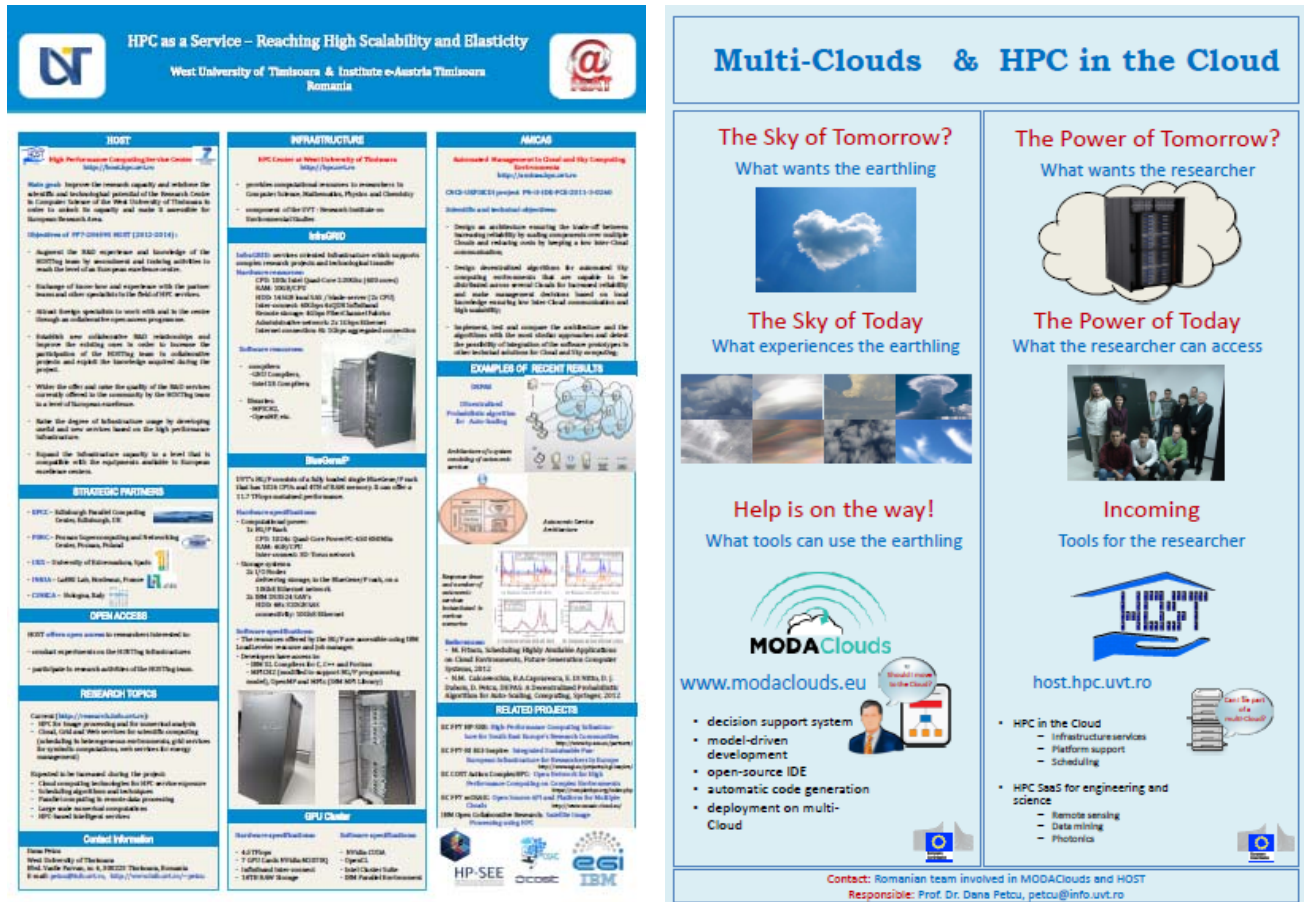


Figure 2. Examples of posters presenting HOST objectives and results – left, to scientific events, right, to policy makers events (displayed at ICRI 2012 , respectively ISC 2013 at European Cloud Research booth)

Table 11. Posters display at events

Poster title	Where	When	Who (audience)
HPC as a service – Reaching High Scalability and Elasticity (version 1)	ICRI 2012, Copenhagen, Denmark	March 2012	300
Cloud related R&D activities: mOSAIC, HOST and AMICAS projects	ISC 2012 – International Supercomputing Conference, Hamburg, Germany	June 2012	500
Cloud related R&D activities: mOSAIC, HOST and AMICAS projects	IoS 2012 – Internet of Services, Brussels, Belgium	October 2012	100
HPC as a service – Reaching High Scalability and Elasticity (version 2)	National Conference of Research and Innovation – CNCS, Bucharest	November 2012	100
Multi-Cloud: Needs and Tools	CloudScape V, Brussels, Belgium	February 2013	100
Multi-Clouds & HPC in the Cloud	ISC 2013 – International Supercomputing Conference, Leipzig, Germany	June 2013	500

Flyers:

The first version of the HOST flyer has been created in the first month of the project including an overall description of the project and a presentation of the open positions. Later new versions of the flyer have been designed in order to include updated information (calls for the forthcoming events, search for researchers/ collaborations, updates in the infrastructure, open access opportunities etc). Figure 3 presents the current version of the flyer. The flyers have been distributed at the scientific events where the HOST team participated and at institutions visited by the team members (see Table 12).

High Performance Computing Service Center

West University of Timisoara, Romania <http://host.hpc.uvt.ro>

Main aim:
Improve the research capacity and reinforce the scientific and technological potential of the Research Centre in Computer Science of the West University of Timisoara in order to unlock its capacity and make it accessible for European Research Area.

Institutions involved in the project activities:

- EPCC – Edinburgh Parallel Computing Center, Edinburgh, UK
- PSNC – Poznan Supercomputing and Networking Center, Poznan, Poland
- UEX – University of Extremadura, Spain
- INRIA – LaBRI Lab, Bordeaux, France
- CINECA – Bologna, Italy

Objectives:

- Augment the R&D experience and knowledge of the HOSTing team by secondment and training activities to reach the level of an European excellence centre
- Exchange of know-how and experience with the partner teams and other specialists in the field of HPC services
- Attract foreign specialists to work with and in the centre through a collaborative open access programme
- Establish new collaborative R&D relationships and improve the existing ones in order to increase the participation of the HOSTing team in collaborative projects and exploit the knowledge acquired during the project

Contact: Prof. Dana Petcu, petcu@info.uvt.ro
Department of Computer Science, West University of Timisoara, blvd. Vasile Parvan, no. 4, 300223 Timisoara, Romania

HOST at a glance

Title: High Performance Computing Service Center

Project number: FP7-REGPOT-CT-2011-284595-HOST

Funding scheme: Coordination and support action

Project coordinator: Dana Petcu
West University of Timisoara (RO)

Duration: 1 January 2012 – 31 December 2014

Total cost: € 2 496 268

Further information: <http://host.hpc.uvt.ro>

HOST research topics:

- Cloud computing technologies for HPC service exposure.
- Scheduling algorithms and techniques
- Parallel computing in remote data processing
- Large scale numerical computations
- HPC-based intelligent services

Infrastructure:

- InfraGrid cluster:
 - 400 cores, Infiniband
- BlueGene/P :
 - 11.7 Tflops /4096 cores
- GPU Cluster:
 - 4.5Tflops
 - 7 GPU Cards Nvidia M2070Q
 - Infiniband inter-connect
 - 18TB RAW Storage

Open access to infrastructure:

The visiting researchers will be able to:

- conduct experiments on the HOSTing infrastructures together with the HOSTing team
- participate in research activities of the HOSTing team.

How to apply ?

- The applications should describe the aim of the research to be performed.
- Applicants are expected to have European citizenship.
- The interested researchers should send their expression of interest to Prof. Dana Petcu (petcu@info.uvt.ro)

Open access period: April 2012- December 2014

Forthcoming HOST events:

International Workshop on HPC for Scientific Problems

Date: 23-26 September, 2013
Place: Timisoara, Romania
Web site: <http://host.hpc.uvt.ro/events/hpcsp/>
Deadline: 15 July 2013 (extended)

Contact: Prof. Dana Petcu, petcu@info.uvt.ro
Department of Computer Science, West University of Timisoara, blvd. Vasile Parvan, no. 4, 300223 Timisoara, Romania

Figure 3. The current version of the HOST flyer (v2.2, June 2013)

Table 12. Distribution of HOST flyers at related events

Version	Date	Summary of the content	Distributed at:	Audience
1.1	January, February 2012	Overall description of HOST Announcement for open research positions	Workshop COST Action 0805, Timisoara	40
			CloudScape IV, February 23, Brussels	80
1.2	March 2012	Overall description of HOST Announcement of the Workshop of Clouds, Clusters and High Performance Computing Infrastructures Announcement for open research positions	IBM Academic Days, 15-16 March, Brasov	75
			e-IRG meeting, March 20, Copenhagen	30
			ICRI 2012, March 21-23, Copenhagen	300
1.3	April, May 2012	Overall description of HOST First announcement of the Workshop on HPC services Announcement for open research positions	HOST Workshop of Clouds, Clusters and High Performance Computing Infrastructures	40
			COST Action 0805 meeting, 15-17 April, Genova	30
			Research in Future Cloud Computing, May 2, Brussels	120
			EDWCC 2012, May 8, Sibiu	70
			Future Internet Assembly, May 9-11, Aalborg	300
			Project proposal meeting, Essen	25
1.4	June 2012	Overall description of HOST Last call for papers for the Workshop on HPC services Announcement for open research positions	ISC 2012, June 18-20, Hamburg	500
			ACA 2012, June 25-26, Sofia	60
			HPC 2012, June 27-29, Cetraro	50
			ISPDC 2012, June 25-29, Munich	90
			Project proposal meeting, Berlin	25
2.0	September 2012-February 2013	Overall description of HOST Infrastructure update (GPU cluster) First announcements for Workshop of e-Infrastructure for Public Sector and for the International Workshop on HPC for Scientific Problems	SYNASC 2012, September 26-29, Timisoara	150
			National Conference of Research and Innovation – CNCS, 7-9 November 2012, Bucharest	100
2.1	March-May 2013	Overall description of HOST Current infrastructure at the HPC center First call for papers for the International Workshop on HPC for Scientific Problems	IBM Academic Days, Timisoara, 21-22 March 2013	40
			Workshop of e-Infrastructure for Public Sector, Timisoara, 21-23 March 2013	30
			InnoMatch - First Regional Innovation Fair, Arad, 3-4 Aprilie 2013	150
			Visit of a team member at CVC – Universitat Autònoma de Barcelona, 16-19 April 2013	20
2.2	June 2013	Overall description of HOST Current infrastructure at the HPC center Second call for papers for the International Workshop on HPC for Scientific Problems	Workshop on Cloud adaptivity, Timisoara, 11-12 June	20
			ISC 2013, Leipzig, Germany, 16-20 June	500

7 Conclusions and future plans

The main impact and added value of the national and international workshops consists of an effective transfer of knowledge between HOST partners, HOST team, users of HPC Service center infrastructure, representatives of academia, IT industry, public sector and national authorities. In the same time they contributed to the increase of awareness of various groups on the European and national status of the e-infrastructures.

The dissemination actions, involving various communication channels, helped the HOST team and the HPC center to be better known at a national and international level, to establish new contacts and initiate new collaborations.

A summary of the current status in exploiting the dissemination channels identified in the Dissemination Plan and some foreseen actions aiming to improve the dissemination impact is presented in Table 13.

Some aspects which should be improved:

- Improve the web site updating procedure and enrich the provided information
- Identify new channels for dissemination (e.g. social networks)
- Improve the procedure for collecting feedback from participants at HOST events and users of the infrastructure
- Enhance the cooperation with the HOST partners

Table 13. Summary of using targeted dissemination channels

Targeted dissemination channels (according to the Dissemination Plan)	Current status	Actions to improve the dissemination
C1. web-presence and cross-links to other sites related to the project	<ul style="list-style-type: none"> - In average 500 visits/month - In average 100 downloads/ month (workshops presentations) - Peaks of visits before and during workshops 	<ul style="list-style-type: none"> - Include news concerning the participation of HOST team to various events - Extend the cross-links with other sites
C2. basic promotional materials, presentation materials, and project documentation	<ul style="list-style-type: none"> - flyers distributed at around 25 scientific events, project meetings, visits at universities - HOST posters displayed at 8 events 	<ul style="list-style-type: none"> - Continuously update the flyer - Prepare visual presentations (e.g. movies) of the HPC center
C3. press campaign and periodic newsletter	<ul style="list-style-type: none"> - HOST news and short reports on workshops and related events are included in the monthly newsletter of the West University - Participation to press conferences organized at related events 	<ul style="list-style-type: none"> - Target new dissemination channels to reach other audiences
C4. public deliverables	<ul style="list-style-type: none"> - The public deliverables are posted on the web page 	<ul style="list-style-type: none"> - Disseminate the availability of the reports
C5. clustering and collaboration with other related projects and initiatives	<ul style="list-style-type: none"> - HOST collaborates with at least 6 research teams requiring HPC services (cloud computing, hyperspectral imaging, nanooptics, software engineering, meteorological predictions, computer vision) - Enhanced collaboration with the public sector (Municipality of Timisoara, Agency for Regional Development, National Agency for Research, ARCAS association) 	<ul style="list-style-type: none"> - Identify new collaborators
C6. organisation of workshops, trainings	<ul style="list-style-type: none"> - 1 international and 2 national workshops were organized, 1 international workshop in preparation - 8 training/tutorial activities have been given by the HOST team 	<ul style="list-style-type: none"> - organize (online) training activities for current users of the infrastructure
C7. academic curriculum	<ul style="list-style-type: none"> - Reorganization of the curricula of Parallel Computing for master students to focus more on HPC - 4 master students prepare their MSc thesis on topics related to HPC 	<ul style="list-style-type: none"> - Propose short modules on HPC for master programmes requiring HPC (e.g. from faculties of Physics and Chemistry, Biology & Geography)
C8. presentations at different scientific and business events national & European market fairs	<ul style="list-style-type: none"> - slides with short HOST presentation at around 10 scientific events 	<ul style="list-style-type: none"> - continuously update the design and content of the presentation slides
C9. scientific papers in journals	<ul style="list-style-type: none"> - 2 reserach papers were published in journals 	<ul style="list-style-type: none"> - Target more articles and high level journals
C10. Social networks (Facebook, LinkedIn, YouTube and others)	<ul style="list-style-type: none"> - Rather limited visibiliy on social networks 	<ul style="list-style-type: none"> - target the presence on research oriented networks (e.g. ResearchGate)

Annexes

Annex 1. WoHS - International Workshop on HPC Services

AI.1 Agenda of invited talks, WoHS, and related workshops: MICAS, ACSYS, NCA and IAFP

Extracted from the full Programme of SYNASC 2012 available at:
http://synasc12.info.uvt.ro/storage/Synasc12_Program.pdf

	Wednesday, September 26
09:30 – 10:20	Invited talk. Room A02. Chair: Viorel Negru Sascha Ossowski: <i>Agreement Technologies -- Enabling distributed intelligent systems in open environments</i>
	Thursday, September 27
09:00 – 09:50	Invited talk. Room A02. Chair: Laura Kovacs Michael Kohlhase: <i>The Flexiformalist Program</i>
10:10-12:10	MPI Tutorial (1). Room 045C James Davenport
13:30-14:20	Invited talk. Room A02. Chair: Michael Kohlhase Tetsuo Ida: <i>Interactive vs. automated proofs in computational origami</i>
14:40-16:00	MPI Tutorial (2). Room 045C James Davenport
16:20-18:00	MPI Tutorial (3). Room 045C James Davenport
	Friday, September 28
09:00 – 09:50	Invited talk. Room A02. Chair: Tudor Jebelean Sumit Gulwani: <i>Synthesis from Examples</i>
	Saturday, September 29
08:30 – 10:00	Invited talk. Room A02. Chair: Andrei Voronkov Stephen Watt and Solomon Marcus: <i>What is an Equation?</i>
13:00 - 14:20	Industry session. Room A02, Chair: Viorel Negru Florin Manaila: <i>IBM Platform for HPC</i>
10:10 – 12:10	WoHS workshop: Friday, September 28
	Room: 045C. Chair: Emil Slusanschi (40 minutes/invited talk; 20 minutes/ paper) <ul style="list-style-type: none"> • Krzysztof Kurowski (invited talk): <i>Application tools and QosCosGrid services new user communities – lessons learned from national and European e-Infrastructures projects</i>

	<ul style="list-style-type: none"> • Alessandro Marani, Marzia Rivi and Paola Cristofori (<u>invited talk</u>): <i>Generation of Catalogues of PL n-manifolds: Computational Aspects on HPC Systems.</i> • Jerome Frisch, Ruiping Gao, Ralf-Peter Mundani, Chien Ming Wang and Ernst Rank: <i>Towards Interactive Steering of a Very Large Floating Structure Code by Using HPC Parallelisation Strategies.</i> • Ioan Lucian Muntean, Ioan Radu Peter and Marius Joldos: <i>Dynamics Analysis of Parallel Simulations of the Spike Response Model.</i> •
10:20 – 12:00	WoHS workshop: Saturday, September 29
	<p><i>Room: 045C. Chair: Ioan Lucian Muntean (20 minutes/paper)</i></p> <ul style="list-style-type: none"> • Alexandra Popescu, Giordano Cantu, Wolfram Miller and Daniel Vizman: <i>High performance computing on modeling grain formation in multicrystalline silicon growth.</i> • Ana Claudia Sima and Emil Slusanschi: <i>Optimizing Parallel CFD Simulations of 2D Compressible Flows.</i> • Claudiu Biris: <i>Parallel Input/Output of Large Scale Numerical Simulations in Modern Optics and Nanotechnology.</i> • HOST project interventions: <ul style="list-style-type: none"> ◦ Jorge Sevilla Cedillo: <i>HPC in Earth Observation</i> ◦ Alexander Agathos: <i>GPU performance in image processing</i>
10:40 - 12:00	MICAS Workshop: Wednesday, September 26
	<p><i>Room 045C. Chair: Elisabetta Di Nitto (20 minutes/paper)</i></p> <ul style="list-style-type: none"> • Jean Moschetta and Giuliano Casale. <i>OFBench: an Enterprise Application Benchmark for Cloud Resource Management Studies</i> • Sebastien Mosser, Franck Fleurey, Brice Morin, Franck Chauvel, Arnor Solberg and Iokanaan Goutier. <i>SENSAPP as a Reference Platform to Support Cloud Experiments: From the Internet of Things to the Internet of Services.</i> • Francesco D'Andria , Stefano Bocconi , Jesus Gorrongoitia Cruz, James Ahtes and Dimitris Zeginis. <i>Cloud4SOA: Multi-Cloud Application Management Across PaaS Offerings.</i> • Massimiliano Rak and Giuseppe Aversano. <i>Benchmarks in the Cloud: The mOSAIC Benchmarking Framework.</i>
13:00 – 14:40	<p><i>Room 045C. Chair: Dana Petcu (20 minutes/paper)</i></p> <ul style="list-style-type: none"> • Joaquin Guillen, Javier Miranda, Juan Manuel Murillo and Carlos Canal. <i>Developing Cross-Cloud Migratable Applications through the Use of Adaptation.</i> • Filippo Lorenzo Ferraris, Davide Franceschelli, Mario Pio Gioiosa, Donato Lucia, Danilo Ardagna, Elisabetta Di Nitto and Tabassum Sharif. <i>Evaluating the Auto Scaling Performance of Flexiscale and Amazon EC2 Clouds.</i> • Simone Benefico, Eva Gjerci, Ricardo Gonzalez Gomarosca, Eros Lever, Santo Lombardo, Danilo Ardagna and Elisabetta Di Nitto. <i>Evaluation of the CAP Properties on Amazon SimpleDB and Windows Azure Table Storage</i> • Daniel Tovarnak and Tomas Pitner. <i>Towards Multi-Tenant and Interoperable Monitoring of Virtual Machines in Cloud.</i> • Santo Lombardo, Elisabetta Di Nitto and Danilo Ardagna. <i>Issues in handling complex data structures with NoSQL databases.</i>
15:00 – 17:20	<i>Room 045C. Chair: Giuliano Casale (20 minutes/paper)</i>
	<ul style="list-style-type: none"> • Marc Frincu and Adrian Spataru. <i>Minimizing Resource Rent Loss while Maximizing User Availability in Cloud Applications through Online Switching of the Scaling Method.</i>

	<ul style="list-style-type: none"> • Victor Ion Munteanu, Florin Fortis and Viorel Negru. <i>Service lifecycle in the cloud environment.</i> • Roxana Marcela Farcasescu. <i>Trust Model Engines in cloud computing.</i> • Peter Matthews. <i>Measurement of Services.</i> • Harald Kuhn and Anke Gericke. <i>Challenges in Porting Legacy Applications to the Cloud. A Case Study.</i> • Craig Sheridan and Tabassum Sharif, Cloud Computing. <i>Flexiant and OPTIMIS.</i> • George Suciu. <i>A Case Study of Open Source Cloud Platforms.</i>
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17:00-19:00	ACSys Workshop: Friday, September 28
	<p><i>Room 045C. Chair: Sascha Ossowski (20 minutes/paper)</i></p> <ul style="list-style-type: none"> • Victor Ion Munteanu , Cristina Mindruta and Florin Fortis: <i>Service brokering in cloud governance.</i> • Gabriel Iuhasz, Monica Tirea and Viorel Negru: <i>Neural Network Predictions of Stock Price Fluctuations.</i> • Andrei Mocanu, Sorin Ilie and Costin Badica: <i>Ubiquitous Multi-agent Environmental Hazard Management System.</i> • Serban Radu, Eugenia Kalisz and Adina Magda Florea: <i>Agents negotiation profiles for automatic transactions in open environments.</i>

17:00-19:00	NCA Workshop: Friday, September 28
	<p><i>Room 032. Chair: Gheorghe Paun (20 minutes/paper)</i></p> <ul style="list-style-type: none"> • Mihaela Breaban, Dan Simovici and Henri Luchian: <i>Nonlinear Feature Extraction in a Logarithmic Space with Evolutionary Algorithms.</i> • Bianca Mogos and Andrei Horia Mogos: <i>A Kernel Based Clustering Algorithm using Particle Swarm Optimization and Discriminant Functions.</i> • George Anescu: <i>Particle Swarm Clustering Optimization (PSCO), a novel Swarm Intelligence approach to Global Optimization.</i> • Andrey Tsyganov and Oleg Bulychov: <i>HeO: a Parallel Metaheuristic Optimization Framework Based on Metaprogramming and Design Patterns.</i> • D Dumitrescu, Mihai Suciu, Noemi Gasko and Rodica Ioana Lung: <i>Suboptimality and infra equilibria</i>

10:40 – 12:00	IAFP Workshop: Wednesday, September 26
	<p><i>Room 032. Chair: Stefan Maruster (15 minutes/paper)</i></p> <ul style="list-style-type: none"> • Ioan A. Rus: <i>Picard nonself operators and applications.</i> • Adrian Petrusel: <i>Remarks on Krasnoselskii type iteration for multivalued operators.</i> • Erdal Karapinar: <i>Generalized α-ψ contractive type mappings and related fixed point theorems with applications</i> • Madalina Pacurar and Vasile Berinde: <i>Some fixed point theorems for contractive type mappings defined on product spaces.</i> • Marin Borcut: <i>Tripled fixed point theorems for operators which verify the contraction-type condition Chatterjea in partially ordered metric spaces.</i>
13:00 –	<i>Room 032. Chair: Vasile Berinde (15 minutes/paper)</i>

14:40	<ul style="list-style-type: none"> • Ioan A. Rus: <i>Impact of convergent iterative algorithms on the theory of fixed point equations with nonself operators.</i> • Adrian Petrusel: <i>Vectorial approach to fixed point equations and inclusions.</i> • Laura Maruster and Stefan Maruster: <i>On the parallel variant of Broyden method</i> • Liviu Cadariu: <i>Fixed point theorems for the Hyers-Ulam stability of functional equations.</i> • Ioana Timis: <i>New stability results of Picard iteration for contractive type mappings.</i> • Alexandru Darius Filip: <i>Iterative approximation of common fixed points in Kasahara spaces</i>
15:00 – 17:20	<p><i>Room 032. Chair: Liviu Cadariu (15 minutes/paper)</i></p> <ul style="list-style-type: none"> • Andrei Horvat-Marc: <i>A fixed point theorem in cone metric spaces.</i> • Florin Bojor: <i>Some extensions of Banach G-contractions.</i> • Mihaela Petric: <i>Some fixed point theorems for cyclical contractive type mappings.</i> • Monica Luran: <i>Existence results for some integral equations using the technique of nonexpansive operators.</i> • Dorel Mihet and Claudia Zaharia: <i>Probabilistic contractions and stability of functional equations</i> • Oana Bumbariu: <i>On some Algorithm for Accelerating Numerical Iterative Methods.</i> • Lavinia Moleriu, Radu Moleriu and Daniela Zaharie: <i>Stability analysis and its impact on the parameters estimation for a logistic growth model.</i>

AI.2 List of participants (in Italics the persons with HOST financial support for travelling, fee, accommodation)

No.	Name	Affiliation	Attended workshops	Trainings/ Tutorials (MPI/ Globus/ Cloud)
1	<i>Krzysztof Kurowski</i>	Poznan Supercomputing Center, Poznan, Poland	WoHS	
2	<i>Mariusz Mamonski</i>	Poznan Supercomputing Center, Poznan, Poland	WoHS	
3	<i>Marzia Rivi</i>	CINECA, Bologna, Italy	WoHS	
4	<i>Marani Alessandro</i>	CINECA, Bologna, Italy	WoHS	
5	<i>Jorge Sevilla Cedillo</i>	University of Extremadura, Spain	WoHS	MPI, Globus
6	<i>Juan Manuel Murillo</i>	University of Extremadura, Spain	MICAS	Cloud
7	<i>Joaquin Guillen</i>	University of Extremadura, Spain	MICAS	Cloud
8	<i>James Davenport</i>	University of Bath, UK	HPC Trainer	MPI
9	<i>Michael Kohlhase</i>	Jacobs University Bremen, Germany	Invited talk	
10	<i>Sascha Ossowski</i>	Rey Juan Carlos University Madrid, Spain	Invited talk	
11	<i>Sumit Gulwani</i>	Microsoft Research, USA	Invited talk	
12	<i>Tetsuo Ida</i>	University of Tsukuba, Japan	Invited talk	
13	<i>Stephen Watt</i>	University of Western Ontario, Canada	Invited talk	
14	Jérôme Frisch	Technische Universitaet Munchen, Germany	WoHS	Globus
15	Ralf-Peter Mundani	Technische Universitaet Munchen, Germany	WoHS	Globus
16	Ioan Lucian Muntean	Technical University of Cluj-Napoca, Romania	WoHS	MPI, Globus
17	Emil Slusanschi	University Politehnica of Bucharest, Romania	WoHS	MPI, Globus
18	Alexandra Popescu	Faculty of Physics, West University of Timisoara, Romania	WoHS	MPI
19	Daniel Vizman	Faculty of Physics, West University of Timisoara, Romania	WoHS	MPI
20	Elisabetta Di Nitto	Politecnico di Milano, Italy	MICAS	Cloud
21	Danilo Dardagna	Politecnico di Milano, Italy	MICAS	Cloud
22	Harald Kuehn	Information Systems GmbH, Austria	MICAS	Cloud
23	Alexander Gunka	Information Systems GmbH, Austria	MICAS	Cloud
24	Giuliano Casale	Imperial College London, UK	MICAS	Cloud
25	Francesco D'Andria	ATOS, Italy	MICAS	Cloud
26	Peter Matthews	CA Labs, UK	MICAS	Cloud
27	Tabassum Sharif	Flexiant, UK	MICAS	Cloud
28	Arnor Solberg	SINTEF, Norway	MICAS	Cloud
29	Massimiliano Rak	Second University of Naples, Italy	MICAS	Cloud
30	Santo Lombardo	Politecnico di Milano, Italy	MICAS	Cloud
31	Ricardo Gonzalez	Politecnico di Milano, Italy	MICAS	Cloud
32	Davide Franceschelli	Politecnico di Milano, Italy	MICAS	Cloud
33	Dana Petcu	West University of Timisoara, Romania	MICAS	Cloud
34	Daniel Pop	West University of Timisoara, Romania	MICAS	Cloud
35	Marc Frincu	West University of Timisoara, Romania	MICAS	Cloud
36	Ciprian Craciun	IeAT	MICAS	Cloud
37	Caius Bogdanescu	IeAT	MICAS	Cloud
38	Fllippo Ferraris	Politecnico di Milano, Italy	MICAS	Cloud
39	Viorel Negru	West University of Timisoara, Romania	ACSYS	

No.	Name	Affiliation	Attended workshops	Trainings/ Tutorials (MPI/ Globus/ Cloud)
40	Victor Ion Munteanu	Institute e-Austria, Timisoara, Romania	ACSYS	MPI, Globus
41	Cristina Mindruta	West University of Timisoara, Romania	ACSYS	
42	Gabriel Iuhasz	West University of Timisoara, Romania	ACSYS	MPI, Globus
43	Monica Tirea	West University of Timisoara, Romania	ACSYS	MPI, Globus
44	Adrian Mocanu	Technical University of Cluj-Napoca, Romania	ACSYS	
45	Sorin Ilie	University of Craiova, Romania	ACSYS	
46	Serban Radu	Politehnica University of Bucharest, Romania	ACSYS, NCA	
47	George Paun	University of Sevilla, Spain/ IMAR Romania	NCA	
48	Mihaela Breaban	University A.I.Cuza, Iasi, Romania	NCA	
49	George Anescu	Politehnica University of Bucharest, Romania	NCA	MPI, Globus
50	Mihai Suciu	“Babes-Bolyai” University of Cluj-Napoca, Romania	NCA	
51	Erdal Karapinar	Atilm University, Turkey	IAFP	
52	Ioan Rus	“Babes-Bolyai” University of Cluj-Napoca, Romania	IAFP	
53	Adrian Petrusel	“Babes-Bolyai” University of Cluj-Napoca, Romania	IAFP	
54	Vasile Berinde	Technical University of Cluj-Napoca, North University Center at Baia Mare, Romania	IAFP	
55	Marin Borcut	North University of Baia Mare, Romania	IAFP	
56	Laura Maruster	University of Groningen, Netherlands	IAFP	
57	Stefan Maruster	West University of Timisoara, Romania	IAFP	
58	Liviu Cadariu	Politehnica University of Timisoara, Romania	IAFP	
59	Ioana Timis	North University of Baia Mare, Romania	IAFP	
60	Alexandru Darius Filip	“Babes-Bolyai” University of Cluj-Napoca, Romania	IAFP	
61	Andrei Horvat-Marc	North University of Baia Mare, Romania	IAFP	
62	Florin Bojor	UT University Center Cluj Nord, Romania	IAFP	
63	Oana Bumbariu	North University of Baia Mare, Romania	IAFP	
64	Mihaela Petric	Technical University of Cluj-Napoca, Romania	IAFP	
65	Claudia Zaharia	West University of Timisoara, Romania	IAFP	
66	Lavinia Moleriu	West University of Timisoara, Romania	WoHS,IAFP	MPI
67	Simina Maris	West University of Timisoara, Romania	WoHS	MPI, Globus
68	Bogdan Manate	West University of Timisoara, Romania	WoHS	MPI, Globus
69	Alexander Agathos	West University of Timisoara, Romania	WoHS	MPI, Globus
70	Daniela Zaharie	West University of Timisoara, Romania	WoHS, NCA	MPI, Globus

Annex 2. WPCI - Workshop of Clouds, Cluster and High Performance Computing Infrastructures

A2.1. WPCI Agenda

26 April 2012

8:30 – 9:00	Registration
9:00 – 9:15	<p><i>Welcome</i></p> <ul style="list-style-type: none"> • Viorel Negru, Mircea Dragan (UVT, RO): <i>Welcome from UVT</i> • Dana Petcu (UVT, RO): <i>Welcome from HOST</i>
9:15 – 10:05	<p>Session 1: <i>Research services based on e-infrastructures</i></p> <ul style="list-style-type: none"> • Alison Kennedy (EPCC, UK): <i>EPCC – a University HPC centre, running national services</i>
10:05 – 10:20	<i>Coffee break</i>
10:20 – 12:00	<p>Session 2: <i>Research activities based on e-infrastructures</i></p> <ul style="list-style-type: none"> • Krzysztof Kurowski (PSNC, PL): <i>PSNC activities related to HPC</i> • Elda Rossi (CINECA, IT): <i>CINECA activities related to HPC</i>
12:00 – 13:00	<i>Lunch break</i>
13:00 – 14:30	<p>Session 3: <i>Project based activities and support for research (I)</i></p> <ul style="list-style-type: none"> • Mihnea Dulea (IFIN, RO): <i>The European HP-SEE project, the National ARCAS association, and IFIN-NH activities in HPC</i> • Valentin Cristea (UPB, RO): <i>The European project ERRIC and the CNTI's activities</i> • Felix Farcas (INCDTIM, RO): <i>Grid Activity and HPC in INCDTIM</i>
14:30 – 14:45	<i>Coffee break</i>
14:45 – 16:15	<p>Session 4: <i>Project based activities and support for research (II)</i></p> <ul style="list-style-type: none"> • Ioan Lucian Munteanu (UTCN, RO): <i>Applying Grid Technologies to Computational Neuroscience Research</i> • Octavian Rusu (RoEduNet, RO): <i>RoEduNet support for research</i> • Viorel Negru, Florin Fortis (UVT, RO): <i>ICAM and HOST projects</i>
16:15 – 16:30	<i>Coffee break</i>
16:30 – 17:30	<p>Session 5: <i>Intelligent services and e-infrastructure</i></p> <ul style="list-style-type: none"> • Marc Frincu (UVT, RO): <i>Scheduling strategies</i> • Daniel Pop (UVT, RO): <i>Artificial intelligence and high performance computing</i>

27 April 2012

9:00 - 9:30	<p><i>Session 6: National support for research on e-infrastructures</i></p> <ul style="list-style-type: none"> • Rolanda Predescu (ANCS, RO): <i>National Research Programmes</i>
9:30 – 11:00	<p><i>Session 7: End-user support and ICT research topics</i></p> <ul style="list-style-type: none"> • Elda Rossi (CINECA, IT): <i>CINECA activities for the support of Chemistry and Molecular dynamics</i> • Gabriel Mateescu (EPLF, CH): <i>Dynamic Resource Provisioning for HPC in the Cloud</i> • Dana Petcu (IEAT, RO): <i>Research activities related to Cloud computing</i>
11:00 – 11:15	<i>Coffee break</i>
11:15 – 12:45	<p><i>Session 8: Using the facilities of HPC center from Timisoara</i></p> <ul style="list-style-type: none"> • Daniela Zaharie (UVT, RO): <i>HPC for remote sensing</i> • Claudiu Biris (UVT, RO): <i>Analysing the non-linear behaviour of light at the nano-scale using OPTIMET and the Multiple Scattering Theory algorithm</i> • Victor Sofonea (Academy, RO): <i>Lattice Boltzmann models for microfluidics and complex fluids</i>
12:45 – 13:45	<i>Lunch break</i>
13:45 – 15:15	<p><i>Session 9: Training in using the facilities of an HPC center (hands-on)</i></p> <ul style="list-style-type: none"> • Marian Neagul, Silviu Panica (UVT, RO) – <i>Accessing the HPC facilities and programming style (InfraGRID and BlueGene/P)</i>
15:15 – 15:30	<i>Coffee break</i>
15:30 – 17:00	<p><i>Session 10: User requirements vs. e-Infrastructure facilities</i></p> <ul style="list-style-type: none"> • All participants – <i>Round table</i>
17:00	<i>Closing</i>

A2.2. List of participants (in Italics the persons with HOST financial support for travelling and accomodation)

No.	Name	Affiliation	Expertise field	Relation to HOST	Training
1	<i>Alison Kenedy</i>	Edinburgh Parallel Computing Center, Edinburgh UK	HPC	HOST partner	
2	<i>Krzysztof Kurowski</i>	Poznan Supercomputing and Networking Center, Poznan, Poland	HPC	HOST partner	
3	<i>Elsa Rossi</i>	CINECA, Bologna, Italy	HPC	HOST partner	
4	Mihnea Dulea	IFIN-HH, Romania	HPC/Physics	HOST team collaborator	Yes
5	Valentin Cristea	Politehnica University of Bucharest, Romania	Computer Engineering	HOST team collaborator	
6	Felix Farcas	Politehnica University of Bucharest, Romania	Computer Engineering	HOST team collaborator	
7	Ioan Lucian Muntean	Technical University of Cluj-Napoca Romania	Computer Engineering	HOST team collaborator	Yes
8	Octavian Rusu	RoEduNet, Romania	Computer Engineering	HOST team collaborator	
9	Rolanda Predescu,	National Agency for Scientific Research, Romania	Science management	HOST team collaborator	
10	Victor Sofonea	Romanian Academy, Timisoara, Romania (Physics)	Physics	HOST user	Yes
11	Gabriel Mateescu	EPLF, Switzerland	Computer Science	Potential HOST team member	
12	Dan Regep	OCE, Timisoara, Romania	IT	Potential industrial user	
13	Bogdan Grecu	ETA2U, Timisoara, Romania	IT	Potential industrial user	
14	Dionisie Szechely	ETA2U, Timisoara, Romania	IT	Potential industrial user	
15	Ioan Mitrache	Codecs, Timisoara, Romania	IT	Potential industrial user	
16	Adrian Banes	USAMVB, Timisoara, Romania	Agricultural Science	Potential scientific user	Yes
17	Monica Butnariu	USAMVB, Timisoara, Romania	Agricultural Science	Potential scientific user	Yes
18	Mihaela Corneanu	USAMVB, Timisoara, Romania	Agricultural Science	Potential scientific user	Yes
19	Ionel Samfira	USAMVB, Timisoara, Romania	Agricultural Science	Potential scientific user	Yes
20	Cornelia Hernea	USAMVB, Timisoara, Romania	Agricultural Science	Potential scientific user	Yes
21	Eliza Izbasoiu	University Spiru Haret, Bacau, Romania	Agricultural Science	Potential scientific user	Yes
22	Carmen Terei Fifor	University Aurel Vlaicu, Arad, Romania	Computer Science	Potential scientific user	Yes
23	Adriana Isvoran	West University of Timisoara, Romania	Biochemistry	Potential scientific user	Yes
24	Vizman Daniel	West University of Timisoara, Romania	Physics	Potential scientific user	Yes
25	Alexandra Popescu	West University of Timisoara, Romania	Physics	Potential scientific user	Yes
26	Adrian Sorin Gruia	West University of Timisoara, Romania	Physics	Potential	Yes

No.	Name	Affiliation	Expertise field	Relation to HOST	Training
				scientific user	
27	Mirela Vaida	West University of Timisoara, Romania	Physics	Potential scientific user	Yes
28	Florica Novacescu	Politehnica University of Timisoara, Romania	Computer Engineering	Potential scientific user	Yes
29	Bogdan Barvinschi	West University of Timisoara, Romania	Physics	Potential scientific user	Yes
30	Ramona Nistora	West University of Timisoara, Romania	Physics	Potential scientific user	Yes
31	Cristina Mindruta	West University of Timisoara, Romania	Computer Science	Potential scientific user	Yes
32	Roxana Farcasescu	West University of Timisoara, Romania	Computer Science	Potential scientific user	Yes
33	Gabriel Iuhasz	West University of Timisoara, Romania	Computer Science	Potential scientific user	Yes
34	Caius Bogdanescu	e-Austria Institute, Timisoara, Romania	Computer Science	Potential scientific user	Yes
35	Mircea Dragan	West University of Timisoara, Romania	Computer Science	HOST team	Yes
36	Dana Petcu	West University of Timisoara, Romania	Computer Science	HOST team	Yes
37	Viorel Negru	West University of Timisoara, Romania	Computer Science	HOST team	
38	Daniel Pop	West University of Timisoara, Romania	Computer Science	HOST team	Yes
39	Daniela Zaharie	West University of Timisoara, Romania	Computer Science	HOST team	Yes
40	Marc Frincu	West University of Timisoara, Romania	Computer Science	HOST team	Yes
41	Claudiu Biris	West University of Timisoara, Romania	Computer Science	HOST team	Yes
42	Isabela Dramnesc	West University of Timisoara, Romania	Computer Science	HOST team	Yes
43	Marian Neagul	West University of Timisoara, Romania	Computer Science	HOST team	Trainer
44	Silviu Panica	West University of Timisoara, Romania	Computer Science	HOST team	Trainer

Annex 3. WelPS - Workshop of e-Infrastructure for Public Sector

A3.1. Agenda

21 March 2013

14:30 – 15:15	<i>Preliminary session (in the framework of IBM Academic Days for Universities in Romania – Aula BCUT):</i>
	<p>Overview of e-infrastructures based research activities at the West University of Timisoara</p> <ul style="list-style-type: none"> • Daniela Zaharie, Daniel Pop (UVT) – <u>Research Activities at the Computer Science Research Centre of WUT</u> • Marian Neagul (UVT) – <u>HPC Center: Resources and Facilities</u>

22 March 2013

8:30 – 9:00	Registration
9:00 – 9:30	<p><i>Opening</i></p> <ul style="list-style-type: none"> • Viorel Negru (UVT) – <i>Welcome from UVT</i> • Dana Petcu (UVT) – <u>HPC Service Center</u>
9:30 – 10:15	<p>Session 1: National support for e-infrastructures based research</p> <ul style="list-style-type: none"> • Mihnea Dulea (IFIN) – <u>The role of the national advanced computing infrastructure in supporting research</u>
10:15 – 10:30	<i>Coffee break</i>
10:30 – 12:00	<p>Session 2: e-Infrastructure requirements for public services (I)</p> <ul style="list-style-type: none"> • Raluca Cibu-Buzac (ADR V Vest) – <u>Regional Cluster for Information and Communication Technology – West Region Romania</u> • Violeta Mihalache (Municipality of Timisoara) – <u>Local challenge: orientation toward citizens through e-infrastructure</u> • Stefan Iovan (SC “Informatica Feroviara” SA) – <u>Complex Architectures in the National Ticketing System</u>
12:00 – 13:00	<i>Lunch break</i>
13:00 – 14:00	<p>Session 3: Case studies</p> <ul style="list-style-type: none"> • Daniel Pop (UVT) – <u>SEED – Raising citizens’ awareness about existing e-Government contents</u>
14:30 – 16:00	<p>Session 4: e-Infrastructure requirements for public services (II)</p> <ul style="list-style-type: none"> • Stelian Campianu (ETA 2U) – <u>Usage scenarios for Cloud Infrastructure</u> • Ciprian Jichici (GeniSoft) – <u>Robustness of Collecting Data from Distributed Locations</u> • Gheorghe 'tefănescu (University of Bucharest) - <u>Open Systems: Modelling, Programming, Verification</u>
16:00 – 16:30	<i>Coffee break</i>
16.30 – 18.00	<p>Session 5: UVT-HPC center</p> <ul style="list-style-type: none"> • Silviu Panica, Marian Neagul (UVT) – <u>Infrastructure overview</u> • Marian Neagul (UVT) - <u>Training in using the facilities of an HPC center</u>

23 March 2013

9:00 – 10:00	<i>Session 6: Romanian e-infrastructure. Round table</i> <ul style="list-style-type: none">• Moderator: Andrei Paraschiv (MEN)
10:00 – 10:30	<i>Coffee break</i>
10:30 – 13:00	<i>Session 7: Research activities based on e-infrastructures</i> <ul style="list-style-type: none">• Alexander Agathos (UVT) – <i>Optimization and parallelization of the Minimum Volume Simplex Analysis algorithm</i>• Cristina Marinescu (UVT) - <i>Quality Assessment in the Cloud and for the Cloud</i>• Claudiu Biris (UVT) – <i>Parallel computing for practical nanoscale optics</i>• Daniel Pop (UVT) – <i>Machine Learning and Cloud Computing: trends, issues, plans at UVT</i>
13:00	<i>Closing</i>

A3.2. List of participants (in Italics the persons with HOST financial support for travelling and accommodation)

No.	Name	Affiliation	Type of institution	Participation to sessions (P)resentations, (R)ound table, (T)raining
1	<i>Andrei Paraschiv</i>	National Education Ministry, Romania, ARCAS initiative group	Public sector	R
2	<i>Mihnea Dulea</i>	IFIN Bucuresti, Romania, ARCAS president	Research Institute	PR
3	<i>Stefan Iovan</i>	SC Informatica Feroviara SA, Romania	Public sector	PRT
4	Violeta Mihalache	Timisoara Municipality	Public sector	P
5	Stelian Campianu	ETA 2U Timisoara, Romania	IT Company	P
6	Ciprian Jichici	Genisoft	IT Company	P
7	Dan Cioca	Genisoft	IT Company	P
8	Raluca Cibu-Buzac	Regional Development Agency (ADR V Vest) Timisoara, Romania	Public sector	P
9	Victor Sofonea	Romanian Academy, Timisoara	Research Institute	PT
10	Caius Bogdanescu	IeAT Timisoara, Romania	Research Institute	PRT
11	Ciprian Craciun	IeAT Timisoara, Romania	Research Institute	PT
12	Ioan Silea	Politehnica University, Timisoara	Education&research	PRT
13	Viorel Bostan	Technical University of Moldova	Education&research	PT
14	Emil Slusanschi	Politehnica University, Bucharest	Education&research	R
15	Gheorghe Stefanescu	University of Bucharest	Education&research	PT
16	Mirela Voicu	West University (Business Administration)	Education&research	PT
17	Luminita Hurbean	West University (Business Administration)	Education&research	P
18	Doina Danaiaata	West University (Business Administration)	Education&research	P
19	Gabriel Iuhasz	West University (Computer Science)	Education&research	PRT
20	Monica Tirea	West University (Computer Science)	Education&research	PT
21	Lavinia Moleriu	West University (Computer Science)	Education&research	P
22	Horia Popa	West University (Computer Science)	Education&research	PT
23	Ovidiu Aritoni	West University (Computer Science)	Education&research	PT
24	Gabriel Istrate	West University (Computer Science)	Education&research	PT
25	Cosmin Bonchis	West University (Computer Science)	Education&research	PT
26	Alexandru Bledea	West University (Computer Science)	Education&research	PT
27	Roxana Farcasescu	West University (Computer Science)	Education&research	PT
28	Popescu Vlad	West University (Computer Science)	Education&research	PT
29	Dana Petcu	West University (HOST team)	Education&research	PRT
30	Viorel Negru	West University (HOST team)	Education&research	PRT
31	Mircea Dragan	West University (HOST team)	Education&research	PT
32	Alexander Agathos	West University (HOST team)	Education&research	P
33	Florin Fortis	West University (HOST team)	Education&research	PRT
34	Daniel Pop	West University (HOST team)	Education&research	PRT
35	Cristina Marinescu	West University (HOST team)	Education&research	PRT
36	Claudiu Biris	West University (HOST team)	Education&research	PT
37	Daniela Zaharie	West University (HOST team)	Education&research	PRT
38	Isabela Dramnesc	West University (HOST team)	Education&research	PRT
39	Silviu Panica	West University (HOST team)	Education&research	T
40	Marian Neagul	West University (HOST team)	Education&research	PT
41	Mihai Gaiianu	West University (HOST team)	Education&research	PRT

Annex 4. HPC Training: BlueGene/P and InfraGRID cluster usage

A4.1. Agenda

HPC Training
West University of Timisoara
Computer Science Department
July 10 – 11, 2012
045C Room

July 10

09:00-09:45 Registration
09:45-10:00 Opening
10:00-11:20 Blue Gene/P – characteristics and operation (I) [S. Panica]
11:20-11:40 Coffee break
11:40-13:20 Blue Gene/P - characteristics and development (II) [S. Panica]
13:00-15:00 Lunch
15:00-16:20 InfraGrid - cluster characteristics and operation (I) [M. Neagul]
16:20-16:40 Coffee break
16:40-18:00 InfraGrid - cluster characteristics and development (II) [M. Neagul]
18:00-19:00 HPClab visit

July 11

10:00-11:20 OpenMP si MPI programming. Exercises. (I) [D.Petcu]
11:20-11:40 Coffee break
11:40-13:00 OpenMP si MPI programming. Exercises. (II) [D.Petcu]

A4.2. List of external participants

No.	Name	Affiliation	Position
1	Piroska Haller	University „Petru Maior” Tirgu Mures	Associate professor
2	Sandor Szilagy	University „Petru Maior” Tirgu Mures	Lecturer
3	Bogdan Crainicu	University „Petru Maior” Tirgu Mures	Assistant professor
4	Laszlo Szilagy	University Sapientia Tirgu Mures	Associate professor
5	David Iclanzan	University Sapientia Tirgu Mures	Lecturer
6	Bogdan Haifa	University of Medicine and Pharmacy, Tirgu Mures	IT specialist