EURO-VO Data Centre Alliance workshop: Grid and Virtual Observatory

Garching, April 07-09, 2008

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Sponsorship

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FOREWORD

This volume contains papers that were presented at the ”Grid and Virtual Observatory” workshop organized by the Euro-VO Data Center Alliance (DCA), which was held on 9-11 April 2008 at the Max Planck Institute for Extraterrestrial Physics in Garching, Germany. The EuroVO -DCA is a coordinated action funded by the European Community, within the Sixth Framework Programme (FP6), starting from September 2006 for a duration of 28 months. EuroVO-DCA coordinates and assists European Data Centres to take up VO standards, share best practice for data providers, consolidate operational requirements for VO-enabled tools and systems and enable the identification and promotion of scientific requirements from programs of strategic national interest that require VO technologies and services.

Workshop overview

The Virtual Observatory (VObs) is rapidly evolving as a fundamental tool for the astronomical community. It may be seen as a Grid of federated astronomical databases. The VObs allows global electronic access to the available astronomical data archives of space and ground-based observatories and to simulation databases as well. It also aims at enabling data analysis techniques through world-wide network access, state-of-the-art analysis tools, and a coordinating entity that provides common standards. To process the huge amount of data residing in the VObs it is necessary to provide adequate resources.

On the other hand, Grid infrastructures are deployed with high investments in this kind of facilities, both at the national and European levels. This provides a geographically distributed e-infrastructure available to European scientists. Actually some astrophysical applications, mainly in the theoretical and modeling fields, are already making use of the computing power the computational Grid is able to offer.

The workshop aims at building the bridge between the VObs and the standard Grid infrastructures, making developers from the different fields meet and exchange experiences and solutions. To achieve its goals the workshop has targeted two main audiences:

- The first is the community of Grid and VObs developers that contribute to the suite of standard facilities and web services of the VObs and Grid middleware and tools.
- The second audience comprises Grid and VObs users. This includes current and potential users both in the Astronomers Community and in other scientific areas. A particular goal is to identify and then support those who are willing to do pilot work using the new tools provided both by the VObs and Grid technologies to work on a specific scientific problem.

The Workshop topics are current Research advances in Grid and Virtual Observatory systems, European and National e-Infrastructures, applications in Astronomy and other scientific fields, Data Centres experiences, Data and Databases virtualization in e-science infrastructures and Interoperability and long term sustainability.

The workshop is divided in three thematic sections. The first section regards the applications and their use of Grid and VObs infrastructures. The second section is dedicated to the Grid infrastructures in Europe while the last session presents Grid and VObs tools.

More than 50 researches from different countries attended the workshop (see. Fig. 1) and actively participated to the discussion sessions. Although there were mainly form European Countries is heartening to note that 16 countries were represented, including USA, India and Japan.

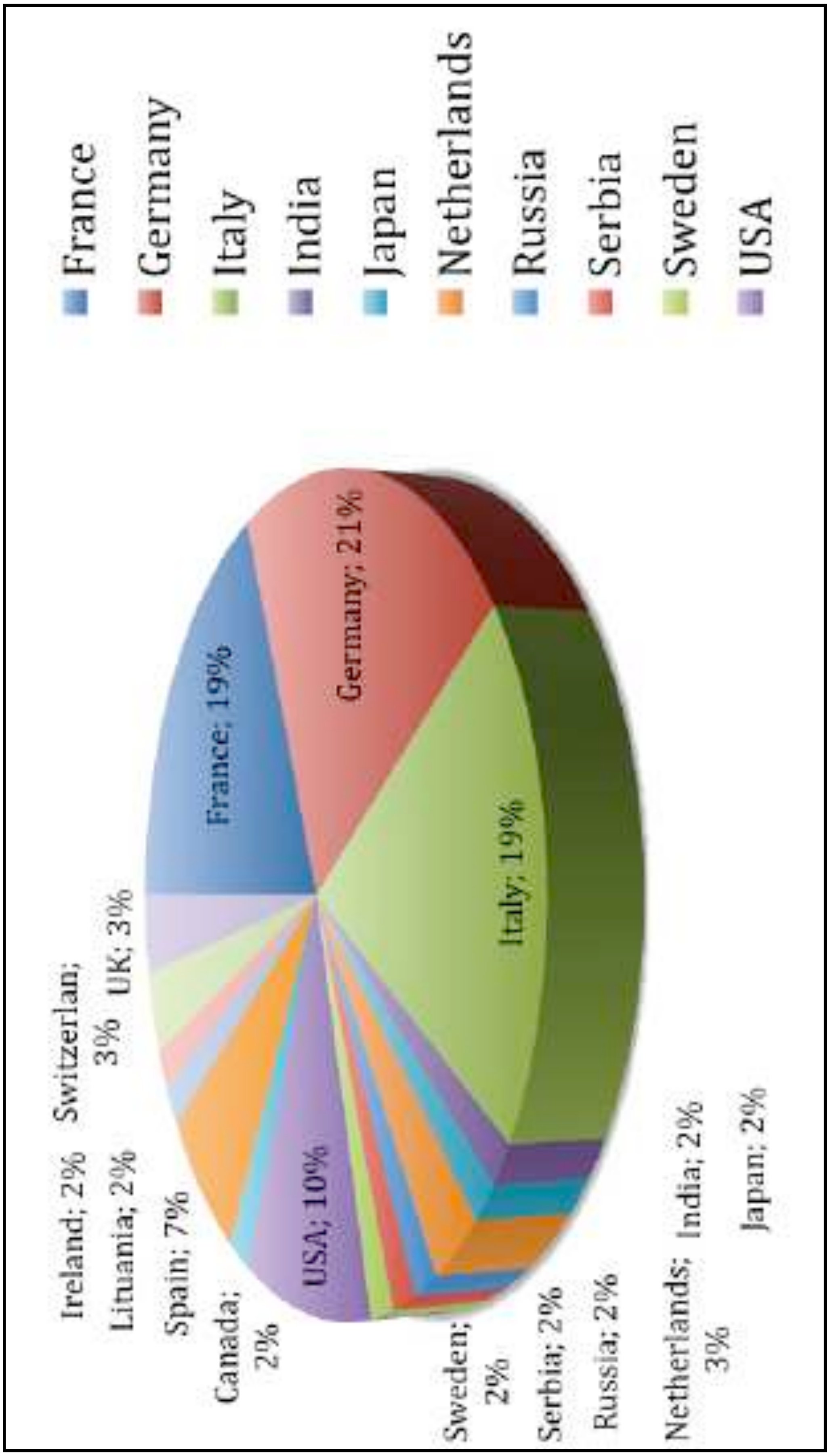

Fig. 1. List of participants divided per country.

A special reminder should be done to the excellent invited speakers:
Edwin VALENTIJN (NOVA), Erwin LAURE (CERN, EGEE) Charles LOOMIS (EGEE, CNRF) Claudio GHELLER (Cineca, DEISA), Francoise GENOVA (CDS), Ugo BECCIANI (COMETA, Italy), Masatoshi OHISHI (NAO Japan), Guy RIXON (AstroGrid), Ruben ALVAREZ TIMON (ESAC), Luigi FUSCO (ESRIN), Claudio VUERLI (EGEE Astro Cluster), Fabio PASIAN (IGI), Mattias STEINMETZ (AstroGrid-D), Franck CAPELLO (Grid5k), Giuseppe LONGO (Univ. Federico II), Franck LE PETIT (Observatoire de Paris), Richard HOOK (ESO).

Further Informations:
This workshop is the main milestone of the activity of Work package 5 ”Coordination with Grid initiatives” of EuroVO-DCA coordinated action. The Workshop website is available at: http://www.si.inaf.it/eurovow2008/index.htm, and a Workshop TWiki page including abstracts of the talks and presentations is available at: http://cds.u-strasbg.fr/twikiDCA/bin /view/EuroVODCA/Wp5Workshop.

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