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Outcome of the Euro-VO DCA WP5 Activities

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We present the results achieved by WP5 of the EU-funded Euro-VO DCA (Data Centre Alliance) project, aimed at assisting EU Astronomical Data Centres to take up VObs (Virtual Observatory) standards and share best practices for data providers. WP5 dealt with three aspects: a) how Data Centres can benefit from Grid computing; b) how Astronomers can benefit from Grid computing through Data Centres; c) definition of tools and standards to make Grid infrastructures and the VObs fully interoperable.

Impact

The astrophysical cluster is supported by EGEE since January 2007 given its ability to provide interesting applications and use cases to the project. A bridge connecting the VObs and the Grid, however, is of paramount importance for the success of the Grid within the Astronomical community. The WP5 of the Euro-VO DCA project was explicitly targeted to the creation of this bridge and this explains its strong impact for the Astronomical community. Key topics being part of the activity carried out within WP5 include the Authentication/Authorization mechanism, the Data Management System, the Job Management System and the Information System. All these aspects are of crucial importance for a full interoperability between the Grid and the VObs given their relevance in both these technologies. Last but not least, cross-fertilizations aspects have been taken into account by WP5; important dissemination events have been jointly organized with Earth Science, Biomedical and Space communities.

URL for further information

http://cds.u-strasbg.fr/twikiDCA/bin/view/EuroVODCA/WP5Grid

Conclusions and Future Work

Important results, reported in this contribution, have been produced by WP5. They are of paramount importance to make the Grids and the VObs fully interoperable, fostering in this way the adoption of the Grid technology by the astrophysical community, with a special attention for the EGEE Grid infrastructure. The final goal is the setup of an integrated working environment where astronomers can exploit both data and computational resources and combine them by means of complex workflows.

Keywords

Grid Middleware, Tools, Services, Virtual Observatory, Interoperability, Applications Porting

Detailed analysis

WP5 carried out its activities in several areas: a) knowledge acquisition; b) coordination activities, both internal to the Euro-VO DCA and external; c) definition of guidelines (HOWTOs, standards and procedures, etc.); d) dissemination activity for a pervasive knowledge of Grid Systems by Data Centres. This contribution gives an overview of the deliverables produced by WP5. Among these, two of them are particularly relevant for the astrophysical community and for this reason they represent the core of this contribution: 1) two use cases (the first one data oriented, the second one theory oriented) coming from Astronomical Data Centres that already make intensive use of the Grid; 2) an interesting VOspace - LFC (LCG File Catalogue) implementation

that allows a full integration of the VObs and of Grid data space so that astronomical users can transparently access these data whatever is their physical location, namely in the VObs space or in the Grid DMS (Data Management System).

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