

THE EURO-VO DATA CENTRE ALLIANCE

Mark G. Allen¹, Françoise Genova¹, and the DCA Project Team²

¹Centre de Donnés de Strasbourg, Observatoire de Strasbourg

ABSTRACT

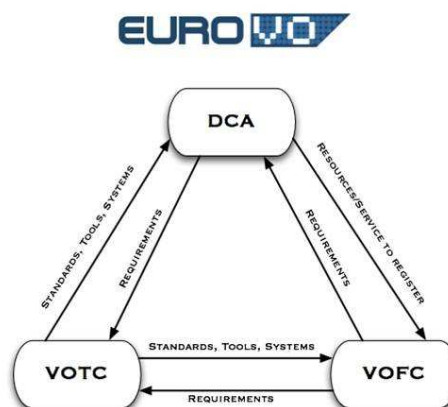
We describe the goals and objectives of the Euro-VO Data Centre Alliance.

Key words: Virtual Observatory.

1. INTERNATIONAL VIRTUAL OBSERVATORY ALLIANCE AND THE EURO-VO PROJECT

Astronomy has traditionally been at the forefront of the development of on-line services. National and international ground- and space-based observatories produce terabytes of data, which are publicly available from observatory archives all around the world. Data centres develop added-value services, such as high-level data products, analysis tools, bibliographic and compilation databases. Results published in electronic journals are also on-line. For their daily research work, astronomers routinely use this data network, consisting of large volumes of distributed, heterogeneous data. However, the identification by users of data of interest to them among the wealth of available resources can be difficult. Additionally, each data set and service has its own user interface and access methods. The development of the Virtual Observatory (VObs) concept aims at providing seamless unified access to data holdings, accessed through uniform portals, and analysable by the same tools. VObs projects around the world have formed the International Virtual Observatory Alliance (IVOA, <http://www.ivoa.net>).

European VObs activities are focused through the European Virtual Observatory (Euro-VO) consortium (<http://www.euro-vo.org>). This consists of 3 parts, the Euro-VO Technology Centre (VOTC), the Euro-VO Data Centre Alliance (DCA), and the Euro-VO Facility Centre (VOFC) (see figure). The VOTC is a distributed organisation, coordinating a set of research and development projects on the advancement of VObs technology, systems and tools; the VOFC provides the Euro-VO with a persistent, centralised registry for resources, standards and certification mechanisms as well as community support for VObs technology take-up and dissem-



ination and scientific program support using VObs technologies.

The Euro-VO Data Centre Alliance, is the component of the Euro-VO that populates the Virtual Observatory with data (<http://www.euro-vo.org/pub/dca>). The DCA has adopted a wide and inclusive concept of a data centre to include 'classical' data centres, such as ground- and space-based observatory archives, as well as generalist data centres, and providers of added-value services and tools.

2. THE EURO-VO DATA CENTRE ALLIANCE

The role of the DCA is to coordinate and assist European Data Centres to take up VObs standards, share best practise for data providers, and consolidate operational requirements for VO-enabled tools and systems. Funds for the DCA have been allocated by the European Community, within the Sixth Framework Programme (FP6), starting in September 2006 for a duration of 28 months.

The top level objective is to coordinate European data centres in forming a cooperating community and, thereby, maximising the scientific utilisation of the rich astronomical on-line resources distributed all over Europe. And the goal is '*technology take-up and full VObs*

compliant data and resource provision by astronomical data centres in Europe'

The project partners are CNRS/INSU (France, coordinator), ESA, ESO, INAF (Italy), INTA (Spain), MPG representing the German Astrophysical Virtual Observatory, NOVA (The Netherlands) represented by the University of Groningen, and AstroGrid represented by the University of Leicester.

The objectives of EuroVO-DCA can be summarised in 6 key points, corresponding to the project work packages. The lead partner(s) for each activity is indicated. All projects partners participate in a least several of the activities.

- **Coordination (INSU)**
Coordination of national VObs initiatives and fostering the definition of a European strategy, and a census of Data Centres.
- **Workshops, Tutorials, Data Centre Visits (ESA/ESO)**
'Learn how to publish to the VObs'. Workshops and on-line tutorials will provide knowledge and good practise about interoperability standards and tools.
- **Feedback (LU)**
To ensure that DCA is meeting the needs of data centres, feedback will be gathered from real implementations and provided to VO-TECH, VObs technology contributors, and to the IVOA Interoperability working groups.
- **Preparation for the theoretical VObs (MPG)**
Preparing the inclusion of new types of services in the VObs framework, in particular theoretical and modelling services
- **Coordination with the Computational GRID (INAF)**
Co-ordinating the VObs with the development of generic elements of the computing grid, in particular European middle-ware projects such as EGEE
- **Support to data centres from other European countries (INTA)**
Help will be extended to data centres from beyond the partners countries to participate in the VObs endeavour.

ACKNOWLEDGMENTS

The Euro-VO Data Centre Alliance project is funded by the European Union Framework Program 6 *Communication Network Development* (Project RI 031675)