

Euro-VO



F. Genova, Interoperability meeting, 27 Oct. 2008



European astronomy

- A rich landscape including the two European Agencies, ESA and ESO, and national programmes
- Several of the founding parents of the astronomical VO
- *Challenge*: coordinate/federate VO projects
 - Different systems
 - Different projects

The Euro-VO (1)

- Europe could be a source of money
- A complex funding system which evolves continuously
 - Organized into Framework Programmes
 - Calls and « instruments »
- Seize opportunities but first identify them

The Euro-VO (2)

- A series of projects which progressively built the landscape
- Structured in phases in three successive Framework Programmes
 - Phase A: AVO, OPTICON Interoperability WG
 - Development: VO-TECH, EuroVO-DCA
 - Transition to operations: EuroVO-AIDA

The Euro-VO Phase A project: AVO

- Phase A: Astrophysical Virtual Observatory, 2001-2004 (Coord. ESO)
 - Science Reference Mission (ESA-ECF)
 - Interoperability (CDS)
 - Technology (AstroGrid)



A series of successful demos

Proof of concept

2MASS
ESO-WFI
Chandra
VLT-ISAAC
HST-ACS
DSS
My Data

Data Tree

- GOODS-WFI
 - ICLWP
 - V89
 - DEEP2C-FV-Preview 38.1 'x37.3' 2000-10-2
 - DEEP2C-FV 8.2 'x8.2' 2000-10-26
 - B99
 - RC162
 - U38
- GOODS-ACIS
 - LR.1-10KEV
 - ACIS-HCDFS000 1.2 'x1.2' 1999-10-14
 - HR.1-10KEV
- GOODS-ISAAC
 - J
 - GOODS-10 2.5 'x2.5' 08/04/2002
 - GOODS-11 2.5 'x2.5' 08/04/2002
 - GOODS-14 2.5 'x2.5' 08/04/2002
 - GOODS-15 2.5 'x2.5' 08/04/2002
 - GOODS-20 2.5 'x2.5' 08/04/2002
 - GOODS-16 2.5 'x2.5' 08/04/2002
 - GOODS-21 2.5 'x2.5' 08/04/2002
 - GOODS-9 2.5 'x2.5' 08/04/2002
- GOODS-HST-ACS
 - F775W
 - epoch1
 - epoch2
 - epoch3
 - epoch4
 - epoch5
 - version1.0
 - CDF-SOUTH-SECT32-VERSION1.0
 - CDF-SOUTH-SECT25-VERSION1.0
 - CDF-SOUTH-SECT23-VERSION1.0
 - CDF-SOUTH-SECT21-VERSION1.0
 - CDF-SOUTH-SECT44-VERSION1.0
 - CDF-SOUTH-SECT14-VERSION1.0
 - CDF-SOUTH-SECT42-VERSION1.0
 - CDF-SOUTH-SECT12-VERSION1.0
 - CDF-SOUTH-SECT35-VERSION1.0
 - CDF-SOUTH-SECT33-VERSION1.0
 - CDF-SOUTH-SECT31-VERSION1.0
 - CDF-SOUTH-SECT24-VERSION1.0
 - CDF-SOUTH-SECT22-VERSION1.0
 - CDF-SOUTH-SECT45-VERSION1.0
 - CDF-SOUTH-SECT43-VERSION1.0
 - CDF-SOUTH-SECT13-VERSION1.0
 - CDF-SOUTH-SECT11-VERSION1.0
 - CDF-SOUTH-SECT34-VERSION1.0
- F606W
- F435W
- F850LP
- SERC
- J
- AAO

Submit Reset Clear Close

Data available at selected point are highlighted in tree

Info Frame

CDF-SOUTH-SECT23-VERSION1.0

Observation_Name	CDF-SOUTH-SECT23-VERSION1.0
ObservingProgram_Name	GOODS-HST-ACS
FilterName	F775W
Size_alpha	4.1"
Size_delta	4.1"
Angular Pixel Size	0.029"
Origin	STSCI
OriginalCoding	FITS
CentralPoint_RA	03:32:38.72
CentralPoint_DEC	-27:48:18.3
DateAndTime	2002-08-01
Position Angle	0.0°

Cutout Target: 03 32 33.50 -27 47 36. Grab

Stick FoV in stack LOAD Close

Image metadata

A.V.O demonstration prototype v1.0

Load... Save... Plugins... Print... Help... Quit

J2000 03:32:33.50 -27:47:36.9 Field: 03:32:25.77 -27:48:07.4 38.08"x37.2"

cdfs

select prop draw text tag dist filter rgb cont hist zoom mult X del pad

FoV for epoch2
FoV for epoch1
GOODS-WFI

Zoom 1x

CDS - ESO - AstroGrid - ST-ECF - UMAN/Jodrell Bank - CNRS/DR01 - VO-India - STScI

Field of view outlines are plotted automatically



From CDS CS Meeting, Nov. 2001

Interoperability WG

IVOA predecessor

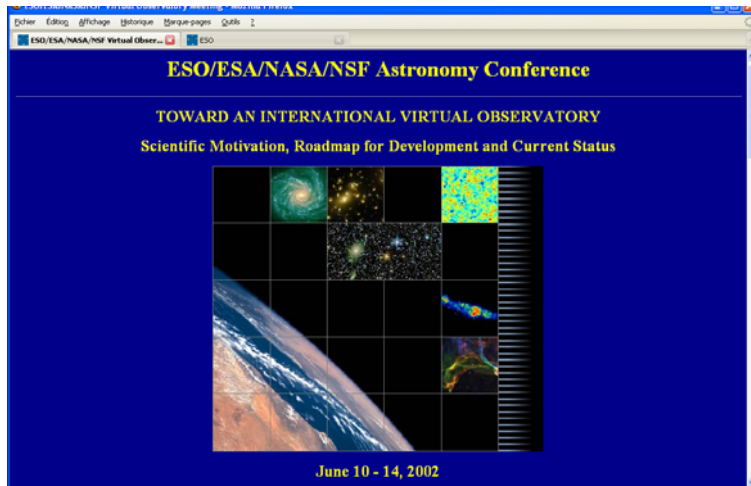
Membership: Data managers

- Study *cost effective tools and standards* for improving access and data exchange to/from data archives and information services (minimal workload)
- Discuss the technical results of the AVO interoperability prototyping
- optical/IR (EC OPTICON), radio (EC RadioNet)
- International partnership beyond EU
USA (NVO key actors), Canada, Australia

In 2002



- January
First Interoperability meeting - **VOTable**
- June
 - Conference *Toward an International Virtual Observatory* (ESO/ESA/NASA/NSF)
 - Creation of IVOA, the Alliance of funded VO projects



Round the clock:

<http://www.ivoa.net>

*Europe (incl.
ESA, ESO
+ 6 partners)*

China

India

Canada

Spain

Italy

Armenia

France

Germany

Hungary

Japan

Korea

USA

Russia

UK (AstroGrid)

Australia



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Next step: Framework Programme 6

- EC suggested to cut the programme into several pieces to candidate to different funding opportunities
- Several proposals failed
- *Infrastructure: VO-TECH Design Study*
- *e-Infrastructure: Euro-VO Data Centre Alliance, Coordination Action*

The European FP6 vision

Data Centre Alliance

Populates the VO with data and services

FP6 Coordination Action to help data providers and gather feedback

Technology Centre

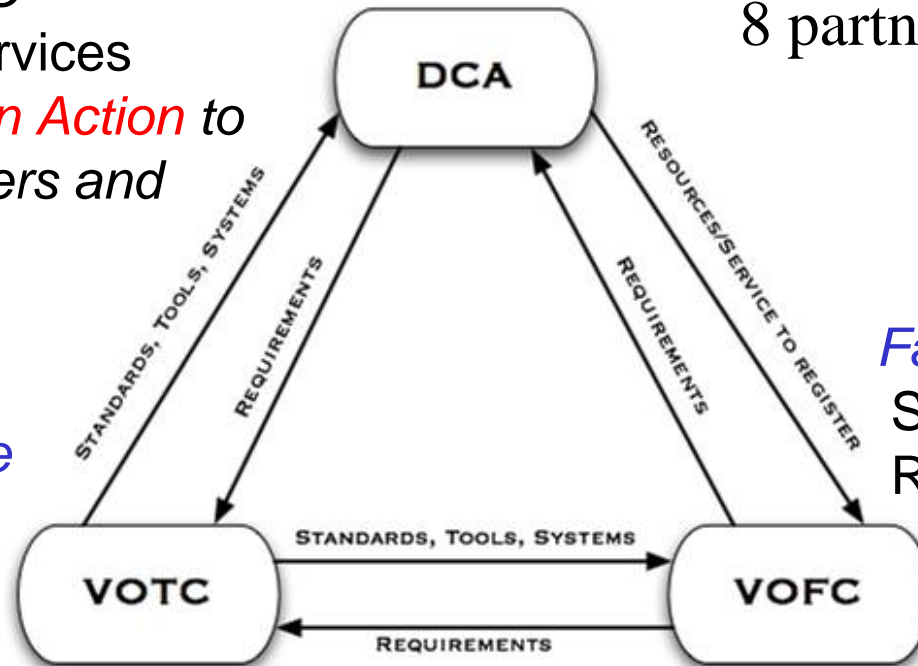
Distributed

- **FP6 VO-TECH** Infrastructure Design Study
- ESA-VO (et al.)



Euro-VO

Best effort alliance
8 partners



Facility Centre

Support to users
Registry





- VO-TECH Design Study
- ESA-VO



- Architecture
- Tools
- Intelligent resource discovery
- Data mining and visualisation

EURO VO TECHNOLOGY CENTRE **The VOTECH Project**

Overview

- Introduction
- Latest News
- FAQ
- Contacts

Collaboration

- Forums
- Project TWiki
- VO Partners

Partner Links

- Euro-VO Home
- AstroGrid
- CDS
- ESO
- INAF

VOTECH

The VOTECH project is an EU FP6 funded design study which aims to complete the technical preparation for the construction of the European Virtual Observatory (Euro-VO). The Euro-VO is an integrated and coordinated program designed to provide the European astronomical community with tools, systems, research support, and data interoperability standards necessary to enable astronomers simplified access to the information they need to complete their research.

The idea of the Euro-VO is to make it feel as if all the astronomical data and tools are available on the astronomers desktop, even though they are actually located on systems spread out over the whole of Europe and even the rest of the world. The VOTECH project is responsible for completing the design work and feasibility studies on the backbone software components that will make the Euro-VO possible. For more information on the VOTECH project a more thorough summary is [available here](#).

Further Information for Collaborators



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Coordination
Action



Support to
data
providers

WebHome < EuroVODCA < TWiki - Mozilla Firefox

EuroVODCA

Log In or Register

EuroVODCA Web

- Create New Topic
- Index
- Search
- Changes
- Notifications
- Statistics
- Preferences
- Help

Webs

- EuroVODCA
- Main
- Sandbox
- Twiki

Links

- Euro-VO
- IVOA
- VO Tech
- Communication Network
- Development in FP6

EuroVODCA Web > WebHome r28 - 19 Feb 2008 - 13:55:14 - FrancoiseGenova

Welcome to the Euro-VO Data Centre Alliance TWiki

This is the web-based collaboration area of the [Euro-VO Data Centre Alliance](#) project. This project is supported by EU in the framework of the FP6 eInfrastructure [Communication Network Development](#) initiative (project RI031675). It started on 1 September 2006, for a duration of 28 months.

Highlights

- [Euro-VO Theory and Grid Workshops: April 7-11, Garching, Germany](#)
- [EuroVO-DCA realizes a census of European astronomical data centres](#). Please submit your questionnaires by January 25, 2008.

!!! The census questionnaire is still available. Do not forget to send a message to the email indicated in the instructions if you submit forms. !!!

General information

- [Project overview](#)
- [Project Partners](#)
- [Who is Who](#)
- [Schedule](#)
- [Organisation](#)
- [Data Centres in the VO](#)
- [IVOA Standards](#)
- [IVOA Working Groups](#)

EuroVO-DCA Bodies

- [Board](#)
- [Project Coordination Team](#)
- [Internal Science Team](#)
- [Theoretical astronomy Expert Group](#)

Work Packages

- [WP1: Management](#)
- [WP2: Strategy](#)
- [WP3: Support to VO take-up and implementation](#)
- [WP4: Theory](#)
- [WP5: Coordination with GRID](#)
- [WP6: Support to data centres from other European countries](#)

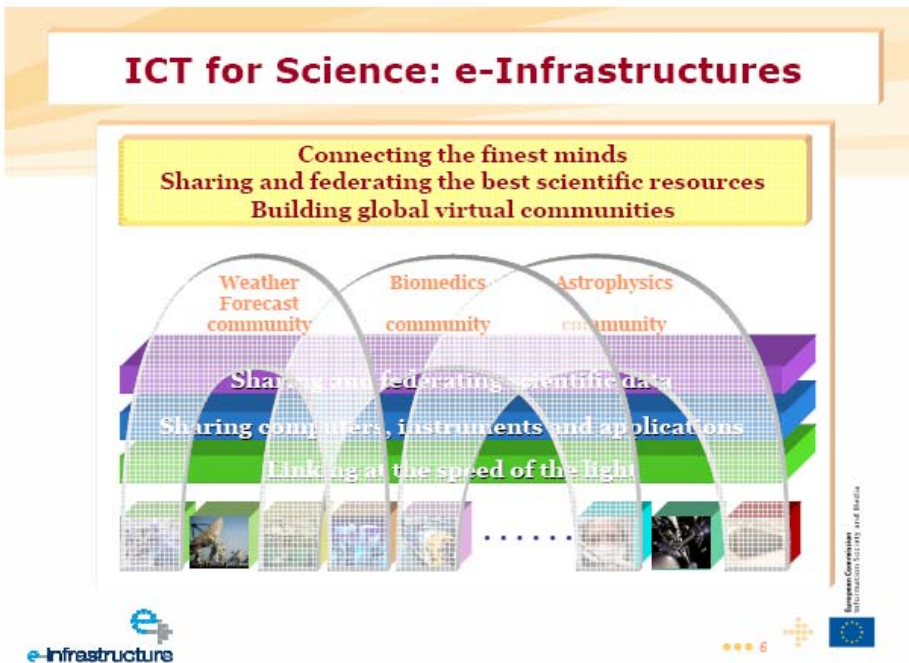
EuroVODCA Web Utilities



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The European view in FP7



Euro-VO AIDA
Astronomical
Architecture for Data
Access

I3, eInfrastructure,
Scientific Digital
Repositories

Networking, Service and
R&D

8 partners, 2.7 M€

30 months from
February 2008

Consortium members

- CNRS, France (CDS, France VO)
- European Space Agency
- European Southern Observatory
- INAF, Italie (Trieste, VObs.it)
- INTA, Spain (SVO)
- U. Groningen (NOVA)
- The University of Edinburgh (AstroGrid)
- U. Heidelberg (ARI, GAVO)



EuroVO-AIDA objectives

EuroVO-AIDA will ensure the transition of the European astronomical Virtual Observatory to operations

- Large scale deployment by data centres
- Construction of a community of science users
- JRAs: definition/evolution of interoperability standards, relevance of new technologies

and Liaison with other communities

Outreach towards higher education and public

EuroVO-AIDA Activities

- Management (WP1)
- Networking (WP2)
Strategy, co-operation and dissemination
- Service (WP3, WP4, WP5)
Support to data centres, users, outreach
- Joint Research Activities (WP6, WP7, WP8) (cf VO-TECH)
Interoperability standards, DAL/DM, Emerging technologies (Web2.0, semantics, data mining)

Euro-VO Results

- A very significant increase in collaboration
 - Technical collaboration, e.g. on the definition of standards
 - Different kinds of meetings which have shaped the collaborations and relations with data centres and users
- Attention given to other European countries to help them shape their own politics

2008 highlights (1)

- *User support*
 - Euro-VO Science Initiative: AO for science programs (15 June)
 - Science feedback Workshop: Multiwavelength Astronomy (December, ESAC)
- *Data Centre Alliance*
 - Census of European Astronomy Data Centres – more than 70 answers
 - EuroVO-DCA Workshop for data centre providers (June, ESO)
- *Building the framework*
 - Technology Forums/VO-TECH (March, Sept/Oct)

2008 highlights (2)

- *New topics*
 - Theory and Grid Workshop (April, Garching)
- *New countries*
 - VO Info Day, Belgrade, January
 - VO Info Day, Lisbon, October
- International commitment to IVOA

Challenges

- Articulation/balance between national/Agency level and European level
- **Sustainability of the European layer**
 - Strongly dependent on European funding opportunities
 - Continuing European/international coordination is mandatory
- The VO is part of the Astronet Roadmap