



# The Life-Science Grid Community

**Tristan Glatard<sup>1</sup>**

<sup>1</sup>Creatis, CNRS, INSERM, Université de Lyon, France

**The Spanish Network for e-Science  
2/12/2010**



# Virtual Research Communities

- **What is a VRC?**

- "A VRC is a self-organising group that collects and represents the interests of a focussed collection of researchers across a clear and well-defined field"

- **Why being a VRC?**

- Technical support from EGI through helpdesk
- Send requirements to middleware development
- Integrate community services in the production infrastructure

- **Constraints to be a VRC**

- Have supporting resources, i.e., supporting NGIs
- Involve significant VOs, i.e., represent users

- **VRC candidates so far**

- Astronomy and astrophysics, computational chemistry, earth sciences, e-Humanities, hydro-meteorology, life sciences, WeNMR, WLCG (High-Energy Physics)



# Life-Science Grid Community

- **Timeline**

- June 2010: open workshop at the HealthGrid conference
- Agreed on a statement of goals and missions
- Monthly phone meetings

- **Participating user groups**

- VOs: biomed (catch-all), vlemed, Isgrid
- German life-science user community
- Lifewatch

- **Supporting NGIs**

- Dutch, French, Italian, Spanish and Swiss

- **Hosting body**

- HealthGrid, a non-profit association



# Purposes and goals (1)

- **Represent the LS grid users, in particular to**
  - Negotiate resources
  - Promote their requirements
  - Liaise with the European Grid Initiative
- **Coordinate actions**
  - Serve as a contact point for new users
  - Share expertise in the community
  - Avoid replication of efforts
  - Define common requirements
  - Encourage sharing of resources, data and tools



# Purposes and goals (2)

- **Provide technical services**
  - Operate and support common VOs
  - Operate shared services
  - Provide targeted user support and application porting
- **Training and induction**
  - Organize community-specific training events
  - Smooth the learning curve, lower the start-up cost
- **Dissemination**
  - Transfer knowledge among VRC partners
  - Advertise actions
  - Liaise with other groups of interest



# Current actions: user representation

- **Collected and submitted 19 technical requirements to the EGI**
  - Coherent set of APIs
  - No single point of failure (LFC, WMS) ; redundant services
  - LFC administration tools (automatic replication/migration of files)
  - DMS workload management
  - Improved replica selection
  - Coherent management of replica access control
  - Extended VO management features
  - Middleware support for pilot jobs
  - Management of avalanches of job submission
  - Parallel jobs submission (MPI)
  - Short jobs efficiency and notification of completion
  - Management of many small files
  - Single sign-on avoiding exposing users to X509 certificates
  - Update of distributed files
  - Robot certificates
  - Disk space management on SEs
  - Distributed relational data management, with ACL-based access control.
  - Partial file access
  - Scientific data flows
- **Negotiating formal agreement with EGI**
  - What EGI can provide
  - Community duties



# Current actions: coordination

- **Improved VO management portal**
  - User registration **and** removal ; mailing list creation
  - VO group creation and removal
  - Application registration and status update
  - Directory structure in LFC
  - Should have links with application database, VOMS and operations portal
- **Catalog of existing software used by VOs**
  - RESPECT-like
  - To promote high-quality software and encourage sharing
- **VO operations survey**
  - Review of operational procedures in Vos
  - Ex: LFC organization, production monitoring, SE decommissioning procedures, etc
  - Share and better define



# Current actions: technical

- **Organize technical teams in the biomed VO**
  - 8 teams of 1 or 2 persons, on duty for 1 or 2 weeks
  - Monitor the infrastructure
  - Submit tickets when appropriate
  - Apply procedures when appropriate (e.g. file migration)
- **Setup monitoring services**
  - Set-up a Nagios box for biomed VO
  - Experience spreading to other VOs
- **Study and document VO issues**
  - Redundancy of VOMS servers
  - SE storage size reporting by lcg-infosites



# Current actions (4)

- **Training**

- Organize Life-Science training event at EGI User Forum in 2011
- Collect training material
- Review training requirements and offers

- **Application porting support centers**

- Grid Application Support Service (University of Westminster)
- Grid Application Support Center (MTA SZTAKI, Budapest)
- Send your use-cases !



# More information

- **Contact**

- Wiki page: <http://wiki.healthgrid.org/LSVRC:Index>
- Mailing list: [lsvrc@healthgrid.org](mailto:lsvrc@healthgrid.org)

- **How to benefit from the LSGC?**

- Established VOs
  - Discuss technical issues with other VOs
  - Submit requirements to the EGI
  - Advertise your services ; use others'
- New communities
  - Join an existing VO and benefit from its expertise
  - Get information on related applications and porting efforts
  - Get application porting support
  - Browse training material and events

- **Open access: just join !**