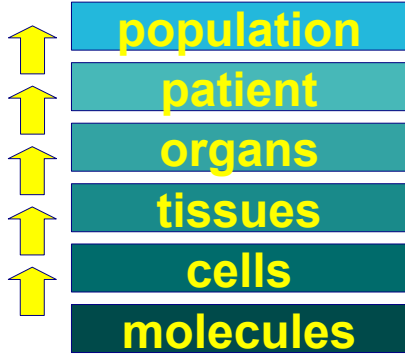


# French Life Sciences user community

HealthGrid LS Virtual Research Community Workshop  
Orsay, June 28<sup>th</sup>, 2010

**Johan Montagnat (CNRS / UNS)**  
**on behalf of the French NGI**

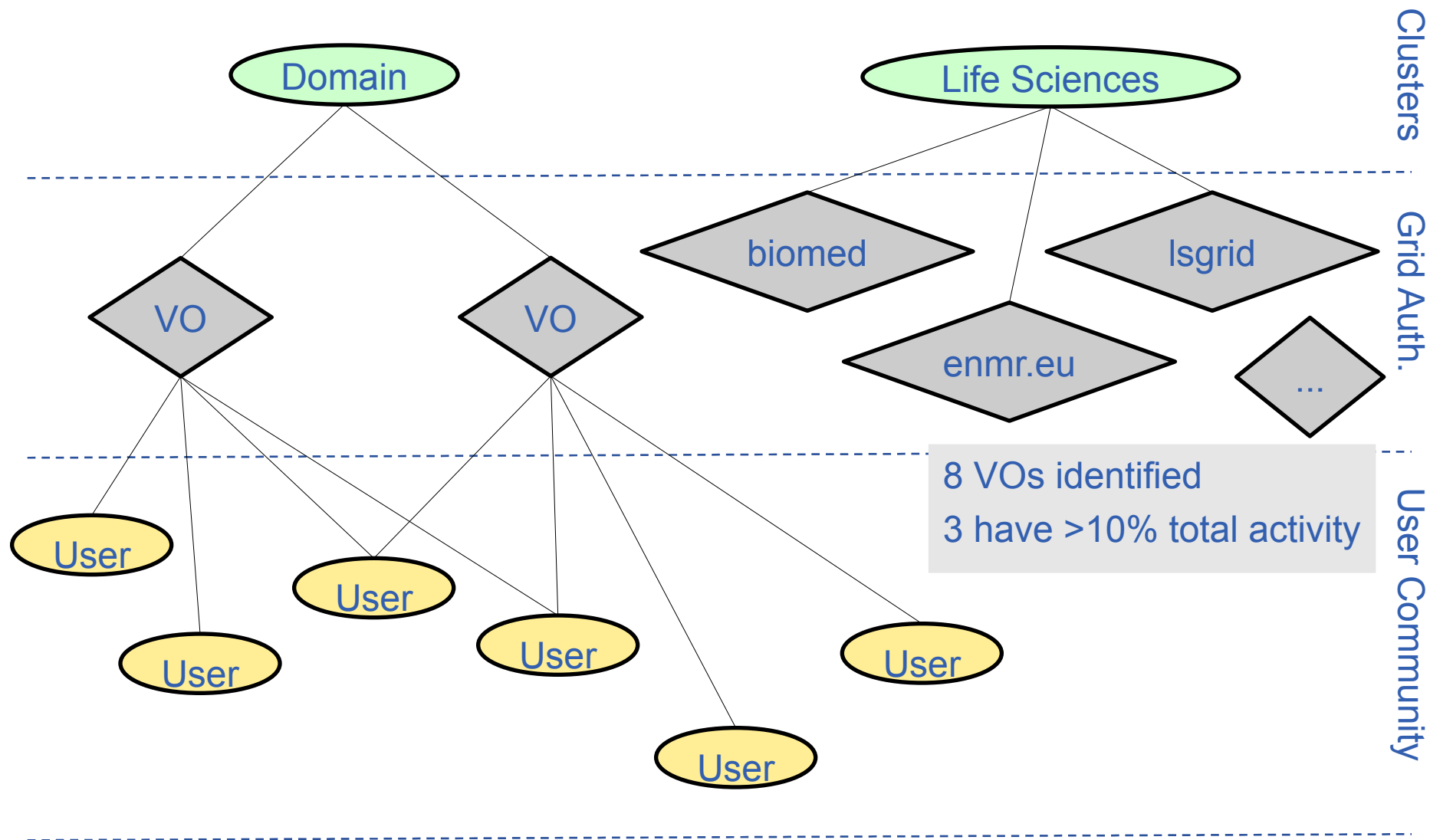
- **Life Sciences covers a broad range of activities, ranging from biology to patient healthcare**
- **Interactions are needed at all levels**
  - The multi-scales view (HealthGrid'03)
 

The diagram illustrates a multi-scale view with six horizontal bars stacked vertically, each containing a biological scale. From bottom to top, the bars are: 'molecules' (dark green), 'cells' (medium green), 'tissues' (teal), 'organs' (light teal), 'patient' (light blue), and 'population' (bright blue). To the left of each bar is a yellow upward-pointing arrow, indicating the flow of information or interaction between these scales.
- **Grid-empowered Life Sciences activity focussed on computational Life Sciences *and* distributed healthcare-related informations systems and databanks**
  - There is much more into grids for LS than raw processing power: the data *is* distributed, the community *is* wide spread (both geographically and in terms of research themes).
  - LS fits the Virtual Community model of grids well

- **Very large potential**
  - Genome sequencing projects and databanks
  - Distributed population data sets involved in epidemiology
  - Computational Neurosciences...
- **Yet, slow take-off**
  - The real community are scattered and not that much used to global collaboration
  - Medical data is sensitive
  - Healthcare is a business. Private companies involved are protective...
- **The grid competitive advantage leading to a real breakthrough still need to be demonstrated**
  - It is there somewhere. Some initiatives are close, some industries developed real intra-grids.

# Past LS grid activity in France

- **CNRS managed WP10 (biomed) in the EU DataGrid project (2001-2004)**
- **In 2003, the HealthGrid association was created as an international body to promote grid technologies for health**
  - Since then played an important dissemination role and contributed technically to many international initiatives
  - Was imitated by the HealthGrid.US sister association
- **CNRS has been coordinating the “biomed” VO since 2004 (EGEE-I,-II and -III projects)**
  - Played a major role in Life Science community emergence
- **“biomed” VO structured according to 3 main areas**
  - Bioinformatics, medical image analysis and drug discovery



- **We are currently in a critical transition phase: centralized (EGEE) → decentralized (EGI / NGIs)**
  - Need to decide which community coordination model to adopt
- **The ROSCOE VRC model**
  - Aims at creating an International community through one or more VOs operation
  - Provides community coordination and induction, delivering to new users an operational, ready-to-use catch-all VO
  - ...and consequently has a cost in terms of manpower
- **There are alternatives**
  - Expect ESFRI projects to operate their own VOs
  - Expect communities to self-organize and create VOs
  - ...which cost “nothing”, make optimistic assumptions on the level of adoption of grid technologies and raise the problem of continuity for all users currently supported

- **The VRC model should be preserved**
  - Self-adoption is rare and users need to be accompanied to access the grid
  - It offers flexibility and lowers the VO operation effort
  - It prevents scattering of the communities in regional entities
- **There is currently a strong risk of community fragmentation, due to a combination of:**
  - the distribution of the activity over NGIs;
  - the lack of EU level funding (ROSCOE proposal rejection)
- **Consequently, there is currently no French LS VO. We believe the International biomed VO should be preferred.**

- **Large communities can / will create and operate their own VO**
  - e.g. enmr.eu
- **A large-scope LS VO is necessary for many reasons**
  - Facilitate exchanges between communities (VOs strongly compartment the grid today)
  - Lower the administration cost and eases discussion with resources providers
  - Is open to new adopters who can test the grid without going through a too complex procedure
- **This VO is expected to deliver**
  - Scientific and technical coordination
  - User support
  - Training and induction



# The French NGI proposition

- **Continue operating the International biomed VO and provide domain-wide scientific coordination to promote grid adoption and unleash grid potential in LS**
- **Proposition**
  - Create a VRC represented by an International legal entity: the HealthGrid association
  - Liaise with NGIs to ensure international coordination and raise funds
  - Elect a VRC coordinator + deputy
  - Select sub-domain scientific leaders (bioinformatics, medical imaging...)
  - Operate core VO services (VOMS, LFC...)
  - Liaise with resource providers
  - Train and disseminate
  - ...all depending on the manpower available

- **Continued operation of the “biomed” VO after the end of EGEE**
  - Transparent transition for many end-users, although the current coordination team has only little legitimacy (past experience, coordination of LS community in EGI-Inspire)
- **Technical work on-going**
  - Procedures being set up to
    - Manage sub-domain groups and users with the existing tooling
    - Inform and register new users
  - Volunteer technical team in place (technical contact, interface with operations, active problems identification role)
    - Technical responsibility shifts
    - VO-level infrastructure monitoring tools
  - LS community is “guinea pig” (once more) for EGI-Inspire communities support activity (NA3)

- **There are strong indicators of the grid potential impact in LS but the real breakthrough was not demonstrated yet**
- **We are currently in a critical model transition phase: centralized (EGEE) → decentralized (EGI / NGIs)**
- **The VRC model should be preserved**
  - to foster large scale, possibly International collaborations
  - to help LS grid users climbing the learning curve
- **The French NGI does not operate a national VO. It contributes to a large extent to the operation of the International biomed VO.**
- **The French NGI proposes an International collaboration represented by the HealthGrid association to create a sustainable LS VRC.**