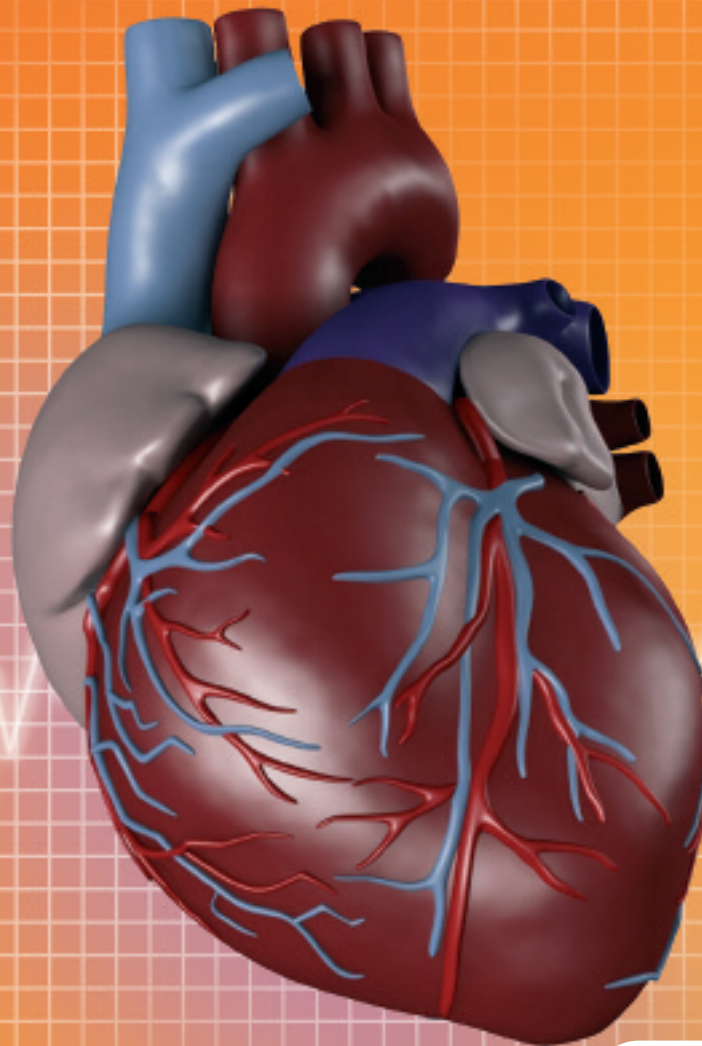




Aligning EU infrastructures for collaborative research

OMII-Europe and the Virtual Physiological Human (VPH) project

OMII-Europe is an EU FP6 Research Infrastructures Project [INFSO-RI-031844](#)



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<http://www.europphysiome.org/>

Integrating infrastructures

In order to allow end users to access a vast range of resources in a transparent and interactive way, projects like Virtual Physiological Human (VPH) need software to integrate different EU grid infrastructures. Software developed by OMII-Europe can bring this about by enabling interoperability across gLite, Globus and UNICORE.

The human body as a single system



Current investigations of the human body tend to consider each of the constituent parts separately, without taking into account the multiple interactions between them. These subdivisions make it impossible to investigate the systemic nature in which the body functions.

The VPH is a methodological and technological framework that will enable collaborative investigation of



the human body as a unique complex system. The initiative is part of the larger international Physiome Project, and has been promoted and researched by the STEP (A Strategy for the EuroPhysiome) project.

Bridging gaps in multidisciplinary research

The motivation behind the VPH is to provide the infrastructure that will enable scientists and clinicians to collaborate in the development and study of integrated multiscale models of the human physiome.

Multidisciplinary research of this magnitude brings with it the need to bridge gaps between both the involved specialisations and the required technologies. Experimentalists, clinicians, engineers, mathematicians and computer scientists in different fields may not use the same terminology or conceptual approach. Many of them will have very little experience in computational modelling and grid computing, and require an infrastructure that allows them to easily fulfil their scientific objectives.

Aligning EU infrastructures

The sheer volume of data and processing power involved in the VPH project mean that a combination of grid infrastructures and local resources is needed to support this development. Computing the electro-physical activity of a single 1-second heartbeat, for example, can take hours or days, depending on the complexity of the underlying model.

The VPH project seeks to serve the development and integration of multiscale models, which have differing computational requirements ranging from single processor desktop machines to the largest supercomputers. The VPH aims to help by enabling user interactions with and seamless access to computational power within different European organisations, including major EU infrastructures, such as EGEE and DEISA, which currently rely on different middleware platforms.

The Virtual Physiological Human (VPH) project considers the work of OMII-Europe a high priority. It is anticipated that both projects will benefit greatly from each other.

For more information

www: <http://www.europphysiome.org/>

(See VPH research roadmap)

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