SHARE: Structuring and supporting Healthgrids Activities and Research in Europe: developing a roadmap

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http://www.eu-share.org
Contents

- Background.
- SHARE Objectives and Consortium.
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Background

- The Concept of Grids for Health in Europe Took-off on 2002, Playing the HealthGrid Association a Key Role Since Then.

- This Association has Organised and Promoted the HealthGrid Conference Series, Being this Year the Fourth Edition (http://valencia2006.healthgrid.org).

- The HealthGrid Association Edited the HealthGrid Whitepaper (http://whitepaper.healthgrid.org) in 2004 Outlining the Concept, Benefits and Opportunities Offered by Applying Grids in Different Applications in Healthcare.

SHARE Objectives

The HealthGrid Vision Relies on the Setting up of Grid Infrastructures for Medical Research and Healthcare, which Implies:

- The Availability of Grid Services, Most Notably for Data and Knowledge Management.

- The Deployment of These Services on Infrastructures Involving Healthcare Centres Such as Hospitals, Medical Research Laboratories and Public Health Administrations.

- The Definition and Adoption of International Standards and Interoperability Mechanisms for Medical Information Stored on the HealthGrid.
The Mission of SHARE is to Precise the Target, the Current Situation, the Key Gaps, Barriers and Opportunities, Short Term Achievements and Key Elements and Actors to Reach the Vision.

The Roadmap will Cover Issues Regarding Networks, Infrastructure Deployment, Grid Operating Systems, Services to End Users, Standards Requirements, Security, Legislative development and Economic Issues.
CNRS/IN2P3.
HealthGrid.
Universidad Politécnica de Valencia.
University of the West of England.
Research Centre for Computer and Law (CRID) - University of Namur.
European Health Management Association.

Argonne National Laboratory.
Academia Sinica Grid Computing Centre.
APAMI (Asia-Pacific Association for Medical Informatics).
SHARE Products

Baseline
- The Predictable or Foreseeable Development of Ongoing Activities.

Roadmaps
- Analysis of the Current Situation, Requirements, Actors, Needs, Opportunities and Barriers from the Technological, Legal, Ethical and End-User’s Point of View.
Production Cycle

BASELINE

Analysis of Technical, Ethical and Legal Requirements

ROADMAP I

USE CASE SCENARIOS APPLICATION ROADMAP

Validation of the Roadmap II and Revised Requirements

HEALTHGRID ROADMAP

ROADMAP II

Check ROADMAP I with the Apps.
Baseline

- Projects, Teams, Actions, Programmes, etc. Comprising the Activity on Grids in Health.
- General Conceptual Framework.
- Architecture to Deploy HealthGrids.
- Research on Components to Tackle Unsolved Problems.
- Integrative View of Biomedical Data and Knowledge.
Roadmap I

- Technical Requirements.
- Infrastructure, Security and Standards.
- Ethical and Legal Requirements.
- Obtained by Contacting the HealthGrid Framework.
Use Case Scenarios

- Identification and Definition of the Key Applications.
- Precise Although Relevant in a Broad Scope.
- Identify a General Framework That Could Cover Most Requirements of eHealth Applications.
- The Problem Must Be Realistic and Answer to a Real User Need.
- Input Sources: Other Projects, Users, Authorities, Resource Providers.
Use Cases

Content

- Define Users, Targets, Data, Current Procedure and Benefits.
- Define Technological Needs, Resources and Legal Framework, from the Info in the Roadmap.
- Identify Bottlenecks, Unsatisfied Requirements, Production Needs, Legal Constraints, etc.

Main Areas: Epidemiology and Innovative Medicine

- Selected According Impact on Public Health Policies and the improvement of Drug Efficiency.

- Other Areas will be Analysed.
Management of the Health Status at the Population Level.

E.g. Epidemiology could be the Analysis of Distributed Broad Clinical Databases for Population Studies.
- Clinical Databases Could be Primary Care, Hospitals, etc.
- Population Studies Could be Drug Efficiency, Health Monitoring, Cancer Mortality, etc.
- Population Could be Region, City, Insurance Co., etc.

Different Tasks Involve Different Requirements
- E.g Medical Imaging, Laboratory, Genomic Data.
New Processes for Developing New Ways of Fighting Diseases.

E.g. Drug Discovery
- Discovery Process Could be In-Silico Docking, Alignment Screening, Protein Synthesis and Simulation, etc.
- Targets Could be Rare or Neglected Diseases, Tumour Stirpes, etc.

Requirements Could be on Computation, Storage, Distributed Processing, Security, etc.
Roadmap II

- Validation of the Technological Roadmap With Respect to the Application Roadmap.
  This Validation will be Done by the Stakeholders of the Field.
- Proposal of Revised and Extended Requirements.

HealthGrid Roadmap

- Compilation of the Roadmap II and the Application Roadmap.
Conclusions

- SHARE is an Activity to Search, Consolidate and Analyse the Trends of Research on Grid Technologies Applied to Health.

- SHARE Needs Inputs from the Most Relevant Actors of the Field at World-Wide Level.

- SHARE Will Cover All the Issues Regarding HealthGrids, From Technical to Legal or Economical.

- Results will be Analysed According the Specific Requirements of Two Application Areas.
HealthGrid Association

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