Applications deployed by WP10 on testbed1

V. Breton

DataGrid conference

List of applications

- Bio-informatics
  - *Bio-informatics web portal : IBCP (C. Blanchet)*
  - *Parasitology : LBP Clermont (N. Jacq)*
  - Phylogenetics : BBE Lyon (T. Sylvestre)
  - Search for primers : Centrale Paris (K. Kurata)
  - Statistical genetics : CNG Evry (N. Margetic)
  - Update and mirroring of genomics data bases : LPC Clermont (Y. Legrè)
- Medical imaging
  - MR image simulation: CREATIS (H. Benoit-Cattin)
  - Medical data and metadata management : CREATIS (J. Montagnat)
  - Simulation platform for PET/SPECT based on Geant4 : GATE collaboration (L. Maigne)

Bio-informatics applications fall in three categories

- CPU-intensive algorithms requiring little transfer of data
  - Phylogenetics (BBE Lyon)
  - Statistical genetics (CNG Evry)
- CPU-intensive algorithms requiring large transfer of data (à la GridBlast)
  - Genomics comparative analysis (IBCP, …)
  - Search for primers (Centrale Paris)
- Biological data management on the grid
  - Update and mirroring of genomics data bases (LPC)
  - Comparison of parasitology data bases (LBP)

Medical imaging applications fall in the same three categories

- CPU-intensive algorithms requiring little transfer of data
  - MRI simulator (CREATIS)
  - Simulator for PET/SPECT based on Geant4 (GATE)
- CPU-intensive algorithms requiring large transfer of data (either input or output file)
  - Image databases indexation
  - Epidemiological studies
- Medical data management
  - Security enforcement on a grid-wide environment
  - Metadata management

Middleware components used

- All applications require WP1 tools for grid computing
  - Bio-informatics algorithms
  - Medical imaging simulators
  - …
- Data management applications require WP2 GDMP, replica manager and Spitfire
  - Grid metadata manager wanted

WP10 goals between now and the end of the year

- Deploy the applications listed
  - Test algorithms on a significant scale (several tens of CPU) to get biomedically meaningful results
  - Demonstrate the relevance of biomedical data and metadata management on the grid
- Have DataGrid nodes in biomedical laboratories
  - Need for training of system engineers to install EDG in their lab
- Discuss with WP2 and WP5 tools for metadata management