

BioinfoGRID: Bioinformatics Grid applications for life science

Tuesday, February 12, 2008 3:00 PM (20 minutes)

The BioinfoGRID adopt high-level user interfaces, common to all the different BioinfoGRID applications, in order to exploit the Grid services provided within European Grid Infrastructures using a more user-friendly approach.

One of the activities within the project was to develop a Bioinformatics Portal, to simplify the services request and the jobs submission to the Grid, including the automation of Workflows in order to dynamically establish complex genetics analysis.

The project supports studies on applications for distributed systems for Microarray technology, for Gene expression studies, for Gene Data Mining, analysis of cDNA data, Phylogenetic analysis, Protein functional analysis and system biology simulations in GRID.

3. Impact

The BioinfoGRID project exploits the use of Grid technology on a global network between several research laboratories, allowing the shared use of computational power, data storage and complex data analysis.

The Bioinformatics complex calculations involving huge amounts of data by the implementation of a dedicated workflow to distribute the jobs on thousands of computers spread on a wide geographical area in order to greatly reduce calculation times.

The adoption of the use portal certificate (robot certificate) is planned and it will be very useful in increasing the medical and biology user communities to use the Bioinformatics applications in GRID.

BioinfoGRID project contribute to expand Grid awareness inside the bioinformatics community through numerous dissemination activities, summer schools, practical workshops and international conferences.

URL for further information:

<http://www.bioinfogrid.eu>

4. Conclusions / Future plans

BioinfoGRID was able to establish large collaboration between the European Grid Infrastructure EGEE and the Bioinformatics research user community in various fields of Bioinformatics applications. In the case of the Avian Flow data Challenges, the BioinfoGRID project contributes in deploying molecular docking pipeline analysis for the in silico drug discovery. Finally the BioinfoGRID project developed a BioinfoGRID portal able to run several bioinformatics applications.

Provide a set of generic keywords that define your contribution (e.g. Data Management, Workflows, High Energy Physics)

Bioinformatics, Workflow, Genomics, Proteomics, Transcriptomics, Portal.

1. Short overview

The project aims to promote Bioinformatics Grid applications for life science, in order to carry out Bioinformatics research exploiting Grid networking technology. BioinfoGRID combines Bioinformatics services and applications for molecular biology users with the Grid. A summary of the main results achieved in the frame of the BioinfoGRID project to better exploit the potentiality of the Grid will be presented.

If demonstration is requested please explain what visual or interactive aspects of the contribution necessitate a demonstration rather than a presentation or poster?

The BioinfoGRID portal with high-level user interfaces, with several BioinfoGRID applications and the Avian flow pipeline will be demonstrated.

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