



Contribution ID: 141

Type: Poster

Genetic Algorithm for Solving Chess Endgames in Grid Environments

Describe the scientific/technical community and the scientific/technical activity using (planning to use) the EGEE infrastructure. A high-level description is needed (neither a detailed specialist report nor a list of references).

Chess game needs a high computational cost in order to be played correctly by a machine. Our proposal relies on the use of grid computing and genetic algorithms (GAs). On the one hand, grid computing offers us the potential for deeper game tree analysis. On the other hand, genetic algorithms can reduce significantly the computational cost of a brute force search, obtaining a good solution in a very lower execution time. Combining these two approaches (grid + GAs) we can obtain a very good chess.

Report on the experience (or the proposed activity). It would be very important to mention key services which are essential for the success of your activity on the EGEE infrastructure.

Using gLite as middleware in our grid environment we can achieve good results with GAs applied to chess game. Executing and managing of the jobs submitted to the grid can be easily developed. Jobs are submitted using JDL (without WSDL).

Describe the added value of the Grid for the scientific/technical activity you (plan to) do on the Grid. This should include the scale of the activity and of the potential user community and the relevance for other scientific or business applications

This is our first step in GA with grid computing and we hope to apply the acquired knowledge in future developments in scientific areas. Grid computing is a key issue in our work because it allows to access to many resources and to use the computational elements of the grid environments.

Author: Mr GÓMEZ-IGLESIAS, Antonio (CIEMAT)

Co-authors: Dr GÓMEZ-PULIDO, Juan A. (UNEX); Dr SÁNCHEZ-PÉREZ, Juan M. (UNEX); Mr RUBIO DEL SOLAR, Manuel (CIEMAT); Dr VEGA-RODRÍGUEZ, Miguel A. (UNEX); Mr CÁRDENAS MONTES, Miguel (CIEMAT)

Presenter: Mr GÓMEZ-IGLESIAS, Antonio (CIEMAT)

Track Classification: Demo and Poster session