DevelOpment of GRID Environment for InteRaCtive ApplicationS

Results in Brief

Testing computer grid performance

The computing capabilities of a cluster of computers, a grid, can now be tested at individual selected computer kernels. With the performance prediction component tool the user can establish real and predicted performance of the grid.

DIGITAL ECONOMY

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A grid is a collaboration of a number of computers. The performance of this collaboration can be compared with the synergy of an orchestra. Computers performing separate individual tasks are at the same time producing a global task. Summing computer capabilities while decentralising allocation of tasks enables handling and manipulating large amounts of data. Moreover, data can also be geographically dispersed.

Exceptional system requirements are demanded in numerous scientific fields. Computer grids are used extensively in high energy physics experiments, in weather forecasting and for risk and crisis management of physical hazards. Moreover, grids enable simulation and visualisation of surgical procedures and have facilitated effective environmental controls. The CROSSGRID project has developed and exploited grid components for data intensive applications. The project has implemented a grid across eleven European countries.

Grid programmers and resource brokers will greatly benefit from the innovative Performance Prediction Component (PPC) tool, developed by the CROSSGRID project partners. The tool is capable of assessing the performance of selected computational kernels and provides information on programme behaviour under various grid scenarios. Furthermore the tool is equipped with a graphical user interface. The interface aids the user in assessing the features of the grid and consequently simulates these effects on parallel kernels.

Knowledge of grid behaviour is also very important for academic institutions and widespread usage of the performance prediction tool is expected.

Monitoring grid application performance results in efficient distributed data access and better resource management. CROSSGRID project partners have made available the prototype code of the performance prediction component for testing by grid programmers.

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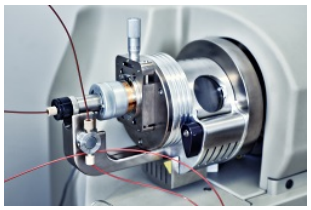

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CROSSGRID

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