Contribution ID: **127** Type: **Oral**

Towards a robust and user-friendly MPI functionality on the EGEE Grid

Thursday 15 April 2010 09:30 (30 minutes)

An MPI Working Group has been setup with the goal to investigate why so few Grid sites support MPI and why so few people are using it. The Working Group has come up with a recommendation document in which the current issues with MPI on the Grid are analyzed, the reasons for non-usage are investigated and the plans for future expensions are summarized.

Detailed analysis

The installation of MPI on the Grid clusters is not default, nor straight forward. Therefore, many site administrators do not take the time to install MPI on their clusters. One of the reasons is that the MPI implementation depends on the type of interconnect between the nodes on the sites. Furthermore, there are several flavors of MPI, or message passing in general, which are not exchangable.

The users claim that MPI is hard to use, because of several reasons. Some indicate that they lack (central) support. Some say that they can't specify the configuration they require in their JDL script. Some say that their specific MPI flavour is not available. Others say that tracing MPI jobs on the Grid is extremely difficult.

Conclusions and Future Work

From many e-mails, the survey done by the MPI Working Group and the presentations of the users on the EGEE'09 conference, it became clear that the focus should not only be on the fixing of the main issues with the MPI implementation (currently being tackled by the MPI Task Force), but on the development of new features for the user community (the new task of the MPI Working Group).

Impact

After the MPI Session on EGEE'09, initiated by the MPI Working Group, a Task Force was set in place with the mission to solve the short term issues indicated by both the site administrator and user communities.

The current role of the MPI Working Group has therefore been adapted to focus on the longer term extension and improvement of the MPI implementation of the Grid. In this presentation ideas for the extension of the MPI implementation and in JDL are presented.

Keywords

MPI Working Group

URL for further information

http://grid.ie/mpi/wiki/WorkingGroup

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Session Classification: Parallel Processing

Track Classification: Support services and tools for user communities