Contribution ID: **107**   Type: **Demonstration**

MPI in EGI

Description of the work

The Virtual Team project was created by EGI-InSPIRE to detect significant issues with support for MPI jobs within EGI. The project started in November 2011 and finished in May 2012. During its six month lifetime the project has collaborated with different user communities, NGIs user support teams, middleware technology providers and resource providers to identify issues and to establish services by which MPI applications can work successfully in the European Grid Infrastructure. The work spanned across a number of technical areas and these will be all covered in the demonstration:
- Documentation: Improved documentation has been prepared in the EGI wiki for site administrators and for application developers. These provide guidance to to configure and to use MPI resources correctly.
- Nagios probes: New monitoring probes for the EGI Service Availability Monitor has been defined. These will be implemented and put into production by the Heavy User Community and Operations teams.
- Information system: The typical problems with the registration of MPI resources have been collected and reported to Operations. The Nagios probes have been designed to be able to detect these problems.
- MPI VO: A new VO which includes only correctly configured MPI sites have been setup on the production infrastructure. The VO can be used to port MPI applications to EGI. During the demo MPI members will show how many MPI resources are available in EGI and how to use them. Real MPI applications will be sent to show the capabilities of the VO.
- Batch systems: Issues with interfacing MPI applications and some of the local batch job schedulers of EGI have been collected and addressed.
- Accounting: Issues with collecting accounting information about parallel applications have been collected and reported to responsible technology developers and providers with request for addressing.

Wider impact of this work

This demo will shown the current MPI features and the work done by the MPI Virtual Team to fix MPI issues in EGI. It will show that parallel jobs can successfully use resources from the NGIs that participate in EGI.

Printable Summary

The EGI community receives dedicated support from NGIs through the EGI-InSPIRE 'Heavy User Community'activity yet despite this, there have been significant issues which have detracted from user uptake and satisfaction of the available MPI services. The EGI community therefore conducted a six month 'Virtual Team project'to address and resolve these issues. As a result, improved and expanded MPI support and services have been implemented for both resource providers and users. This contribution will showcase the improved MPI services and will demonstrate a set of scientific applications that are already benefiting from the project's results. The demonstration aims to promote the EGI MPI services and increase their uptake by resource providers and by developers of parallel scientific applications.

Primary authors: SIMON, Alvaro (FCTSG); Dr SIPOS, Gergely (EGI.EU)

Track Classification: Virtual Research Environments (Gergely Sipos: track leader)