Contribution ID: **151** Type: **Oral**

EDGeS infrastructure for the EGEE user community

Tuesday, 13 April 2010 17:00 (20 minutes)

There is a strong collaboration between EGEE and EDGeS in order to extend the EGEE infrastructure with volunteer and institutional desktop grids (DG) and to support EGEE users to migrate their application to the EDGeS infrastructure. The talk explains to EGEE users how this integrated infrastructure works, what the benefits are and how their applications can be ported and run on this infrastructure. The talk also explains how individual VOs can extend their VO resources with connected DGs. Experiences in related projects (IberCivis, EELA) using EDGeS technology will be presented.

Detailed analysis

EDGeS has created a bridging technology by which service grids (SG) and desktop grids (DG) can be interconnected to both in SG->DG and DG->SG direction. The first option enables that EGEE users can submit large parameter sweep applications from EGEE VOs into connected DG systems. In this way any EGEE VO can be easily extended with additional local DGs organized from the existing desktops of the participating institutes. The other direction enables for the DGs to send work units to the EDGeS VO that was established by EDGeS in order to support connected DG systems. In this way university level DG systems can gain additional resources from EGEE VOs. The talk will explain all these possibilities and how the EGEE user community can take advantage of this new heterogeneous grid technology that can interconnect SGs and DGs. Particularly, the application porting method will be explained by which existing EGEE applications can be ported to the EDGeS infrastructure. Already more than 20 applications have been ported to EDGeS from many different application areas (physics, bioinformatics, engineering, image processing, etc.)

Conclusions and Future Work

EDGeS contributes to the significant extension of available EGEE resources by extending gLite grids with volunteer and institutional DG systems. EDGeS created a production infrastructure that enables the submission of large parameter sweep jobs from gLite VOs into connected desktop grids. Future work will include the extension of ARC and Unicore grids with DG systems as well as support for data-intensive applications.

Impact

EDGeS made a significant impact not only in Europe but world-wide. First of all the 3G Bridge solution of EDGeS by which service grids and desktop grids can be interconnected has successfully been adopted by the EELA-2 project in order to interconnect gLite and OurGrid. Furthermore, the EDGeS VO supports several large desktop grid projects like IberCivis, SETI@home, AlmereGrid, etc. Several EGEE user communities (e.g. fusion, WISDOM, etc.) have successfully ported or adapted their applications to EDGeS. The EDGeS technology was successfully been used by several companies (Atos Origin and Correlation Systems). National grids have adopted the EDGeS technology (Kazakh National Grid) or they have been considering its adoption (Russian, Taiwan and Ukrainian Grid).

Keywords

service grids, desktop grids, grid interoperability, application porting

URL for further information

http://www.edges-grid.eu/

Primary authors: KACSUK, Peter (SZTAKI); LOVAS, Robert (SZTAKI)

Presenter: KACSUK, Peter (SZTAKI)

Session Classification: Novel Architectures and Technologies

Track Classification: Software services exploiting and/or extending grid middleware (gLite, ARC, UNICORE etc)