

The Unicore Grid and its Options for Performance Analysis

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Abstract

UNICORE (Uniform Interface to Computer Resources) is a software infrastructure to support seamless and secure access to distributed resources. It has been developed by the projects UNICORE and UNICORE Plus in 1997 - 2002 (funded by the German Ministry of Education and Research) and is going to be enhanced in the EU-funded projects EUROGRID and GRIP. The UNICORE system allows uniform access to different hardware and software platforms as well as different organizational environments. The core part is the abstract job model. The abstract job specification is translated into a concrete batch job for the target system. Besides others, application specific support is a major feature of the system. By exploiting the plugin mechanism, support for performance analysis of Grid applications can be added. As an example, support of Vampirtrace has been integrated. The UNICORE user interface then gives the option to add a task using Vampirtrace with runtime configuration support into a UNICORE job and retrieve the generated trace files for local visualization. Together with the support for compilation and linkage and for metacomputing, the plugin mechanism may be used to integrate other performance analysis tools in future.