



BalticGrid-II Project

Gridcom

Simple Grid Interface for Complex Applications

Gridcom is a simple grid interface for complex applications. It splits input data into intervals; generates and submits as many jobs as needed; scatters parametric jobs into simple jobs; resubmits aborted jobs; and collects, merges and visualizes the results. All these functions are performed automatically, including transparent upload of large files to storage elements. Gridcom also allows group workspace access, so, for example, administrators can get read-only access to application results and log files for troubleshooting. Since Gridcom is a web-based system, it can be accessed from any computer or cell-phone, connected to the Internet.

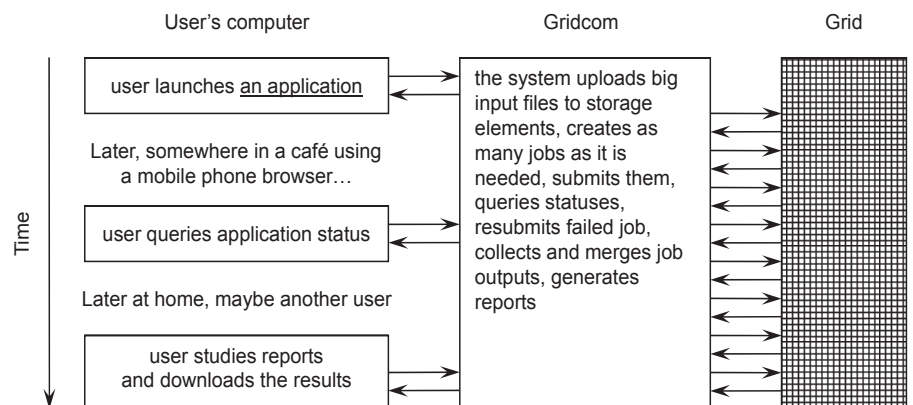


Parametric application execution

Gridcom launches specially developed Gridcom applications. Once created, an application can be launched many times with different input data. Generally it takes some hours to adapt grid application for Gridcom.

The architecture of the system is defined by three main ideas:

1. Full level system;
2. Application controlling code is executed on system computer;
3. HTTP-accessible directory interface.



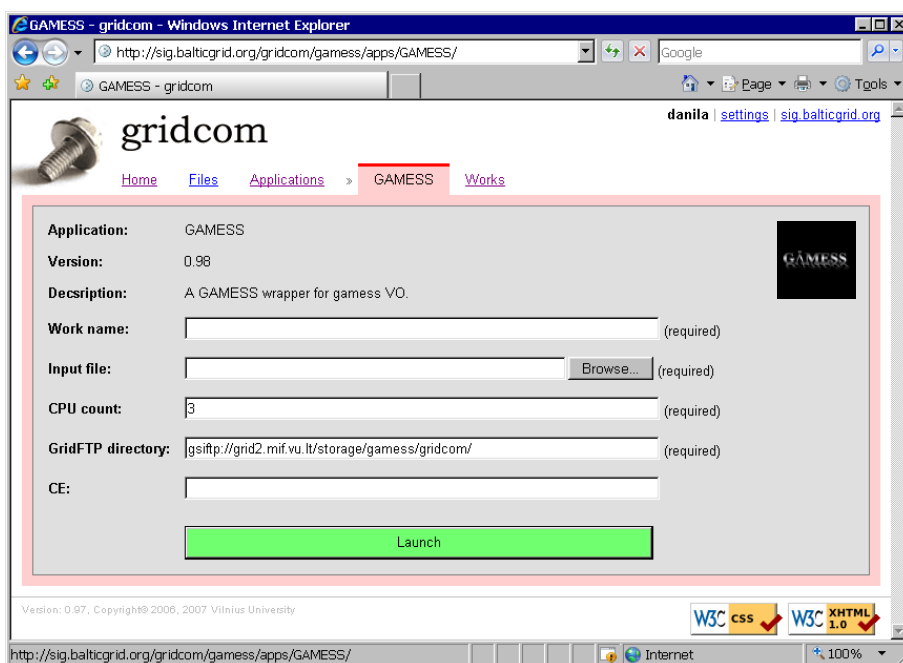
Gridcom operation principle

The first two ideas define that Gridcom application code consists of two parts—job code and application controlling code. Application controlling code is executed



directly on system computer thus allowing to free user computer from long operations, such as a thousand job submission. Controlling code is regular Linux executable code. That allows using shell scripts and gives almost absolute flexibility for application authors to implement any actions needed to prepare the data, control the application, merge the results, etc.

The third idea defines that applications are launched in HTTP-accessible directories. This means that there is no sophisticated application-system and system-user interfaces. Any file included in application or created by application automatically gets its URL and can be accessed through a web browser. According to this, application authors can simply include HTML or PHP pages with links to result or intermediate files, with different ActiveX or Java file viewers for result visualization.



MPI application with transparent input file upload through SE

BalticGrid Special Interest Groups

Gridcom is the main component of BalticGrid Special Interest Groups portal. The portal is also used for information publishing, for education purposes, for different forums and even for conference registration. For example, university professors publish lectures on their pages, students can download them, comment, ask questions.



SIG portal

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