

## **A GRID ACCOUNTING AND CHARGING SYSTEM**

**Csongor Somogyi, [somogyi@iit.bme.hu](mailto:somogyi@iit.bme.hu)**

*BME Dept. of Control Engineering and Information Technology*

**Márton Szmracsányi, [szmracsanyi@ik.bme.hu](mailto:szmracsanyi@ik.bme.hu)**

*BME Centre of Information Technology*

**Zoltán László, [laszlo@iit.bme.hu](mailto:laszlo@iit.bme.hu)**

*BME Dept. of Control Engineering and Information Technology*

In order to spread the Grid technology as a commercial product it is essential to develop a distributed accounting and charging (AC) system, which fits in this context.

In an earlier work of us we have created a prototype of such a system in the Hungarian Grid (MGRID) project. In the following so-named ClusterGrid project, applying the experiences collected earlier, we have aimed to establish a complete working prototype of a grid accounting and charging system, integrate the so-created system with the ClusterGrid and create a user interface module of our system in the portal framework of the ClusterGrid. On “complete working prototype” we mean that the modules of the system are able process the whole automated accounting-charging tasks, calling each others’ interfaces without any human interference. The so-completed system – with minor changes – must be able to be used in professional context, too.

We have set up two requirements against our system being developed. The first requirement is that the accounting and charging related data collected by the system processes should be distributed in the sense of both the steps of the AC processes and the entities participating in such processes (e.g. resources, consumers, jobs, providers). The other requirement stated by us is that inconsistency must not be arisen during the processing of the AC data and moreover, the partially processed data should not be reprocessed in case when the AC processes are restarted due to certain unexpected erroneous behaviour of the system. In our presentation we introduce how much we have succeeded to fulfil these requirements.

Besides what mentioned above, in the presentation we introduce the architecture and the operation of the system, we show the results and share our experiences.