

## **SORMA: Self-Organizing ICT Resource Management**

### **Description**

The costs for ICT infrastructures has increased tremendously as a result of "one-application-one-platform" style deployment. This has resulted in ICT infrastructures with extremely low system utilization and wasted resources. Examples can be found in virtually all areas of modern societies: At the time of this project, a relevant study of six corporate data centers reported that the bulk of their 1000 servers just utilized 10% to 35% of their available processing power. Another study estimated that the average capacity utilization rate of desktop computers is as low as 5%. Furthermore overcapacity can not only be observed with respect to hardware, but also to software. Highly-scalable applications can serve additional users at almost no incremental costs - hence redundant installations of the same application create unnecessary costs.

ICT has been undergoing an inevitable shift from being an asset that companies possess to being a service that companies purchase from designated utility providers. At the time of this project, it was thought that this shift would take years to unfold, even though back then the technical building blocks had already begun to take shape. On the coat tail of this shift, the business model of utility computing or equivalently e-Business on-demand was emerging more and more. This is where SORMA came in to play.

The objective of this project was the development of a platform that allowed the dynamic trading of ICT resources "on-demand". This platform not only supported the trading itself, but also the fulfillment of purchased resources. The internal resource management became intransparent for the users, who no longer had to be concerned on which resources their jobs are being used as long as they were performed in scope and in time. In summary, the project SORMA provided the necessary tools to achieve its goals via the trading of ICT resources.

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