Title:

Grids and Clouds

Author:

Christian Baun, KIT

Abstract:

During the last years grid computing developed from a recent field of research to a common tool for scientists in many branches of science. Grid infrastructures are used everyday in many scientific projects for physics, medicine, meteorology and more.

Now, a new trend in IT is cloud computing which aims at consolidation of hard- and software in large data centers. Cloud computing tries adapt the advantages and to overcome the restrictions of the grid concept. All resources are marketed by providers as a service over the Internet. Using cloud computing means that dynamically scalable (elastic) infrastructures can be easily created by the users and that only used resources are paid as you go.

Cloud computing has the capability to radically change the IT landscape. Funding can be spent to support core business rather than spend it for IT infrastructure. Using the Cloud the users have the freedom to run the operating systems, infrastructures, applications and programming languages of their choice. The flexibility of cloud computing has its origin in the combination of virtualization technologies (e.g. Xen) with web services.

The differences between cloud and grid computing will be discussed as well as different cloud projects and efforts to integrate grid services into the cloud.