

# Case-based Reasoning in the Cloud

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**Abstract.** Cloud computing has its roots clearly in industry. A huge variety of successful cloud services have been developed in a rather pragmatic manner. Recently, Cloud computing is increasing its attraction also as a research topic. Many basic questions especially in cloud management still remain open. *Cloud management* deals with management methods for provisioning and use of cloud services [1]. For instance, rapid scalability is often achieved by a massive overprovisioning of resources today, which causes overcharged prices and a waste of energy. A systematic approach including thorough concepts for monitoring, analysis, search, reuse, orchestration and configuration of cloud services might be extremely beneficial for both cloud providers and users.

The keynote will highlight the potential of intelligent cloud management methods, particularly from the field of Case-based Reasoning. *Case-based Reasoning* (CBR) is a sub-area of Artificial Intelligence that deals with the reuse of experience recorded in cases [5]. Recent work on case-based, automated cloud management [3, 4] will be presented. Future research issues for CBR in the cloud will be investigated, including the semantic description and retrieval of cloud services, the case-based analysis of time series [2] applicable to the monitoring of service level agreements, for instance, and the potential "cloudification" of CBR methods such as rapidly scalable case retrieval and case adaptation. Potential business application scenarios will be discussed.

The aim of this keynote is to demonstrate that, beyond the buzzword, cloud computing provides novel, intriguing opportunities for research.

## References

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