High Availability for Cloud-Hosted Database Systems

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Room: NOE 3105
(building of the Faculty of Computer Science, Nöthnitzer Strasse 46)

Abstract: Many cloud applications have sophisticated data management needs that are best served by a relational database management system. It is not difficult to run a database system in the cloud, but such a system represents a single point of failure for the applications it supports. In this talk I will present some recent work on providing high availability and disaster tolerance for database systems in cloud computing environments. I'll describe DAX, a system that is designed to provide highly available, disaster-tolerant storage services for database systems. Database systems use DAX to store persistent copies of their databases and logs. DAX can be used as a foundation for building highly available relational database services in the cloud. Time permitting, I will describe some work in progress on a novel active/standby disaster-tolerant database high availability technique that leverages DAX.

Bio: Ken Salem is a professor in the Cheriton School of Computer Science at the University of Waterloo, where he has been since 1993. He received his Ph.D. in computer science from Princeton University in 1989 and spent several years at the University of Maryland before moving to Waterloo. He has also held visiting positions at IBM's Almaden Research Center and at HP Laboratories in Palo Alto. His research interests span a variety of topics related to database management, storage systems, and cloud computing.