Scalable Cloud Data Management with Polyglot Persistence

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Abstract. The combination of database systems and cloud computing is extremely attractive: unlimited storage capacities, elastic scalability and as-a-service models seem to be within reach. This talk first gives a brief survey of existing solutions for cloud databases that evolved in the last years and provides classification and comparison. In practice however, several severe problems remain unsolved. Latency, scalable transactions, SLAs, multi-tenancy, abstract data modelling, elastic scalability and polyglot persistence pose daunting tasks for many applications. Therefore, we introduce Orestes, a database-as-a-service middleware which aims at tackling all these problems through an integrative approach. To this end, Orestes incorporates intelligent web caching, autonomous management of polyglot storage systems, and realtime processing of continuous queries in order to provide a comprehensive and effective infrastructure for cloud data management.