



**Fakultät für
Ingenieurwissenschaften
und Informatik**

Institut für
Organisation und
Management von
Organisationssystemen

Daniel Seybold

daniel.seybold@uni-ulm.de

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Bachelor Thesis

Time Series Databases: Survey on NoSQL query language capabilities

Overview

In the context of Cloud Computing or the Internet of Things an upcoming task is the storage and analyzing of monitoring data produced by applications or sensors. Typically the monitored data is kept for a certain amount of time to provide the possibility of long time analyses or machine learning. The monitored data is commonly referred as time series data which consists for example of the metric name, metric value and a timestamp.

A common way to store such monitoring data are Time-Series-Databases (TSDB). A TSDB typically consists of a datastore back-end and a front-end providing the query capabilities and graphical representation. Current TSDBs like KairosDB or InfluxDB uses NoSQL databases as back-end datastores to handle even large amount of data by distributing the data.

Challenge

This thesis focuses on the requirements of query languages supporting the analysis of time series data. One part consists identifying necessary analyzing operations. The second part is the query language comparison of major NoSQL databases in relation to the identified operations. In regard of the query capabilities there should also be considered the distribution of the data.

Contact

If you are interested in this or similar theses, please contact Daniel directly by e-mail (daniel.seybold@uni-ulm.de).