



Architecture for Modern Database Benchmark

Background

Web applications provide services to increased number of users, need to scale over concurrent user accesses, and involve DBMSs to safely manage business data shared between concurrent users. Right DBMS can be chosen by running a benchmark. It is important that such modern benchmark allows having different web application architectures and scaling number of concurrent users. It should be possible to implement applications using novel architecture supported by Starcounter DBMS. Starcounter is the fastest high performance database for real-time transactional applications. Its In-memory, ACID-compliant technology reduces hardware costs by orders of magnitude. Important Starcounter innovation is integration of the DBMS with application virtual machines. Currently, the integration supports .NET.

Purpose and Scope

The purpose of this project is to design a modern database benchmark to evaluate concurrent user scalability, implement it in a prototype and run against Starcounter and another DBMS.

The following tasks are included in the project:

- Research the state-of-the-art in database benchmarking
- Analyze requirements for the modern database benchmark
- Design the benchmark and implement it in a prototype
- Install test environment and DBMSs on test machines
- Run the benchmark prototype against DBMSs and analyze result

The project is intended for one or two students.

Experience and Knowledge requirements

- Deep program development experience
- Good knowledge of different databases
- Experience in .NET
- Experience in administrating software, network and OS
- Experience in performance testing
- Knowledge needed to perform thesis work

Presentation of results

The project should result in a working prototype and a report.

Contacts for application and questions:

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