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## Evaluation of In-memory Database TimesTen <sup>[1]</sup>

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Project Specification: Oracle TimesTen In-Memory Database is a full-featured, memory-optimized, relational database with persistence and recoverability. For existing application data residing on the Oracle Database, TimesTen can serve as an in-memory cache database. This setup can provide great performance increase and almost instant responsiveness for database intensive applications. Cooperation between application and database support is needed to test integration, benefits and possibilities this product provides for database intensive applications in CERN. Main goal is to test performance improvement in response time when using Oracle TimesTen in-memory database cache (IMDB) layer between high load CERN applications and their respective databases. Abstract: In this paper I will introduce the key features of Oracle TimesTen In-memory database, focusing on the scenario when TimesTen is used as a cache between applications and their databases. Several industry standard benchmarks will be run against both Oracle database and Oracle TimesTen In-memory cache, to determine the performance gains when using Oracle TimesTen as a cache. Based on these results, we will examine the causes and consequences to make future assumptions. After reading this document, the reader will have a broad overview of use-cases, when using TimesTen is advantageous.

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