



The Benchware Performance Suite

The Benchware Performance Suite

- Identifies Key Performance Metrics of Oracle® Data Warehouse, OLTP and SAP® platforms
- Designed for all platform layers: Server, Storage and Database System

Customer value

- Supports price-performance calculations of different Oracle® platforms by delivering performance facts
- Identifies potential for Oracle® license cost optimization
- Validates performance characteristics of platforms (health-check)
- Detects possible performance bottlenecks

Representative

- Measures all important database operations
- All typical load profiles
- Analyzes best-case and worst-case behavior
- Uses Oracle® 10.2 und 11.2 RAC, DataGuard and Exadata features

Reproducible

- Synthetic Data Model
- Benchmark can be reproduced any time

Scalable

- From small servers to high-end platforms

Fast

- Results within a few hours

Benchware Performance Suite

The Benchware Performance Suite consists of two components: the benchware Loader and the Benchware Monitor. Both tools are written in SQL, PL/SQL and Java, and run on all Oracle® platforms, including Exadata. They scale from small server to very large high-end systems. The Benchware Performance Suite is also useful for comparing system performance when using different Oracle® features such as Real Application Cluster, DataGuard, compression, encryption or flash cache technologies.

Benchware Loader

The Benchware Loader analyses the system performance of Oracle® platforms for all major database operations in different load situations, from a single process up to complete system saturation.

It examines both, best-case behavior, (data in cache) and worst case behavior, (data not in cache). All components of the platform (server, storage and database system) are checked for their performance characteristics and limitations. Performance bottlenecks will be detected immediately. It uses synthetic data and allows benchmarks to be repeated and compared at any time to verify the impact of system changes on overall application performance.

Benchware Monitor

The Benchware Monitor delivers simple and understandable key performance metrics. Performance metrics are the foundation for validating the chosen system architecture and for capacity planning when upgrading systems or consolidating servers and databases. Performance metrics are also utilized, taking into consideration Oracle® license costs, to conduct price-/performance comparisons of platforms.

About Benchware Ltd.

Benchware Ltd., is located in Thalwil (Zürich), and is an independent company, offering services and software products for performance analysis and for benchmarking Oracle® platforms and applications.

Benchware delivers fair, reproducible and representative benchmark tests, while taking into consideration Oracle® license costs, to facilitate price/performance calculations of components from different vendors.

Benchware has a long track of experience in designing, implementing, running and optimizing mission-critical Oracle® database systems, as well as in developing innovative benchmark methods to compare price-/performance ratio of Oracle® platforms.

Requirements

- Installation of Oracle® 10.2 or 11.2 Enterprise Edition with Partition Option. Other Oracle® editions and versions on request.
- The required disk capacity depends on the benchmark database size and database server size, and varies between 32 GByte and 2 TByte. The table size varies from between 64 million rows up to 2 billion rows.
- In order to avoid side-effects, the Oracle® platform should be dedicated as far as possible exclusively to the benchmark. This is also true for shared storage systems.

Duration

In order to prepare, run, and evaluate the benchmark of one Oracle® platform (health check) three to four days are needed.

The most important key performance metrics

	Key Performance Metrics	Units
CPU Server System	CPU speed CPU throughput Server scalability Efficiency of Multithreading	processing time [s] operations per second [ops]
Storage System	I/O throughput <ul style="list-style-type: none"> • large blocks, sequential • small blocks, random • read, write 	megabytes per second [mbps] I/O operations per second [iops] average I/O service time [s]
Database System	Data Load <ul style="list-style-type: none"> • conventional • direct bulk load • compression • encryption 	rows per second [rps] transactions per second [tps] megabytes per second [mbps] service time per transaction [s] REDO service time [s]
	Data Scan <ul style="list-style-type: none"> • cached: buffer cache, flash cache, cell flash cache • non-cached 	rows per second [rps] megabytes per second [mbps]
	Data Aggregation Data Join	processing time [s] rows per second [rps] queries per minute [qpm]
	Data Select Data Update <ul style="list-style-type: none"> • primary key access • secondary key access 	rows per seconds [rps] transactions per second [tps] service time per second [s]

For comparison Benchware provides additional key performance metrics of standard systems or components on request.

More information

info@benchware.ch