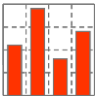


Requirements to Benchmark Tools

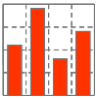
Technical Presentation

February 2014



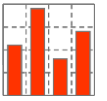
- 1 The Benchware Performance Suite is different**
- 2 Requirements to Benchmark Suite
- 3 Conclusion

The Benchware Performance Suite is different



- Platform-centric Oracle database benchmark tool
- Designed to benchmark Oracle platforms
- Holistic benchmark approach for Oracle platforms

The Benchware Performance Suite is different

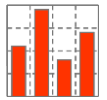


Benchware methodology is based on understandable key performance metrics for

- CPU
- Server
- Storage
- Database

Benchware uses a set of Oracle benchmark tests to calibrate key performance metrics of all components

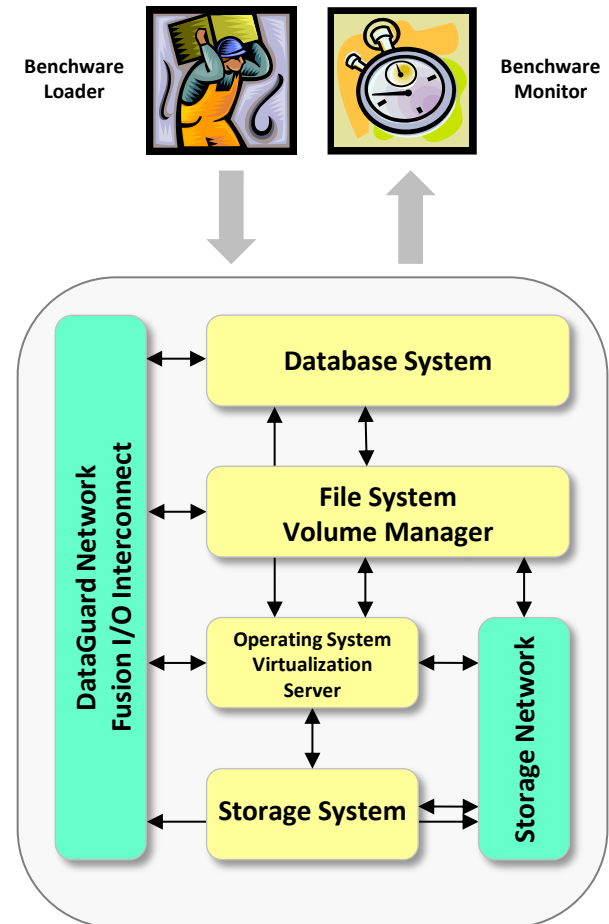
The Benchware Performance Suite is different

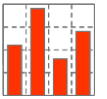


Complex architecture of Oracle platforms requires benchmarking

Benchware Performance Suite (BPS)

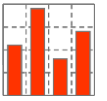
- **Benchware Loader**
 - Load generator for Oracle database
 - Generates all typical load profiles
- **Benchware Monitor**
 - Light weighted monitor to collect internal Oracle statistics
 - Uses less resources than AWR or STATSPACK





- 1 The Benchware Performance Suite is different
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- 3 Conclusion

Requirements to Benchmark Suite

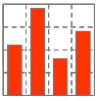


General requirements ¹⁾

- Relevant
- Repeatable
- Fair
- Verifiable
- Economical

¹⁾ Karl Huppler (IBM): *The Art of Building a Good Benchmark*. Keynote at TPC Technology Conference 2009, Revised Selected Papers, Lecture Notes in Computer Science LNCS 5895, Springer 2009

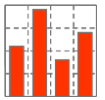
Requirements to Benchmark Suite



Practical requirements

- Fast – results within a few days
- Readily understandable key performance metrics – useful for capacity planning
- Adaptable to customer platform

Requirements to Benchmark Suite



Technology requirements ²⁾

- Flash storage

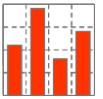
- Sequential I/O pattern 1 ... 100 GByte per second
- Random I/O pattern 1 ... 10 Million IOPS

- Large SMP servers

- RAM capacity 1 ... 8 TByte
- Number of cores 2^8 ... 2^{10}
- Number of threads 2^{10} ... 2^{12}

²⁾ C. Mohan (IBM): *Impact of Recent Hardware and Software Trends on High Performance Transaction Processing and Analytics*. TPC Technology Conference 2010, Revised Selected Papers, Lecture Notes in Computer Science LNCS 6417, Springer 2011

Requirements to Benchmark Suite



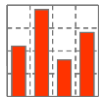
Technology requirements

- More use of Oracle clustering
 - Number of RAC nodes 2 . . . 32

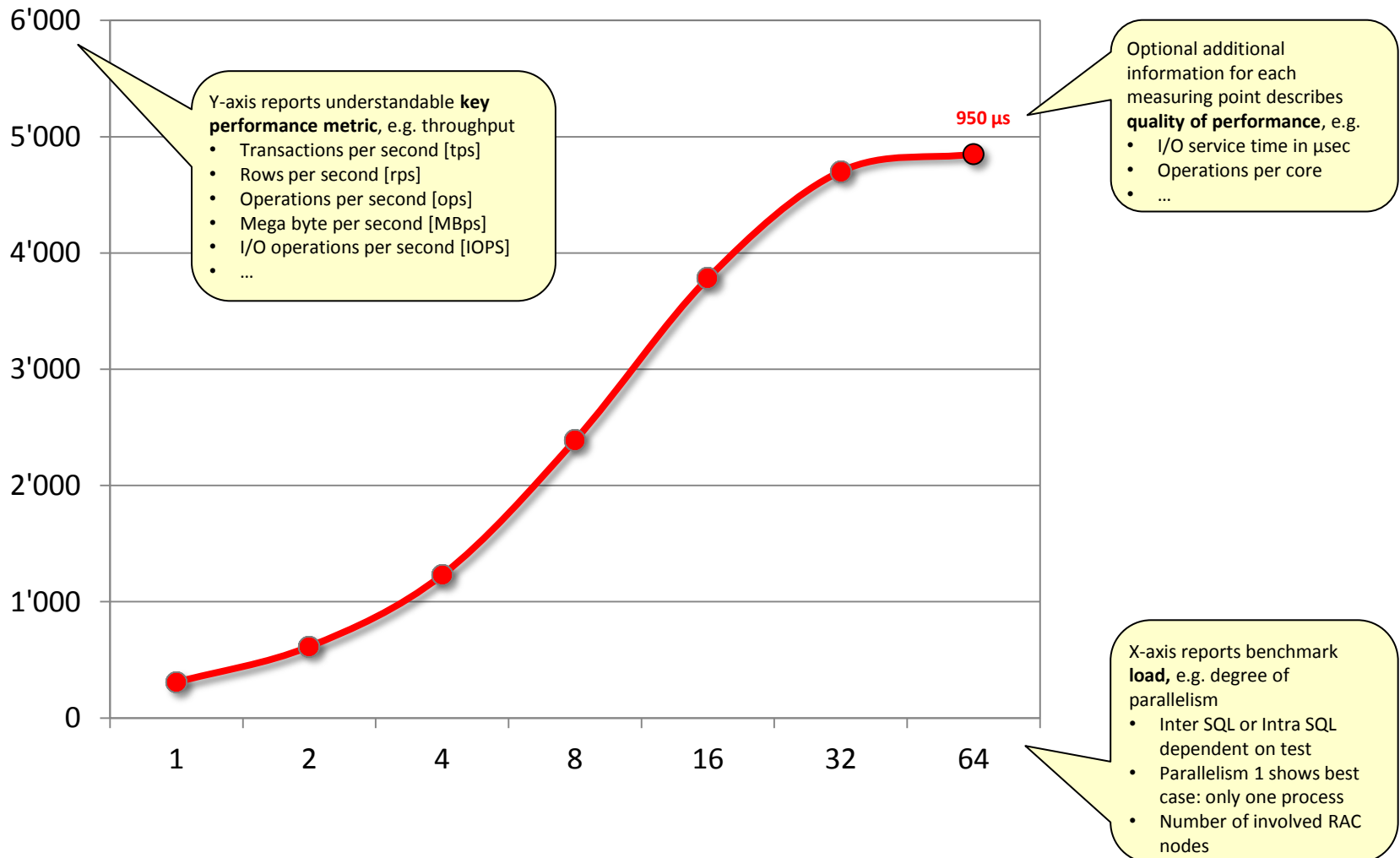
- Scalable technology requires new
 - benchmark methodology
 - and data models

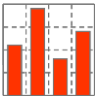
for scalable, contention free and highly parallel performance tests

Requirements to Benchmark Suite

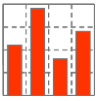


All load profiles from single process to saturation





- 1 The Benchware Performance Suite is different
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The Benchware Performance Suite

- Provides a holistic benchmark approach for Oracle platforms
- Follows the general rules of benchmarking database platforms
- Delivers readily understandable key performance metrics for all load profiles in a few hours
- Scales from notebooks to high-end systems and is adaptable to customers platform

BENCHWARE

swiss precision in performance measurement

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