General Benchmark Techniques
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General Benchmark Techniques

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What is a Benchmark/Tool?
Terminology
Know your Benchmarks/Tools!
What do the stress / report?
Q&A
Benchmark

“Standard tool for the competitive evaluation and comparison of competing systems or components according to specific characteristics, such as performance, dependability, or security”.

Tool

“Standard rating tools allows for the non-competitive system evaluation and comparison.”, they are primarily intended for a standardized method of evaluation for research purposes, regulatory programs, or as part of a system improvement and development approach.
Harness and Workload (code)
The harness coordinates the timing of the Workload, the actual stress on the subsystem(s), execution

Reporter / Validator (code)
Combines and validate the performance (and power) with the configuration detail and creates the Full Disclosure Report (FDR)

Run and Reporting Rules (R&RR)
Needs to be followed in order to produces a valid results (e.g. general availability)

Benchmark
Harness, Workload, Reporter, Validator, and R&RR

Industry Standard Benchmark
Benchmark that is develop/released by an industry standard body which conducts performance results review or audit.
General Benchmark Techniques
Know your Benchmarks/Tools

The right tool for the right job
Know your goal(s) -> Select the right benchmark/tool(s)

Performance impact of your HW
Each subsystem, system, infrastructure, including FW and BIOS settings

Performance impact of your SW
OS, drivers, application, benchmark code (compiler, JVM), etc.

Performance result
Metric + Accurate and complete configuration details
1. Expected performance variation of identical systems?
   a.) <1%  b.) 1-2%  c.) 2-5%  d.) 5+%  e.) other?

2. At which % variation is benchmarking not valid anymore?
   a.) <1%  b.) 1-2%  c.) 2-5%  d.) 5+%  e.) other?

3. For a Large Scale environment: Would it be feasible that half of the ‘identical’ systems meet a min. performance and the other half performance at a 10% faster rate? Do you need to know with server is faster?
Thank You!
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