

Fair Use of TPC Benchmarks

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Rationale

The TPC, as an industry standards body, must be vigilant in ensuring that the results of TPC Benchmarks are used in a consistent and fair manner.

Member Obligations

As a condition of TPC membership, members are obligated to follow the TPC's Policies. Failure to do so can result in TPC Fair Use violations, which can carry fines of up to \$10,000 per infraction, and worst case, expulsion from the TPC.

The TPC Policies are available here: <http://www.tpc.org/information/about/documentation/>

Fair Use of TPC Results

The primary portion of the policies that is relevant here is "Fair Use of TPC Results" (Policies 8.2), which states in part: "The TPC label may be applied to only fully legitimate Results, used in a fair manner."

Restated: Any use of the TPC name in conjunction with published results must ONLY be used with official published results, available on the TPC web site.

This ensures that the results being compared publicly were audited and/or reviewed and that they were produced using commercially available software and hardware that is or will be available for purchase within 6 months of the publication.

Non-TPC Benchmarks

What if someone wants to use results that were not audited or reviewed? Or were generated using software or hardware that is not commercially available? Or used a modified version of a TPC benchmark?

In these cases, the results are from non-TPC benchmarks. These are permitted via "Fair Use of TPC Specifications" (see Policies 8.3), which in turn must adhere to the provisions of "Use of TPC Material" (see Policies 8.1) and the general "Fair Use" guidelines (Policies 8.2.1).

Restated: Any use of a TPC benchmark outside of official published results is considered a non-TPC benchmark and is subject to certain conditions.

The following is a comprehensive list of these conditions.

- 1) **Copyright.** See Policies 8.1.1.
- 2) **License.** See Policies 8.1.2.

In all cases, the TPC Copyright Notice and License Agreement must be maintained.

- 3) **Benchmark Name and Metrics.** See Policies 8.1.3.

Any use of the TPC Benchmark Name in a derived work must be prefixed with the phrase "Derived from".

Example: For analysis, instead of the title "Performance of TPC-DS Query 14" use "Performance of Query derived from TPC-DS Query 14".

The use of any Primary Metric or Optional Metric of a TPC Benchmark is not allowed.

Example: For reported metrics, instead of using tpsE (transactions-per-second-E), you could use tps (transactions-per-second).

4) **Disclaimer.** See Policies 8.1.4.

A disclaimer, in the format prescribed in Policies 8.1.4 (also below), needs to be present wherever derived results are presented. This could be in an appropriate introductory section of an academic paper or research report, or an introductory paragraph of a blog post, or as a footnote on any chart or graph displaying performance data.

The required disclaimer is as follows:

“The <name of derived work> is derived from the <TPC Benchmark name> and as such is not comparable to published <TPC Benchmark name> results, as the <name of derived work> results do not comply with the <TPC Benchmark name> Specification.”

5) **Fair Use and Disclosure.** See Policies 8.2.1

A key property of a TPC Result is the Full Disclosure Report, which provides sufficient context to allow TPC Results to be compared. In the case of non-TPC Benchmarks, the requirement for an FDR does not exist. However, to support the notion of Fair Use, there should be sufficient disclosure of the environment(s) being tested, such that a reader can make a fair comparison. For example, this would prevent a performance comparison being made between two products with different CPU configurations, memory configurations, or storage configurations, without those differences being properly disclosed.

Example: The test system was a 4-socket system, with 4 processors with 24 cores (48 threads) with 192MB of L3 cache each. The system had 32 16GB DDR4 DIMMs. Two 240GB SSDs were configured in a RAID-1 array as the boot disk, and 12 480GB SSDs were configured in a RAID-6 array for the database.

Comment: The provisions in Policies 8.2.1.4 through 8.2.1.8 do not apply to non-TPC Benchmarks.

6) **Deviations.** See Policies 8.3.2.

All deviations from the requirements of a TPC Specification should be noted. Similar to the disclaimer requirement of 8.1.4, this should be presented in a suitable introductory section or paragraph

Comment: This includes, but is not limited to, schema definition, query text, transaction definitions, durability and data accessibility, run methodology, and primary metrics.

7) **Comparability.** See Policies 8.3.3.

Any comparison between official TPC Results with non-TPC workloads is prohibited.