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Next Generation of HEP CPU Benchmarks

HEPSPEC-06 is a decade old suite used to benchmark CPU resources for WLCG.

Its adoption spans from the hardware vendors, to the site managers, funding agencies and software experts. It is stable, reproducible, accurate, however it is reaching the end of its life.

Initial hints of lack of correlations with the HEP applications have been collected.

Looking for suitable alternatives the HEPiX Benchmarking Working Group has evaluated SPEC CPU 2017 and a number of fast benchmarks.

The studies done so far do not show major advantage in adopting SPEC CPU 2017 respect to HS06.

A suite based on the workloads that HEP experiments run can be an alternative to industrial standard benchmarks

The adoption by the experiments of modern software development techniques simplifies the ability to package, distribute and maintain a field specific benchmark suite.

The HEPiX Benchmarking Working Group is actively working to make this possible.

This report summarises the progress of the HEPiX Benchmarking Working Group in building a benchmarking suite based on HEP workloads.

Comparisons of results with SPEC CPU 2017 and HS06 will be discussed.

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