AMD Zen Performance Benchmarking

<https://www.pcper.com/news/Processors/Leaked-Geekbench-Results-AMD-Zen-Performance-Extrapolated>

AMD is releasing a new chipset titled the Zen aimed at the High-Performance Market [1]. This new design utilizes a multi-core system with simultaneous multithreading capability (SMT).

Benchmarks were found on the system using an engineering sample. The author of the comparison [2] used for this summary does not believe these numbers are truly accurate due to this early distribution. The production intent chips will not be released until early 2017 [3]. AMD has only released a Blender render engine showcase demonstration as part of their technical demonstration.

The Benchmarking comparison was conducted using Geekbench [4], a cross platform CPU and Compute performance comparison tool. Single Thread testing was conducted on the AMD Zen and compared to an Intel Ivy Bridge based processor running at 3.6 GHz.

The AMD Zen is a two (2) physical processor system with a total of 64 cores running at 1.44 GHz. The comparison chip is the Intel Xeon E7-8857 v2 running at 3.6 GHz.

Testing was done using a Linux OS, and the author notes that it might have caused some issue as the kernel might not be appropriately optimized for the newer architecture. A number of tests were run [5] including LZMA compression, SQLite access, and PDF Rendering.

In comparing the single threaded activities directly to each other, the AMD Zen is much slower than the Intel Ivy Bridge chip. The author extrapolates performance using a single perfect frequency scaling so that both chips can be compared at 3.6 GHz. Even with this frequency scaling, the AMD Zen chip works at ~70-80% of the Intel Ivy Bridge chip.

[1] <http://www.amd.com/en-us/innovations/software-technologies/zen-cpu>

[2] <https://www.pcper.com/news/Processors/Leaked-Geekbench-Results-AMD-Zen-Performance-Extrapolated>

[3] <http://www.pcgamer.com/amd-confirms-zen-processors-launching-early-2017/>

[4] <https://browser.primatelabs.com/>

[5] <http://browser.primatelabs.com/v4/cpu/42743>