The Dual-Core War: Is Intel in Trouble?

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After years of anticipation, dual-core microprocessors are finally a reality. Both Intel and AMD were touting dual-core microprocessors as the inevitable future, and something that would certainly take computing to the next level. At numerous tradeshows and computing conventions, analysts and media predicted the launch date of multi-core CPUs; some said Intel would be the first to bring its chips to the market while others stated the opposite. Whatever the speculations, Intel was indeed the first one to introduce its dual-core chips. In fact, they made a sudden decision to send out preview units to selected media outlets for independent performance testing and evaluation. Then, after hearing that AMD is about to launch its Opteron and dual-core Athlon 64 chips at the same time, Intel rushed once more and moved the official launch date forward to April 19th.

Although Intel may have won the race-to-the-launch game, they still lurk behind AMD in majority of the performance tests conducted by various media outlets. For the purposes of this column, I will mainly stick to the desktop side of things to bring forth my point with as little confusion as possible.

So, we all know Intel's recent history with its desktop processors. They were sub-par, to say the least. The Prescott chips were plagued with thermal issues, performance lags due to the use of 31 stage pipelines, high prices and the fact that they couldn't come anywhere close to what AMD had to offer. Yes, they excelled in video and audio encoding applications, but Intel P4 architecture has always been known to do well in such applications, so this was no surprise. AMD, on the other hand, had quite an advantage over Intel in gaming benchmarks and other applications where Athlon 64 chips have led the charts with significantly higher numbers. Needless to say, Intel just couldn't keep up with AMD due to thermal issues, which eventually led the world's largest chipmaker to abandon it's plans to introduce a 4GHz version of the Pentium 4 late last year. In fact, Intel completely went from having a "MHz is king" mentality, to a more "performance" oriented marketing stance. The sudden change of heart was clearly obvious.

Now, let's move forward to the actual dual-core launch and what do we see?Intel is still not up to speed (no pun intended) and can't keep up with AMD. Dual-Core microprocessors aren't all that great for gaming, but for multitasking tasks, they perform exceptionally well. As has been the case for quite a while now, Intel lags behind AMD in a majority of the application tests. And by the way, the chip architecture isn't any better either. The latest Intel dual-core CPUs are still affected by the same thermal issues, so the world's largest chipmaker is in deep trouble as far as the enthusiast community is concerned.

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