

22 April 2008

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AMD's SB780 could be an important weapon in the fight against Intel  
AMD

## [AMD's 45-Nanometer Deneb Core Beats 3.2 GHz](#)

*The new achievement is mostly due to the SB780 southbridge chip*

Advanced Micro Devices' upcoming Deneb processors are reportedly able to work beyond the 3.2 GHz threshold. The Deneb silicon is built on the K10.5 micro-architecture and is expected to arrive during the fourth quarter of the year. The new microprocessor will face direct competition from Intel's Nehalem series of chips that will probably launch with a core frequency of 3.0GHz and higher. Despite the fact that AMD managed to release its bug-free Phenom chips on the market, they are still way behind Intel's offerings in terms of performance. The 3.2 GHz Deneb might lose the battle with Intel's Nehalem, given the fact that the latter will come with a modular micro-architecture that can be scaled up for increased performance. However, faster chips will tighten the gap between Intel's mainstream quad-cores and AMD's similar offerings. Moreover, AMD's chips are not famous for their overclocking capabilities, while Intel's chips can reach dazzling frequencies using only air-based cooling systems. Yet, the new frequency for the Deneb chip appears to have been achieved using a "secret" ingredient: the company's upcoming SB780 southbridge chip, that gives the processor a welcome overclocking boost. The SB780 southbridge comes with the OverDrive 3.0 technology implemented in the SB710 and SB750 offerings. AMD keeps a low profile when it comes to disclosing any details about the OverDrive technology, an undocumented feature that is alleged to be deeply involved in boosting the CPU's core frequency. When paired with a 45-nanometer processor, the SB780 chipset unlocks extra overclocking capabilities. AMD successfully demonstrated a SB780-equipped motherboard running the Deneb core at a plain 3.0 GHz. However, just as the OverDrive technology kicked in, the chip went straight to 3.2 GHz. It is currently unknown whether the SB780 can increase the CPU frequency more than 200 MHz, but this is a good start for a company that isn't too much into overclocking. Hopefully, the advent of the 45-nanometer parts would allow users to step on the gas and take the chips to higher peaks, as heat wouldn't be too much of an issue.