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The New Nehalems: Socket LGA 1366 under the scope

This means you have to change every piece of hardware to enjoy them

Intel's Nehalem chips are slated for release later this year, but the new micro-architecture promises to give a lot of hassle to its adopters, since the new chips are completely different from what we have seen until now. The Nehalem CPU micro-architecture will be seated on a new socket, to comply with the chip manufacturer's dramatic changes to the processor's silicon, The LGA 1366 CPU socket will be able to host both the single-CPU in the Bloomfield family and the dual-GPU architecture in the Gainestown series. According to the reports, the new socket is about 20 percent larger than the previous LGA 775. The size increase is understandable, given the fact the processor will come with 600 extra pins for the QuickPath Interconnect and the built-in DDR3 memory controller. The LGA 1366 socket is also more solid and is better fastened to the motherboard. The new socket is also better fastened to the motherboard, as the Bloomfield test board shows. On the motherboard's solder side, one can notice the metal back plate that firmly fastens the CPU socket using four metal screws. Proper fastening is essential, as the new processor will come with increased energy requirements and a significant thermal envelope that will require huge cooling solutions. The additional fastening elements will prevent the cooler from ripping the socket apart from the motherboard when the fan throttles up. Another novelty in the socket design is the independent loading mechanism (ILM), that dramatically changes the mounting process operation. In order to perform an upgrade to the Nehalems, users will be required to change not only the CPU coolers (that now have different mounting holes), but the motherboard itself, with a socket LGA 1366-compatible unit. In order to add some extra 600 pins to the socket, Intel had to increase the socket's size up to 20 percent, and it seems that the pins are now thinner, which could result in accidental breaks during the system's hardware maintenance.