

## The Intel® Core™ i7 Processor Tips the Performance Scales

That day in a product's lifecycle when the code name gives way to the actual product name and the formal announcements begin is always a day to celebrate. The Intel engineering team—having applied the finishing touches to the processor design code-named Bloomfield, the first product based on the innovative micro-architecture code-named Nehalem and built with Intel's groundbreaking new hafnium-infused 45nm high-k metal gate transistor technology—have much cause to revel in their next-generation accomplishment.

Having already acquired a reputation as a processing workhorse, the Intel Core i7 processor suits applications where large volumes of data, complex algorithms, and real-time requirements converge. The processor design, featuring four cores and 8 threads, excels at demanding tasks such as 3d rendering and animation, video and image editing and immersive and realistic gaming.

Not only is the Intel Core i7 processor the fastest performing processor on the planet, but it also introduces *intelligent processing* features that enable the processor to automatically increase processor performance when it is needed and reduce energy consumption when it is not. The Intel Core i7 processor has a built-in Power Control Unit that constantly watches the temperature and power use of the cores and can disable them completely when they're not being used. Thanks to this technology, the energy consumption of an unused core is next to zero. Intel® Turbo Boost Technology provides extra horsepower when you need it by dynamically increasing the processor's frequency when needed by taking advantage of thermal and power headroom when operating below specified limits. Intel® Hyper-Threading Technology supports up to eight simultaneous threads, ideal for distributing AI, physics, and rendering for ultra-realistic gaming. An integrated memory controller boosts memory bandwidth performance, and the 8 MB shared Intel® Smart Cache dynamically allocates resources to match the demands of individual cores for fast, efficient data manipulation.

Working closely with key players in the ecosystem, Intel has helped over a hundred independent software vendors optimize applications to take advantage of multi-threading capabilities. The stage is set for a scorching performance with the Intel Core i7 processor.