

Intel Corporation  
2200 Mission College Blvd.  
P.O. Box 58119  
Santa Clara, CA 95052-8119



# News Fact Sheet

CONTACT: Megan Langer  
503-712-4305  
[megan.e.langer@intel.com](mailto:megan.e.langer@intel.com)

## **New Details on Intel's Upcoming 32nm Logic Technology**

### **The Company's Advanced 32nm CPU Process is Certified and Wafers are Moving Through the Factory in Support of Planned Q4 Revenue Production.**

Sept. 13, 2009 — Intel Corporation disclosed new details today about the company's forthcoming 32nm process technology for the new 2010 Core family of processors and future SoC products. For the first time Intel has developed a full-featured SoC process technology to complement the CPU-specific technology, both versions use second-generation high-k + metal gate transistors for industry-leading performance and power characteristics. The company outlined new details for both versions of the 32nm process, as well as a new 45nm high-k + metal gate milestone, which will be discussed in various sessions at next week's Intel Developer Forum and in papers at the International Electron Devices Meeting in December.

#### **Intel proves continued success with high-k metal gate**

- Intel has shipped >200 million 45nm CPUs using HK+MG transistors since Nov 2007.

#### **Intel's 32nm process is certified and Westmere CPU wafers are moving through the factory in support of planned Q4 revenue production**

#### **32nm second-generation high-k metal gate transistors have the highest-reported performance (as measured by drive current) of any 32nm or 28nm technology**

- NMOS transistors have 19 percent performance improvement over their 45nm counterparts
- PMOS transistors have a 28 percent performance improvement over their 45nm counterparts

#### **32nm second generation high-k metal gate transistors have the highest-reported density for any 32nm or 28nm technology**

- Transistor gate pitch, a measurement for density, is 112.5nm. Gate pitch indicates how tightly transistors can be packed in a given area. Higher density means more transistors in a given area of silicon for increased functionality and better performance.

**Introducing Intel's 32nm SoC process technology – the most advanced of any reported 32nm or 28nm in the industry.**

- For the first time, Intel has developed a full-featured SoC process technology to complement the CPU-specific technology.
- Some special features of this process are ultra low power transistors with second-generation high-k + metal gate for low standby/always-on circuit applications; and high voltage I/O transistors.
- This process also includes new high-precision and high-quality passive components specifically needed for SoCs, such as resistors, capacitors and inductors.

Intel and the Intel logo are trademarks of Intel Corporation in the United States and other countries.

\* Other names and brands may be claimed as the property of others.