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Fact Sheet

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Intel Unveils Fastest Laptop Chips Ever
with the New Intel Core™ i7 Mobile Processors

Sept. 23, 2009 – Intel Corporation has introduced the Intel® Core™ i7 Mobile Processor, Intel® Core™ i7 Mobile Processor Extreme Edition, as well as the Intel® PM55 Express Chipset. The Intel® Core™ i7 mobile processor delivers unmatched processing technology on the most demanding tasks, including creating digital video and playing intense games. With Intel® Turbo Boost Technology[1] and Intel® Hyper-Threading Technology[2], you get intelligent performance when you need it most.

The Intel® Core™ i7 Mobile Processor and Intel® Core™ i7 Mobile Processor Extreme Edition, in combination with the Intel® PM55 Express Chipset, offers best-in-class performance with two-channel DDR3 1333 MHz memory support and full 1 x16 or 2 x8 PCI Express* 2.0 graphics for the most demanding, compute-intensive environments.

Laptops with Intel Core i7 mobile processor Extreme Edition support Intel® Extreme Memory Profiles (Intel® XMP) and Intel® Extreme Tuning Utility, the ultimate tuning utility making it possible to overclock[3] and fine tune your laptop for incredible performance and battery life optimizations.

The Intel Mobile Intel® PM55 Express Chipset enables high-end workstation and gaming laptops to support features such as Intel® Matrix Storage Technology, Intel® High Definition Audio and increased I/O interfaces.

Key architectural features of Intel® Core™ i7 Mobile Processor and Intel® Core™ i7 Mobile Processor Extreme Edition include:

– more –

- **Intel® Turbo Boost Technology**[1] - Dynamically increases the processor's frequency as needed by taking advantage of thermal and power headroom when operating below specified limits. Get more performance automatically when you need it the most.
- **Intel® Hyper-Threading Technology (Intel® HT Technology)**[2] - Delivers two processing threads per physical core for a total of eight threads for massive computational throughput. With Intel® HT Technology, highly threaded applications can get more work done in parallel, completing tasks sooner. With more threads available to the operating system, multitasking becomes even easier. This amazing processor can handle multiple applications working simultaneously, allowing you to do more with less wait time.
- **Quad-Core Processing -** Provides four complete execution cores in a single processor package. Four dedicated physical cores help operating systems and applications deliver additional performance, so users can experience better multitasking and multithreaded performance across many types of applications and workloads.
- **Up to 8 MB Intel® Smart Cache** - This large last-level cache enables dynamic and efficient allocation of shared cache to all four cores to match the needs of various applications for ultra-efficient data storage and manipulation.
- **Integrated Memory Controller** - An integrated memory controller offers stunning memory read/write performance through efficient pre-fetching algorithms, lower latency, and higher memory bandwidth making the Intel® Core™ i7 mobile processor family ideal for data-intensive applications.
- **Intel® HD Boost** – Includes the full SSE4 instruction set, significantly improving a broad range of multimedia and compute-intensive applications. The 128-bit SSE instructions are issued at a throughput rate of one per clock cycle, allowing a new level of processing efficiency with SSE4-optimized applications. This accelerates a broad range of applications, including video, speech and image, photo processing, encryption, financial, engineering and scientific applications.

Mobile Intel® PM55 Express Chipset
The Mobile Intel® PM55 Express chipset is the new Intel chipset for high-end workstation and gaming laptops. Key capabilities of the Mobile Intel® PM55 Express Chipset include:
- A suite of drivers enabling a robust and outstanding Windows® XP™, Windows® Vista™ and Windows® 7™ experience
- Intel® Management Engine Ignition Firmware support for essential platform functionality such as clock maintenance and thermal reporting
- Intel® Matrix Storage Technology for enhanced performance, power management and data protection for the storage subsystem
- Intel® High Definition Audio for integrated audio support to enable premium digital surround sound
- Support for 6 SATA* 3Gb/s ports with external SATA capability for HDD/SSD expandability
- Support for 8 PCI Express* 2.0 x1 ports @ 2.5GT/s PCIE interfaces, providing more flexible support for multiple card configurations
- Support for 14 USB* 2.0 peripherals for maximum 40x faster data transfer and backward compatible to support USB 1.1 devices
- Hanksville LAN support for Integrated Gigabit Ethernet MAC

[1] *Intel® Turbo Boost technology (Intel® TBT) requires a PC with a processor with Intel TBT capability. Intel TBT performance varies depending on hardware, software and overall system configuration. Check with your PC manufacturer on whether your system delivers Intel TBT. See www.intel.com/technology/turboboost for more information.*

[2] *Intel® Hyper-Threading Technology requires a computer system with a processor supporting HT Technology and an HT Technology-enabled chipset, BIOS and operating system. Performance will vary depending on the specific hardware and software you use. For more information, including details on which processors support HT Technology, see www.intel.com/info/hyperthreading*

[3] *"WARNING: Altering clock frequency and/or voltage may: (i) reduce system stability and useful life of the system and processor; (ii) cause the processor and other system components to fail; (iii) cause reductions in system performance; (iv) cause additional heat or other damage; and (v) affect system data integrity. Intel has not tested, and does not warranty, the operation of the processor beyond its specifications. Intel assumes no responsibility that the processor, including if used with altered clock frequencies and/or voltages, will be fit for any particular purpose."*

[*] *Other names and brands may be claimed as the property of their respective owners. SPEC, SPECint, SPECfp, SPECrate, SPECweb, SPECjbb are trademarks of the Standard Performance Evaluation Corporation. See: http://www.spec.org for more information on the benchmarks.*