



News Fact Sheet

4th Generation Intel® Core™ vPro™ Processor Family

June 4, 2013 — Intel Corporation announced the availability of the 4th generation Intel® Core™ vPro™ processor family, formerly codenamed “Haswell,” with immediate availability for innovative desktop PCs and mobile work stations and future availability planned for Ultrabooks™ and tablet devices. The 4th generation Intel Core vPro processors are up to 2x faster for business productivity applications over 4-year old systems.^{1,2} Seven years of innovation and design have culminated in a robust set of embedded technologies for the enterprise, creating the best environment for IT professionals and end users to compute with confidence.

Today’s enterprises demand a lot from their business PCs; they need to be secure within diverse work environments threatened by computer malware and hackers. At the same time, security must be flexible so that it does not compromise or stifle business performance. Devices powered by 4th generation Intel Core vPro processors now address both sides of that equation in an integrated package of security, performance and manageability, establishing a seamless computing experience that boosts productivity throughout the enterprise. Intel offers business-class computing across a full spectrum of devices, including stylish and robust Ultrabooks, 2-in-1 devices, touch-based clamshells, tablet slates, portable AIOs, and ultra small form factor PCs.

Security: Enterprise-Wide Security Straight from the Chip

The 4th generation Intel Core vPro processors offer built-in functionalities that strengthen security and protect both business data and personal information. Remote anti-theft capabilities and hardware accelerated encryption ensures that malware and root kit attacks do not compromise business systems. Together with Intel’s industry-wide network of security partners, Intel vPro Technology offers a comprehensive field of embedded security protection and a wide choice of solutions for businesses of all sizes.

New features in security:

1. Threat Mitigation

- **Intel® Trusted Execution Technology augmented by Intel® Boot Guard** enhances security throughout the bootup process via a root of trust based in the hardware, and extends that safe boot capability to virtual machines.
- **Intel® Virtualization Technology** and **McAfee Deep Defender*** work together to protect virtualized environments against malware and root kit attacks via hardware-based services.
- **McAfee DeepSAFE Technology***, co-developed with Intel, detects, blocks and remediates hidden attacks with innovative hardware-assisted security.

2. Identity and Access Protection

- **Intel® Identity Protection Technology** provides hardware secured VPN access incorporating private keys, one-time password (OTP) tokens and public key infrastructure (PKI) certificates.

3. Data Protection

- **Intel® Anti-Theft Technology** can remotely send encryption keys to lock down hard drives in missing PCs and has been enhanced for easier enterprise deployability.
- **Intel® Advanced Encryption Standard-New Instructions (AES-NI)** enables ubiquitous encryption across business PCs with hardware-based acceleration.
- **Intel® Secure Key** safely generates highly secure encryption keys via the hardware platform.

4. Security Monitoring & Remediation

- **McAfee ePolicy Orchestrator*/Deep Command*** are extensions of McAfee's leading endpoint security management, controlling devices regardless of their on or off power state.
- **Intel® Platform Protection Technology with BIOS Guard** protects system BIOS against stealth attacks and unauthorized updates.

Manageability -- Comprehensive Controls for Remote Management

The 4th generation Intel Core vPro processors bring convenience and operational efficiencies to the remote management of devices. IT professionals can better service a wider array of devices at a reduced cost regardless of location. Enterprise workers benefit through uninterrupted service and uncompromised performance.

New features in manageability:

- **Enhanced Keyboard-Video-Mouse Remote Control** offers full remote diagnose, repair and updating of systems -- now with greater screen resolution and fidelity from anywhere at any time even if systems are powered off or the operating system is unresponsive.
- **Intel® Setup & Configuration Software** provides fast and simple PC configuration.
- **Intel® Active Management Technology** allows IT or managed service providers to update, disable, lock, wipe or restore thousands of vPro processor-based devices remotely. It does so independent of operating system or power state, promoting an uninterrupted work environment that preserves user productivity in the course of repair.
- **Intel® vPro™ Powershell Module for Microsoft Windows Powershell** allows customized management and enhanced automation with unique scripts.

Productivity -- Intuitive Designs that Improve Worker Productivity

Desktop devices continue to play a critical role in business computing and thus should reflect the needs of the modern user. The 4th generation Intel Core vPro processors enable an innovative, space-saving design in a secure package. Among the variety of models are large-screened form factors with touch/type interactivity and Windows* 8 Enterprise. Users can take advantage of the full gamut of familiar x86 applications, peripherals and drivers, including compatibility with Windows* 7 environments. High-performance power enables work between multiple applications for tackling high-quality images and complex data sets.

New features in productivity include up to 2x faster multitasking performance and 19x faster graphics performance over 4-year old systems.^{1,2} Additional features consist of the following:

- **Intel® Virtual Machine Control Structure** shadowing and nesting provides fast and secure virtual desktops to better control data and applications.
- **Intel® Transactional Synchronization Extensions – New Instructions** boosts performance for multi-threaded applications such as those that enable business intelligence and collaboration.
- **Intel® Rapid Start Technology** provides instant-on access after waking for immediate application use while providing added system battery life for mobile platforms.
- **Intel® Smart Connect Technology** keeps email, social networks and other apps that access the Internet constantly updated.

Future Innovation – Technology that Grows with Your Business

Security and performance needs changes rapidly. With 4th generation Intel Core vPro processors, IT professionals gain a flexible platform with a robust suite of technologies applicable to variety of business scenarios today and in the future. In 2013, Intel will add the following enhancements to the vPro family:

- Enhanced no wires experience for more seamless, secure and immersive conference room collaboration.
- Location-based services enabling workers to find and connect to locally available IT assets
- “Passwordless VPN” access eliminating the burden for multiple log-ins.
- Solid state storage with remote configuring, management and recovery of encrypted data.

About Intel

Intel (NASDAQ: INTC) is a world leader in computing innovation. The company designs and builds the essential technologies that serve as the foundation for the world’s computing devices. Additional information about Intel is available at newsroom.intel.com and blogs.intel.com.

¹Desktop claims based on lowest performance data number when comparing desktop benchmarks. Configurations and performance tests as follows:

(Desktop) Comparing pre-production 4th generation Intel® Core™ i5-4570 Processor (4T4C, 6 MB cache, up to 3.6GHz), Intel® Desktop Board DZ87KL-75K, Memory 8 GB (2x4 GB) Micron* DDR3-1600, Seagate* 1 TB, Intel® HD Graphics 4600, Driver: 9.18.10.3071 (BIOS: BLH6710H.86A.0313.0402.2053, Chipset INF 9.4.0.1017), Windows* 8 RTM Build 9200.

Intel® Core™ 2 Duo E8400 (2C2T, 3.0GHz, 6MB cache), Memory 4 GB (2x2 GB) Kingston* DDR2 800 MHz, Seagate* 1TB hard-disk drive, Intel® G45, Driver: 8.15.10.2189, (BIOS:IDG4510H.86A.0135.2011.0225.1100, Chipset INF 9.4.0.1017), Microsoft Windows* 7 SP1 RTM Build 7600.

Business productivity claims based on SYSmark* 2012 (Find out more info at www.bapco.com), which is the mainstream office productivity, data/financial analysis, system management, media creation, 3D modeling, and web development benchmark tool used to characterize the performance of the business client. SYSmark* 2012 features user-driven workloads and usage models developed by application experts. Multitasking claims based on PCMark* 7 (Find out more at www.futuremark.com), a hardware performance benchmark for PCs running Microsoft Windows* 7, and Windows* 8 RTM - includes a collection of various single- and multi-threaded CPU, graphics, and HDD test sets with a focus on Windows* application tests. Graphics Performance workload consists of 3DMark* Cloud Gate (Find out more at www.futuremark.com) – an industry standard 3D graphics performance benchmark. For more information go to <http://www.intel.com/performance>.

² Software and workloads used in performance tests may have been optimized for performance only on Intel® microprocessors. Performance tests, such as SYSmark* and MobileMark*, are measured using specific computer systems, components, software, operations, and functions. Any change to any of those factors may cause the results to vary. You

should consult other information and performance tests to assist you in fully evaluating your contemplated purchases, including the performance of that product when combined with other products.

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