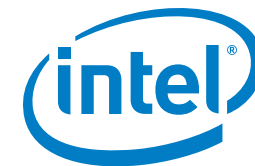


2nd to 4th Generation Intel® Core™ vPro™ Processor Family



4th generation Intel® Core™ vPro™ processors are designed to strengthen security and increase productivity for you and your users. Embedded hardware technologies help keep threats out of your virtual and physical environments by guarding against malware and rootkit attacks, while simplifying user tasks and helping business professionals get more done. For IT, users, and the enterprise, 4th generation Intel Core vPro processors offer the best combination of security, manageability, and productivity for today's businesses.

Improved Performance, Graphics, and Media

| 2nd gen Intel® Core™ Processors | 3rd gen Intel® Core™ Processors | 3rd gen Customer Benefit | 4th gen Intel® Core™ Processors | 4th gen Customer Benefit |
|---------------------------------------|-----------------------------------|---|---|--|
| Processor | | | | |
| 32nm technology | 22nm nm technology | Improved CPU performance | Next generation Intel® Microarchitecture codename Haswell | Great power efficiency and battery life, plus innovative new ultra-small desktop form factors Incredible range of performance |
| | Intel® AVX | New vector instructions deliver fast floating-point performance | Intel® AVX2 | Great vector processing performance |
| Hi-k Metal Gate Transistor technology | 3D Tri-Gate Transistor technology | Great battery life for mobile platforms, including Ultrabook™ devices, plus enables lower desktop power consumption | | |
| Intel® Turbo Boost Technology¹ | Intel® Turbo Boost Technology 2.0 | A boost of speed for more cores and more energy efficiency | | |
| I/O | | | | |
| USB 2.0 (480 Mbps) | USB 3.0 (5 Gbps) | More than 10X faster than USB 2.0 | | |
| N/A | Thunderbolt™ technology | Up to 10 Gbps each direction to enable high-performance peripherals on a single cable | | |
| Media and Display | | | | |
| Intel® Wireless Display 2.0² | Intel® Wireless Display 3.x | Wireless display support for 3rd gen Intel® Core™ processor graphics | Intel® Wireless Display Pro | Broadcast wirelessly to conference room projectors to make meetings more productive More secure wireless content sharing with colleagues keeps data safer Quick projector hand-off to next pre-senter keeps meetings moving Supports certificate-based security Bandwidth savings mode |
| Intel® HD Graphics³ 2000/3000 | Intel® HD Graphics 2500/4000 | Great, built-in graphics for mainstream gaming without a discrete video card | Intel® HD Graphics 4000/5000 | Great performance for business productivity and mainstream gaming without a discrete video card |
| N/A | Intel® Insider™ technology | Watch the latest releases of your favorite movies in full HD on your PC⁴ | | |
| Intel® Quick Sync Video | Intel® Quick Sync Video 2.0 | Accelerates media transcode | | |

2 2nd to 4th Generation Intel® Core™ vPro™ Processor Family

Improved Performance, Graphics, and Media – Continued

| 2nd gen Intel® Core™ Processors | 3rd gen Intel® Core™ Processors | 3rd gen Customer Benefit | 4th gen Intel® Core™ Processors | 4th gen Customer Benefit |
|---|--|--|--|---|
| Wireless Communications | | | | |
| Intel® Centrino® Advanced-N + WiMax/Wi-Fi Intel® 82579 GbE LAN | Intel® Centrino® Advanced-N 6235 Intel® Centrino® Advanced-N 2230 Intel® Centrino® Advanced-N 2200 Intel® Centrino® Advanced-N 135 Intel® Centrino® Advanced-N 105 | Fast Wi-Fi speeds, up to 300 Mbps ⁵ with great range and reliability Bluetooth* low energy support | Intel® Centrino® Advanced-N + WiMAX 6250 Intel® Centrino® Wireless-N + WiMAX 6150 Intel® Centrino® Ultimate-N 6300 | Multi-band communications with fast Wi-Fi plus WiMAX wireless broadband |
| Intel® My WiFi Technology ⁶ | Intel® My WiFi Technology | Make your own hotspot to share your network or Internet connection on a routed network | Intel® ConnectCenter (Intel® vPro™ technology platforms only) | Securely share files with colleagues anywhere Easily connect, communicate, and collaborate with others in your vicinity Supports Wi-Fi, public hotspot, or create your own secure private network Supports enterprise-class IT policy controls |

Greater Responsiveness

| Feature | 2nd gen Intel® Core™ Processors (with Intel® 6 Series Chipset) | 3rd gen Intel® Core™ Processors (with Intel® 7 Series Chipset) | 3rd gen Customer Benefit | 4th gen Intel® Core™ Processors | 4th gen Customer Benefit |
|--|--|--|--|---------------------------------|--------------------------|
| Quick Resume, plus long standby battery life | N/A | Intel® Rapid Start Technology ⁷ | A quick resume from hibernate that is similar to resume-from-standby mode, plus longer battery life on mobile PCs Low energy usage without sacrificing user experience Smaller CO ₂ footprint | | |
| Access to information when you want it | N/A | Intel® Smart Connect Technology ⁸ | Real-time content, continually refreshed, giving instant access to fresh data while minimizing power consumption | | |
| Fast boot and application load | N/A | Intel® Smart Response Technology | Solid-state drive (SSD)-like throughput performance with large hard disk drive capacity at a fraction of the cost for improved performance in content creation and consumption | | |

Enhanced Security and Management

| Feature | 2nd gen Intel® Core™ Processors | 3rd gen Intel® Core™ Processors | 3rd gen Customer Benefit | 4th gen Intel® Core™ Processors | 4th gen Customer Benefit |
|-------------------------------|---------------------------------|---------------------------------|--------------------------|---------------------------------|--|
| Protection of data and assets | N/A | N/A | N/A | Intel® Professional Series SSD | Enhanced security and control of storage solutions High reliability and fast disk response for enterprise servers and clients |

Enhanced Security and Management – Continued


| Feature | 2nd gen Intel® Core™ Processors | 3rd gen Intel® Core™ Processors | 3rd gen Customer Benefit | 4th gen Intel® Core™ Processors | 4th gen Customer Benefit |
|--|--|---|--|---|---|
| Hardware-enhanced authentication | Intel® Identity Protection Technology ⁹ (Intel® IPT) One-time Password | 2nd generation features, plus Intel® IPT with Protected Transaction Display (PTD) Intel® IPT with Public Key Infrastructure (PKI) support | Internal, protected hardware data path helps stop screen scrapers and key loggers Supports PKI to provide two-factor authentication – what-you-know (password) and what-you-have (certificate) with hardware-based key generation and encryption | 3rd generation features, plus No-Password VPN | Eliminate dedicated VPN passwords to simplify user experience, while helping protect the enterprise with strong two-factor authentication |
| Accelerated key generation and encryption | Intel® Advanced Encryption Standard – New Instructions ¹⁰ | 2nd gen features, plus Intel® Secure Key¹¹ | Fast, hardware-enhanced key generation, encryption, and decryption Generates high-quality random numbers, enabling better data encryption | | |
| Protection against rootkits and malware; Secure boot support | N/A | Intel® OS Guard¹² (Windows 8* and Linux*) Intel® TXT¹³ | Great protection from malware, with added protection against escalation of privilege (EoP) attacks Hardware-assisted validation through boot of VMs | 3rd generation features, plus Intel® Platform Protection Technology ¹⁴ | Support for BIOS protection and Windows 8 Secure and Measured Boot |
| Remote management with KVM | 2nd Gen Intel® vPro™ Technology ¹⁵ | 3rd Gen Intel® vPro™ Technology | Enhanced and additional features for remote management and security | 4th Gen Intel® vPro™ Technology | New features simplify more powerful management and security |
| | N/A | N/A | N/A | Indoor Location-based services of devices | Track assets on campus for fast location |
| | N/A | KVM Remote Control¹⁶ | Full remote control and disk access; switchable graphical modes (portrait, landscape); simultaneously view up to three independent screens, providing added flexibility for multi-tasking; enhanced mouse improvements across multiple screens; 27 languages now supported | Enhanced KVM Remote Control | Previous gen benefits included, plus: ▪ Now supports up to 2560x1600 resolution |
| | Intel® Setup and Configuration Software 7.0 | Intel® Setup and Configuration Software 8.0 | New scripting capabilities to customize system deployments | Intel® Setup and Configuration Software 9.0 | Previous gen benefits, plus: ▪ Extended manageability configuration for systems with Intel® Professional Series SSDs ▪ Enhanced system discovery capabilities and Intel® Professional Series SSD health monitoring ▪ Migration support from Intel® SCS 8 ▪ Compatible for Intel Active Management Technology ¹⁷ versions 6-9 |
| | Intel® Active Management Technology 7.0 | Intel® Active Management Technology 8.0 | Enhanced recovery and patching | Intel® Active Management Technology 9.0/9.5 | Enhanced platform management |




4 2nd to 4th Generation Intel® Core™ vPro™ Processor Family

Enterprise Enabling Technologies

| Feature | 2nd gen Intel® Core™ Processors | 3rd gen Intel® Core™ Processors | 3rd gen Customer Benefit | 4th gen Intel® Core™ Processors | 4th gen Customer Benefit |
|---------------------------|---------------------------------|---------------------------------|--------------------------|---|---|
| Enhanced Virtualization | N/A | N/A | N/A | Intel® VMCS Shadowing (for desktops) ^{15,18} Xen GT (for Ultrabook devices) | Enables intelligent desktop virtualization support and improved user experience with VMCS shadowing and nested virtualization |
| Data Sharing and Analysis | N/A | N/A | N/A | Intel® TSX-NI | Business Intelligence (BI) and Big Data performance acceleration for wider client-based data sharing and analysis |

Use the following table to help your customers with their migration path

| Intel® Core™ Processor Generation | Desktop | | | Mobile | | | 3rd gen Benefits | 4th gen Benefits |
|--|---------------------|---|---|--|--|---|--|------------------|
| | 2nd gen Processors | 3rd gen Processors | 4th gen Processors | 2nd gen Processors | 3rd gen Processors | 4th gen Processors | | |
| Intel® Core™ i7 and Intel® Core™ i7 vPro™ For power and enterprise users Use Intel® Core™ i7 vPro™ for added security and manageability   | i7-2600 i7-2600S | i7-3770 i7-3770S i7-3770T i7-3770T i7-3770K | i7-4770 i7-4770S i7-4770T i7-4765T i7-4770K | i7-2960XM i7-2860QM i7-2760QM i7-2640M i7-2677M N/A i7-2670QM N/A | i7-3920XM i7-3820QM i7-3720QM i7-3520M i7-3667U i7-3612QM** i7-3610QM** i7-3517U** N/A i7-3687U i7-3689Y N/A i7-3940XM i7-3840QM i7-3740QM i7-3540M | N/A N/A N/A N/A N/A N/A N/A N/A i7-4650U N/A N/A N/A i7-4930MX i7-4900MQ i7-4800MQ N/A | All the benefits of Intel Core i5 and i5 vPro PLUS: Up to 8 processor cores and 8 MB Intel® Smart Cache for even faster performance | |

| Intel® Core™ Processor Generation | Desktop | | | Mobile | | | 3rd gen Benefits | 4th gen Benefits |
|--|---|--|---|--|---|---|---|------------------|
| | 2nd gen Processors | 3rd gen Processors | 4th gen Processors | 2nd gen Processors | 3rd gen Processors | 4th gen Processors | | |
| Intel® Core™ i5 and Intel® Core™ i5 vPro™ Mainstream performance for business users Use Intel® Core™ i5 vPro™ for added security and manageability   | i5-2500 i5-2500S i5-2500T i5-2500S i5-2500 i5-2400 i5-2400S i5-2400S i5-2390T | i5-3570 i5-3570S i5-3570T i5-3550S i5-3550 i5-3470 i5-3475S i5-3470S i5-3470T i5-3570K | i5-4670 i5-4670S i5-4670T i5-4670T i5-4670 i5-4570 i5-4570S i5-4570S i5-4570T i5-4670K | i5-2540M i5-2520M i5-2557M i5-2450M i5-2467M | i5-3360M i5-3320M i5-3427U i5-3210M** i5-3317U N/A i5-3437U i5-3439Y i5-3380M i5-3340M | N/A N/A N/A N/A N/A i5-4350U N/A N/A N/A N/A | Superior performance in the enterprise for: <ul style="list-style-type: none"> ▪ Business applications ▪ Content creation ▪ Slideshow creation ▪ Financial analysis ▪ Major improvements (more than 2x) in graphics performance Key for enterprise customers (Intel® vPro™ technology): <ul style="list-style-type: none"> ▪ Performance on demand ▪ Greater manageability reduces desk-side visits ▪ Remote PC management via console ▪ Strong hardware-based authentication ▪ Fast data encryption Support for desktop virtualization | |
| Intel® Core™ i3 Transactional for small business and consumers  | i3-2130 i3-2120 | i3-3240 i3-3220 i3-3240 i3-3250 i3-3240T i3-3250T i3-3225 i3-3245 i3-3220T i3-3240T | N/A N/A N/A N/A N/A N/A N/A N/A N/A | i3-2370M N/A i3-2350M i3-2367M | i3-3110M** i3-3217U** i3-2370M**† i3-2377M**† | | Desktop architecture improvements and higher turbo frequencies increase overall performance in all areas Faster cache can deliver added performance in specific business tasks, especially in financial analysis and applications (such as Microsoft Excel® 2010) | |
| Intel® Pentium® Legacy | G870 G860 G850 G840 G630 | G2120 Use curr gen Use curr gen Use curr gen Use curr gen G21000T G2120T G2130 G2140 G2020 G2030 G2020T G2030T | | N/A | N/A | | Cost-effective processors for entry-level computing | |

6 2nd to 4th Generation Intel® Core™ vPro™ Processor Family

| Intel® Core™ Processor Generation | Desktop | | | Mobile | | | 3rd gen Benefits | 4th gen Benefits |
|-----------------------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|--|------------------|
| | 2nd gen Processors | 3rd gen Processors | 4th gen Processors | 2nd gen Processors | 3rd gen Processors | 4th gen Processors | | |
| Intel® Celeron® Legacy | G550 | Use curr gen | | 867 | 877 ‡ | | Cost-effective processors for entry-level mobile computing | |
| | G540 | Use curr gen | | 847 | N/A | | | |
| | G460 | Use curr gen | | 797 | 807 ‡ | | | |
| | | G1620 | Use curr gen | B840 | N/A | | | |
| | | G1610 | Use curr gen | B815 | B820 ‡ | | | |
| | | G1610T | N/A | B800 | B820 ‡ | | | |
| | | G465 | Use curr gen | B720 | B730 ‡ | | | |
| | | G470 | Use curr gen | | 1037U | N/A | | |
| | | | | | 1007U | N/A | | |
| | | | | | 847 | Use curr gen | | |
| | | | | | 1019Y | Use curr gen | | |
| | | | | | 1020M | N/A | | |
| | | | | | 1000M | Use curr gen | | |
| | | | | | 1005M | Use curr gen | | |
| | | | | | | | | |

™ Transactional.

[†] These systems have processors based on 32nm manufacturing process technology.

Disclaimer: For transition only. Not a representation of performance.

¹ (Intel® Turbo Boost Technology) Requires a system with Intel® Turbo Boost Technology. Intel Turbo Boost Technology and Intel Turbo Boost Technology 2.0 are only available on select Intel® processors. Consult your system manufacturer. Performance varies depending on hardware, software, and system configuration. For more information, visit www.intel.com/go/turbo.

² (Intel® Wireless Display) Requires an Intel® Wireless Display-enabled PC, tablet, Smartphone, compatible adapter, and TV. 1080p and Blu-ray* or other protected content playback only available on select Intel® processors with built-in visuals enabled. Consult your PC manufacturer. For more information, see www.intel.com/go/widi.

³ (Intel® HD Graphics) Available on the 2nd gen Intel® Core™ processor family. Includes Intel® HD Graphics, Intel® Quick Sync Video, Intel® Clear Video HD Technology, Intel® InTRU™ 3D Technology, and Intel® Advanced Vector Extensions. Also optionally includes Intel® Wireless Display depending on whether enabled on a given system or not. Whether you will receive the benefits of built-in visuals depends upon the particular design of the PC you choose. Consult your PC manufacturer whether built-in visuals are enabled on your system. Learn more about built-in visuals at <http://www.intel.com/technology/visualtechnology/index.htm>.

⁴ Intel® Insider™ is a hardware-based content protection mechanism. Requires a 2nd generation Intel® Core™ processor-based PC with built-in visuals enabled, an Internet connection, and content purchase or rental from qualified providers. Intel Insider requires an HDCP-protected display. VGA output not supported. Consult your PC manufacturer. For more information, visit www.intel.com/content/www/us/en/architecture-and-technology/intel-insider-for-premium-hd-home-entertainment.html.

⁵ Based on the theoretical maximum enabled by 2x2 802.11n implementations with 2 spatial streams. Actual wireless throughput and/or range will vary depending on your specific operating system, hardware, and software configurations. Check with your PC manufacturer for details.

⁶ Intel® My WiFi Dashboard is an optional feature and requires additional software and an Intel® Centrino® wireless adapter. Wi-Fi devices must be certified by the Wi-Fi Alliance for 802.11a/g/n and Wi-Fi Direct* in order to connect.

⁷ (Intel® Rapid Start Technology) Requires a select Intel® processor, Intel® software and BIOS update, and Intel® Solid-State Drive (SSD). Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

⁸ (Intel® Smart Connect Technology) Intel® Smart Connect Technology requires a select Intel® processor, Intel® software and BIOS update, Intel® wireless adapter, and Internet connectivity. Solid state memory or drive equivalent may be required. Depending on system configuration, your results may vary. Contact your system manufacturer for more information.

⁹ (Intel® IPT) No system can provide absolute security under all conditions. Requires an Intel® Identity Protection Technology-enabled system, including a 2nd gen or higher Intel® Core™ processor-enabled chipset, firmware and software, and participating website. Consult your system manufacturer. Intel assumes no liability for lost or stolen data and/or systems, or any resulting damages. For more information, visit <http://ipt.intel.com>.

¹⁰ (Intel® AES-NI) Intel® AES-NI requires a computer system with an AES-NI-enabled processor, as well as non-Intel software to execute the instructions in the correct sequence. AES-NI is available on select Intel® Core™ processors. For availability, consult your system manufacturer. For more information, see <http://software.intel.com/en-us/articles/intel-advanced-encryption-standard-instructions-aes-ni/>.

¹¹ (Secure Key) No system can provide absolute security. Requires an Intel® Secure Key enabled PC with a 3rd gen Intel® Core™ vPro™ processor and software optimized to support Intel Secure Key. Consult your system manufacturer for more information.

¹² (OS Guard) No system can provide absolute security. Requires an Intel® OS Guard-enabled system with a 3rd gen Intel® Core™ vPro™ processor and an enabled operating system. Consult your system manufacturer for more information.

¹³ Note: No computer system can provide absolute security under all conditions. Intel® Trusted Execution Technology (Intel® TXT) requires a computer with Intel® Virtualization Technology, an Intel TXT-enabled processor, chipset, BIOS, Authenticated Code Modules and an Intel TXT-compatible measured launched environment (MLE). Intel TXT also requires the system to contain a TPM v1.s. For more information, see <http://www.intel.com/technology/security>.

¹⁴ No computer system can provide absolute security under all conditions. Built-in security features available on select Intel® Core™ processors may require additional software, hardware, services and/or an Internet connection. Results may vary depending upon configuration. Consult your PC manufacturer for more details. For more information, visit HYPERLINK "<http://www.intel.com/technology/security>" www.intel.com/technology/security.

¹⁵ (Intel® vPro™ Technology) Intel® vPro™ Technology is sophisticated and requires setup and activation. Availability of features and results will depend upon the setup and configuration of your hardware, software, and IT environment. To learn more, visit www.intel.com/technology/vpro.

¹⁶ (KVM) KVM Remote Control (Keyboard, Video, Mouse) is only available with Intel® Core™ i5 vPro™ and Core™ i7 vPro™ processors with Intel® Active Management technology activated and configured and with integrated graphics active. Discrete graphics are not supported.

¹⁷ (Intel® AMT) Requires activation and a system with a corporate network connection, an Intel® AMT enabled chipset, and network hardware and software. For notebooks, Intel AMT may be unavailable or limited over a host OS-based VPN, when connecting wirelessly, on battery power, sleeping, hibernating, or powered off. Results dependent upon hardware, setup, and configuration. For more information, visit www.intel.com/content/www/us/en/architecture-and-technology/intel-active-managementtechnology.html.

¹⁸ Intel® Virtualization Technology requires a computer system with an enabled Intel® processor, BIOS, and virtual machine monitor (VMM). Functionality, performance, or other benefits will vary depending on hardware and software configurations. Software applications may not be compatible with all operating systems. Consult your PC manufacturer. For more information, visit <http://www.intel.com/go/virtualization>.

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