



Get Visibly Smart Performance

SOLUTION BRIEF

2nd Generation Intel Core vPro
Processors
Microsoft Windows 7
Microsoft Office 2010

Business Challenge: Enable employee productivity in demanding enterprise environments.

Technology Solution: PCs powered by 2nd Generation Intel Core vPro Processors and running Windows 7 and Office 2010.

Increase employee productivity with 2nd Generation Intel® Core™ vPro™ Processors and Microsoft Windows 7*

Enterprises face challenges regarding their business PCs that were unimaginable a few short years ago. For example, new technologies have given more power to the end user and placed greater demands on business PCs, and many employees now use their PCs for tasks that computers were not expected to do until recently:

- Placing voice calls using voice over IP (VoIP) technology
- Engaging in two-way video conferencing
- Creating increasingly rich media, such as documents that contain video
- Streaming video over the corporate network
- Business intelligence analysis on large data sets

PCs that are not prepared to handle these demands efficiently can create productivity bottlenecks.

Another challenge is a result of increased user mobility. Business data is widely disbursed and at risk of compromise, and laptops are at greater risk of being stolen or lost. In addition, mobile users require near-constant connection to corporate resources, and they sometimes take unwise risks to get it.

Businesses can help resolve these challenges with PCs that run Windows 7* on 2nd generation Intel® Core™ vPro™ processors. With industry-leading performance, security, and built-in visual capabilities,¹ 2nd gen Intel Core vPro processors can work with Windows 7 to give end users the tools they need to be protected and productive anywhere.



What's New in 2nd Generation Intel® Core™ vPro™ Processors?

- Businesses can increase productivity and user satisfaction with up to 2x faster multitasking performance.^{2,3}
- Intel® Turbo Boost Technology 2.0 automatically speeds up the processor when the user's workload requires extra performance.⁴
- Intel® Hyper-Threading Technology allows each processor core to work on two tasks at the same time.⁵
- Innovative processor instructions accelerate encryption operations.⁶
- Built-in visuals provide superb visual performance for sharper images and richer color.
- Simpler configuration of Intel vPro capabilities on a PC.⁷ The process is now similar to deploying a software update to a PC.

Get Visibly Smart Performance with 2nd Generation Intel Core vPro Processors and Windows 7

Intel and Microsoft bring new possibilities to business PCs with a platform that helps users do more, faster, and delivers tangible productivity and performance benefits.

- 2nd generation Intel Core vPro processors can boost performance and user productivity⁸ in applications such as Microsoft Office 2010*.
- Users can enjoy a stunning visual experience and use graphically demanding applications—such as Internet Explorer 9*—more effectively because of built-in visuals on 2nd generation Intel Core vPro processors.
- Intel® vPro™ technology, included on 2nd generation Intel Core vPro processors, delivers powerful remote management and control capabilities, enabling you to keep your PCs running smoothly without taking them out of the hands of users.

Improve Productivity with Better Performance in Office 2010

The 2nd generation Intel Core vPro processor family provides intelligent hardware-assisted security and manageability features that make them powerful companions for Office 2010. They also feature improved multitasking and performance that adapts to users' needs, which further increases productivity when a user is working with demanding applications, such as PowerPivot for Excel 2010*.

Office 2010 includes important updates with improved graphical capabilities and connectivity options. For example, users can now work on documents with others simultaneously, broadcast their presentations online, and connect more easily with colleagues.

Powerful hardware complements these enhanced capabilities. With 2nd generation Intel Core vPro processors, users can experience Office 2010 at its best, from enhanced graphical capabilities to a range of collaboration options. In fact, these processors now run typical business productivity applications up to 60 percent faster and automatically adapt performance to meet the processing needs of whatever the user is doing.⁹ Additional PC performance is enabled by 4-way (or 8-way) multitask processing that allows users to move between Office 2010 applications quickly and seamlessly.¹⁰

Enhance User Experience with Built-In Visuals

Through built-in graphics capabilities, 2nd generation Intel Core vPro processors offer stunning visual performance without the cost burden of dedicated graphics cards. These capabilities enhance the user experience in graphically intense programs, such as the Internet Explorer 9, Office 2010, and high-definition video conferencing.

These capabilities can also help bring vivid life to the graphical enhancements of Office 2010. For example, users can embed videos in Microsoft PowerPoint* 2010 presentations and take advantage of greater image manipulation and integration capabilities—all of which are rendered in high quality with 2nd generation Intel Core vPro processors.

And with today's business interactions with customers and between colleagues becoming more visually sophisticated, smart IT decision makers equip their users with PCs that can handle this demand in a cost efficient way. The built-in visual capabilities this processor now let your users create and view graphics, video-intensive presentations, and digital content that are increasingly commonplace in business. In addition, 2nd generation Intel Core vPro processors include

Intel® Wireless Display technology, which lets you wirelessly project animations, images, Web sites, and movies from your PC onto your conference room TV or other device.¹¹

Built to Be IT Intelligent with Hardware-Based Manageability

2nd generation Intel Core vPro processors enhance the manageability of PCs running Windows 7, even if they are turned off. With Intel vPro technology, IT personnel can:

- Remotely power up laptop and desktop PCs from an IT management console, such as Microsoft System Center Configuration Manager*, so updates can be pushed to PCs that were powered off.
- Deploy more updates and critical patches outside of business hours or when the update will not interrupt users and impact their productivity.
- Check a PC's software version information, asset tag, or other data stored in nonvolatile memory and determine, without waking a PC, if anything needs to be updated.
- "Get behind" the user's keyboard, video monitor, and mouse with Keyboard-Video-Mouse (KVM) Remote Control to see what the user sees exactly as it appears on the screen. This capability can work with the Microsoft Diagnostics and Recovery Toolset* and allows IT staff members to fix more issues remotely. IT staff members can provide faster, more efficient incident response while cutting expenses and improving overall service quality.¹²
- Quickly and remotely upgrade software, such as Microsoft* Windows 7, even after hours, to help minimize disruption to users and without losing access to legacy applications.

Help Protect Laptops and Data Wherever They Roam

Business PC users are increasingly mobile and increasingly connected. Combine these facts with always-growing electronic security threats and you have a volatile environment for sensitive business data and the laptops that hold it. 2nd generation Intel Core vPro processors can help to protect PCs running Windows 7 so that users have protection wherever they are.

For example, intelligent, hardware-assisted security management features on 2nd generation Intel Core vPro processors help you accelerate deployment of security patches across PCs running Windows 7 by up to 56 percent, and can help prevent users from disabling installed security software.^{13,14} Furthermore, data encryption can run up to four times faster on these processors due to Intel® Advanced Encryption Standard-New Instructions (Intel® AES-NI), and you can remotely unlock encrypted drives that require pre-boot authentication and manage data security settings, even when the PC is off.¹⁵

In the case of PC loss or theft, 2nd generation Intel Core vPro processors can help keep your information safe with optional Intel® Anti-Theft Technology (Intel® AT) 3.0.¹⁶ When Intel AT is enabled, you can automatically disable a lost or stolen PC, even if it does not connect to a network. Once the PC is recovered, you can enter a key to restore all previously erased data.

Deploy Smart Performance Today

The combination of the operating system improvements in Windows 7 and performance, security, and manageability enhancements in 2nd generation Intel Core vPro processors helps users be more productive anywhere and helps organizations face the demands of PC fleet management in a changing business environment.

Learn how this powerful platform can enhance and protect PCs in your organization. Visit www.intelalliance.com/microsoft/ today.

Security Enhancements in 2nd Generation Intel Core vPro Processors

- **Timer Expiration:** An IT administrator can define intervals at which the laptop must check in.
- **Login Failures:** IT can specify a number of login failures to trigger theft protection.
- **Poison Pill:** If the PC is lost or stolen it can be deactivated via wired or wireless connection, or even through 3G SMS.
- **3G GPS Location:** If the PC has 3G functionality it can be located using GPS functionality.
- **Recovered and Reactivated:** Once recovered the PC can be fully reactivated with a passphrase or code.

¹ Built-in visual features are not enabled on all PCs and optimized software may be required. Check with your system manufacturer. Learn more at <http://www.intel.com/go/biv>.

² Business productivity claims based on SYSmark[®] 2007, which is the latest version of the mainstream office productivity and Internet content creation benchmark tool used to characterize the performance of the business client. SYSmark 2007 preview features user-driven workloads and usage models developed by application experts. Multitasking claims based on PCMark Vantage[™], a hardware performance benchmark for PCs running Microsoft[®] Windows[™] 7 or Windows Vista[™], includes a collection of various single and multi-threaded CPU, Graphics, and HDD test sets with a focus on Windows[™] application tests. Security workload consists of SiSoftware Sandra[™] 2010—AES256 CPU Cryptographic subtest measures CPU performance while executing AES (Advanced Encryption Standard) encryption and decryption algorithm. For more information go to <http://www.intel.com/performance>.

³ 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.

⁴ Requires a system with Intel[®] Turbo Boost Technology capability. Intel Turbo Boost Technology 2.0 is the next generation of Turbo Boost Technology and is only available on select Intel[®] processors. Consult your PC manufacturer. Performance varies depending on hardware, software and system configuration. For more information, visit <http://www.intel.com/go/turbo>.

⁵ Requires an Intel[®] Hyper-Threading Technology-enabled system; consult with your PC manufacturer. Performance will vary depending on the specific hardware and software used. Not available on all Intel[®] Core[™] processors. For more information including details on which processors support Intel HT Technology, visit <http://www.intel.com/info/hyperthreading>.

⁶ 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/>.

⁷ 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: <http://www.intel.com/technology/vpro/>.

⁸ See note ii.

⁹ See notes ii and iii.

¹⁰ See note v.

¹¹ Requires an Intel[®] Wireless Display enabled PC, compatible adapter and TV. 1080p and Blu-ray or other protected content playback only available on 2nd gen Intel[®] Core[™] processor-based PCs with built-in visuals enabled. Consult your PC manufacturer. For more information, see www.intel.com/go/widi.

¹² 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.

¹³ Requires activation and a system with a corporate network connection, an Intel[®] AMT-enabled chipset, 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 <http://www.intel.com/technology/platform-technology/intel-amt>.

¹⁴ Results shown are from: the 2007 EDS Case Studies "An Analysis of Early Testing of Intel[®] vPro[™] Technology in Large IT Departments," by LeGrand and Salamasick; third-party audit commissioned by Intel, of various enterprise IT environments; and the 2007 Benefits of Intel[®] vPro[™] Technology in the Enterprise, Wipro Technologies study, commissioned by Intel. The EDS studies compare test environments of Intel[®] vPro[™] Technology-based PC environments vs. non-Intel[®] Core[™] vPro[™] processor technology-based PC environments. Tested PCs were in multiple OS and power states to mirror a typical working environment. The Wipro study models projected ROI of deploying Intel[®] vPro[™] Technology. Actual results may vary and may not be representative of the results that can be expected for smaller businesses. The study is available at http://www.intel.com/Assets/PDF/casestudies/cs_eds_vpro.pdf.

¹⁵ See note vi.

¹⁶ No system can provide absolute security under all conditions. Requires an enabled chipset, BIOS, firmware and software, and a subscription with a capable service provider. Consult your system manufacturer and service provider for availability and functionality. Intel assumes no liability for lost or stolen data and/or systems or any other damages resulting thereof. For more information, visit <http://www.intel.com/go/anti-theft>.

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