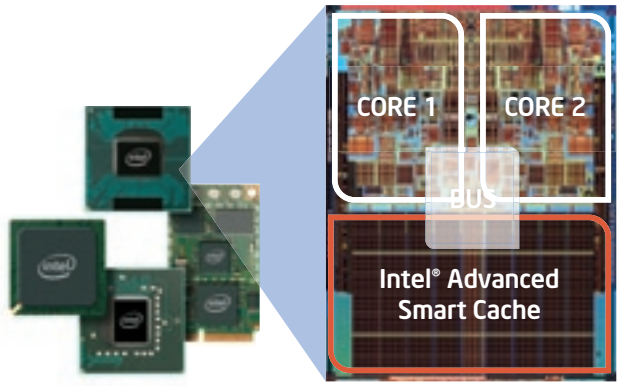
Intel® Centrino® with vPro™ Technology

More secure. More performance. More bandwidth.

- Brings hardware-based technologies that deliver proactive security and enhanced maintenance and management capabilities that readily integrate with management solutions with Intel® Active Management Technology.[1]
- Enjoy greater than twice the CPU performance when doing processor-intensive tasks like multitasking compared to the previous generation of Intel® Centrino® processor technology-based laptops.[2]
- Delivers exceptional dual-core performance and great battery life with an 800 MHz FSB and up to 4 MB of L2 cache.
- Uses less power than the previous-generation Intel Centrino processor technology components enabling great battery life.[3]
- Up to 2x greater range and 5x faster wireless performance than 802.11a/g solutions with the optional Intel® Next-Gen Wireless-N and a Draft 802.11n access point.[4]



- **Intel® Core™2 Duo processor**
- **Mobile Intel® 965 Express Chipset Family**
- **Intel® Active Management Technology**
- **Intel® Next-Gen Wireless-N (Intel® Wireless WiFi Link 4965AGN) or Intel® Wireless WiFi Link 4965AG Network Connection**
- **Intel® 82566MM Gigabit Network Connection**
- **Intel® Turbo Memory (Optional)**

Intel® Centrino® with vPro™ technology features hardware-based proactive security and built-in management capabilities that readily integrate with management solutions to help lower IT management costs and improve IT efficiency. Powered by the Intel® Core™2 Duo processor engine for outstanding mobile dual-core performance, it delivers great battery life and enhanced wireless connectivity.

Building on a common technology foundation, notebooks and desktops with Intel® vPro™ technology offer a unified approach for managing and securing computers throughout your organization. With the latest IT management consoles, you can manage your notebooks and desktops over a wired or secure wireless network even if the PC is powered off or down.[1] Now, Intel hardware capabilities can provide proactive security, built-in manageability and energy-efficient performance for both your notebook and desktop PCs.

Notebooks with Intel vPro technology are part of the Intel® Stable Image Platform Program[5] (Intel® SIPP), so you can avoid unexpected changes that might force software image revisions or hardware re-qualifications. This helps your team more effectively plan replacement cycles and reduce the number of deployed client configurations.

All this in a variety of notebook designs so you can choose the right one for your business.

Discover more about Intel Centrino with vPro technology and the Intel Core 2 Duo processor now at www.intel.com/go/vpro.

Find out how you can create custom notebooks for custom performance needs at www.intel.com/go/channelnotebooks.

Featuring Intel® Centrino® with vPro™ Technology

Intel's Best Technologies for Notebook

Feature	Benefit
Intel® Active Management Technology (AMT) 2.6[1]	
The best Intel-based mobile PC for business brings you hardware-based technologies that deliver proactive security and enhanced maintenance and management capabilities.	Strengthens security measures and reduces the total cost of operating and managing notebook PCs.
Intel® Core™2 Duo Processor	
Revolutionary mobile, dual-core processor architecture puts two complete execution cores in the same processor.	Improved performance and responsiveness to run multiple demanding applications simultaneously with the same power savings, enabling great battery life.[2]
Intel® Advanced Smart Cache	
A shared L2 cache allows both cores access to the full L2 memory area, and allows shared data to be accessed from cache, minimizing bus traffic. It also allows one core to use the entire cache when the other core is inactive. Provides twice the bandwidth to L1 caches compared to Intel® Core™ Duo processor.	More efficient cache and bus design enables better performance, responsiveness and power savings.
Intel® 64 Architecture[6]	
Allows the user to take advantage of 64-bit applications as they become available. Process more in RAM, resulting in less data caching to and from HDD to enable greater performance.	Headroom for the user to take advantage of 64-bit applications as the ecosystem continues to grow.
Power-Optimized 800 MHz Front Side Bus	
Increased process system bus speed.	Provides increased data bus bandwidth, vs. prior generations, for up to four full instructions simultaneously (previous generation could only handle three instructions)
Intel® FSB Frequency Switching	
At minimal workloads, Intel FSB Frequency Switching helps to lower FSB data transfer rate.	Enhanced Intel SpeedStep® technology directly benefits from Intel FSB Frequency switching because the reduced CPU frequency allows a lower operating voltage to be used in minimal workloads. This ultimately leads to lower power consumption.
Intel® Intelligent Power Capability	
Ultra fine-grained control over the CPU's logic circuitry to turn on only the parts that are needed.	Power management features that enable the same great battery life as Intel® Centrino® Duo processor technology with Intel Core Duo processor, while boosting performance up to 20%.[3]
Intel® Dynamic Power Coordination	
Helps manage voltage and power consumption. One core can demand high performance while the other core can independently transition to a low-power state.	Enables reduction in power consumption and enables great battery life.[3]
Mobile Intel® Graphics Media Accelerator X3100 (GM965/GL960 chipsets only)	
Next-generation graphics includes software enhancements and support for new and enhanced battery conservation features that minimize power consumption, enabling great battery life.	▪ Microsoft Vista support with highest level of Aero experience across all chipsets within Mobile Intel® 965 Express Chipset Family. ▪ Enables wireless Intel® Active Management Technology 2.6.[1]
Intel® Clear Video Technology	
New video technology delivering enhanced video quality.	Provides outstanding video playback with sharper image quality, increased clarity, and customizable color controls.
Enhanced Support for a high-definition experience	
Support for digital interface with integrated audio and HDCP content protection.[7]	▪ Enhanced high-definition experience with improved HDTV connectivity and HDMI supporting up to 1080p and easy-to-use TV configuration utility, Intel® TV Wizard. ▪ Enhanced hardware acceleration for MPEG2 and WMV9B* formats.

Intel's Best Technologies for Notebook

Feature	Benefit
Intel® Wireless WiFi Link 4965AG PRO/Wireless Network Connection	
Connects to most available industry-standards-based wireless LAN (802.11b, 802.11a, and 802.11g) infrastructures.[7]	▪ Flexibility to connect to your wireless home network and public wireless LAN hotspots located in airports, hotels, restaurants, and coffee shops around the world.[3] ▪ Enables wireless Intel® Active Management Technology 2.6.[1]
Intel® 82566MM Gigabit Network Connection	
Single port Gigabit Ethernet Physical Layer Transceiver (PHY) that connects to its MAC through a dedicated interconnect. It is based on Intel's Gigabit PHY technology, and supports operation at data rates of 10/100/1000 Mbps.	▪ Improves IT network manageability and higher ROI through ability to discover, heal, and protect client platforms while connected to wired LAN. ▪ Supports Intel® Active Management Technology 2.6.[1]

Optional Feature	Benefit
Intel® Next-Gen Wireless-N (Intel® Wireless WiFi Link 4965AGN)	
Up to 5x faster[4] compared to 802.11a/g products with data rates up to 300 Mbps. Support for legacy and latest high throughput WLAN technologies provides connectivity options for multiple environments.	Helps overcome network capacity issues, allowing increased simultaneous network activity for large file transfers, streaming HD video, multi-player gaming, VOIP and more. Enables wireless Intel® Active Management Technology 2.6.[1]
Up to 2x[4] greater range with MIMO and antenna diversity support	
MIMO technology leverages multipath behavior by using multiple, "smart" transmitters and receivers with an added "spatial" dimension to increase performance and range.	Reduces the number of "dead zones," dropped data packets, network re-connects, and dramatically improves connectivity throughout the home.
Great battery life with optimized power modes	
Reduced WLAN power consumption can help deliver great platform battery life.	Allows for greater utility, enjoyment, and convenience.
Intel® Turbo Memory[8]	
Extended memory. Non-volatile Cache device supporting Vista* ReadyDrive and ReadyBoost functions. Allows application swap from main memory into NVCache rather than to HDD. Boot and application loading acceleration reduces latency for data transfer from hard disk for random read/writes.	Look for systems with new Intel® Turbo Memory for up to 2x faster performance when loading frequently used applications and up to 20% faster boot time.[8]

[1] Intel® Active Management technology (Intel® AMT) requires the computer system to have an Intel® AMT-enabled chipset, network hardware and software, as well as connection with a power source and a corporate network connection. Setup requires configuration by the purchaser and may require scripting with the management console or further integration into existing security frameworks to enable certain functionality. It may also require modifications of implementation of new business processes. With regard to notebooks, Intel AMT may not be available or certain capabilities may be limited over a host OS-based VPN or when connecting wirelessly, on battery power, sleeping, hibernating or powered off. For more information, see http://www.intel.com/technology/platform-technology/intel-amt/.

[2] As measured by SPEC*CPU2006 comparing latest generation Intel® Core™2 Duo Processor T9500 & T8100 with a comparable frequency single-core Intel® Pentium® M Processor. Actual performance may vary. See http://www.intel.com/performance/mobile/benchmarks.htm for important additional information. 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.

[3] System performance, battery life, high-definition quality, video playback and functionality, and wireless performance and functionality will vary depending on your specific operating system, hardware, chipset, connection rate, site conditions, and software configurations. References to enhanced performance including wireless as measured by SYSmark* 2004 SE, PCMark*05, 3DMark*06, SPEC* CPU2006* and Adjacent Channel Interference (ACI)* refer to comparisons with previous generation Intel® technologies. References to improved battery life as measured by MobileMark* 2007, if applicable, refer to previous generation Intel technology. Wireless connectivity and some features may require you to purchase additional software, services or external hardware. Availability of public wireless LAN access points is limited, wireless functionality may vary by country and some hotspots may not support Linux-based Intel Centrino processor technology systems. See www.intel.com/products/centrino/index.htm for more information.

[4] Up to 2x greater range and up to 5x better performance with optional Intel® Next-Gen Wireless N technology enabled by 2x3 Draft N implementations with 2 spatial streams. Actual results may vary based on your specific hardware, connection rate, site conditions, and software configurations. See www.intel.com/performance/mobile/index.htm for more information. Also requires a Connect with Intel® Centrino® processor technology certified wireless n access point. Wireless n access points without the Connect with Intel Centrino processor technology identifier may require additional firmware for increased performance results. Check with your PC and access point manufacturer for details.

[5] Check with your PC vendor for availability of computer systems that meet Intel® Stable Image Platform Program (Intel® SIPP) guidelines. A stable image computer system is a standardized hardware configuration that IT departments can deploy into the enterprise for a set period of time, which is usually 12 months. Intel SIPP is a client program only and does not apply to servers or Intel-based handhelds and/or handsets. Intel® Centrino® with vPro™ technology with Intel AMT release 2.6 is not supported in the 2007 Intel SIPP.

[6] 64-bit computing on Intel architecture requires a computer system with a processor, chipset, BIOS, operating system, device drivers and applications enabled for Intel® 64 architecture. Processors will not operate (including 32-bit operation) without an Intel® 64 architecture-enabled BIOS. Performance will vary depending on your hardware and software configurations. Consult with your system vendor for more information.

[7] Some features and security solutions may not be supported by your PC's operating system and may require additional software and/or certain hardware as well as wireless LAN infrastructure support. Check with your PC manufacturer for details.

[8] Tests run on customer reference boards and preproduction latest generation Intel® Centrino® processor technology with optional Intel® Turbo Memory enabled against like systems without Intel® Turbo Memory. Results may vary based on hardware, software and overall system configuration. All tests and ratings reflect the approximate performance of Intel products as measured by those tests. All testing was done on Microsoft Vista* Ultimate (build 6000). Application load and runtime acceleration depend on Vista*'s preference to pre-load those applications into the Microsoft ReadyBoost* cache. See www.intel.com/performance/mobile/benchmarks.htm for more information.

All Intel® Centrino® brand family-based notebooks, using Intel graphics, meet Microsoft's Windows Vista* Capable PC program requirements. Check with your PC manufacturer for details on discrete graphics solutions. Microsoft program requirements, availability and timelines are subject to change. Please contact Microsoft for details of the Windows Vista Capable PC program.

*Other names and brands may be claimed as the property of others. SPEC, SPECint, SPECfp, SPECrate, SPECweb, SPECjbb are trademarks of the Standard Performance Evaluation Corporation. See www.spec.org for more information on the benchmarks.

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