

Intel Corporation
2200 Mission College Blvd.
P.O. Box 58119
Santa Clara, CA 95052-8119



Fact Sheet

CONTACT: Connie M. Brown
(503) 791-2367 mobile
connie.m.brown@intel.com

Intel® Core™2 Duo processor

Intel® Centrino® Duo mobile technology platforms can now benefit from the Intel® Core™ 2 Duo processor, the world's best mobile processor¹. The Intel Core 2 Duo processor is Intel's second-generation mobile dual-core processor designed to deliver breakthrough performance with great power savings for improved battery life. With the new Intel Core 2 Duo processor with 4 MB cache, you can enjoy greater than 20% performance increase when doing processor-intensive tasks like multitasking compared to previous-generation laptops with Intel® Core™ Duo processors², and greater than twice the CPU performance when doing processor-intensive tasks like multitasking compared to previous generation Intel® Centrino®-based laptops³. It delivers this outstanding performance boost while maintaining the same great power savings of Intel Centrino Duo mobile technology platforms with the Intel Core Duo processor – it uses up to 28% less power than previous generation Intel® Pentium® M processor based laptops⁴.

Revolutionizing Mobile Digital Entertainment

Intel® Centrino® Duo Mobile Technology based laptops with the Intel Core 2 Duo processor deliver a revolutionary mobile dual-core design with enhanced high-definition capabilities for an immersive, personalized entertainment experience, which enables improved battery life for the on-the-go mobile lifestyle and expanded connectivity options for greater flexibility to communicate.

Intel® Centrino® Duo Mobile Technology based laptops with the Intel Core 2 Duo processor allow consumers to:

- Stream or download your favorite music and enjoy faster file conversions of your CD's to MP3 format
- Get premium high definition audio and video with the Intel® 945 Express Chipset and with Intel® High Definition Audio enabled, you can enjoy your favorite music on the

go, experience a premium home theater environment and immerse yourself in your favorite games

- Experience high quality, smooth video playback and support for key 3D features with great graphics enabled by Intel® Graphics Media Accelerator 950
- Enjoy a higher quality TV experience on your laptop enabled by the Mobile Intel® 945 Express Chipset and a TV tuner, PVR, or outside-in connection
- Express your creative potential by producing and editing your home movies and photos
- Keep in touch with your friends & family with high quality VoIP calls over wireless LAN enabled by Intel® PRO/Wireless 3945ABG Network Connection

The Ideal Tool for Business

Intel® Centrino® Duo Mobile Technology laptops with the Intel Core 2 Duo processor deliver breakthrough mobile capabilities to help businesses respond, offering dual-core processing capabilities, enabling enhanced manageability and security for today's increasingly mobile business environment; enabling improved battery life to increase mobility and productivity; and extended connectivity options to give employees more flexibility to collaborate with clients and colleagues.

Intel® Centrino® Duo Mobile Technology laptops with the Intel Core 2 Duo processor enable IT managers to:

- Manage their environment with patches that can be delivered in the background without user disruption
- Enjoy improved WLAN throughput performance and better load balancing with smart AP selection capabilities
- Manage multiple WLAN networks with a simplified user interface
- Manage platform longevity and costs with Intel® Stable Image Platform Program
- Be prepared for Windows Vista* deployment with exceptional graphics ready to experience the Aero user interface

Road warriors and mobile workers will also appreciate the ability to simultaneously run demanding applications while security and virus protections run in the background and collaborate with colleagues and suppliers using e-mail, application sharing, instant message and making PC phone calls over the Internet.

Next-Generation Components for Better Mobile Computing:

Intel Centrino Duo mobile technology platforms now feature the revolutionary new Intel Core 2 Duo processor with the existing Mobile Intel® 945 Express Chipset Family and Intel PRO/Wireless 3945ABG Network Connection wireless components.

Intel Core 2 Duo processor:

The Intel Core 2 Duo processor is Intel's second-generation mobile dual-core processor designed to deliver breakthrough performance with great power savings for improved battery life.

Optimized Performance Technologies

Dual-Core Architecture

Two mobile-optimized execution cores in a single processor designed to increase performance and save power.

Intel® Wide Dynamic Execution

More efficiently processes multiple instructions at once for outstanding performance and responsiveness to run applications in the office, home, or on-the-go, with the ability to process 4 instructions per clock cycle.

Intel® Advanced Smart Cache

With up to 4 MB L2 shared cache compared to 2MB L2 on the Core Duo processor, the Core 2 Duo processor offers even more efficient data sharing, providing enhanced performance, responsiveness and power savings.

Intel® Advanced Digital Media Boost

Intel Advanced Digital Media Boost delivers enhanced performance for a broad range of applications including video, speech and image, photo processing, encryption, financial, engineering and scientific. It provides two times the streaming media compute throughput compared to the Intel Core Duo processor.

Intel® Smart Memory Access

Intel Smart Memory Access improves system performance by optimizing available bandwidth in the system bus and memory subsystems; it reduces memory latencies to provide data to the processor when and where it's needed.

Intel® 64

Enabling technology that can take advantage of 64-bit applications and the Microsoft Vista* OS as they become available.

Intelligent Power Capability

Advanced Power Gating

Allows parts of the CPU core to be shut down even during periods of high-performance execution to optimize performance per watt.

Enhanced Deep C4 Sleep State

Extends power-saving capabilities by further reducing core voltage when the L2 cache is off.

Split Bus Array

Many buses and arrays are split so data required in some modes of operation can be put in a low-power state when not needed for power savings.

Intel® Dynamic Power Coordination

Dual-core coordinated power management in hardware enables per-core low-power transitions, plus dual-core coordinated processor Deeper and Enhanced Deeper Sleep transitions.

Dynamic Cache Sizing

Dynamic Cache Sizing enables the Intel Advanced Smart Cache to dynamically flush data to system memory based on demand for power savings.

Mobile Intel® 945 Express Chipset Family

The Mobile Intel® 945GM chipset with Intel Graphics Media Accelerator 950 delivers exceptional improvements in graphics performance over the previous generation chipset, the Intel® 915GM.

Key features include:

- Intel® Graphics Media Accelerator (GMA) 950 – Intel's next generation (Gen 3.5) Integrated graphics with 250MHz graphics core frequency (compared to 200MHz for 915GM core), enabling further improvements in playback of 3D graphics such as games or CAD renderings.
- Intermediate Z in Classic Mode – Increases performance for games and other 3D applications by removing polygons that will not contribute to the final picture, thereby enabling better graphics performance by reducing the number of calculations to be performed.
- Full D-Connector Support (D1-D5) – Enables ease of use for optimally enjoying TV (any TV supporting D connector - have to manually configure without) content through D-connector enabled devices. Any TV including HDTV.
- Adaptive De-interlacing – Removes some of the adverse visual artifacts associated with converting interlaced content (i.e. broadcast TV on progressive displays (i.e. monitors), enabling enhanced visual quality of interlaced content.
- COPP/HDCP/CGMS-A Support – Enables users to view protected premium video content while at the same time providing content protection.
- 667MHz Power Optimized System Bus – enables up to 25% faster transfer rate, as compared to 533MHz supported on previous generation for increased performance.
- Intel® Display Power Saving Technology 2.0 – Reduces display backlight power with minimal visual impact to the end user, enabling improved battery life.
- Intel® Rapid Memory Power Management – Provides chipset and DIMM power savings by putting memory into a reduced power state when display is still active on DDR2 based platforms.
- Intel® Automatic Display Brightness – Automatically adjusts the backlight intensity of the display according in response to ambient light levels, reducing power consumption with minimal visual impact to the user.
- Intel® Matrix Storage Technology with Link Power Management – enables enhanced performance, power management and data protection for the storage subsystem

Intel PRO/Wireless 3945ABG Network Connection

The Intel PRO/Wireless 3945ABG Network Connection advances WLAN performance of standard Wi-Fi networks. It supports enhanced features that make applications more aware, connected, and responsive, delivering a better on-the-go end-user experience. Available in a smaller PCIe mini-card form factor, the Intel PRO/Wireless 3945ABG Network Connection helps enable lighter and thinner notebooks. With the available Intel® PROSet/Wireless software

version 10, enterprise users can take advantage of new IT administration tool capabilities and an API built around 802.11e QoS for VoIP.

Key features include:

- Enhanced AP Selection – More intelligent AP selection based on link quality parameters such as signal strength; transmit rates, channel load, and connection failures, enabling selection of APs that provide better performance for all 802.11x.
- Flexible Roaming – Ability to specify when the client will roam to a different access point. For example, favoring higher performance when you need additional bandwidth for downloading large files, and favoring signal strength when a stable connection is needed, such as for gaming.
- 802.11e QoS Support – Latest standards-based Quality of Service (QoS) support for 802.11e, supports delivery of real-time applications such as VoIP or streaming video over a wireless link
- Intel® PROSet/Wireless Software Version 10 provides a GUI interface that improves ease of use and helps end users and tech support troubleshoot problems more efficiently
- Business Class Wireless Suite – Enable new collaboration applications and deliver high performance wireless LAN capabilities, giving you the traditional strengths of wired in a wireless environment.
- Wake on Wireless Local Area Network (WoWLAN) – Enables IT to wake up the client from low power state as long as the client remains associated with the same AP, which could allow IT to download a critical patch or notify the client of an incoming VoIP call when notebook is powered down.
- Noise Interference Filter – Detects and avoids overload conditions in the receiver, non 802.11 signal like microwave or cordless phone, and unwanted out-of-band 802.11x signals from other clients, helping maintain higher throughput under adverse conditions.
- Supports Cisco* Compatible Extensions (such as LEAP, EAP-FAST and CKIP) – Based on PC manufacturer's availability and validation, this enables interoperability and compatibility with latest Cisco WLAN infrastructure.

⁺System performance, battery life, high-definition quality and functionality, and wireless performance and functionality will vary depending on your specific operating system, hardware and software configurations. System performance is measured by MobileMark 2005. References to improved battery life, if applicable, refer to previous generation Intel® Centrino® technology platforms. 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 mobile technology systems. See http://www.intel.com/products/centrino/more_info for more information *Other names and brands may be claimed as the property of their respective owners.*

¹For more information on why Intel® Core™2 Duo processors are the world's best overall processors, please visit www.intel.com/core2duo.

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²As measured by SPEC*_{rate}_CPU2000 Rate (SPECfp_rate and SPECint_rate) comparing Intel® Core™ Duo Processor T2700 with Intel® Core™2 Duo Processor T7600. Actual performance may vary. See <http://www.intel.com/performance/mobile/benchmarks.htm> for important additional information

³As measured by SPEC*_{rate}_CPU2000 Rate (SPECfp_rate and SPECint_rate) comparing Intel® Core™ Duo Processor T2400 with Intel® Core™2 Duo Processor T5600. Actual performance may vary. See <http://www.intel.com/performance/mobile/benchmarks.htm> for important additional information

⁴ Based on power utilization measured by average power of Intel components of pre-production Intel® Core™2 Duo processor-based laptop as compared to an Intel® Pentium® M processor-based notebook. Actual performance may vary. See <http://www.intel.com/technology/eep/platforms.htm> for important additional information.