Product Brief

Intel® NAND Storage Solutions

Intel® Turbo Memory with User Pinning

Enhancing System Performance Through Memory Innovation

Product Overview

Intel® Turbo Memory with User Pinning brings mobile and desktop systems performance to new heights through the innovative extension of Flash Memory architectures into computing platforms. User Pinning offers more options to the user to improve system applications launch time and responsiveness.

User Pinning

The new "User Pinning" capability feature, via the Intel ® Turbo Memory Dashboard, allows the user to choose and control which applications or files are loaded into the Intel Turbo Memory cache for performance acceleration. Custom pinning profiles can be created to pin applications or files that match the user's activity—such as PC gaming, office work, or home tasks.

RAID

Intel Turbo Memory with User Pinning is compatible with hard disk drive RAID storage subsystems. In addition, the RAID features supported with the Intel® Matrix Storage Technology allow enhanced performance and additional protection against data loss via redundant drives.

Performance

Intel® NAND Flash Memory, working with the Microsoft Windows Vista* ReadyBoost* and ReadyDrive* technologies, adds a new low-latency, non-volatile memory cache between the system memory and the hard drive. This enables fast access to critical data and applications.

- Fast application load times, hibernation, and resume
- Fast overall application responsiveness
- Fast boot time
- Quick access to frequently used applications and/or files from User Pinning
- Enhanced data loss protection using RAID 1, 5, and 10

Quality

Intel NAND Flash Memory offers the speed and reliability needed in standard computing architectures. The Intel® Flash Cache Logic chip, along with the Intel® Matrix Storage Manager driver software, efficiently manage the NAND through optimized wear-leveling and error-correction algorithms, ensuring consistent performance through the long life of the product.

Value

System memory (RAM) is costly, consumes significant power, and does not retain data after shutdown and during hibernate. By adding non-volatile memory—memory that retains data without power—into the system, a new tier of caching improves system performance, at a lower cost than RAM. This configuration extends the performance when resuming from a power-off state, such as boot time or hibernation.

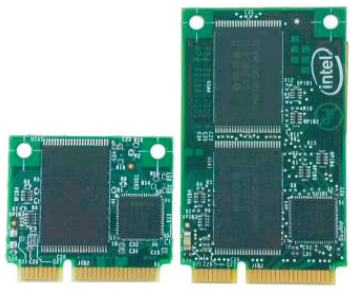
Intel® Turbo Memory Technology for Mobile and Desktop Platforms

In mobile computing, spinning hard drives decrease battery life and increase hardware failure rates. By utilizing solid-state memory for many routine tasks formerly accessed directly from the hard drive, the system will have a hard drive that can remain spun down more often. This results in less power consumption and a reduction in hard drive failures. For desktop computing, fast access to applications, high performance games, and data via a solid-state memory cache offers a more thrilling experience.

Intel® Turbo Memory Technology Cards

Designed for easy integration into systems, the PCIe* full-minicard and half-mini interface card are available in 2 GB and 4 GB capacities. The PCIe card features: one Intel® Flash Cache Logic chip, two Intel® NAND Flash memory chips in parallel, and supports Microsoft Windows Vista* ReadyDrive* and ReadyBoost* technologies for the 2 GB card. The 2 GB card, with a one-time OEM configurable option, can substitute ReadyBoost for "User Pinning"; while, the 4 GB card supports ReadyDrive and User Pinning only.

Desktop Module



Mobile Modules (half and full mini)

Motherboard Integration Kits

The motherboard integration kits are provided as a set of components to system manufacturers who design into mobile or desktop computer systems. By choosing integration, manufacturers can leave PCIe slots available for other components or for individual configuration by consumers. Each kit provides the Intel Flash Cache Logic chip plus two Intel NAND Flash Memory chips. The 2 GB and 4 GB kits respectively provide two 1 GB and 2 GB NAND components.

Platform Compatibility

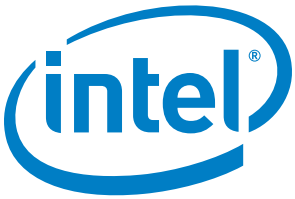
Intel Turbo Memory Cards are compatible with Intel® Centrino® and Intel® Centrino® 2 processor technology for notebook PCs and Intel® Core™2 processor family with Series 4 chip sets for business desktop PCs and digital home media.

Lead (Pb)-Free Initiative

The use of lead in electronic products is an environmental concern. While significant uncertainties remain regarding the potential for lead contained in electronic products to impact human health or the environment, Intel has an ongoing initiative to reduce lead in its products.

For more information visit:
www.intel.com/research/silicon/leadfree.htm

Intel is also a leader in meeting international environmental standards including the European Union's Restriction of Hazardous Substances in Electrical and Electronic Equipment (RoHS) Directive (2002/95/EC), Energy Star, ECMA TR-70 and TCO '99 (Sweden).



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Enhancing Technology

With solid system-level performance enhancements, support for industry-standard PCIe interfaces, and with high-speed hard drive interfaces, the Intel® Turbo Memory Technology is leveraging the proven reliability of the Intel® NAND Flash Memory to enhance and improve the next-generation of Intel® platforms. User Pinning adds another dimension of enhanced performance on user-selected applications and files.

Be sure to ask for Intel® Turbo Memory with the User Pinning feature and Intel® Dashboard when purchasing your next Intel-based PC.

For more information visit:

www.intel.com/go/nand

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