

Tech News: Solid State Disks

The next big idea in IT

With memory prices at an all-time low, the Solid State Disk (SSD) is emerging rapidly as a viable technology. Unlike the traditional HDD, an SSD contains no moving parts and has lightning-fast access. Equipped with non-volatile, NAND memory, the SSD provides a greater resilience to physical vibration, shock and extreme temperature fluctuations. It requires less power than an HDD, and will extend the battery performance of mobile electronic devices.

Without the rotating disk platters and oscillating read/write arms, the SSD uses electronic signals to access its massive memory banks. This will largely eliminate the bottleneck created by the traditional HDD.



Construction and Speed

Made out of NAND memory, the SSD contains no moving parts. Data is accessed electronically by built-in memory controllers. The average access time for the SSD is 5,000~10,000 microseconds, approximately 100 times faster than an HDD. SSD is also smaller in physical dimensions when compared with HDD. This makes it the perfect companion for notebook and mobile devices.

On the left, you can see the internal construction of a traditional HDD. A massive disk platter and read/write arm dominates the entire HDD. On the right, the SSD contains no moving parts; data is stored in memory banks instead of on disk platters.

Reliability and durability

As previously mentioned, SSDs contains no moving parts. This factor alone greatly increases their reliability and durability. Due to the design of the traditional HDD, the moving parts gradually wear out and if contact occurs between the read/write heads and the platters due to mechanical shock, damage may result. As we move large multimedia files around, the HDD is working constantly, increasing the rate of wear. Whereas with the SSD, data is being accessed electronically without any physical movement. SSD can also withstand extreme physical punishment. Special applications in industrial, military, aviation, and aerospace fields will surely be benefited by the introduction of SSDs.

SSD vs HDD

Advantages

- Faster input/out access
- Low power consumption
- Withstand physical punishment
- Light weight / low noise

Disadvantage

- Cost per megabyte

PEAK will make SSD available in 2008.

For the latest product releases, visit our website at www.peakhardware.com

Reference:

www.pikipedia.org ▶

http://en.wikipedia.org/wiki/Solid-state_drive ▶

<http://www.storagesearch.com/> ▶



The Right Choice
www.peakhardware.com