

For faster data transfer, check these hidden metrics before buying an SSD!

When purchasing an SSD, storage capacity and read/write speed are often the top priorities. However, there is a hidden indicator that is often overlooked: SSD DRAM cache. But what is this mysterious index and how does it affect data transfer speeds?

What is SSD DRAM cache?

SSD DRAM cache or DRAM (Dynamic Random Access Memory) buffer is a high-speed cache that acts as a conduit between SSD (Solid State Drives) and the PC. This volatile memory can quickly store and retrieve data but will lose its content when the power is turned off. It is different from long-term storage devices such as SSDs, which use NAND Flash technology.

To understand better, let's break down each component:

1. **SSD** : These drives use NAND Flash technology to store data. Unlike traditional, they have no moving parts and data retrieval is faster.
2. **DRAM** : This volatile memory temporarily stores data for faster processor access. It provides higher speed than the fixed NAND Flash memory used in SSDs.
3. **Cache** : In a computer, a cache is a temporary storage area containing frequently accessed data for quick retrieval.

How does SSD DRAM cache affect data transfer speed?



Now that we know what SSD DRAM cache is, let's see how it affects data transfer. When accessing data, the processor sends a request to the SSD. Then, the SSD retrieves data from the NAND Flash memory and temporarily stores it in the DRAM cache. From there, the DRAM cache receives the data and transfers it to the processor. This process is much faster than retrieving data directly from NAND Flash SSD memory.

To understand better, think of a busy highway with many additional lanes. The highway is the SSD, while the additional lanes represent the DRAM cache. In dense traffic (high data transfer rates), additional lanes (DRAM cache) allow cars (data) to move faster than a single lane (accessed directly) from NAND Flash memory).

Without an SSD DRAM cache, the processor will have to wait for the NAND Flash memory to access and transfer data. This delay is called latency and it slows down data transmission. In addition, DRAM cache size significantly affects data transfer speed. Larger DRAM caches can temporarily store and retrieve more data, reducing the need to use slower NAND Flash memory.

How to check SSD DRAM cache before buying

How to know if your SSD has SSD DRAM cache? Here are some ways to find out:

1. **Check the manufacturer's specifications** : Check the SSD's specifications to see if it has DRAM cache. Most manufacturers list this information in their product descriptions or specifications. Look for terms like DRAM cache or DRAM buffer to confirm.
2. **Read the product label** : If you buy an SSD at a store, ask the seller or check the packaging to see if it mentions DRAM cache. Manufacturers often emphasize this feature because it is an important characteristic.
3. **Online forums and reviews** : You can also check online forums and reviews about SSD models. Users often mention and share personal experiences in their reviews.

DRAM is a great way to get more power from an SSD and speed up transfer times. Therefore, if you often share large files, you should consider buying an SSD with good DRAM cache.

You finished reading the article "**For faster data transfer, check these hidden metrics before buying an SSD!**" edited by the [TipsMake](#) team. We hope this article has provided you with many useful tech tips and tricks.

You can search for similar articles on tips and guides. Thank you for reading and for following us regularly.
