

Why HDDs Still Play a Crucial Role in the Enterprise Storage Business

As Big Data drives demand for more distributed storage in the cloud and on premise, enterprise server and storage systems need to be built upon trusted solutions.

Toshiba has been supplying hard disk drives (HDDs) to some of the world's largest computing companies for over 50 years.

It would take approximately 45 million Toshiba's 20TB MG10 Nearline HDDs to store the nearly 900 Exabytes shipped to cloud and data centers in 2022.¹

HDDs are essential to the server storage business. Despite the rise of solid-state drives (SSDs), HDDs still offer numerous advantages that make them the storage of choice for many server storage applications:

- **Capacity:** HDDs offer the lowest per TB cost of any storage technology, making them ideal for storing large amounts of data. This is especially important for servers that need to store large databases, media files, or backup data.
- **Performance:** HDDs can deliver high performance for both sequential and random access workloads. This makes them a good choice for a variety of server applications, such as file serving, web hosting, and database applications.
- **Enterprise Level Stability:** CMR (Conventional Media Recording) technology to achieve stable random write performance without degradation. PWC (Persistent Write Cache) accelerates write performance by enhancing NCQ (Native Command Queuing) with embedded DRAM, also prevents data loss during sudden power loss.
- **Reliable Lifecycle Predictions:** HDDs are highly reliable, with a mean time to failure (MTTF) of up to 2.5 million hours. This makes them a safe and secure choice for storing valuable data. The MTTF of Toshiba HDDs enables us to deliver on our promise of consistency of performance and uptime.
- **Cost-effectiveness:** HDDs can have a lower Total Cost of Ownership (TCO), making them a cost-effective solution for the Enterprise Storage business.
- **Scalability:** HDDs are also scalable and flexible, making them easy to adapt to the changing needs of the server storage market. As the demand for server storage continues to grow, HDDs will continue to play an essential role in meeting those needs.

HDD uses in Server Storage today:

- File serving: HDDs are used to store and serve files to users on a network. This is a common application for HDDs in businesses, schools, and government organizations.
- Web hosting: HDDs are used to store and serve websites to users on the internet. This is a major application for HDDs in the hosting industry.
- Database applications: HDDs are used to store and access data in databases. This is a common application for HDDs in businesses and government organizations.
- Backup and disaster recovery: HDDs are used to store backup copies of data. This is important for businesses and organizations of all sizes to protect their data from loss.

Demand of nearline HDDs from cloud and data center customers are projected to grow over 2.5X to almost 2,500 Exabytes in 2027.¹

HDDs are an essential part of the server storage business. They offer the capacity, performance, reliability, cost-effectiveness, scalability, and flexibility that is needed to meet the needs of today's server storage applications.

Additional benefits of using HDDs for server storage:

- HDDs are resistant to vibration and shock, making them ideal for use in harsh environments.²
- HDDs are relatively easy to install and maintain.
- HDDs are available in a variety of sizes and capacities to meet the needs of different server storage applications.

Overall, HDDs are the best choice for storage in the server storage business. They offer the performance, reliability, cost-effectiveness, scalability, and flexibility that is needed to meet the needs of today's server storage applications.

¹TRENDFOCUS, Inc. SDAS: HDD Information Service/Storage Interlinks August 2023

²Toshiba products should always be used in accordance with the specifications and operating conditions listed in the applicable product Owner's Manual.