

The digital revolution - all storage is not equal

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Data storage has changed dramatically over the years, from the days of hard drives holding just a few megabytes to today, when terms like petabyte, exabyte and zettabyte are used to describe unimaginable volumes of data.

As the amount of digital information created has continued to expand, data storage too has evolved, from the floppy disk to the cloud, from massive tape-based data centres to compact server rooms, and everything in-between.

In today's world, where practically every device or piece of technology creates some type of data, storage is the backbone of the digital revolution. However, in such a diverse data world, all storage is no longer equal. The difference between one hard drive and the next is not just capacity or brand, but the sophisticated engineering behind the creation of the drive for the purpose it was intended.

In a world in which data has become currency, and people's memories, entertainment and entire lives are digital, it is vital to use the right drives for the right tasks, in order to achieve maximum performance, scalability and reliability.

The data explosion and diversity of technologies requiring data storage has led to a similar diversity in storage devices and, therefore, in hard disk drive technology. For example, the huge volume of content generated, stored and shared by consumers has led to the trend of creating the 'connected home'. These homes use centralised storage for music, movies, photographs and more, all stored in digital format.

This has led to an increase in the requirement for Network Attached Storage (NAS) devices, previously the domain of the enterprise, for the consumer, prosumer and small business market. NAS is a specialised data storage environment, and, thus, requires specialist hard drives - it is not advisable to use an everyday desktop hard drive in a NAS storage device because it is not meant for that application.

Fast-growing cloud computing market

Another example is the massive and fast-growing cloud computing market. As the cloud grows in South Africa, data centres have become increasingly important, and with them the hard drive, the technology at the heart of the data centre. Hosted applications such as Software as a Service (SaaS) need enterprise hard drives with high-density performance for mission-critical environments. For data centre storage environments, on the other hand, durability and high capacity are the overriding requirements. Scalability, performance and reliability are the three crucial factors that need to be balanced according to data centre needs.

In light of this increasing segmentation, WD has taken steps to ensure that users choose the correct hard drives for any particular application. The WD 'Power of Choice' separates the storage line-up into easy-to-recognise colours that give customers the power to choose the right product for their needs: WD Blue for everyday use; WD Green for capacity; WD Black for performance; WD Red for NAS; and WD Purple for surveillance. Data centre drives are separated into Xe for performance, Re for durability and Se for scalability, offering the ideal building blocks for any data centre application.

From everyday desktops to high-performance workstations, NAS to data centres and even specialist applications, such as digital video streaming and surveillance, the number of applications that require hard drives has expanded in line with the data explosion. Each of these environments has different requirements from a hard drive, and so it has become clear that all storage is no longer equal. Choosing the right hard drive for the right application will ensure that performance is 'up to speed', that reliability can be assured, and that stored data will be available when and where it is needed to help fuel the digital revolution.

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