What is FAT32, NTFS, exFAT format?

NTFS, FAT32, exFAT are file systems on Windows, but specifically what NTFS is, what is FAT32, what is exFAT, are they similar and different? Please read along with this article.

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When formatting a partition, hard drive or any storage device connected to a computer, Windows will let you choose the file system (file system) which is NTFS, FAT32 and exFAT. Essentially, choosing NTFS, FAT32 or exFAT before formatting a partition or drive is important because it will affect your storage and future use. Each type has its own advantages and disadvantages.

1- What is the FAT32 format?

FAT32 appeared since Windows 95 to replace FAT16 format.

Advantages : old but very popular, most USB storage drives you buy are pre-formatted with FAT32 format to ensure high compatibility not only with your computer but also on many other devices: console games, music players or devices with USB ports.

Disadvantages : FAT32-formatted partitions will not be able to store files larger than **4 GB** , and the capacity of a FAT32 partition must be less than 8TB. Although currently 8 TB is still quite large, but for those who use high capacity hard drive, they will definitely not choose FAT32.

Although used extremely popular on external USB storage devices, FAT32 format on computer hard drives is getting less and less. If you reformat the hard drive, we also recommend that you do not choose FAT32, it lacks some modern security terms and features on NTFS. New versions of Windows (from Vista and later) cannot be installed on FAT32 partitions as well.

Compatibility : Any version of Windows, Linux or Mac, game console, in fact, devices that support USB ports can read FAT32 partitions.

Limit : File size must be less than 4GB, partition size up to 8TB.

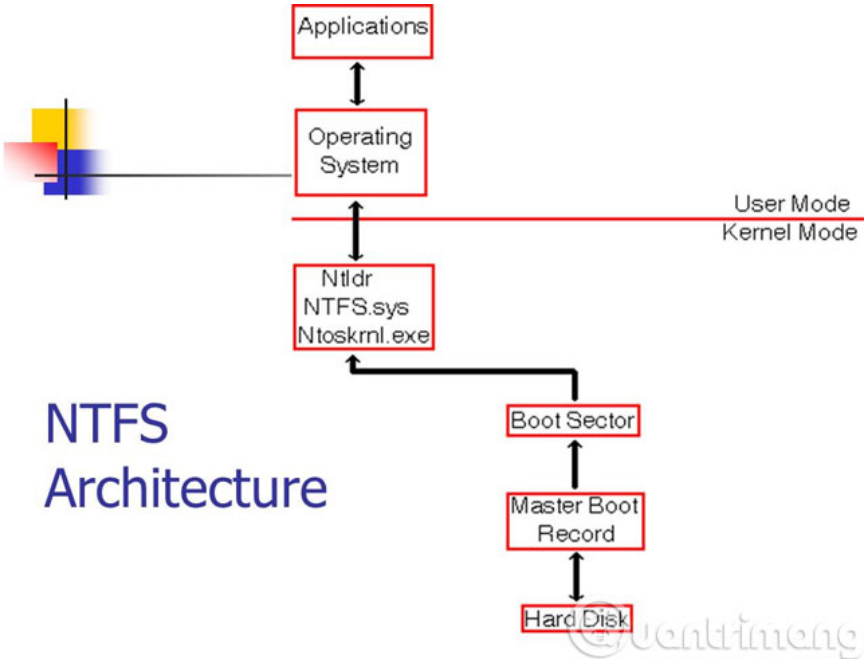
Suitable for : Mobile storage devices for high compatibility but no need to save large files (over 4 GB).

2- What is the NTFS format?

By installing Windows, your Windows installation drive will be NTFS by default. The file size and maximum size of the file use NTFS, which is theoretically large. You don't need to worry about this now. NTFS first appeared on Windows NT 3.1 and came to individual users on the commercial version of Windows XP.

Some of the modern features of NTFS include security features such as file permissions; recording data changes makes it easy to recover if the computer crashes; create copies (copy) for backup (backup); encryption (encryption); set disk quota limit . with some other features. They are very important for system partitions, especially the ability to set permissions for files.

Your partition of Windows installation must be in NTFS form. Also, if you want to use another partition to install the software, the partition should also choose NTFS.



Although there are many modern features, but the minus point of NTFS is the limited support from the platform. NTFS is compatible with most recent versions of Windows, including Windows XP. But with some other

operating systems, NTFS is quite "annoying". As Mac OS X can only read, it cannot write content to an NTFS partition. Or some Linux versions support writing data to NTFS partitions, but others do not. Some other hardware devices, such as PlayStation consoles, do not support either, while Microsoft's own Xbox 360 is not compatible with NTFS, and the newer Xbox One is compatible.

Compatibility : Use well with new, read-only (read-only) versions of Windows for Macs, some Linux distributions support recording, but some do not. Some other systems (except Microsoft's Xbox One) may not support NTFS.

Suitable for : Partitioning of Windows installation as well as system partitions on the computer.

1. How to convert a FAT32 hard drive to NTFS on Windows does not lose data

3- What is the exFAT format?

exFAT was first introduced in 2006, but it is still supported by Windows XP and Windows Vista through updates. This is the optimal file system format for flash memory. ExFAT is designed based on FAT32 but exFAT is not as limited as the old format.

The file and drive size limits are no longer on exFAT (in fact, but in theory, that number is very large). If your USB drive or SD card is formatted as exFAT, it is possible to save files larger than 4 GB without problems. This is really a valuable upgrade of FAT32, is also the best choice for external storage devices if you just want to have high compatibility, and want to be comfortably stored.

As mentioned above, exFAT has a higher compatibility than NTFS, Mac computers can completely read-write content on exFAT partitions completely normally. However, there are some systems that do not support exFAT, such as Xbox 360 or PS3, particularly PS4 and Xbox One that support. Some old computer devices only support FAT32 without exFAT support.

Compatibility : Works with all versions of Windows, new versions of Mac OS X, requiring software support on Linux. The number of devices that support exFAT is more than NTFS, but some older devices may not support.

Suitable for : USB flash drives, external drives with the need to store files larger than **4 GB** . If you are sure your devices support exFAT, you should format your storage devices in exFAT format instead of FAT32 for the best experience.

With the information we provide above, hope you will have more knowledge to choose depending on your intended use.

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