FAT vs NTFS

Hard Drive are like a File Cabinet

1. A popular metaphor is to compare a computer's hard drive to a file cabinet.
2. If a computer's hard drive is a giant filing cabinet, it's safe to assume the computer needs some sort of filing system so it can quickly find the info it needs.
3. Just as there's more than one way to file company records, there's more than one way to store information on your hard drive.

What OS Support

- In general, systems that can support NTFS also support FAT; WinNT, Windows 2000, and WinXP support both FAT and NTFS.
- On the other hand, older versions of Windows only support FAT (Win95, Win98, me)

Larger Cluster vs. Smaller Cluster

- If a hard drive is similar to a filing cabinet, a cluster would most closely resemble a drawer in that filing cabinet.
- Smaller cluster sizes are more efficient from a storage perspective, but they're less efficient in terms of performance.
- Larger clusters can hold more data, which means less work for the PC and slightly better performance.

Disk Defragmenter

1. Most versions of Windows include Disk Defragmenter.
2. This utility examines data in each cluster and reorganizes it so related clusters are placed closer together on the hard drive.
3. Fragmentation is a problem for FAT and NTFS partitions.

FAT

- FAT gets its name form the file allocation table stored near the beginning of the drive
- FAT16 is a 16-bit file system
- FAT32 is a 32-bit file system
- FAT32 made its appearance in Windows 95, but 98 was the first retail version of Windows to include support for FAT32

FAT 32 vs FAT 16?

- Because FAT32 is a 32-bit file system it can address more clusters than FAT16
- It also means FAT32 can support larger partitions
- With 32KB clusters, FAT32 can support partitions up to 8TB in size

NTFS and businesses?

1. Security and reliability have made NTFS popular with businesses and large organizations for several years.

MFT

MFT (Master File Table) is very close to the file allocation table in FAT, only much more complicated.

The MFT stores file attributes for every file stored on the NTFS partition.

Metadata Files

The MFT is known as a metadata file. Metadata is essentially data about data

Some of the more important metadata files include the MFT Mirror, Log File, Cluster Allocation Bitmap, Bad Cluster File, and Quota Table

Fat to NTFS

1. Convert.exe lets your convert from FAT to NTFS
    1. convert.exe c: /fs:ntfs

    It creates the MFT and other metadata files in free space and doesn't overwrite any FAT clusters until the FTFS file system is in place.

    Once the conversion is complete, the only way to return to a FAT file system is to reformat the hard drive, thereby destroying any existing data in the process