

Lesson 16, Part 2

**Understanding FAT16,
VFAT, FAT32, and NTFS**

FAT16

DOS, Windows 3.1, Linux

- Uses 512 byte clusters.
- Cannot use Extended memory
- Each cluster's address, located in the FAT table, is 16 bits long
- The largest partition size is 2GB, so if you have a larger HD, you will have to create multiple partitions.

VFAT(Virtual FAT)

Windows 95

- 32 bit version of FAT, that supports long filenames
- Can use 32 bit protected mode drivers or 16 bit real mode drivers.
- Still uses FAT16 allocation tables.

FAT32

Windows 95, 98, 2000, NT

- **An enhanced version of FAT16**
- **Allows for 2 terabyte partitions**
- **FAT32 clusters are smaller than FAT16, freeing 20 to 30 percent more disk space.**
- **Smaller clusters also increase the speed of the O.S.**
- **Makes a backup copy of its FAT and can access it on the fly if it finds a corruption.**

NTFS(New Technology File System)

Windows Millennium, 2000, XP Home, XP Pro

- **Uses EFS(Enhanced File Security) which uses public key security to encrypt files, preventing unauthorized users from accessing them**
- **Enhanced file compression-can compress entire volumes or files**
- **Support for 2 terabyte partitions**
- **Fault-tolerant volumes make files recoverable**

NTFS(New Technology File System) Cont'd

- Organizes its data using a Master File Table(MFT), a large database, which stores all files on the volume as a record, which allows for speedier access and security
- Allows for multiple cluster sizes, ranging from 512bytes to 64K.