

Why do timestamps change when I copy files to a floppy?

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Floppy disks use the FAT filesystem, as do DOS-based and Windows 95-based operating systems. On the other hand, Windows NT-based systems (Windows 2000, XP, 2003, ...) tend to use the NTFS filesystem. (Although you can format a drive as FAT on Windows NT-based systems, it is not the default option.) The NTFS and FAT filesystems store times and dates differently. Note, for example, that FAT records last-write time only to two-second accuracy. So if you copy a file from NTFS to FAT, the last-write time can change by as much as two seconds. Why is FAT so much lamer than NTFS? Because FAT was invented in 1977, back before people were worried about such piddling things like time zones, much less Unicode. And it was still a major improvement over CP/M, which didn't have timestamps at all.

It is also valuable to read and understand the consequences of FAT storing filetimes in local time, compared to NTFS storing filetimes in UTC. In addition to the Daylight Savings time problems, you also will notice that the timestamp will appear to change if you take a floppy across timezones. Create a file at, say, 9am Pacific time, on a floppy disk. Now move the floppy disk to Mountain time. The file was created at 10am Mountain time, but if you look at the disk it will still say 9am, which corresponds to 8am Pacific time. The file travelled backwards in time one hour. (In other words, the timestamp failed to change when it should.)

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