

Hard Drive Partitions

A formatted hard drive is divided into sectors; an operating system will treat a collection of sectors--- called a "cluster"--- as the smallest, indivisible unit for normal file operations. Different Operating Systems, and different hard drive formatting methods, use different-sized clusters. For instance Win 95 and Win98 use Fat32. XP can use Fat32 or NTFS.

Given a clean hard drive in XP and left to its defaults, NTFS will set itself up with very small 4K clusters, which makes for efficient file storage.

Before anyone panics, let's be clear: No standard file system is 100% efficient; all involve at least some wastage or "slack." It's normal, and OK. But with common drive formats, the larger the drive, the greater the slack. Sectioning a huge hard drive into reasonably-sized partitions--- logical drives--- means that each partition can utilize smaller, more-efficient clusters. You actually end up with more usable space on your hard drive!

Huge unpartitioned drives (or gigantic partitions themselves, for that matter) have other drawbacks, too: They're harder to back up and restore; they can take longer to index or search; they take longer to scan and defrag; it's harder to set up dual- or multi-boot systems--- the list of problems goes on and on.

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