

Konstantin Koll

*University of Dortmund, Germany
Computer Science I
44227 Dortmund*

koll@ls1.cs.uni-dortmund.de

Usenix FAST 2008 - Outrageous opinion

File systems should be like burger meals: Supersize your allocation units!

Frankly speaking, we all know that size does matter, and that bigger is simply better. Only file system designers seem to be oblivious to this.

To combat the waste of precious memory through internal fragmentation, they make allocation units of file systems as small as possible. File system designers are irresponsible in this: to read a large file, many fragments have to be gathered and joined. This external fragmentation considerably slows down high-level applications that work with large files, for example databases.

I'm sure when file system designers have dinner out they don't go to the counter for each single french fry – so supersize the size of allocation units! After all, memory has become very cheap compared to the age of floppy discs. If you can have a supersize meal for a dime, you don't care if half of it will be wasted.