

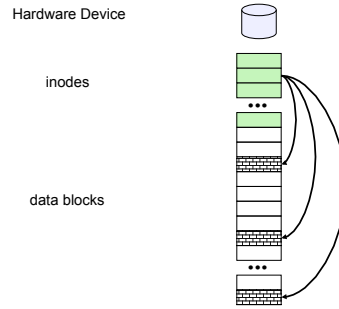
**CSE 451: Operating Systems
Autumn 2013**

**Module 19
File System Summary**

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UFS

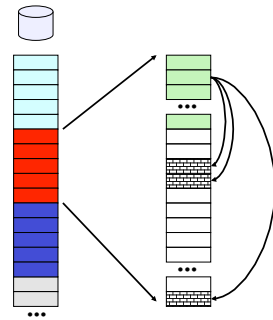


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Low throughput addressed by:
• larger blocks
• cylinder groups
• aggressive caching
• hardware awareness

FFS

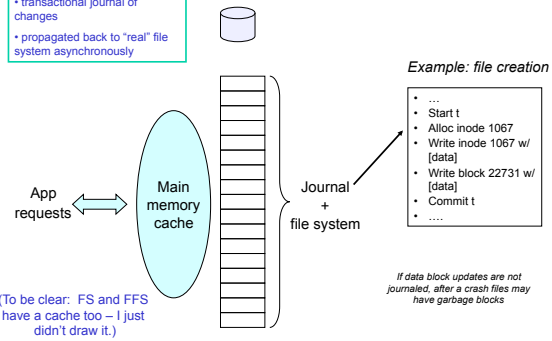


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Long post-crash boot times addressed by:
• transactional journal of changes
• propagated back to "real" file system asynchronously

JFS



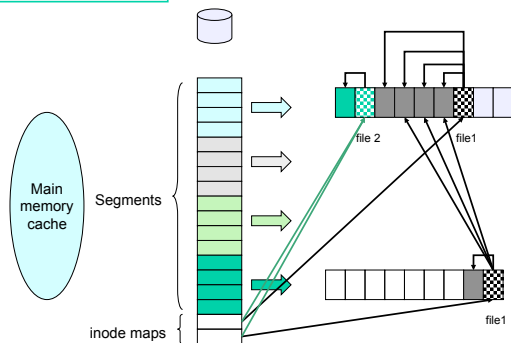
(To be clear: FS and FFS have a cache too – I just didn't draw it.)

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Write throughput addressed by:
• the file system is a log

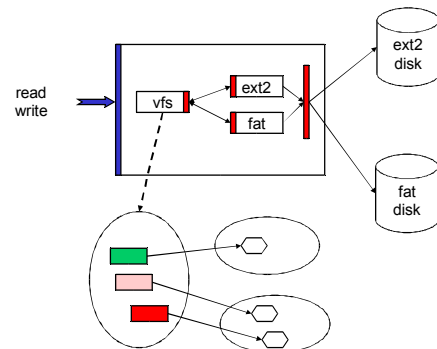
LFS



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Supporting Multiple File Systems: vfs



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