

DesignDoc for Assignment 5

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Changes Documentation:

Makefile:

Line 221: changed to CPUS :=1

Line 224: added QEMUEXTRA = -snapshot

UPROGS=\

....

_testfs\

EXTRA=\

...

testfs.c\

param.h:

Line 13: changed size of file system in blocks to 20000

file.h:

Line 25: Changed the size of uint address[] to +2 in struct inode since decreased the size of variable NDIRECT.

fs.h:

Line 24: updated number of direct blocks from 12 to 11.

Line 25: define variable NDOUBLYINDIRECT to 128, the number of direct in a singly-indirect

Line 27: update maxfile size to include the added blocks.

Line 36: Changed the size of uint address[] to +2 in struct inode since decreased the size of variable NDIRECT.

fs.c:

Line 398: added bn subtract the number of indirect blocks.

Line 400-439: added if statement to check if bn is less than the doubly indirect blocks. Check the 13th block and allocate if necessary. Then get the second level block pointer and load second level data. Calculate the index of the second level block and allocate if necessary. Then, release the second level buffer. We then do so for the third level and release the third level buffer at the end. We then return the address.