

DragonFlyBSD - Bug #3251

file ctime not updated as documented on chmod(), link()

10/25/2020 06:08 PM - tonyc

Status:	In Progress	Start date:	10/26/2020
Priority:	Normal	Due date:	12/22/2020
Assignee:		% Done:	50%
Category:	VFS subsystem	Estimated time:	0.00 hour
Target version:			
Description			
The stat(2) man page claims:			
st_ctim Time when file status was last changed (inode data modification). Changed by the chmod(2), chown(2), link(2), mknod(2), rename(2), unlink(2), utimes(2) and write(2) system calls.			
but neither link() nor chmod() update ctim.tv_sec:			
<pre>\$ pwd /home/tony/dev/perl/git/dflybugs \$ cc -o link_ctime link_ctime.c \$./link_ctime FAIL: chmod didn't update ctime FAIL: link didn't update ctime \$ mount serno/VB6e53d937-50b8dc58.s1d on / (hammer2, local) devfs on /dev (devfs, nosymfollow, local) /dev/serno/VB6e53d937-50b8dc58.s1a on /boot (ufs, local) /build/usr.obj on /usr/obj (null) /build/var.crash on /var/crash (null) /build/var.cache on /var/cache (null) /build/var.spool on /var/spool (null) /build/var.log on /var/log (null) /build/var.tmp on /var/tmp (null) tmpfs on /tmp (tmpfs, local) procfs on /proc (procfs, local) tmpfs on /var/run/shm (tmpfs, local) \$ uname -a DragonFly 5.8-RELEASE DragonFly v5.8.3-RELEASE #10: Thu Sep 24 19:19:45 EDT 2020 root@www.shiningsilence.com :/usr/obj/home/justin/release/5_8/sys/X86_64_GENERIC x86_64</pre>			
link_ctime.c is attached.			

History

#1 - 12/21/2020 11:36 PM - deef

- Due date set to 12/22/2020

- Status changed from New to In Progress

- % Done changed from 0 to 50

link() issue fixed for both hammer (commit c5adbbb2+ on master, d74465f2+ on RELEASE_5_8) and hammer2 (b6c0d52e+ master, 2d476770+ RELEASE_5_8).

However, I've been unable to reproduce chmod() issue... It works as expected for me on master. And according to the code, it should also work the same on RELEASE_5_8. Could anybody confirm, please? :)

#2 - 12/26/2020 03:54 PM - tonyc

deef wrote:

> However, I've been unable to reproduce chmod() issue... It works as expected for me on master. And according to the code, it should also work the same on RELEASE_5_8. Could anybody confirm, please? :)

My test is a little broken in that it doesn't distinguish between a successful `chmod()` that does change the mode and a successful `chmod()` doesn't change the mode, but I'm not sure that makes a difference.

Looking at the code (HEAD:/sys/vfs/hammer2/hammer2_vnops.c#1543) it appears `ctime` is only updated when the mode is modified. The dragonfly man pages that I (briefly) looked at don't include enough information to decide whether that's documented behaviour, but POSIX says:

Upon successful completion, `chmod()` shall mark for update the last file status change timestamp of the file.

So it looks to me like POSIX says that `ctime` should be modified even if the mode doesn't actually change. This is the behaviour on Linux/ext4 and FreeBSD 11.4/ufs.

Files

link_ctime.c	1.12 KB	10/26/2020	tonyc
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