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Subject: [PATCH 2/2] locks: add warning about mandatory locking races

Posted by [bfields](#) on Tue, 25 Sep 2007 16:56:29 GMT

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The mandatory file locking implementation has long-standing races that probably render it useless. I know of no plans to fix them. Till we do, we should at least warn people.

Signed-off-by: J. Bruce Fields <bfields@citi.umich.edu>

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Documentation/filesystems/mandatory-locking.txt | 21 ++++++++  
1 files changed, 20 insertions(+), 1 deletions(-)

diff --git a/Documentation/filesystems/mandatory-locking.txt

b/Documentation/filesystems/mandatory-locking.txt

index bc449d4..8ac5cfb 100644

--- a/Documentation/filesystems/mandatory-locking.txt

+++ b/Documentation/filesystems/mandatory-locking.txt

@ @ -3,7 +3,26 @ @

Andy Walker <andy@lysaker.kvaerner.no>

15 April 1996

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+ (Updated September 2007)

+

+0. Why should I avoid mandatory locking?

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+The Linux implementation is prey to a number of difficult-to-fix race  
+conditions which in practice make it not dependable:

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+ - The write system call checks for a mandatory lock only once

+ at its start. It is therefore possible for a lock request to

+ be granted after this check but before the data is modified.

+ A process may then see file data change even while a mandatory

+ lock was held.

+ - Similarly, an exclusive lock may be granted on a file after

+ the kernel has decided to proceed with a read, but before the

+ read has actually completed, and the reading process may see

+ the file data in a state which should not have been visible

+ to it.

+ - Similar races make the claimed mutual exclusion between lock

+ and mmap similarly unreliable.

1. What is mandatory locking?

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1.5.3.1.139.g9346b

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