

Re: Possible shared mapping bug in 2.4.23 (at least MIPS/Sparc)

Source: <http://linux.derkeiler.com/Mailing-Lists/Kernel/2003-12/3206.html>

From: Peter Horton (pdh_at_colonel-panic.org)

Date: 12/14/03

Date: Sun, 14 Dec 2003 10:38:03 +0000

To: Linus Torvalds <torvalds@osdl.org>

On Sat, Dec 13, 2003 at 05:41:16PM -0800, Linus Torvalds wrote:

>

> *On Sat, 13 Dec 2003, Jamie Lokier wrote:*

>>

>> *Peter Horton wrote:*

>>> *A quick look at sparc and sparc64 seem to show the same problem.*

>>

>> *D-cache incoherence with unsuitably aligned multiple MAP_FIXED*

>> *mappings is also observed on SH4, SH5, PA-RISC 1.1d. The kernel may*

>> *have the same behaviour on those platforms: allowing a mapping that*

>> *should not be allowed.*

>

> *Why?*

>

> *If the user asks for it, it's the users own damn fault. Nobody guarantees*

> *cache coherency to users who require fixed addresses.*

>

> *Just document it as a bug in the user program if this causes problems.*

> *Don't blame the kernel – the kernel is only doing what the user asked it*

> *to do.*

>

I've seen code written for X86 use MAP_FIXED to create self wrapping ring buffers. Surely it's better to fail the mmap() on other archs rather than for the code to fail in unexpected ways?

It's a bug either way ... either the test should be fixed up or it should be removed from arch_get_unmapped_area() to save confusion.

P.

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