

freebsd-performance: Re: Performance Problems.. Server hardware smoked by \$500 box?

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Date: Thu, 11 Sep 2003 12:42:59 -0400

Chris Pressey wrote:

[ ... ]

> - *Is it possible the server has too much RAM?*

>

> *I don't remember where I heard that that can degrade performance, but*

> *I'm pretty sure it was on one of the freebsd lists a couple of months*

> *ago.*

One of the early Pentium Pro/P2 chipsets, either the 430VX or the 430FX?, was unable to perform L2 caching of main memory above 64MB or some such, but aside from this sort of hardware limitation, more memory is going to be better for FreeBSD.

[ This isn't true of all operating systems, but Unix systems like FreeBSD use some variant of LRU page replacement algorithm for VM, probably in conjunction with a global page-fault frequency algorithm to help size process working sets, which does not suffer from Belady's anomaly.

At one point, Windows used FIFO with working set as the VM paging algorithm, which does not maintain the stack-based invariant of resident pages and thus sometimes making more memory available under Windows results in worse performance due to software issues. The classic MacOS used to have a similarly brain-dead VM system, which is why Mac users have generally resisted the notion of enabling or using VM, although they seem to be coping with Mach and Darwin.... ]

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-Chuck

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