

freebsd-hackers: HZ = 1000 slows down application

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**Source:** <http://unix.derkeiler.com/Mailing-Lists/FreeBSD/hackers/2003-09/0386.html>

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To: freebsd-hackers@freebsd.org

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Hi all,

I am experimenting with kernel device polling on a 4.8-RELEASE system.

The application I am running is a traffic pumping application that sits in an infinite while loop. At the time of this test it was doing 6Mbps in and 5Mbps out traffic. CPU usage is 40% without polling enabled, typical CPU usage is roughly 1/3 user, 1/3 system and 1/3 interrupt. I am using the fxp driver.

I customized my kernel with HZ=1000 and enabled polling via sysctl...CPU usage dropped from 40% to 30%. Great so far.

But now I noticed that my application is occasionally doing slower iterations. Average iteration time used to be 0.2 ms without polling enabled. With the device polling changes, the average time is still around the same, but once every few minutes the application sees iterations that are 3.3 seconds (\*seconds\*, not a typo) long.

This seems to happen as soon as I use the kernel with HZ=1000. Enabling or disabling device polling does not seem to make any difference to this behavior. I am trying to understand why there seem to be a few really long iterations. Could it happen that the application does not get any CPU for that long? Seems very counter intuitive that higher HZ should cause this.

Could anyone shed any light on what is happening ?

Thanks,  
-ansh

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