

Re: Clock has stopped (time/date looping over 5 seconds), things are broken – what to check to debug?

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*Source:* <http://linux.derkeiler.com/Mailing-Lists/Kernel/2008-04/msg02433.html>

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- *From:* "Joel K. Greene" <[joel.greene@xxxxxxxxxxxxx](mailto:joel.greene@xxxxxxxxxxxxx)>
  - *Date:* Mon, 07 Apr 2008 07:37:11 -0400
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Hi Roger,

Does this sound familiar:

<http://lkml.org/lkml/2008/3/14/178>

We've been chasing this for quite a while. Our PIC gets in a bad state where it thinks the CPU is in the ISR, and so won't give another int. We haven't much of an idea of how we get in that state other than that HZ=1000 makes it happen faster and HZ=100 causes it less often.

I think that if you look at jiffies you will see it is not incrementing. The 4 second loop seems to be in the conversion from jiffies to wall time.

It appears that there is a race in the kernel that can be triggered by any number of hardware issues. There's another thread by Gregory Stark with the same symptoms – he thinks his was fixed by replacing a bad DIMM.

Note that we first saw this on 2.6.16, and Gregory found it on 2.6.5. We've seen systems run for a couple of months before seeing this, so it's a bear to debug.

How often is this happening for you? How repeatable?

What hardware are you running on?

Joel.

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On Fri, 2008-04-04 at 16:27 -0500, Roger Heflin wrote:

So far what I have is that the clock is moving between  
10:01:03 to 10:01:07 (when it gets to 07 it goes back to 03), doing rdate -s  
results in things changing:

16:12:38 to 16:12:43 (resets back to :38).

Doing this:

```
while true ; do date; usleep 1000000; done
```

```
Fri Apr 4 16:12:39 CDT 2008
```

```
Fri Apr 4 16:12:40 CDT 2008
```

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Fri Apr 4 16:12:41 CDT 2008
```

```
Fri Apr 4 16:12:42 CDT 2008
```

```
Fri Apr 4 16:12:43 CDT 2008
```

It stops at :43, ^C is required, and you can then restart it with repeatable  
results.

This F7 – 2.6.23.15-80.fc7

dmesg/messages contain nothing abnormal.

This machine has done it several times, a frequency of maybe 1x per every couple  
of weeks or so. I believe it had also done this with: 2.6.22.9-91.fc7 so it  
has been doing this for a while. It used to work with some older kernel (I  
don't know which).

Given what the clock is doing, things that sleep at the wrong time hang forever,  
and a number of other things fail to work.

vmstat 1 results in a single line being printed out, and then a floating point  
exception.

"shutdown -r now" fails to complete, power cycle is required to get the machine  
back up.

I don't believe any hardware failure that I can think of would cause the clock  
to do what mine is doing.

Ideas?

Roger

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