Subject: Process start time incorrect inside VE
Posted by aab49 on Tue, 26 Feb 2008 23:19:32 GMT
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For some reason, the process timestamps reported inside a VE when using "ps -ef" are incorrect:

[root@testwww /]# date
Tue Feb 26 18:16:01 EST 2008
[root@testwww /]# ps -ef | grep tomcat
www 3765 1 0 Feb09 ? 00:00:03 /usr/local/j2sdk1.4.2_12/bin/java -classpath.....

On the HN, the same process shows up with correct timestamp:

www 2995 2195 1 18:14 ? 00:00:02 /usr/local/j2sdk1.4.2_12/bin/java -classpath.....

Hardware node is Fedora 8 running kernel 2.6.18-53.1.4.el5.028stab053.4

Any help would be appreciated. Thanks.

Subject: Re: Process start time incorrect inside VE
Posted by xemul on Wed, 27 Feb 2008 12:20:57 GMT
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Related bug #828

Subject: Re: Process start time incorrect inside VE
Posted by maratrus on Wed, 27 Feb 2008 12:35:41 GMT
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Please,
http://bugzilla.openvz.org/show_bug.cgi?id=828

Subject: Re: Process start time incorrect inside VE
Posted by koct9i on Thu, 28 Feb 2008 09:36:58 GMT
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it would be nice to see date an uptime both HN and inside VE.

did you use VE checkpointing / migration?

Subject: Re: Process start time incorrect inside VE
Posted by aab49 on Thu, 28 Feb 2008 15:26:41 GMT

Here is some additional information from one of our other hardware nodes running Fedora 8:

HN

```
[root@openvz12 ~]# date
Thu Feb 28 10:05:44 EST 2008
[root@openvz12 ~]# uptime
10:05:45 up 16 days, 23:47,  1 user,  load average: 0.08, 0.19, 0.12
[root@openvz12 ~]# last | grep reboot
reboot   system boot  2.6.18-53.1.4.el Mon Feb 11 10:18         (17+00:01)
[root@openvz12 ~]# uname -a
Linux openvz12 2.6.18-53.1.4.el5.028stab053.4 #1 SMP Fri Jan 18 12:31:04 MSK 2008 i686 i686
i386 GNU/Linux
[root@openvz12 ~]# vzctl start 1203
[root@openvz12 ~]# ps -ef | grep tomcat
www      7079  6668  0 10:07 ?        00:00:02 /usr/local/java/bin/java -classpath
```

VE

```
[root@testwww /]# date
Thu Feb 28 10:08:03 EST 2008
[root@testwww /]# uptime
10:06:04 up 1 min,  0 users,  load average: 0.02, 0.01, 0.00
[root@testwww /]# ps -ef | grep tomcat
www       8103     1  0 Feb11 ?        00:00:02 /usr/local/java/bin/java -classpath.....
```

I have built the VE using the same template on HN running Fedora 6/7 (2.6.18-53.1.4.el5.028stab053.4) and it does not suffer from the issue.

It appears to only happen on a HN running Fedora 8.

Also, the process start time reported inside VE (Feb 11) coincides with the date that the HN was last rebooted. This may be some type of clue but I am not sure.

I do not use any checkpointing/migration tools.

Subject: Re: Process start time incorrect inside VE
Posted by koct9i on Thu, 28 Feb 2008 17:08:05 GMT

interesting.
what OS template do you use?
post please output "ps --version" inside VE.

looks like completely match related bug 828, but all ps tools what i see do not use btime from /proc/stat.

Subject: Re: Process start time incorrect inside VE
Posted by maratrus on Fri, 29 Feb 2008 08:31:49 GMT
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strace ps -ef

Subject: Re: Process start time incorrect inside VE
Posted by koct9i on Fri, 29 Feb 2008 09:13:24 GMT
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ps from http://procps.sourceforge.net/ read /proc/stat, but use /proc/uptime to calculate boot time and process start time.

Subject: Re: Process start time incorrect inside VE
Posted by maratrus on Fri, 29 Feb 2008 10:01:35 GMT
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Ok, indeed,

```
4633  mprotect(0xb7db3000, 4096, PROT_NONE) = 0
4633  time(NULL)                = 1204278740
4633  open("/proc/meminfo", O_RDONLY)   = 4
```

Subject: Re: Process start time incorrect inside VE
Posted by aab49 on Fri, 29 Feb 2008 15:09:26 GMT
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[root@testwww ~]# ps --version
procps version 3.2.7

Output of strace ps -ef is attached.

I'm hoping this is something that would be fixed in next kernel release maybe?

File Attachments
1) output.txt, downloaded 1104 times

Subject: Re: Process start time incorrect inside VE
Posted by maratrus on Fri, 29 Feb 2008 17:22:39 GMT
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Seems it uses /proc/stat to calculate boot time.
From ps src:

./ps/display.c

```
int main(int argc, char *argv[]){
...
reset_global();
...
}
```

./ps/global.c

```
void reset_global(void){
...
 /* get boot time from /proc/stat */
  fd = open("/proc/stat", O_RDONLY, 0);
  if (fd != -1) {
    buf[BUFFSIZE-1] = 0;
    read(fd, buf, BUFFSIZE-1);
    b = strstr(buf, "btime ");
    if (b) {
      sscanf(b, "btime %lu", &time_of_boot);
      seconds_since_boot = time(0) - time_of_boot;
    }
    close(fd);
  }
...
}
```

./ps/output.c

```
static int pr_stime(char *restrict const outbuf, const proc_t *restrict const pp){
...
t = time_of_boot + pp->start_time / Hertz;
...
```

}

Subject: Re: Process start time incorrect inside VE
Posted by maratrus on Fri, 29 Feb 2008 17:28:42 GMT
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I think it depends on distr. So /proc/stat must be virtualized.

Subject: Re: Process start time incorrect inside VE
Posted by aquarapid on Tue, 09 Jul 2013 18:08:41 GMT
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So, was this ever fixed?

Because I am running into it after suspending/resuming VEs:

```
# uname -r
2.6.32-042stab078.27.1


# grep btime /proc/stat
btime 1373017174
realbtime 1373017174

# grep btime /proc/stat ; vzctl exec 1784 grep btime /proc/stat ; vzctl exec 1785 grep btime
/proc/stat
btime 1373017174
realbtime 1373017174
btime 1364635538
btime 1364636352
```

Inside a VM:

```
# date -u ; sleep 20 & ps -ef | grep sleep | grep -v grep
Tue Jul  9 18:07:20 UTC 2013
[1] 22230
root     22230 22197  0 18:01 pts/2    00:00:00 sleep 20
```

Note the difference between the process start time and the time the clock is reporting.

Subject: Re: Process start time incorrect inside VE
Posted by Paparaciz on Wed, 10 Jul 2013 05:32:48 GMT
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yes, it was fixed not so long time ago
https://bugzilla.openvz.org/show_bug.cgi?id=2572

but your kernel version is strange

Subject: Re: Process start time incorrect inside VE
Posted by aquarapid on Wed, 10 Jul 2013 09:13:07 GMT
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My kernel is just a recompiled version of hxxp://download.openvz.org/kernel/branches/rhel6-2.6.32/042s tab078.27/kernel.spec, we add a few networking patches.

I'm guessing this patch isn't in this kernel yet? Because I've re-tested by stopping/starting one of my VEs, then suspending it for a few minutes and then starting it again; and I am still seeing the process start time offset.

EDIT:

I actually just checked, and from the patch diffs, it seems like this patch IS in my kernel, but it does not seem to be fixing the problem for me.