
Subject: Re: Memory overflow in an OpenVZ VPS
Posted by [samuli.seppanen](#) on Wed, 26 Sep 2007 13:00:33 GMT
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>> Hello everybody!

>>

>> I'm having problems with OpenVZ memory management. I have (probably)
>> read all the Wiki articles there are that touch that subject, and
>> browsed through the mailing list archives to no avail.

>>

>> Most of my OpenVZ VPS'es work just fine after a bit of fiddling, but one
>> of them is misbehaving constantly. It always runs out of memory, no
>> matter how much I give it. It is running 10 instances of a same server
>> to give better interactive responsiveness. I was just wondering if the
>> server program is leaking memory and causing this erratic behavior, or
>> if there is something wrong with my OpenVZ VPS's configuration.

>>

>

>> The physical server runs only this one VPS. The hardware node has 2GB of
>> RAM plus 2GB of swap. The VPS is given roughly 3.5GB of that if
>> available (privvmpages limit). It is guaranteed 2.5GB (vmguarpages
>> barrier). This is FAR more than the server software in question needs,
>> but still it occasionally (and predictably) runs out of memory.

>>

>> The strange thing about the VPS is that the HELD values in oomguarpages
>> and privvmpages are much lower than the MAXHELD values - almost
>> triple. There should be no usage peaks that should cause this kind of
>> asymmetry, unless an instance of the server software goes amok.

>

> Yes, privvmpages maxheld shows that software tried to allocate lots of memory in reality.
> And this VE used 874046 pages of RAM+swap (oomguarpages) in the peak, i.e. ~3.4Gb !!!
> It looks like accounting doesn't lie and your software really tries
> to allocate that much from time to time.

Yes, oomguarpages maxheld is suspiciously high, and probably slows things down considerably when the server starts swapping.

>

> Have you seen yourself when this was happening and failcounters were increasing?
> If you can observe this VE being near the limit,
> run top in host system and sort processes by RSS usage.
> This will show you which processes consume most of the memory (RSS column).

I'll have to monitor the VPS when it's approaching the privvmpages limit. Luckily monit will tell me when that is happening :). I'll let you know what I find out. It starts to seem like the servers in the VPS are just misbehaving.

> BTW, have you did something to make VE use less memory (like server restart)
> or the memory usage drops that low itself after some time of being high?

No, I've done nothing special after the latest failure. Sometimes one of the server instances dies and has to be restarted, but it's only one instance, and there are several others still around.

>> The VPS's resource information is shown below. The parameters are not
>> optimized, as you can see, but that not my biggest problem right now :).
>> So can you see anything wrong with these settings, or should I take a
>> look at the server software that is running on the VPS?

```
>>
>> [root@VPS_NODE ~]# cat /proc/user_beancounters
>> Version: 2.5
>> uid resource      held  maxheld  barrier  limit  failcnt
>> 103: kmemsize      19265157 40765738 183079731 201387704 0
>>   lockedpages      0         0    8939    8939    0
>>   privvmpages      383368   930126   917504   930000   153
>>   shmpages         21647    24239    31099    31099    0
>>   dummy            0         0         0         0         0
>>   numproc          229      524     8000     8000     0
>>   physpages        236810   485688    0 2147483647 0
>>   vmguarpages      0         0   655360 2147483647 0
>>   oomguarpages     382472   874046   310999 2147483647 0
>>   numtcpsock       532      793     8000     8000     0
>>   numflock         18       594     1000     1100     0
>>   numpty           1         4       512      512      0
>>   numsiginfo       0         39     1024     1024     0
>>   tcpsndbuf        3524644 4236356 28258577 61026577 0
>>   tcprcvbuf        3530300 6528712 28258577 61026577 0
>>   othersockbuf     190060   1737340 14129288 46897288 0
>>   dgramrcvbuf      0         41836   14129288 14129288 0
>>   numothersock     204      1169     8000     8000     0
>>   dcachesize       0         0 39977755 41177088 0
>>   numfile          11106    22346    71488    71488    0
>>   dummy            0         0         0         0         0
>>   dummy            0         0         0         0         0
>>   dummy            0         0         0         0         0
>>   numiptent        10        10       200      200      0
```

```
>>
>> [root@HOST_NODE ~]# free
>>      total    used    free   shared  buffers   cached
>> Mem:   2073344 2017716  55628     0    66928   954828
>> -/+ buffers/cache: 995960 1077384
>> Swap:  2031608  586508 1445100
```

>> Anyways, thanks for a great Open Source virtualization project!

> you are welcome :@)

>

> Thanks,

> Kirill
